Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221

OCT 23 2014

RECEIVED

OCT 27 2014

NMED
Hazardous Waste Bureau

Mr. John E. Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Transmittal of the Final Audit Report for CBFO Audit A-14-19 of the LANL/CCP

Dear Mr. Kieling:

This letter transmits the Final Audit Report for the Carlsbad Field Office (CBFO) Audit A-14-19 of the Los Alamos National Laboratory (LANL) Central Characterization Program (CCP) for processes performed to characterize and certify waste in accordance with the Waste Isolation Pilot Plan Hazardous Waste Facility Permit. The audit was conducted August 19-21, 2014.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions regarding this audit report, please contact Mr. Michael R. Brown, Director, CBFO Quality Assurance Division, at (575) 234-7476.

Sincerely,

Jose R. Franco, Manager
Carlsbad Field Office

Enclosure

141048

CBFO:QAD:MRB:RMS:14-1363:UFC 2300.00

cc: w/Report Narrative

D. Bryson, CBFO	*ED
M. Brown, CBFO	ED
J.R. Stroble, CBFO	ED
D. Miehls, CBFO	ED
M. Navarrete, CBFO	ED
D. Nickless, LAFO	ED
M. L. Bishop, LAFO	ED
R. McQuinn, NWP	ED
J. Blankenhorn, NWP	ED
J. Harris, NWP	ED
F. Sharif, NWP/CCP	ED
E. Gulbransen, NWP/CCP	ED
V. Cannon, NWP/CCP	ED
A.J. Fisher, NWP/CCP	ED
M. Walker, NWP/CCP	ED
W. Ledford, NWP/CCP	ED
J. Carter, NWP/CCP	ED
J. Hoff, NWP/QA	ED
B. Allen, NWP/QA	ED
S. Punchios, NWP/QA	ED
S. Escareno-Soto, NWP/QA	ED
T. Peake, EPA	ED
L. Bender, EPA	ED
E. Feltcorn, EPA	ED
R. Joglekar, EPA	ED
S. Ghose, EPA	ED
R. Lee, EPA	ED
S. Holmes, NMED	ED
R. Maestas, NMED	ED
C. Smith, NMED	ED
V. Daub, CTAC	ED
R. Allen, CTAC	ED
P. Martinez, CTAC	ED
B. Pace, CTAC	ED
D. Bignell, CTAC	ED
D. Harvill, CTAC	ED
G. White, CTAC	ED
Site Documents	ED
WWIS Database Administrators	ED
R. Chavez, RES	ED
W. Most, RES	ED
J. Haschets, RES	ED
B. Carlsen, RES	ED
A. Urquidez, RES	ED

*ED denotes electronic distribution

cc: w/enclosure
WIPP Operating Record
CBFO QA File
CBFO M&RC

CBFO:QAD:MRB:RMS:14-1363:UFC 2300.00

U.S. Department of Energy
Carlsbad Field Office

CONTENT MAP

Final Audit Report of Audit A-14-19 of the Los Alamos National Laboratory/ Central Characterization Project

Audit Number A-14-19
August 19 – 21, 2014

CONTENT MAP

This box contains the Final Audit Report of CBFO Audit A-14-19 of the Los Alamos National Laboratory Central Characterization Project (LANL/CCP) conducted August 19 – 21, 2014. The box also contains a list of objective evidence used to conduct the audit. The documents have been organized into color-coded folders, one each for the LANL/CCP Implementing Procedures (purple folder), Final Audit Report (manila folder), the C-6 Checklists (brown folder), General Information (green folder), Acceptable Knowledge (blue folder), Real-Time Radiography (red folder), and Visual Examination (yellow folder). The list below identifies each document by name and number and indicates where each may be found.

CONTENT MAP	**Black Folder**

Final Audit Report	**Manila Folder**

Final Audit Report
- Attachment 1: Personnel Contacted During the Audit
- Attachment 2: Personnel Contacted During the Audit by Area
- Attachment 3: Objective Evidence
- Attachment 4: Table of Audited Documents
- Attachment 5: List of Processes and Equipment Reviewed
- Attachment 6: Procedure Revision Matrix

C6 Checklist – March 13, 2013	**Brown Folder**
C6-1	Waste Analysis Plan (WAP) Checklist
C6-2	Acceptable Knowledge (AK) Checklist
C6-3	Radiography (RTR) Checklist
C6-4	Visual Examination (VE) Checklist

LANL/CCP Implementing Procedures Audited	**Purple Folder**
See Final Report Attachment 4 for List of Audited LANL/CCP Procedures	
Attachment 5 - Objective Evidence	
General Information (Checklist C6-1) Waste Analysis Plan (WAP)	**Green Folder**
GEN1	Batch Data Reports - LA-HERTR-13-0111, LA-HERTR-13-0125, LA-HERTR-14-0034, LA-HERTR-14-0039, LA-RTR2-13-0121, and LA-RTR2-14-0021
GEN2	Batch Data Reports - LA13-OSR-VE-017, LA13-OSR-VE-024, LA14-OSR-VE-005, LAVE500504, LAVE500507, LAVE550128, and LAVE550132
GEN3	Characterization Information Summaries/Waste Stream Profile Forms
GEN4	Acceptable Knowledge Document Summary for Waste Stream LA-MHD04.001 Discrepancy Resolution
GEN5	Quarterly Reports and Results
GEN6	Records packages for NCR-LANL-0587-13, R1; NCR-LANL-0908-13, R0;

	NCR-LANL-0115-14, R0
GEN7	CH Nonconformance Report Log for Project Level and Data Generation Level 2013/2014
GEN8	NCRs and records packages
GEN9	Characterization data packages for containers reviewed; including CCP "WDS Master Template.xls" data spreadsheet reports, Container Information Summary (CIS) reports, and excerpt pages from batch data reports, measurement reports showing characterization data values that were entered, and report of confirmation of resolution of any associated NCRs**.**
GEN10	CH RIDS dated July 30, 2014
GEN11	CH Program – LANL List of Qualified Individuals dated 08/18/2014.
GEN12	Qualification records for selected CCP personnel.
GEN13	Hazardous Waste Manifests
Acceptable Knowledge (Checklist C6-2)	**Blue Folder**
AK1	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11
AK2	AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6
AK3	AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9
AK4	QMIS Approval Screenshots for AK Summaries for waste streams LA-MHD09.001, LA-MSG04.001, and LA-OS-00-01.001
AK5	Waste Stream Profile Form and attachments for waste stream LA-MDH09.001
AK6	Waste Stream Profile Form and attachments for waste stream LA-MSG04.001
AK7	Waste Stream Profile Form and attachments for waste stream LA-OS-00-01.001
AK8	AK Documentation Checklist, Attachment 1, for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001
AK9	AK Information Checklist for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001
AK10	AK Att. 5, Hazardous Constituents for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001
AK11	AK Att. 6, Waste Form, Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001
AK12	AK Attachment 8 container list for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001
AK13	NCRs for prohibited items: NCR-LANL-0553-14, R0; NCR-LANL-0704-08, R1; NCR-LANL-0208-14, R0; NCR-LANL-0625-12, R0; NCR-LANL-0422-13, R0; NCR-LANL-0698-12, R0
AK14	AK Discrepancy Resolutions in the AK Record
AK15	AK Discrepancy Resolutions at Characterization
AK16	IDC screenshot for container "hold"
AK17	AK Tracking Spreadsheet for waste streams LA-MHD09.001,

	LA-MSG04.001 and LA-OS-00-01.001
AK18	Container input forms
AK19	“Hold” tag
AK20	CCP Internal Audit
AK21	AK Accuracy Reports
AK22	LA-HERTR-13-0103
AK23	LA-HERTR-13-0123
AK24	LA-RTR2-14-0017
AK25	LA-HERTR-14-0039
AK26	LA-HERTR-14-0054
AK27	LA-HERTR-12-0111
AK28	Waste Stream Characterization Checklists
AK29	AK Source Document Summaries for waste stream LA-MHD09.001
AK30	AK Source Document Summaries for waste stream LA-MSG04.001
Real-Time Radiography (Checklist C6-3)	**Red Folder**
RTR1	Batch Data Reports - LA-HERTR-13-0090, LA-HERTR-14-0034, LA-HERTR-14-0038, LA-HERTR-14-0039, LA-HERTR-14-0044, LA-RTR2-13-0135, and LA-RTR2-14-0013
RTR2	Qualification records for 5 RTR operators
Visual Examination (Checklist C6-4)	**Yellow Folder**
VE1	Batch Data Reports - LAVE550090, LAVE550115, LAVE550117, LAVE550123, LAVE550095, LAVE550114, LAVE550118, LAVE550120, LAVE550121, LAVE550127, LAVE550132, LAVE550140, LA14-OSR-VE-002, LA14-OSR-VE-003, LA14-OSR-VE-004, LA14-OSR-VE-005, LA13-OSR-VE-018, and LA13-OSR-VE-023
VE2	Training records for 19 VE operators
VE3	VEE Appointment letters

U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

FINAL AUDIT REPORT

OF THE

LOS ALAMOS NATIONAL LABORATORY
CENTRAL CHRACTERIZATION PROGRAM

LOS ALAMOS, NEW MEXICO

AUDIT NUMBER A-14-19

August 19 – 21, 2014

TRU WASTE CHARACTERIZATION AND CERTIFICATION

Prepared by: _____ **Date:** 10/15/14

Berry D. Pace, CTAC
Audit Team Leader

Approved by: _____ **Date:** 10/15/2014

Michael R. Brown, Director
CBFO Quality Assurance Division

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Recertification Audit A-14-19 was conducted to evaluate the continued adequacy and effectiveness of established programs for transuranic (TRU) waste characterization activities performed for the Los Alamos National Laboratory (LANL) by the Nuclear Waste Partnership LLC (NWP) Central Characterization Program (CCP). The audit team evaluated the programs, procedures, and processes for characterizing contact-handled (CH) Summary Category Group (SCG) S4000 soils/gravel and SCG S5000 debris wastes, excluding wastes processed through the Waste Characterization, Reduction, and Repackaging Facility (WCRRF). SCG S3000 waste was not evaluated during this audit because the characterization activities associated with TRU waste disposition of SCG S3000 and all waste processed at the WCRRF were suspended. (Reference: Memorandum CBFO:NTP:JRS:MAG:14-1947, dated July 16, 2014). Upon completion of the investigation and the implementation of required corrective actions, the CBFO will conduct an audit to re-evaluate SCG S3000 waste characterization activities at LANL/CCP. A final audit report will be submitted to the New Mexico Environment Department (NMED) prior to lifting the suspension of waste characterization activities for SCG S3000. The audit was conducted relative to the requirements of the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP) and the *CBFO Quality Assurance Program Document* (QAPD).

Audit activities were conducted at LANL facilities in Los Alamos, New Mexico, and at the Skeen-Whitlock Building in Carlsbad, New Mexico, August 19 – 21, 2014. Overall, the audit team concluded that the LANL/CCP technical and quality assurance (QA) programs evaluated were adequately established for compliance with applicable upper-tier requirements, effectively implemented, and successful in achieving the desired results.

The audit team identified one Waste Analysis Plan (WAP)-related concern classified as an Observation during the audit. No HWFP conditions adverse to quality were identified.

2.0 SCOPE AND PURPOSE

2.1 Scope

The following general areas were audited, as required by Attachment C6, Section C6-3 of the WAP:

- Results of previous audits
- Changes in programs or operations
- New programs or activities being implemented
- Changes in key personnel

The following WAP-related QA elements were audited:

- Personnel Qualification and Training
- Nonconformances
- Records

The following WAP-related waste characterization technical elements were audited for CH SCG S4000 soils/gravel and SCG S5000 debris wastes:

- Acceptable Knowledge (AK)
- Real-time Radiography (RTR)
- Visual Examination (VE), including the Off-site Source Recovery Program (OSRP)
- Generation and Project-Level Data Validation and Verification (V&V)
- WIPP Waste Information System (WWIS)/Waste Data System (WDS)
- Waste Certification (e.g., Waste Stream Profile Form)

Evaluation of adequacy of LANL/CCP documents was based on the current revisions of the following documents:

- *CBFO Quality Assurance Program Document,* DOE/CBFO-94-1012
- Waste Isolation Pilot Plant Hazardous Waste Facility Permit NM4890139088-TSDF

Programmatic and technical checklists were developed from the current revisions of the following documents:

- *CCP Transuranic Waste Characterization Quality Assurance Project Plan,* CCP-PO-001
- Related LANL/CCP technical and QA implementing procedures

2.2 Purpose

Audit A-14-19 was conducted to evaluate the degree of sustained adequacy and effective implementation of program requirements for the characterization and certification of CH SCG S4000 soils/gravel and SCG S5000 debris waste for compliance to WAP requirements. The audit team also evaluated specific QA elements relating to WAP requirements.

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Michael R. Brown	CBFO Quality Assurance Division Director
Dennis S. Miehls	Management Representative, CBFO Quality Assurance Division
Berry Pace	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Cindi Castillo	Auditor, CTAC
Katie Martin	Auditor, CTAC

Jim Schuetz	Auditor, CTAC
Tammy Ackman	Auditor, CTAC
Charlie Riggs	Auditor, CTAC
Greg Knox	Auditor, CTAC
Mike Noland	Auditor, CTAC
Porf Martinez	Technical Specialist, CTAC
Dick Blauvelt	Technical Specialist, CTAC
B.J. Verret	Technical Specialist, CTAC
Priscilla Martinez	Technical Specialist, CTAC
Paul Gomez	Technical Specialist, CTAC

OBSERVERS

Norma Castaneda	CBFO TRU Sites and Transportation Division
Court Fesmire	CBFO TRU Sites and Transportation Division
J.R. Stroble	CBFO TRU Sites and Transportation Division
Steven Ross	DOE/Headquarters EM-43
Trais Kliphuis	New Mexico Environment Department (NMED)
Ricardo Maestas	NMED
Steve Holmes	NMED
Ines Triay	NMED
Kenneth Lickliter	CTAC

4.0 AUDIT PARTICIPANTS

The LANL/CCP individuals involved in the audit process are identified in Attachment 1. A pre-audit meeting was held on August 19, 2014, in the LANL TA-50 Building 9002 at Los Alamos, New Mexico, and at the Skeen-Whitlock Building in Carlsbad, New Mexico. Daily management briefings were held with LANL/CCP management and staff to discuss audit progress and any concerns identified. A post-audit meeting was held on August 21, 2014, in the LANL TA-50 Building 9002 and at the Skeen-Whitlock Building.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The audit team concluded that the LANL/CCP TRU waste characterization, certification, and transportation programs evaluated are adequately established for compliance with upper-tier requirements, effectively implemented, and satisfactory in achieving the desired results. The specific program elements and areas evaluated are described below. Attachment 2 lists the personnel contacted during the audit by subject area. Attachment 3 addresses the objective evidence compiled during the audit (provided in boxes). Attachment 4 is the table of audited documents. Attachment 5 lists the processes and equipment evaluated during the audit. Attachment 6 is the procedure revision matrix.

5.2 General Activities

5.2.1 Results of Previous Audits

The audit team determined that the actions to address the concerns identified during the previous annual CBFO Audit A-13-23 were effective in precluding recurrence. No similar instances were observed during this audit.

5.2.2 Changes in Programs or Operations

No significant changes in the CCP programs or operations have occurred at LANL since CBFO Audit A-13-23.

5.2.3 New Programs or Activities Being Implemented

No new programs or activities have been implemented at LANL since CBFO Audit A-13-23.

5.2.4 Changes in Key Personnel

There were no significant changes made in key personnel at LANL since CBFO Audit A-13-23.

5.3 WAP-related Quality Assurance Activities

The audit team evaluated the QA program elements for personnel qualification and training, nonconformance reporting, and QA records for compliance with applicable upper-tier requirements and the effectiveness of implementation. The evaluation results for each area audited are described below.

The following sections describe the methods used to select objective evidence, briefly cite the objective evidence used to assess compliance with the WAP and CBFO QAPD, and provide the results of the assessment.

The following WAP-related QA elements were evaluated by the audit team.

5.3.1 Personnel Qualification and Training

The audit team conducted interviews with responsible personnel and reviewed implementing procedure CCP-QP-002, Rev. 38, *CCP Training and Qualification Plan,* to determine the degree to which the procedure adequately addresses upper-tier requirements. Results of the review indicate that the procedure adequately addresses upper-tier requirements.

Personnel training records associated with Visual Examination (VE) (including Off-site Source Recovery Program [OSRP]) Operator/Independent Technical Reviewer (ITR);

Acceptable Knowledge Expert (AKE); Site Project Manager (SPM); Vendor Project Manager (VPM); and Real-Time-Radiography (RTR) Operator/ITR were examined to verify adherence to and implementation of associated requirements and to verify that personnel were appropriately trained/qualified. Record reviews included qualification cards and other pertinent qualification documentation, including attendance sheets/briefings on newly revised acceptable knowledge (AK) summaries for RTR and VE operators, capability demonstration tests and training container documentation, eye exams, and other items.

No WAP deficiencies related to personnel training and qualification were identified during the audit. Review of CCP-QP-002, Rev. 38, and objective evidence assembled and evaluated by the audit team provided evidence that the applicable requirements for personnel qualification and training are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.2 Nonconformances

The audit team reviewed implementing procedure CCP-QP-005, Rev. 24, *CCP TRU Nonconforming Item Reporting and Control,* to determine the degree to which the procedure adequately addresses upper-tier requirements. Results of the review indicate that the procedure adequately addresses upper-tier requirements.
The audit team interviewed the CCP Project Office Quality Assurance Engineer and randomly selected the following nonconformance reports (NCRs) for review:

NCR-LANL-0417-13, R0;
NCR-LANL-0422-13, R0;
NCR-LANL-0587-13, R1;
NCR-LANL-0678-13, R0;
NCR-LANL-0680-13, R0;
NCR-LANL-0681-13, R0;
NCR-LANL-0803-13, R0;
NCR-LANL-0804-13, R0;
NCR-LANL-0894-13, R1;
NCR-LANL-0908-13, R0;
NCR-LANL-0108-14, R0;
NCR-LANL-0115-14, R0;
NCR-LANL-0122-14, R0;
NCR-LANL-0127-14, R0;
NCR-LANL-0341-14, R0;
NCR-LANL-0348-14, R0;
NCR-LANL-0507-14, R0;
NCR-LANL-0532-14, R0;
NCR-LANL-0553-14, R0;
NCR-LANL-0600-14, R0;
NCR-LANL-0606-14, R4;

The team concluded that deficiencies are being appropriately documented and tracked through resolution as required. Three of the NCRs selected (NCR-LANL-0587-13, R1; NCR-LANL-0908-13, R0; NCR-LANL-0115-14, R0) documented nonadministrative deficiencies first identified at the SPM level. As required, these NCRs were verified as having been reported to the Permittee within seven days, as required by the Permit. All of the NCRs examined were verified to have been entered, managed, and tracked in the CCP Integrated Data Center/Nonconformance Report Log, and through the required reconciliation reporting mechanism.

No WAP deficiencies related to nonconformances were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for nonconformances are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.3 Records

The audit team conducted interviews and reviewed implementing procedures relative to the control and administration of QA records to determine the degree to which the procedures adequately address upper-tier requirements. The audit team reviewed procedures CCP-QP-008, Rev. 22, *CCP Records Management*, and CCP-QP-028, Rev. 15, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*. Results of the review indicate that the procedures adequately address upper-tier requirements. Control of QA records was verified through review of the CH Records Inventory and Disposition Schedule dated July 30, 2014.

No WAP deficiencies related to records were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for records are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4 Technical Activities

Each technical area audited is discussed in detail in the following sections. The methods used to select objective evidence are discussed, the objective evidence used to assess compliance with the HWFP WAP is cited briefly, and the results of the assessment are provided.

5.4.1 Table C6-1, WAP Checklist

The audit was performed to assess LANL/CCP's ability to manage and perform TRU waste characterization and certification activities for CH SCG S4000 soils/gravel and SCG S5000 debris wastes. The C6-1 WAP checklist addresses general program requirements from an overall management perspective. The general requirements checklist addresses both technical requirements and specific WAP-related QA programmatic requirements that, when collectively implemented, ensure effective overall management of TRU waste characterization and certification activities. Requirements are integrated into controlled documents to ensure the waste characterization strategy as defined in the WAP is accomplished and documented in accordance with controlled processes and procedures.

Technical activities evaluated for characterization and certification activities consisted of data-generation and project-level data validation and verification (V&V), AK, RTR, VE, and preparation of Waste Stream Profile Forms (WSPFs) for CH SCG S4000 soils/gravel and SCG S5000 debris wastes. Objective evidence was selected and

reviewed to evaluate the implementation of the associated characterization activities. Batch data reports (BDRs) and personnel qualification and training documentation were included in the evaluation. Where possible, the audit included direct observation of actual waste characterization activities. Each characterization process involves:

- Collecting raw data
- Collecting quality assurance/quality control samples or information
- Reducing the data to a useable format, including a standard report
- Review of the report by the data generation facility and the site project office
- Comparing the data against program data quality objectives (DQOs)
- Reporting the final waste characterization information to the WIPP

The flow of data from the point of generation to inclusion in the WSPF for each characterization technique was reviewed to ensure that all applicable requirements were captured in the site operating procedures. Specific procedures audited and the objective evidence reviewed are described in the following sections.

During the audit, LANL/CCP demonstrated compliance with the waste characterization requirements of the WAP through documentation and by performing characterization activities.

Project-Level Data Validation and Verification (V&V)

The audit team reviewed the following CCP procedures to determine the degree to which they adequately address project-level data V&V upper-tier requirements:

- CCP-PO-001, Rev. 21, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-TP-001, Rev. 21, *CCP Project Level Data Validation and Verification*
- CCP-TP-002, Rev. 26, *CCP Reconciliation of DQOs and Reporting Characterization Data*
- CCP-TP-005, Rev. 26, *CCP Acceptable Knowledge Documentation*

The review of documented procedures indicates that the procedures adequately address upper-tier requirements.

The random selection of containers for waste streams LA-MHD01.001 and LA-MHD04.001 was reviewed, along with the quarterly repeat of data-generation level reviews. Both were determined to be compliant with project-level requirements. Training records for SPMs identified in selected WSPFs and BDRs were reviewed to verify required qualifications and training.

The following WSPF/Characterization Information Summaries (CIS) and associated BDRs were reviewed:

- WSPF LA-MHD01.001 with CIS Lots 417 through 425 and CIS Lots 446 through 451
- WSPF LA-MHD04.001 with CIS Lots 26 through 46 and CIS Lots 55 through 70
- AK Source Document Summary for Waste Stream LA-MHD04.001 for discrepancy resolution

BDRs:

RTR		
LA-HERTR-13-0111	LA-HERTR-13-0125	LA-HERTR-14-0034
LA-HERTR-14-0039	LA-RTR2-13-0121	LA-RTR2-14-0021
VE		
LA13-OSR-VE-017	LA13-OSR-VE-024	LA14-OSR-VE-005
LAVE500504	LAVE500507	LAVE550128
LAVE550132		

The BDRs were examined to verify compliance with project-level data V&V per CCP-TP-001 for RTR, VE, and OSRP.

WIPP Waste Information System (WWIS)/Waste Data System (WDS)

The audit team reviewed CCP procedure CCP-TP-030, Rev. 33, CCP *CH TRU Waste Certification and WWIS/WDS Data Entry*, to determine the degree to which it adequately addresses upper-tier requirements. Results of the review indicate that the procedure adequately addresses upper-tier requirements.

The audit team interviewed responsible personnel, examined related data, and observed entry of information into the WWIS/WDS by a Waste Certification Assistant and Waste Certification Official. Record reviews included container information summaries, pages from selected BDRs reflecting analyses values, WWIS/WDS Container Data Reports, and submittals for WWIS review and approval.

No WAP deficiencies related to Table C6-1 were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that Table C6-1 requirements are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.2 Table C6-2, Acceptable Knowledge Checklist

The audit team reviewed the following CCP procedures as they relate to AK to determine the degree to which they adequately address applicable upper-tier requirements:

- CCP-PO-001, Rev. 21, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*

- CCP-QP-005, Rev. 24, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-021, Rev. 10, *CCP Surveillance Program*
- CCP-TP-001, Rev. 21, *CCP Project Level Data Validation and Verification*
- CCP-TP-002, Rev. 26, *CCP Reconciliation of DQOs and Reporting Characterization Data*
- CCP-TP-005, Rev. 26, *CCP Acceptable Knowledge Documentation*
- CCP-TP-120, Rev. 16, *CCP Container Management*
- WP 13-QA.03, Rev. 23, *Quality Assurance Independent Assessment Program*

Results of the review indicate that the procedures adequately address upper-tier requirements.

The audit team examined AK Summary Reports and approved WSPFs for waste stream LA-MHD10.001, SCG S5000 debris associated with activities in Technical Area (TA)-50 described in AK Summary Report CCP-AK-LANL-004, Rev. 11, and waste stream LA-MSG04.001, SCG S4000 soils/gravel associated with activities in TA-21 described in AK Summary Report CCP-AK-LANL-010, Rev. 6. Additionally, the audit team examined portions of the AK record for the OSRP sealed source waste stream LA-OS-00-01.001 detailed in CCP-AK-LANL-008, Rev. 9.

The audit team also examined the following completed attachments for each stream as required by CCP-TP-005:

- Attachment 1, *AK Documentation Checklist*;
- Attachment 4, *AK Information List*;
- Attachment 5, *Hazardous Constituents List*;
- Attachment 6, *Waste Form, Waste Material Parameters, Prohibited Items and Packaging*, along with the justification for waste material parameter weight estimates; and
- Attachment 8, *Waste Container List*, with memoranda supporting the addition of containers to the waste stream as applicable.

The team examined numerous AK source documents and source document summaries supporting the information in the associated AK Summary Reports, including examples of discrepancies identified between the AK record, characterization activities, and resultant AK reevaluations.

The audit team also reviewed NCRs initiated to address prohibited items identified during RTR of waste drums. These included NCRs to address excess liquids, sealed containers greater than four liters, and the presence of impenetrable objects. The WAP-required traceability exercise was conducted for six containers in total from the two streams. In addition to specific BDRs for the drums and boxes selected, the team also examined container input forms, historical and current database records, AK accuracy reports, independent assessment results, and waste stream characterization checklists

used to reconcile characterization results with the AK record for waste containers placed in a shipping lot. AK accuracy reports were also reviewed along with an example of a recent AK internal surveillance. Training records for AKE and SPM personnel were also examined by the audit team. All applicable elements of the C6-1 and C6-2 checklists were reviewed during the audit to assure that sufficient and relevant objective evidence had been compiled to demonstrate compliance.

The team identified one AK-related Observation. The Observation regarded the preparation of AK accuracy reports. AK accuracy reports were reviewed for the two waste streams examined during the audit: SCG S4000 waste stream LA-MSG04.001 and SCG S5000 waste stream LA-MHD09.001. Neither of the accuracy reports identified one container in each stream that was removed from the waste stream during characterization. It appears that these containers should have counted as a discrepancy for AK accuracy. The CCP process, however, only addresses discrepancies identified after the WSPF is approved. CCP-TP-005, section 4.6 describes this process, but is unclear regarding the initiation point at which discrepancies should be identified. Therefore, CCP should examine section 4.6 of CCP-TP-005 to determine how it can be clarified (see section 6.3, Observation).

No WAP deficiencies related to Table C6-2 were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that Table C6-2 requirements are adequately established, effectively implemented, and achieving the desired results.

5.4.3 Table C6-3, Radiography Checklist

The audit team evaluated the adequacy, implementation, and effectiveness of LANL/CCP activities for characterization and certification of CH SCG S4000 soils/gravel and SCG S5000 debris wastes using the RTR characterization process. The audit team reviewed the following implementing procedures to determine the degree to which they adequately address upper-tier requirements:

- CCP-QP-002, Rev. 38, *CCP Training and Qualification Plan*
- CCP-TP-028, Rev. 9, *CCP Radiographic Test Drum and Training Container Construction*
- CCP-TP-053, Rev. 14, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*
- CCP-TP-122, Rev. 5, *CCP RTR #2 Operating Procedure*
- CCP-TP-198, Rev. 8, *CCP HE-RTR Operating Procedure*

Results of the review indicate that the procedures adequately address upper-tier requirements.

The audit team examined personnel training and qualification documentation including RTR Operator/ITR qualification cards, test drum and training container documentation,

and the associated List of Qualified Individuals dated July 31, 2014. The audit team also verified that RTR operators received waste stream-specific AK summary briefings. The audit team evaluated RTR operator-required test and training drum audio/video media for five RTR operators and determined that all RTR operators were properly trained and qualified to perform their assigned tasks.

The audit team also observed RTR operations on the High-Energy (HE) RTR system in TA-54, Building 54-578, including the RTR characterization scans for CH SCG S5400 waste containers 66850 and 69526. The team verified the use of current RTR operating procedures and AK summaries. Both RTR units contained the required hardware to effectively characterize CH SCGs S4000 soils/gravel and S5000 debris wastes. The audit team interviewed RTR operators and examined RTR operational logbooks LANL-NDE-RTR2-011 and LANL-NDE-HERTR02-004 for verification that logbook entries were correctly logged and reviewed weekly by the VPM, as required. The results of the interviews and review of the operational logbooks indicate that RTR operations are being performed in compliance with established operating procedures.

The audit team examined the following CH RTR BDRs:

HE RTR

LA-HERTR-13-0090	LA-HERTR-14-0034	LA-HERTR-14-0038
LA-HERTR-14-0039	LA-HERTR-14-0044	

RTR2

LA-RTR2-13-0135	LA-RTR2-14-0013

In addition, audio/video media of selected containers were reviewed to verify the accuracy of data recorded on RTR data sheets. The audit team also verified sustained corrective actions for CBFO Corrective Action Report (CAR) 13-051 issued from the previous audit, A-13-23. During the review of selected BDRs, the audit team found no indication of presence of batteries, which would be causal for an NCR to be written.

No WAP deficiencies related to Table C6-3 were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that Table C6-3 requirements are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.4 Table C6-4, Visual Examination Checklist

The audit team evaluated the adequacy, implementation, and effectiveness of LANL/CCP activities to characterize and certify CH SCG S5000 debris waste using the VE characterization process, including support of the OSRP. The audit team reviewed the following CCP VE procedures to determine the degree to which they adequately address upper-tier requirements:

- CCP-PO-001, Rev. 21, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-QP-002, Rev. 38, *CCP Training and Qualification Plan*
- CCP-TP-069, Rev. 6, *CCP Sealed Source Visual Examination and Packaging*
- CCP-TP-113, Rev. 18, *CCP Standard Contact-Handled Waste Visual Examination*

Results of the review indicate that the procedures adequately address upper-tier requirements.

The audit team conducted interviews with responsible personnel and examined records documenting VE of debris waste, including the OSRP. The audit team examined training records for nine VE Operators/ITRs and confirmed the appointment of two LANL/CCP VE Experts (VEEs), as well as ten OSRP VE Operators/ITRs, and confirmed the appointment of three OSRP VEEs. The audit team verified that VE Operators, ITRs, and the VEEs were appropriately qualified as required.

LANL/CCP uses the two-operator method when conducting VE characterization activities. VE is performed by two qualified operators where the waste is visually examined and placed into containers. The audit team interviewed VE Operators and VEEs, toured the TA-55 PF4 Facility, Room 128, and observed VE being performed on SCG S5000 waste in Glove-box GB150, from waste stream LA-MHD01.001 into container LA00000067670. The team verified the current revision of CCP-TP-113 (Rev. 18) was being used to perform VE and the current revision of the associated AK summary (CCP-AK-LANL-006, Rev. 13) was available for reference, as needed. The container scale (#100523) calibration was verified as current with a due date of June 11, 2015.

The team examined the following BDRs generated from the TA-55 facility:

LAVE550090	LAVE550095	LAVE550114
LAVE550115	LAVE550117	LAVE550118
LAVE550120	LAVE550121	LAVE550123
LAVE550127	LAVE550132	LAVE550140

The audit team toured Building 186 in TA-35 where the sealed-source shipping components for the OSRP are stored. The audit team verified torque wrenches were within calibration as identified on the affixed calibration labels, and verified the torque wrenches were in the CCP measuring and test equipment (M&TE) calibration recall system. The audit team also verified the correct NUCFIL filters are being installed on the sealed-source shipping components.

Shipping components are shipped to the respective site where sealed sources are visually examined and packaged by two trained and qualified CCP Sealed Source VE Operators and shipped to LANL directly, or to Nuclear Sources and Services Inc. in

Houston, Texas, for consolidation by two trained and qualified CCP Sealed Source VE Operators and then shipped to LANL. Sealed sources are shipped as material until they are received at LANL. Once the containers are shipped to TA-54 they are designated as waste where they can be shipped to WIPP for disposal.

Evaluation of the LANL OSRP included interviews with OSRP-qualified VE personnel, and review of the following OSRP VE BDRs:

LA13-OSR-VE-018	LA13-OSR-VE-023	LA14-OSR-VE-002
LA14-OSR-VE-003	LA14-OSR-VE-004	LA14-OSR-VE-005

No WAP deficiencies related to Table C6-4 were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that Table C6-4 requirements are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

6.0 CORRECTIVE ACTIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify CAQs, as described below, and document such conditions on CARs.

> Condition Adverse to Quality (CAQ) – An all-inclusive term used in reference to any of the following: failures, malfunctions, deficiencies, defective items, nonconformances, and technical inadequacies.
>
> Significant Condition Adverse to Quality – A condition which, if uncorrected, could have a serious effect on safety, operability, waste confinement, TRU waste site certification, regulatory compliance demonstration, or the effective implementation of the QA program.

No WAP deficiencies necessitating a CAR were identified during the audit.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. The audit team members and the Audit Team Leader (ATL) evaluate the CAQs to determine if they are significant. Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is an isolated case requiring only remedial action and therefore can be corrected during the audit (CDA). Deficiencies that can be classified as CDA are those isolated deficiencies that do not require a root cause determination or actions to preclude recurrence, and those for which correction of the deficiency can be verified prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed

or not dated (isolated), or one or two individuals have not completed a reading assignment.

Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL, evaluates/verifies any objective evidence/actions submitted or taken by the audited organization and determines if the condition was corrected in an acceptable manner. Once it has been determined that the CAQ has been corrected, the ATL categorizes the condition as CDA.

No WAP deficiencies, requiring remedial action only, were identified and corrected during the audit.

6.3 Observations

During the audit, the audit team may identify potential problems that should be communicated to the audited organization. The audit team members, in conjunction with the ATL, evaluate these conditions and classify them as Observations using the following definition:

> Observation – A condition that, if not controlled, could result in a CAQ.

Once a determination is made, the audit team member, in conjunction with the ATL, categorizes the condition appropriately.

One Observation was identified during the audit in the area of AK. The Observation regarded the preparation of AK accuracy reports. Two AK accuracy reports were reviewed for the two waste streams examined during the audit: LA-MSG04.001 (SCG S4000) and LA-MHD09.001 (SCG S5000). The review revealed that the accuracy reports lacked the identification of one container in each stream that was removed from the waste stream during characterization. It appears that these containers should have been identified as a discrepancy for AK accuracy. However, after discussion with responsible personnel it was determined that the current practice only addresses discrepancies identified after the initial approval of the WSPF. Section 4.6 of CCP-TP-005, *CCP Acceptable Knowledge Documentation,* which describes this process, needs to be examined and revised as necessary to more accurately prescribe the current practice used.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit
Attachment 2: Personnel Contacted During the Audit by Subject Area
Attachment 3: Objective Evidence Reviewed During the Audit (provided in boxes)
Attachment 4: Table of Audited Documents
Attachment 5: List of Processes and Equipment Evaluated
Attachment 6: Procedure Revision Matrix

PERSONNEL CONTACTED DURING AUDIT A-14-19				
NAME	**TITLE/ORG**	**PRE-AUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST-AUDIT MEETING**
Abeyta, C.	OSRP/LANL			X
Ams, D.	Acceptable Knowledge Expert/LANL-Carlsbad		X	
Archuleta, L.	Operator/LANL NCO-2		X	
Armijo, C.	Training Records Analyst/CCP/TFE		X	
Auckland, S.	Acceptable Knowledge Expert/LANL-Carlsbad		X	
Baca, R.	Records Coordinator/NWP/CCP	X		X
Barton, T.	NDA/NWP/CCP/MCS	X		
Billett, M.	Training Coordinator/CCP/TFE	X	X	X
Brown, M.	QA Director/DOE/CBFO	X		X
Day, R.	OSRP/LANL	X	X	X
Ditsworth, D.	Operator/LANL NCO-2		X	
Elliot, A.	RTR Operator/CCP/LANL	X	X	X
Fesmire, C.	Observer/DOE/CBFO/NTP	X		X
Fitzgerald, R.	Acceptable Knowledge Expert/NWP/CCP	X	X	
Gallegos, M.	Operator/LANS NPI-7		X	
Greenwood, T.	Acceptable Knowledge Expert/NWP/CCP/Tech Spec	X	X	
Groover, T.	Site Project Manager/NWP/CCP	X	X	X
Hasselstrom, T.	Operator/NWP/CCP		X	
Holmes, S.	Observer/NMED	X		
Jagielski, R.	Operator/CCP/LANL	X	X	X
Jones, L.	QA Engineer/NWP/QA		X	
Kantrowitz, R.	Site Project Manager/NWP/CCP	X	X	
Kirkes, C.	WCO/NWP/CCP		X	
Kliphuis, T.	Observer/NMED	X		
Krylowicz, J.	Operator/LANS NPI-7		X	
Lacy, K.	Operator/LANS NPI-7		X	
Ledford, W.	QA Specialist/NWP/QA	X		X
Lickliter, K.	Observer/DOE/CBFO/CTAC	X		
Loechell, E.	Operator/CCP/LANL	X	X	

PERSONNEL CONTACTED DURING AUDIT A-14-19				
NAME	**TITLE/ORG**	**PRE-AUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST-AUDIT MEETING**
Maestas, R.	Observer/NMED	X		
Martinez, A.	M&TE/LANL		X	
Martinez, S.	Cognizant Engineer – NDE/NWP/CCP		X	X
McTaggert, K.	Transportation/NWP/CCP		X	
Miehls, D.	QA Representative/DOE/CBFO	X		X
Mojica, T.	VPM/NWP/CCP	X	X	
Nickless, D.	Legacy Manager/DOE/LA	X		X
Papp, M.	Acceptable Knowledge Expert/NWP/CCP/Tech Spec	X	X	
Pearcy, S.	Records Manager/NWP/CCP	X	X	X
Ramirez, M.	Manager/NWP/CCP			X
Rios, E.	Operator/NWP/CCP		X	
Ross, S.	Observer/DOE/EM-43	X		X
Sensibaugh, M.	Operations Manager/NWP/CCP	X	X	X
Sharif, F.	Manager/NWP/NTP	X		
Simmons, C.	Site Project Manager/NWP/CCP	X	X	X
Simmons, M.	Operator/NWP/CCP		X	
Simpson, K.	RTR Subject Matter Expert/NWP/CCP/VJT		X	
Soaterna, C.	Site Project Manager/NWP/CCP	X	X	X
Stepzinski, J.	Vendor Project Manager/NWP/CCP	X		
Stroble, J.	Acting Assistant Manager/DOE/CBFO	X		X
Thompson, J.	VEE/NWP/CCP	X	X	X
Triay, I.	Observer/NMED/FIU Contractor	X		
Trujillo, M.	Operator/LANS NPI-7		X	
Williams, C.	Operator/LANL NCO-2		X	
Witkowski, I.	OSRP/LANL	X	X	X

PERSONNEL CONTACTED DURING THE AUDIT BY SUBJECT AREA

Personnel Qualification and Training	Cheryl Armijo Michele Billett
Control of Nonconforming Items	Laura Jones
Records	Sheila Pearcy
WIPP Waste Information System (WWIS Data Entry)	Creta Kirkes
Waste Certification/Project Level Data V&V	Ioana Witkowski Richard Kantrowitz Terri-Anne Groover
Acceptable Knowledge	Randy Fitzgerald Mike Papp Trey Greenwood Mike Sensibaugh Terri-Anne Groover Kenneth Simpson Aaron Elliot Shelly Martinez Craig Simmons David Ams Sherry Auckland
Real-Time Radiography	Aaron Elliott Terri-Anne Groover Eddie Rios Kenneth Simpson Shelly Martinez Michael Simmons Thad Hasselstrom
Visual Examination	Rick Day Ioana Witkowski James Thompson Trey Greenwood Adam Martinez Michael Gallegos Jason Krylowicz Michael Trujillo Charles Williams Doug Ditsworth Levi Archuleta Shelly Martinez Craig Simmons

Objective Evidence Reviewed During the Audit

The objective evidence supporting Audit A-14-19 is included in the box(es) submitted with this report. Included in the box(es) is a "Content Map" describing the location (using color coding) and identity of all required objective evidence supporting the performance of the audit.

Table C6-1 Waste Analysis Plan (WAP) Checklist
LANL/CCP Recertification Audit A-14-19
August 19 – 21, 2014

(This page intentionally blank)

Waste Analysis Plan (WAP) General Checklist for use at DOE's Generator/Storage Sites

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	WASTE STREAM IDENTIFICATION					
1	Does the generator/storage site define "waste stream" as waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity? (Attachment C Section C-0a)	CCP-PO-001, S. C-0a CCP-TP-005, S. 4.4.11 NOTE above	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9 **(AK-3)**	Y	
2	Are procedures in place to ensure that the generator/storage site assigns one of the Summary Category Groups (S3000-homogeneous solids, S4000-soils/gravel, S5000-debris waste) to each waste stream? (Section C-1b)	CCP-TP-005, S. 4.4.14, S. 4.4.15 CCP-TP-002, S. 4.3, Att. 2	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 2.3 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 2.2 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9,	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				S. 2.1 **(AK-3)** Waste Stream Profile Form and attachments for waste stream LA-MDH09.001 **(AK-5)** Waste Stream Profile Form and attachments for waste stream LA-MSG04.001 **(AK-6)** Waste Stream Profile Form and attachments for waste stream LA-OS-00-01.001 **(AK-7)**		
3	Are procedures in place to ensure that the generator/storage site assigns Waste Matrix Code Groups (e.g., solidified inorganics, solidified organics, salt waste, soils, combustible waste, filters, graphite, heterogeneous debris waste, inorganic nonmetal waste, lead/cadmium metal, uncategorized metal) to each waste stream? (Section C-0a)	CCP-TP-005, S. 4.4.13 NOTE Above CCP-TP-002, S. 4.3, Att. 2	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 2.3 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 2.2 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 2.1 **(AK-3)** Waste Stream Profile Form and attachments for	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				waste stream LA-MDH09.001 **(AK-5)** Waste Stream Profile Form and attachments for waste stream LA-MSG04.001 **(AK-6)** Waste Stream Profile Form and attachments for waste stream LA-OS-00-01.001 **(AK-7)**		
4	Are procedures in place to ensure that the generator/storage site assigns a Waste Stream WIPP Identifier (ID) to each waste stream? (Section C3-6b(1))	CCP-TP-002, S. 4.3, Att. 2	Y	Waste Stream Profile Form and attachments for waste stream LA-MDH09.001 **(AK-5)** Waste Stream Profile Form and attachments for waste stream LA-MSG04.001 **(AK-6)** Waste Stream Profile Form and attachments for waste stream LA-OS-00-01.001 **(AK-7)**	Y	
4a	Are procedures in place for generator/storage sites to submit an AK Sufficiency Determination (Determination Request) to the Permittees to meet all or part of the waste characterization requirements including: • All information specified in Permit Attachment C4, Section C4-3d • Identification of relevant hazardous constituents, and correctly identifies all toxicity characteristic and listed hazardous waste numbers • All hazardous waste number assignments must be substantiated by supporting data and, if not, whether this lack of substantiation compromises the interpretation • Resolution of data discrepancies between different AK sources must be technically correct and documented	CCP-TP-005, S. 4.7	Y	N/A	N/A	No AK Sufficiency Determinations were requested for the waste stream audited

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	• The AK Summary includes all the identification of waste material parameter weights by percentage of the material in the waste stream, and determinations are technically correct • All prohibited items specified in the TSDF-WAC should be addressed, and conclusions drawn are technically adequate and substantiated by supporting information • If the AK record includes process control information specified in Permit Attachment C4, Section C4-3b, the information should include procedures, waste manifests, or other documentation demonstrating that the controls were adequate and sufficient. • The site must provide the supporting information necessary to substantiate technical conclusions within the Determination Request, and this information must be correctly interpreted. (Section C-0b, Section C4-3d)					
4b	If a generator/storage site does not submit a Determination Request or if the Determination Request is not approved, are procedures in place for the generator/storage site to perform radiography or VE on 100% of the containers in a waste stream as specified in Permit Attachment C1? (Section C-0b)	CCP-PO-001 S. C-0b CCP-TP-001 S. 3.1.1	Y	LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)**	Y	No AK Sufficiency Determinations were requested for the waste stream audited
4c	Are procedures in place to ensure that the generator/storage sites complete a Waste Stream Profile Form (WSPF) and Characterization Information Summary (CIS) as specified in Permit Attachment C3, Sections C3-6b(1) and C3-6b(2)? (Section C-0c)	CCP-PO-001 S. C-0c CCP-TP-002 (All)	Y	CP:09:01169 – Approval of Waste Stream Profile Form for LA-MHD04.001 CP:13:01497 – Transmittal of Los Alamos National Laboratory Characterization Information Summary for CCP-AK-LANL-010, Waste Stream LA-MHD04.001, Lots 26	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				through 46 CP:14:01060 - Transmittal of Los Alamos National Laboratory Characterization Information Summary for CCP-AK-LANL-010, Waste Stream LA-MHD04.001, Lots 55 through 70 CP:13:01218 – Transmittal of Los Alamos National Laboratory Site Waste Stream Profile Form LA-MHD01.001, R1 for Waste Stream LA-MHD01.001 CP:14:01059 – Transmittal of Los Alamos National Laboratory Characterization Information Summary for CCP-AK-LANL-006, Waste Stream LA-MHD01.001, Lots 417 through 425 CP:14:01128 – Transmittal of Los Alamos National Laboratory Characterization Information Summary for CCP-AK-LANL-006, Waste Stream LA-MHD01.001, Lots 446 through 451 **(GEN-3)**		
6	Are procedures in place to ensure that the generator/storage site assigns EPA hazardous waste numbers associated with the waste? If so, do these assigned EPA	CCP-TP-005, S. 4.4.16 -	Y	AK Summary Report for LANL TA-50 Mixed TRU	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	hazardous waste numbers correspond to the permitted EPA hazardous waste numbers in Table C-5? Are there any assigned EPA hazardous waste numbers that are not permitted EPA hazardous waste numbers on the Table C-5? If so, did the generator/storage site reject the waste for shipment to and disposal at WIPP? Did the generator assign a state hazardous waste codes or numbers? If so, is it assigned to waste that is permitted at WIPP? (Section C-1b)	4.4.21, Att. 5		Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.3, tables 21, 22 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3, tables 11, 15 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3 **(AK-3)** AK Att. 5, Hazardous Constituents for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-10)**		
7	Are procedures in place to ensure that Summary Category Groups are defined as follows: S3000- Homogeneous solids are solid material, inorganic process residues, inorganic sludges, salt waste, and pyrochemical salt waste excluding soils, that do not meet NMED criteria for classification as debris and are at least 50 percent by volume homogeneous solids or comprise the majority of the waste stream S4000- Waste streams that are at least 50 percent by volume soil/gravel, or comprise the majority of the waste stream S5000- Waste streams that are at least 50 percent volume materials that meet the NMED criteria for debris, or comprise the majority matrix of materials. The criteria for debris are solid materials intended for disposal that exceed 2.36 inch particle size and is a manufactured object, plant or animal matter, or natural geologic material. Particles smaller than 2.36 inches in size may be considered debris if the debris is a manufactured object and if it is not a particle of S3000 or S4000 material. (Section C-0a)	CCP-TP-005, S. 4.4.14	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 2.3 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 2.2 **(AK-2)** AK Summary Report for LANL OSRP Sealed	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 2.1 **(AK-3)** Waste Stream Profile Form and attachments for waste stream LA-MDH09.001 **(AK-5)** Waste Stream Profile Form and attachments for waste stream LA-MSG04.001 **(AK-6)** Waste Stream Profile Form and attachments for waste stream LA-OS-00-01.001 **(AK-7)**		
8	Does the generator/storage facility have procedures in place to ensure that the following waste characterization parameters will be obtained: • Determination whether TRU mixed waste streams comply with the applicable provisions of the TSDF-WAC • Determination whether TRU mixed wastes exhibit a hazardous characteristic per 20.4.1.200 NMAC (incorporating 40 CFR 261 Subpart C) • Determination whether TRU mixed wastes are listed per 20.4.1.200 NMAC (incorporating 40 CFR 261 Subpart D) • Estimation of waste material parameter weights (Section C-2)	**AK** CCP-TP-005, S. 4.4.16, S. 4.4.17, S. 4.4.26, S. 4.4.30, S. 4.4.33 [K], [L] & [M]	Y	**AK** B1- AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.3.3, 7.4.4, 7.4.5 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3.3, 6.4.4, 6.4.5 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3.5, 5.4.4, 5.4.5	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				(AK-3) AK Att. 6, Waste Form, Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-11)** NCRs for prohibited items: NCR-LANL-0553-14, R0; NCR-LANL-0704-08, R1; NCR-LANL-0208-14, R0; NCR-LANL-0625-12, R0; NCR-LANL-0422-13, R0; NCR-LANL-0698-12, R0 **(AK-13)** B2&3 - AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.3, tables 21, 22 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3, tables 11, 15 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3 **(AK-3)**		

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				AK Att. 5, Hazardous Constituents for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-10)** B4 - AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.1.2, table 19 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.1.2, table 13 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.1.2, table 5-1 **(AK-3)** Memos attached to AK Att. 6, Waste Form, Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-11)**		
		PL CCP-TP-001 Att. 1, 2, & 4	Y	**PL** LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
		CCP-TP-005 (All)		LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)** CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**		
9	Are procedures in place to ensure that waste streams identified to contain incompatible materials or materials incompatible with waste containers cannot be shipped unless treated to remove the incompatibility? (Section C-1c)	CCP-TP-005, S. 4.4.30 & 4.4.33 [K] CCP-TP-001, S. 2.7 & 4.1, 4.2 CCP-TP-120, S. 4.1, Att. 2 & 4 S. 4.0 NOTE 3, S. 4.2.4(A.3)	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.5 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.5 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.5 **(AK-3)** AK Att. 6, Waste Form,	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-11)** NCRs for prohibited items: NCR-LANL-0553-14, R0; NCR-LANL-0704-08, R1; NCR-LANL-0208-14, R0; NCR-LANL-0625-12, R0; NCR-LANL-0422-13, R0; NCR-LANL-0698-12, R0 **(AK-13)** IDC screenshot for container "hold" **(AK-16)** "Hold" tag **(AK-19)**		
10	Are procedures in place to ensure that the generator/storage site uses acceptable knowledge and, as necessary, radiography and visual examination analysis as specified in Table C-1? (Section C-3)	**AK** CCP-TP-005, S. 4.4, S. 4.5	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9 **(AK-3)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				Traceability BDRs: RTR LA-HERTR-13-0103 **(AK-22)** LA-HERTR-13-0123 **(AK-23)** LA-RTR2-14-0017 **(AK-24)** LA-HERTR-14-0039 **(AK-25)** LA-HERTR-14-0054 **(AK-26)** LA-HERTR-12-0111 **(AK-27)**		
		PL CCP-TP-001 S. 4.2	Y	**PL** LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)** CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	UNACCEPTABLE WASTE					

12	Are procedures in place to ensure that the generator/storage site ensures, through administrative and operational procedures and characterization techniques, that waste containers do not include the following unacceptable waste:
	• liquid waste is not acceptable at WIPP. Liquid in the quantities delineated below is acceptable
	  • Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination
	  • Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited
	  • Containers with Hazardous Waste number U134 assigned shall have no observable liquid
	  • Overpacking the outermost container that was examined during radiography or visual examination or redistributing untreated liquid within the container shall not be used to meet the liquid volume limits
	• non-radionuclide pyrophoric materials
	• hazardous wastes not occurring as co-contaminants with TRU wastes (non-mixed hazardous wastes)
	• wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes
	• wastes containing explosives or compressed gases (continued below)
		CCP-TP-001
		S. 4.2, Att. 1, 2, & 4
			Y	LA-HERTR-13-0111
				LA-HERTR-13-0125
				LA-HERTR-14-0034
				LA-HERTR-14-0039
				LA-RTR2-13-0121
				LA-RTR2-14-0021
				(GEN-1)
				
				LA13-OSR-VE-017
				LA13-OSR-VE-024
				LA14-OSR-VE-005
				LAVE500504
				LAVE500507
				LAVE550128
				LAVE550132
				(GEN-2)
				
				CP:09:01169
				CP:13:01497
				CP:14:01060
				CP:13:01218
				CP:14:01059
				CP:14:01128
				(GEN-3)
					Y	

12a	• wastes with polychlorinated biphenyls (PCBs) not authorized under an EPA PCB waste disposal authorization • wastes exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003) • waste that has ever been managed as high-level waste and waste from tanks specified in Table C-4, unless specifically approved through a Class 3 permit modification • any waste container from a waste stream (or waste stream lot) which has not undergone either radiographic or visual examination of a statistically representative subpopulation of the wastes stream in each shipment pursuant to Permit Attachment C7	CCP-TP-001 S. 4.2, Att. 1, 2, & 4	Y	LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	• any waste container from a waste stream which has not been preceded by an appropriate, certified Waste Stream Profile Form (see Section C-1d) (Section C-1c)			**(GEN-2)** CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**		
	WASTE ACCEPTANCE CONTROL					
14	Are procedures in place to ensure that the generator/storage site uses a Waste Stream Profile Form (WSPF) which includes, at a minimum, the information indicated on the attached WSPF found in Figure C-1 and a Characterization Information Summary (CIS) prior to waste disposal at the WIPP? (Section C-1d)	CCP-PO-001 S. C-1d CCP-TP-002 (All)	Y	CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**	Y	
16	Are procedures in place to ensure that additional WSPFs are provided to WIPP and NMED for waste streams or portions of waste streams that are reclassified based upon waste characterization information? (Section C-1d)	CCP-PO-001 S. C-1d CCP-TP-002 (All)	Y	CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)** Acceptable Knowledge Document Summary for Waste Stream LA-MHD04.001 Discrepancy Resolution **(GEN-4)**	Y	There were no revisions to the WSPF for the waste streams audited.
16a	Are criteria in place to determine the specific circumstances under which a WSPF is revised versus when a new WSPF is required? (Section C-1d)	CCP-TP-002, S. 4.7	Y	N/A	N/A	There were no revisions to the WSPF for the waste streams audited.
	GENERAL CHARACTERIZATION REQUIREMENTS					
25	Are procedures in place to ensure that Acceptable Knowledge is used in waste characterization activities to delineate TRU mixed waste streams, to assess whether TRU mixed wastes comply with the TSDF-WAC, to assess whether TRU mixed waste exhibits a hazardous characteristic (20.4.1.200 NMAC, incorporating 40 CFR 261 Subpart C), and to assess whether TRU wastes are listed (20.4.1.200 NMAC, incorporating 40 CFR 261 Subpart D), and to estimate waste material parameter weights?	**AK** CCP-TP-005, S. 4.4.11, S. 4.4.16, S. 4.4.17, S. 4.4.26, S. 4.4.30, S. 4.4.33 [K], [L],	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 2.3 **(AK-1)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	(Section C-3a)	& [M]		AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 2.2 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 2.1 **(AK-3)** AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.3.3, 7.4.4, 7.4.5 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3.3, 6.4.4, 6.4.5 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3.5, 5.4.4, 5.4.5 **(AK-3)** AK Att. 6, Waste Form, Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001,		

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				LA-MSG04.001 and LA-OS-00-01.001 **(AK-11)** NCRs for prohibited items: NCR-LANL-0553-14, R0; NCR-LANL-0704-08, R1; NCR-LANL-0208-14, R0; NCR-LANL-0625-12, R0; NCR-LANL-0422-13, R0; NCR-LANL-0698-12, R0 **(AK-13)** AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.3, tables 21, 22 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3, tables 11, 15 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3 **(AK-3)** AK Att. 5, Hazardous Constituents for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-10)** AK Summary Report for		

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.1.2, table 19 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.1.2, table 13 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.1.2, table 5-1 **(AK-3)** Memos attached to AK Att. 6, Waste Form, Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-11)**		
26	Are procedures in place to ensure that radiography and/or visual examination are used as necessary to: • Examine a waste container to determine the physical form • Identify observable liquid in excess of TSDF-WAC limits and containerized gases • Verify the physical form matches the waste stream description (Section C-3b)	**RTR** CCP-TP-053, S. 1.0, Table 1 & Att. 2 **VE** CCP-TP-069 S. 1.1 & Att. 4	Y Y	**RTR** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)** **VE** LAVE550090 LAVE550115	Y Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
		CCP-TP-113 S. 1.1, Table 1 & Att. 1 & 2		LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**		
28	Are procedures in place to ensure that the following characterization activities shall occur: • Acceptable Knowledge for all wastes, with testing as necessary to augment AK including; - Visual examination or radiography for all waste containers	**AK** CCP-TP-005 S. 4.4, S. 4.5	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9 **(AK-3)** LA-HERTR-13-0103 **(AK-22)** LA-HERTR-13-0123 **(AK-23)** LA-RTR2-14-0017 **(AK-24)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				LA-HERTR-14-0039 **(AK-25)** LA-HERTR-14-0054 **(AK-26)** LA-HERTR-12-0111 **(AK-27)** Waste Stream Characterization Checklists **(AK-28)**		
		PL CCP-PO-001 S. C-0b CCP-TP-001 S. 3.1.1, S. 4.2	Y	**PL** LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)** CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	DATA GENERATION, VERIFICATION, VALIDATION, DOCUMENTATION, AND QUALITY ASSURANCE					
30	Are procedures in place to ensure that the following Data Quality Objectives are met: • Use Acceptable Knowledge to delineate TRU mixed waste streams, assess whether TRU mixed wastes comply with the applicable requirements of the TSDF-WAC, assess whether TRU mixed wastes exhibit a hazardous characteristic, assess whether TRU mixed wastes are listed and to estimate waste material parameter weights • Use radiography or visual examination to verify the physical form of the waste matches its waste stream description as determined by AK and to verify the absence of prohibited items (Section C-4a(1))	**AK** CCP-TP-005, S. 4.4.11, S. 4.4.16, S. 4.4.17, S. 4.4.26, S. 4.4.30, S. 4.4.33[K], [L] & [M]	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 2.3 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 2.2 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 2.1 **(AK-3)** AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.3.3, 7.4.4, 7.4.5 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3.3, 6.4.4, 6.4.5 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001,	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				CCP-AK-LANL-008 R9, S. 5.4.3.5, 5.4.4, 5.4.5 **(AK-3)** AK Att. 6, Waste Form, Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-11)** NCRs for prohibited items: NCR-LANL-0553-14, R0; NCR-LANL-0704-08, R1; NCR-LANL-0208-14, R0; NCR-LANL-0625-12, R0; NCR-LANL-0422-13, R0; NCR-LANL-0698-12, R0 **(AK-13)** AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.3, tables 21, 22 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3, tables 11, 15 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3		

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				(AK-3) AK Att. 5, Hazardous Constituents for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-10)** AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.1.2, table 19 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.1.2, table 13 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.1.2, table 5-1 **(AK-3)** Memos attached to AK Att. 6, Waste Form, Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-11)**		
		PL CCP-TP-001	Y	**PL** LA-HERTR-13-0111	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
		S. 4.2		LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)** CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**		
31	Are procedures in place to ensure that the following Quality Assurance Objectives are adequately defined and assessed for each characterization method: • Precision as a measure of the mutual agreement among multiple measurements. • Accuracy as the degree of agreement between a measurement result and a true or known value. • Completeness is a measure of the amount of valid data obtained from a method compared to the total amount of data obtained that is expressed as a percentage. • Comparability is the degree to which one data set can be compared to another data set. • Representativeness as an expression of the degree to which data represent characteristics of a population. (Section C-4a(2))	**RTR** CCP-TP-053, Att. 3 **VE** CCP-TP-069 & Att. 7 CCP-TP-113 Att. 3	Y Y	**RTR** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)** **VE** LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140	Y Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**		
32	With respect to data generation, are procedures in place to ensure that the generator/storage site's waste characterization program meets the following general requirements: • Testing data packages and batch data reports must be reported accurately in a pre-approved format, must be maintained in permanent files, and must be traceable? • All data must receive a technical review by another qualified operator? (Section C3-4a)	**RTR** CCP-TP-053, S. 4.9, 4.10, 5.0, Att. 2 & 3 **VE** CCP-TP-069 S. 5.0 & Att. 4 CCP-TP-113 S. 5.0 & Att. 1 & 2	Y Y	**RTR** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)** **VE BDRs:** LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**	Y Y	
33	Are procedures in place to ensure that the generator/storage site performs validation of waste characterization data for each waste container? (Section C-4)	**PL** CCP-TP-001 S. 4.2 & Att. 1, 2, and 4	Y	**PL** LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)**		
		RTR CCP-TP-053, S. 4.10 & Att. 3	Y	**RTR** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
		VE CCP-TP-069 S. 4.3 & Att. 4 & 7 CCP-TP-113, S. 4.7 & Att. 3	Y	**VE** LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**	Y	
34	Are procedures in place to ensure that the generator/storage site has a pre-approved format for reporting waste characterization data? (Section C-4a(3))	**PL** CCP-TP-001 S. 4.2 & Att. 1, 2, & 4	Y	**PL** LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				(GEN-1) LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)** CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**		
		RTR CCP-TP-053, (All)	Y	**RTR** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
		VE CCP-TP-069 Att. 4 & 7 CCP-TP-113 Att. 1 & 2	Y	**VE** LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**		
35	Are procedures in place to ensure that the generator/storage site prepares testing batch data reports to meet the requirements of their own site-specific QAPjP and/or SOPs? (Section C-4a(3))	**PL** CCP-TP-001 S. 4.2 & Att. 1, 2, & 4	Y	**PL** LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)**	Y	
		RTR CCP-TP-053, (All)	Y	**RTR** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
		VE CCP-TP-069 S. 4.2 & Att. 4 CCP-TP-113 S. 4.6, Att. 1 & 2	Y	**VE** LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**		
36	Are procedures in place to ensure that all raw data is collected and managed at the data generation level in accordance with the following criteria: • All raw data shall be signed and dated in reproducible ink by the individual collecting the data, or signed and dated using electronic signatures • All data shall be recorded clearly, legibly, and accurately in field records • All changes to original data shall be lined out, initialed, and dated by the individual making the change. Original data may not be obliterated or otherwise be made unreadable • All data shall be transferred and reduced from field records completely and accurately • All field records shall be maintained as specified in Table C-2 of Attachment C • Data shall be organized into standard reporting formats for reporting purposes • All electronic and video data must be stored to ensure that waste container and QC data are readily retrievable (Section C3-4a)	**RTR** CCP-TP-053, S. 5.0, Att. 2 & 3 **VE** CCP-TP-069 S. 5.0 & Att. 7 CCP-TP-113 S. 5.0 & Att. 3	Y Y	**RTR** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)** **VE** LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**	Y Y	
37	Are procedures in place to ensure that 100 % of batch data reports are subject to independent technical review by an individual qualified to review the data who was not involved in the generation or recording of the data under review. The reviewer shall release the data through signature with an associated review checklist prior to characterization of the associated waste and shipment to the WIPP. The review shall ensure the following, as applicable: • Data generation and reduction were conducted according to the methods used and reported in the proper units and significant figures • Calculations have been verified by a valid calculation program, a spot	**RTR** CCP-TP-053, S. 4.6, 4.10 & Att. 3 **VE**	Y Y	**RTR** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)** **VE**	Y Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	check of verified calculation programs, and/or a 100 percent check of all hand calculations • The data have been reviewed for transcription errors • The testing QA documentation for BDRs is complete and includes, as applicable, raw data, calculation records, calibration records • Radiography tapes are reviewed on a waste container basis at a minimum of once per testing batch or once per day of operation, whichever is less frequent. The radiography tape will be reviewed against the data on the radiography form to ensure that data are complete and correct • QAOs have been met (Section C3-4a(1))	CCP-TP-069 S. 4.3 & Att. 7 CCP-TP-113 S. 4.7 & Att. 3		LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**		
40	Are procedures in place to ensure that 100 percent of all batch data reports receive a Site Project Manager signature release with an associated review checklist prior to characterization of the associated waste and shipment to the WIPP. This release shall ensure the following: • Testing batch QC checks were properly performed. Radiography data are complete and acceptable based on evidence of videotape review of one waste container per day or once per testing batch, whichever is less frequent • Data generation level independent technical review, validation, and verification have been performed as evidenced by the completed review checklists and appropriate signature releases. • Independent technical reviewers were not involved in the generation or recording of the data under review. • Batch Data review checklists are complete • Batch Data Reports are complete and data properly reported • Verify that data are within established data assessment criteria and meet all applicable QAOs (Section C3-4b(1))	**PL** CCP-TP-001 S. 4.2 & Att. 1, 2, & 4	Y	**PL** LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)**	Y	
42	Are procedures in place to ensure that a repeat of the data review process at the data generation level will be performed on a minimum of one randomly chosen waste container every quarter to determine if the verification and validation is	**PL** CCP-PO-001 S. C3-4b	Y	**PL** Quarterly Reports and Results: CP:13:01440	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	performed according to documented procedures? (Section C3-4b)	CCP-TP-001 S. 4.3		CP:13:01441 CP:13:01442 CP:13:01482 CP:13:01493 CP:13:01516 CP:14:01024 CP:14:01025 CP:14:01026 CP:14:01037 CP:14:01038 CP:14:01074 CP:14:01075 CP:14:01076 CP:14:01108 CP:14:01109 CP:14:01110 **(GEN-5)**		
43	Are procedures in place and checklists are available to prepare a Site Project Manager (SPM) Summary and a Data Validation Summary (the summaries may be in the same document)? The SPM Summary includes a validation checklist for each batch that is of sufficient detail to document all aspects of a batch data report that could affect data quality. The Data Validation Summary must identify each Batch Data Report reviewed, describe how the validation was performed, identify all problems, and identify all acceptable and unacceptable data. Summaries must include release signatures. (Section C3-4b(2))	**PL** CCP-TP-001 S. 4.2 & Att. 1, 2, & 4	Y	**PL** LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)**	Y	
44	Are procedures in place to ensure that non-administrative, WAP-related nonconformances first identified at the site project manager level are reported to the Permittees within seven calendar days of identification, that nonconformance reports are prepared within 30 calendar days, and that corrective action is implemented prior to waste shipment? (Section C3-7)	CCP-QP-005, S. 4.4.1 [D.3]	Y	Records packages for NCR-LANL-0587-13, R1; NCR-LANL-0908-13, R0; NCR-LANL-0115-14, R0 were reviewed and found to include evidence of notification. **(GEN-6)** CH Nonconformance Report Log for Project Level and Data	Y	Verified that these NCRs were appropriately reported to the Permittee (via email to CBFO through "WIPP Notify") within the required amount of days by the Permit.

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				Generation Level 2013/2014 **(GEN-7)**		
45	Are procedures in place to ensure that any waste container for which a nonconformance report (**NCR**) has been written will not be shipped to the WIPP facility unless the condition that led to the NCR for that container is appropriately identified, reconciled, corrected, and documented? Are nonconformance reports prepared for nonconformances identified? Are nonconformances identified and tracked, and does the Site Project Manager oversee the nonconformance report process? (Section C3-7)	CCP-QP-005, (All)	Y	Records packages for the following NCRs: NCR-LANL-0417-13, R0; NCR-LANL-0422-13, R0; NCR-LANL-0678-13, R0; NCR-LANL-0680-13, R0; NCR-LANL-0681-13, R0; NCR-LANL-0803-13, R0; NCR-LANL-0804-13, R0; NCR-LANL-0894-13, R1; NCR-LANL-0108-14, R0; NCR-LANL-0122-14, R0; NCR-LANL-0127-14, R0; NCR-LANL-0341-14, R0; NCR-LANL-0348-14, R0; NCR-LANL-0507-14, R0; NCR-LANL-0532-14, R0; NCR-LANL-0553-14, R0; NCR-LANL-0600-14, R0; NCR-LANL-0606-14, R4 **(GEN-8)**	Y	
	DATA TRANSMITTAL					
48	Are procedures in place to ensure that the generator/storage site transmits data by hard copy or electronic copy from the data generation level to the site project level? If electronic, does the generator/site have a hard copy available on demand? (Section C-4a(5))	CCP-TP-001 S. 4.2.23 – 4.2.24	Y	LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)**	Y	BDR hardcopies were available on demand.
50	Are procedures in place to ensure that the generator/storage site inputs the data into the WWIS manually or electronically? (Section C-4a(5))	CCP-TP-030, (All)	Y	Characterization data packages for the following containers were	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				reviewed including CCP "WDS Master Template.xls" data spreadsheet reports, Container Information Summary (CIS) reports, and excerpt pages from batch data reports, measurement reports showing characterization data values that were entered, and report of confirmation of resolution of any associated NCRs. CH Container Packages (includes data for SWB and internal 55-gal containers): Container; LASB02160 – (an SWB with 2 55-gallon containers; LA00000093229 and LA00000083713) Container; LA00000094071 – 55-gallon drum Container; LASB02085 – (an SWB with 4 55-gallon containers; LA00000066852, LA00000088927, LA00000091257, and LA00000093043) **(GEN-9)**		
51	Are procedures in place to ensure that the generator/storage site enters the data into the WWIS in the exact format required by the database? (Section C-4a(5))	CCP-TP-030, (All)	Y	Characterization data packages for the following containers were reviewed including CCP "WDS Master Template.xls" data spreadsheet reports, Container Information Summary (CIS) reports, and excerpt pages from batch data reports,	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				measurement reports showing characterization data values that were entered, and report of confirmation of resolution of any associated NCRs. CH Container Packages (includes data for SWB and internal 55-gal containers): Container; LASB02160 – (an SWB with 2 55-gallon containers; LA00000093229 and LA00000083713) Container; LA00000094071 – 55-gallon drum Container; LASB02085 – (an SWB with 4 55-gallon containers; LA00000066852, LA00000088927, LA00000091257, and LA00000093043) **(GEN-9)**		
52	Are procedures in place to ensure all of the data presented on Table C-3 of the Permit is transmitted to the WWIS? (Table C-3)	CCP-TP-030, (All)	Y	Characterization data packages for the following containers were reviewed including CCP "WDS Master Template.xls" data spreadsheet reports, Container Information Summary (CIS) reports, and excerpt pages from batch data reports, measurement reports showing characterization data values that were entered, and report of confirmation of resolution of any associated NCRs. CH Container Packages	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
				(includes data for SWB and internal 55-gal containers): Container; LASB02160 – (an SWB with 2 55-gallon containers; LA00000093229 and LA00000083713) Container; LA00000094071 – 55-gallon drum Container; LASB02085 – (an SWB with 4 55-gallon containers; LA00000066852, LA00000088927, LA00000091257, and LA00000093043) **(GEN-9)**		
	RECORDS AND RECORD MANAGEMENT					
55	Are procedures in place to ensure that the generator/storage site's hard copy and/or electronic data reports follow the Permittees' format requirements? (Section C-4a(3))	CCP-TP-001 S. 4.2.23 – 4.2.24	Y	LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)** CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
56	Are procedures in place to ensure that hard copy or electronic Waste Stream Profile Form will include the following: • Generator/storage site name • Generator/storage site EPA ID • Date of audit report approval by NMED (if obtained) • Original generator of waste stream • Whether waste is Contact-Handled or Remote-Handled • Waste Stream WIPP Identification Number • Summary Category Group • Waste Matrix Code Group • Waste Material Parameter Weight Estimates per unit of waste • Waste stream name • A description of the waste stream • Applicable EPA hazardous waste codes numbers • Applicable TRUCON codes • A listing of acceptable knowledge documentation used to identify the waste stream • The waste characterization procedures used and the reference and date of the procedure • Certification signature of Site Project Manager, name, title, and date signed (Section C3-6b(1))	CCP-TP-002 S. 4.3 & Att. 2	Y	CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**	Y	
56a	Are procedures in place to ensure that hard copy or electronic Characterization Information Summary will include the following: • Data reconciliation with DQOs • Radiography and visual examination summary to document that all prohibited items are absent in the waste and to verify that the physical form of the waste matches its waste stream description as determined by AK (if applicable) • A complete listing of all container identification numbers used to generate the Waste Stream Profile Form, cross-referenced to each Batch Data Report • Complete AK summary, including stream name and number, point of generation, waste stream volume (current and projected), generation dates, TRUCON codes, Summary Category Group, Waste Matrix Code(s)	CCP-TP-002 S. 4.4 & Att. 3-5	Y	CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	and Waste Matrix Code Group, other TWBIR information, waste stream description, areas of operation, generating processes, RCRA determinations, radionuclide information, all references used to generate the AK summary, and any other information required by Permit Attachment C4, Section C4-2b. • Method for determining Waste Material Parameter Weights per unit of waste. • List of any AK Sufficiency Determinations requested for the waste stream • Certification through acceptable knowledge or testing that any waste assigned the hazardous waste number of U134 (hydrofluoric acid) no longer exhibits the characteristic of corrosivity. This is verified by ensuring that no liquid is present in U134 waste. • A justification for the selection of radiography and/or VE as an appropriate method of characterizing the waste. (Section C3-6b(2))					
56b	Are procedures in place to assure that ongoing container characterization results are cross referenced to Batch Data Reports? (Section C3-6b)	CCP-TP-002 S. 4.4.2 & Att. 4	Y	LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)** CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**	Y	
58	Are procedures in place to ensure that project level reports are compiled into Characterization Information Summaries?	CCP-TP-002 S. 4.4 & Att. 3-5	Y	CP:09:01169 CP:13:01497 CP:14:01060	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	(Section C3-6b)			CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**		
59	Are procedures in place to ensure that the generator/storage site uses forms for data reporting that are pre-approved forms in site-specific documentation? (Section C3-6)	**RTR** CCP-TP-053, Att. 1, 2, & 3	Y	**RTR** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
		VE CCP-TP-069 Att. 4 & 7 CCP-TP-113 Att. 1, 2 & 3	Y	**VE** LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
60	Are procedures in place to ensure that the generator/storage site's site project manager submits to the WIPP facility a summary of the waste stream information and reconciliation with data quality objectives (DQOs) once a waste stream is characterized? (Section C-4a(5))	CCP-TP-002 S. 4.0 & Att. 1-5	Y	CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)** Acceptable Knowledge Document Summary for Waste Stream LA-MHD04.001 Discrepancy Resolution **(GEN-4)**	Y	
61	Are procedures in place to ensure that the generator/storage site project office completes a WSPF based on the Batch Data Reports? (C3-6b)	CCP-TP-002 S. 4.0 & Att. 1-5	Y	CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**	Y	
62	Are procedures in place to ensure that the generator/storage Site Project Manager submits the WSPF to the Permittees for DOE's approval along with the accompanying Characterization Information Summary for that waste stream? (Section C-4a(5))	CCP-TP-002 S. 4.6 & Att. 1-5	Y	CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**	Y	
63	Are procedures in place to ensure that the generator/storage site maintains records related to waste characterization testing activities in the testing facility files, or site project files for those facilities located on-site? (Section C-4a(6))	CCP-QP-008, (All) CCP-QP-028, (All)	Y	CH Records Inventory Disposition Schedule (RIDS) dated July 30, 2014 **(GEN-10)**	Y	
64	Are procedures in place to ensure that the appropriate documented training and indoctrination is performed for all individuals and that procedures are documented in site specific QAPjPs and procedures? (Section C3-8)	CCP-PO-001, (All) CCP-QP-002, S. 4.0	Y	CH Program – LANL List of Qualified Individuals dated 08/18/2014. **(GEN-11)** Qualification records for selected CCP personnel. **(GEN-12)**	Y	
66	Are procedures in place to ensure that the generator/storage site has an appropriate records inventory and disposition schedule (RIDS) or equivalent that was prepared and approved by appropriate site personnel?	CCP-QP-008, S. 3.1.2 CCP-QP-028,	Y	CH RIDS dated July 30, 2014 **(GEN-10)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	(Section C-4a(6))	S. 3.1.1				
67	Are procedures in place to ensure that the generator/storage site maintains all records relevant to an enforcement action, regardless of disposition, until they are no longer needed for enforcement action, and then dispositioned per the approved RIDS? (Section C-4a(6))	CCP-QP-008, S. 4.15.1 (NOTE) CCP-QP-028, (All)	Y	CH RIDS dated July 30, 2014 **(GEN-10)**	Y	
68	Are procedures in place to ensure that the generator/storage site maintains records that are designated as Lifetime Records for the life of the waste characterization program plus six years or that the records have been transferred to the WIPP Records Archive facility? Lifetime Records include: • Test facility Batch Data Reports, • Waste Stream Characterization Package, • Data reduction, validation, and reporting documentation, • Acceptable knowledge documentation, • WSPF and Characterization Information Summary (Section C-4a(6), Table C-2)	CCP-PO-001, S. C-4a(6) TABLE C-2 CCP-PO-002, S. 5.5 CCP-QP-008, (All) CCP-QP-028, (All)	Y	CH RIDS dated July 30, 2014 **(GEN-10)**	Y	
69	Are procedures in place to ensure that the generator/storage site maintains records that are designated as Non-Permanent Records for ten years from the date of record generation, and then dispositioned according per the approved RIDS or transferred to the WIPP Records Archive facility? Non-Permanent Records include: • Nonconformance documentation, • Variance documentation, • Assessment documentation, • Calculations and related software documentation, • Training/qualification documentation, • QAPjP documentation (all revisions), • Calibration documentation, • Procurement documentation, • QA procedures (all revisions), • Technical implementing procedures (all revisions), and • Audio/video recording (radiography, visual, etc.). (Section C-4a(6), Table C-2)	CCP-PO-001, S. C-4a(6), TABLE C-2 CCP-PO-002, S. 5.5 CCP-QP-008, (All) CCP-QP-028, (All)	Y	CH RIDS dated July 30, 2014 **(GEN-10)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
70	Are procedures in place to ensure that the generator/storage site has raw data that is identifiable and legible, and provides documentary evidence of quality? (Section C-4a(6))	**RTR** CCP-TP-053, Att. 1, 2, & 3 **VE** CCP-TP-069 Att. 4 & 7 CCP-TP-113 Att. 1, 2 & 3	Y Y	**RTR** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)** **VE** LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**	Y Y	
71	Are procedures in place to ensure that if the generator/storage site ceases to operate, that all records be transferred before closeout? (Section C-4a(6))	CCP-QP-008, S. 4.10.2	Y	CH RIDS dated July 30, 2014 **(GEN-10)**	N/A	This site has not ceased operations.
	SHIPMENT					
72	Are procedures in place to ensure that the generator/storage site accurately completes an EPA Hazardous Waste Manifest prior to shipping the waste to WIPP that contains the following information: • Generator/storage site name and EPA ID • Generator/storage site contact name and phone number • Quantity of waste • List of up to six state and/or federal hazardous waste numbers in each line item • Listing of all container IDS	CCP-TP-033 S. 2.6.7; 4.2	Y	Examined Hazardous Waste Manifests: 010784276JJK 010784270JJK **(GEN-13)**	Y	

	WAP Requirement[1] LANL CCP Audit A-14-19 Table C6-1 Waste Analysis Plan (WAP) Checklist [1]	Procedure Documented		Example of Implementation/Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	• Signature of authorized generator representative (Section C-5b)					
73	Are procedures in place to ensure that the generator/storage site accurately completes the following container specific information: • Waste stream identification number • List of hazardous waste numbers per container • Certification data • Shipping data (Section C-5b)	CCP-TP-033 S. 2.6.7; 4.2	Y	Examined Hazardous Waste Manifests: 010784276JJK 010784270JJK **(GEN-13)**	Y	

1. The WAP requirements should be presented in documents, such as procedures. Each of the questions posed under WAP requirements is meant to ask whether procedures are in place or whether documents are evident which demonstrate that the specific WAP requirement is or can be met.

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-13-0111 **Examination Date(s):** 11/6/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 68008 68112 68113 SB10142
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**	X			NCR-LANL-0419-13 rejects 68114
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 11/11/13

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0111				Examination Date(s): 11/6/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			Except 68114
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			Except 68114
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0111 **Examination Date(s):** 11/6/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.

Comments: None

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Veronica Waldram	Veronica Waldram	11/11/13
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-13-0111 ☑ CH ☐ RH Date: 11-6-13

Waste Container ID Numbers	
Replicate Scan:	68112
Independent Observation:	68008
1	68008
2	68114
3	68112
4	68113
5	SB10142
6	N/A
7	N/A
8	N/A
9	N/A
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Thad Hasselstrom		11-6-13
Printed Name	Signature	Date

Independent Technical Reviewer:

Michael Simmons		11/07/13
Printed Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 11/11/13

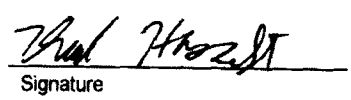
Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-13-0111 Date: 11/06/2013

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	25
6	CCP Independent Technical Reviewer Checklist	28

Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

Thad Hasselstrom
RTR Operator


Signature

11/06/2013
Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-13-0111		
Examination Date: 11/06/2013		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 11 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Thad Hasselstrom Printed Name	 Signature	11/06/2013 Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0111
Examination Date:	11/6/2013
Waste Container ID:	68112
Video/Audio Recorded Media Number:	LA-HERTR-13-0111 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 447.0 kg Tare Wt.: 290.0 kg Net Wt.: 157.0 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68112

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, hardware
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls
R:	Leaded rubber gloves
XPM:	Plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	8.0
Aluminum-based Metals / Alloys (AM):	8.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	38.0
Rubber (R):	55.0
Plastics (waste materials) (XPM):	48.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	157.0

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68112

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Replicate scan agrees with the original scan.	

RTR Operator:

Benito Maestas		11/6/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0111
Examination Date:	11/6/2013
Waste Container ID:	68008
Video/Audio Recorded Media Number:	LA-HERTR-13-0111 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 554.5 kg Tare Wt.: 290.0 kg Net Wt.: 264.5 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68008

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Vented 55 gallon drums, metal cans with material, scrap metal, pipe, hand tools, motor, hardware

AM:

OM:

OI: Glass containers

C: Coveralls

R: Leaded rubber gloves

XPM: Plastic bags, plastic tubing, plastic containers

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	205.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	4.0
Cellulosics (C):	4.0
Rubber (R):	10.0
Plastics (waste materials) (XPM):	28.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	13.5
Soils (S):	
Total WMP Weight:	264.5

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68008

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Benito Maestas		11/6/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0111
Examination Date:	11/6/2013
Waste Container ID:	68008
Video/Audio Recorded Media Number:	LA-HERTR-13-0111 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 554.5 kg Tare Wt.: 290.0 kg Net Wt.: 264.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68008

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Vented 55 gallon drums, metal cans with material, scrap metal, pipe, hand tools, motor, hardware

AM:

OM:

OI: Glass containers

C: Coveralls

R: Leaded rubber gloves

XPM: Plastic bags, plastic tubing, plastic containers

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	199.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	5.0
Cellulosics (C):	5.0
Rubber (R):	10.0
Plastics (waste materials) (XPM):	30.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	15.0
Soils (S):	
Total WMP Weight:	264.5

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68008

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	11/6/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0111
Examination Date:	11/6/2013
Waste Container ID:	68114
Video/Audio Recorded Media Number:	LA-HERTR-13-0111 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[ ] No [X] Yes NCR No.: NCR-LANL-0419-13 NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 442.0 kg Tare Wt.: 290.0 kg Net Wt.: 152.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68114

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Metal cans with material, scrap metal, hardware, hand tools
AM:	
OM:	
OI:	
C:	Coveralls, tape roll, cardboard
R:	
XPM:	Plastic bags, plastic containers
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	40.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	42.0
Rubber (R):	
Plastics (waste materials) (XPM):	30.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	40.0
Soils (S):	
Total WMP Weight:	152.0

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68114

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[X] Yes [ ] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: NCR-LANL-0419-13	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	11/6/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0111
Examination Date:	11/6/2013
Waste Container ID:	68112
Video/Audio Recorded Media Number:	LA-HERTR-13-0111 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 447.0 kg Tare Wt.: 290.0 kg Net Wt.: 157.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68112

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, hardware, saw blade
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls
R:	Leaded rubber gloves
XPM:	Plastic bags, pipe
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	10.0
Aluminum-based Metals / Alloys (AM):	6.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	40.0
Rubber (R):	50.0
Plastics (waste materials) (XPM):	51.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	157.0

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68112

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	11/6/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0111
Examination Date:	11/6/2013
Waste Container ID:	68113
Video/Audio Recorded Media Number:	LA-HERTR-13-0111 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 486.0 kg Tare Wt.: 290.0 kg Net Wt.: 196.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 68113

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hardware, scrap metal
AM:	Resirator filters
OM:	
OI:	Glass container
C:	Coveralls, filter media
R:	Leaded rubber gloves
XPM:	Flex hose
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	20.0
Aluminum-based Metals / Alloys (AM):	15.0
Other Metals (OM):	
Other Inorganic Materials (OI)	1.0
Cellulosics (C):	145.0
Rubber (R):	5.0
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	196.0

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68113

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	11/6/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0111
Examination Date:	11/6/2013
Waste Container ID:	SB10142
Video/Audio Recorded Media Number:	LA-HERTR-13-0111 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 563.0 kg Tare Wt.: 290.0 kg Net Wt.: 273.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: SB10142

Section 3: Container Inventory and Comments (Detailed descriptions)

IM:	Vented 55 gallon drums, metal cans with material, drum closure ring, open 30 gallon drum, scrap metal, drum lid
AM:	
OM:	
OI:	Glass containers, broken glass
C:	Cardboard
R:	Leaded rubber gloves
XPM:	Plastic bags, electrical cord, plastic labware, plastic tubing, plastic containers
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	160.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	66.0
Cellulosics (C):	2.0
Rubber (R):	20.0
Plastics (waste materials) (XPM):	25.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	273.0

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: SB10142

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom		11/6/2013
Print Name	Signature	Date

Controlled Copy

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0419-13 **Revision** 0

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-HERTR-13-0111
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 68114
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☑ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 14, Section 4.4.2 [H]states in part "Using Table 1, Prohibited Items, as a reference... confirm there are NO prohibited items in the waste container."
Table 1, Prohibited Items lists, in part "Liquid waste- Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited.

7c. Actual Condition:

300 mL of liquid in a 1 gallon container at 32 inches

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Aaron Elliott (printed name) — signature — 11-7-13 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☑ NO ☐ INDETERMINATE

10. Trend Code: K	11. Responsible Manager: Terri-Anne Groover
12. Significant Condition? ☐ YES ☑ NO (If Yes, enter CAR No.):	13. Recurring Condition? ☐ YES ☑ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Kenneth Simpson (printed name) — signature — 11-7-13 (date)

COPY

Controlled Copy

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0419-13 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☑ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Controlled Copy

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0419-13 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☑ N/A for Reject, Rework, or Scrap]

☑ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

Return container(s) to LANL.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☑ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Gruver		11-7-13

21. QA Engineer or QA Designee:

printed name	signature	date
Antonio D. Chavarria		11/7/13

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date

23. Attachments:

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date

Controlled Copy

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-13-0111

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☒ YES	
3.	Are the WMPs entered correctly?	☐ NO	☒ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☒ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☒ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☒ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☒ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☒ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☒ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☒ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☒ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☒ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☒ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☒ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☒ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-13-0111

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☒ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☒ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☒ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☒ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☒ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☒ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☒ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☒ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☒ YES	☐ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☒ YES	

Comments: N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Michael Simmons
Printed Name

Signature

11/07/13
Date

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	11-11-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-13-0111	BACKUP DVD B	11-06-13	N/A
LA-HERTR-13-0111	BACKUP DVD D	11-06-13	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Sheila Pearcy (Signature)	SHEILA PEARCY (Printed Name)	11/15/13 (Date)
Records Rejected [ ]	(Signature)	(Printed Name)	(Date)

Reason for Rejection:

Re-submittal:	(Signature)	(Printed Name)	(Date)

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	0362
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	11/15 12:44
TIME USE	00'15
PAGES SENT	1
RESULT	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record
[ ] Fax Record
[ ] Electronic Record

[ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	11-11-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-13-0111	BACKUP DVD B	11-06-13	N/A
LA-HERTR-13-0111	BACKUP DVD D	11-06-13	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [✓] Sheila Pearcy (Signature) SHEILA PEARCY (Printed Name) 11/15/13 (Date)

[ ]

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record
[ ] Fax Record
[ ] Electronic Record
[ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220-9082	Company:	S.M STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	11/20/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-13-0111	REAL-TIME RADIOGRAPHY BATCH DATA REPORT	11/06/13	29
LA-HERTR-13-0111	REAL-TIME RADIOGRAPHY DVD A FOR BATCH DATA REPORT PRIMARY	11/06/13	N/A
LA-HERTR-13-0111	REAL-TIME RADIOGRAPHY DVD C FOR BACTH DATA REPORT PRIMARY	11/06/13	N/A
	N/A 8/12/13		

Comments

BDR is complete. Original SPM is in Carlsbad.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	12/04/13 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	0473
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	12/04 11:27
TIME USE	00'16
PAGES SENT	1
RESULT	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian. 4021 National Parks Highway - MS: GSA 212. Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220-9082	Company:	S.M STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	11/20/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-13-0111	REAL-TIME RADIOGRAPHY BATCH DATA REPORT	11/06/13	29
LA-HERTR-13-0111	REAL-TIME RADIOGRAPHY DVD A FOR BATCH DATA REPORT PRIMARY	11/06/13	N/A
LA-HERTR-13-0111	REAL-TIME RADIOGRAPHY DVD C FOR BACTH DATA REPORT PRIMARY	11/06/13	N/A
	N/A Emails		

Comments

BDR is complete. Original SPM is in Carlsbad.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [ ] Leon Navarrete 11/21/13

DIVIDER

PAGE

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-13-0125 **Examination Date(s):** 23 December 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				**Container(s):** 68241, 68240, 68245
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 1/14/14

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0125 **Examination Date(s):** 23 December 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			68245
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			68240

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0125 **Examination Date(s):** 23 December 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used

Comments: **None**

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

David W. Moody	David W. Moody	14 January 2014
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-13-0125 ☑ CH ☐ RH Date: 12-23-13

Waste Container ID Numbers	
Replicate Scan:	68245
Independent Observation:	68240
1	68241
2	68240
3	68245
4	N/A
5	N/A
6	N/A
7	N/A
8	N/A
9	N/A
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Benito Maestas/ Eddie Rios — Printed Name

Signature — Date: 12-23-13

Independent Technical Reviewer:

AARON ELLIOTT — Printed Name

Signature — Date: 12/24/13

NTPC RECORDS ORIGINAL
DATE REC'D 1/6/14

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-13-0125 Date: 12/23/2013

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	19

Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report. The scan of this batch was performed by in-training operator Eddie Rios under the supervision of qualified operator Benito Maestas.

Benito Maestas/Eddie Rios — RTR Operator
B Maestas / Eddie Rios — Signature
12/23/2013 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-13-0125		
Examination Date: 12/23/2013		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 8 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: The scan of the Image Test was performed by in-training operator Eddie Rios under the supervision of qualified operator Benito Maestas.		
RTR Operator:		
Benito Maestas /Eddie Rios — Signature — 12/23/2013		
Printed Name — Signature — Date		

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0125
Examination Date:	12/23/2013
Waste Container ID:	68245
Video/Audio Recorded Media Number:	LA-HERTR-13-0125 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 438.5 kg Tare Wt.: 290.0 kg Net Wt.: 148.5 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

Waste Container ID: 68245

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, saw blades, hardware
AM:	Respirator filters
OM:	Scrap lead, C batteries
OI:	
C:	Coveralls
R:	Leaded rubber gloves
XPM:	Plastic sheeting, plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	95.5
Aluminum-based Metals / Alloys (AM):	6.0
Other Metals (OM):	5.0
Other Inorganic Materials (OI)	
Cellulosics (C):	10.0
Rubber (R):	20.0
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	2.0
Soils (S):	
Total WMP Weight:	148.5

CCP Radiography Data Sheet

Waste Container ID: 68245

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: This Replicate scan agrees with the original scan.	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	12/23/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0125
Examination Date:	12/23/2013
Waste Container ID:	68240
Video/Audio Recorded Media Number:	LA-HERTR-13-0125 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 327.0 kg Tare Wt.: 290.0 kg Net Wt.: 37.0 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	40 %

CCP Radiography Data Sheet

Waste Container ID: 68240

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Pipe
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls
R:	Rubber gloves
XPM:	Plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	4.0
Aluminum-based Metals / Alloys (AM):	8.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	10.0
Rubber (R):	5.0
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	37.0

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68240

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	12/23/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0125
Examination Date:	12/23/2013
Waste Container ID:	68241
Video/Audio Recorded Media Number:	LA-HERTR-13-0125 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 340.0 kg Tare Wt.: 290.0 kg Net Wt.: 50.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	40 %

CCP Radiography Data Sheet

Waste Container ID: 68241

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, metal lids, metal cans, metal hardware, metal piping
AM:	
OM:	
OI:	
C:	Coveralls, cardboard
R:	Leaded rubber gloves
XPM:	Plastic sheeting, plastic bags
OR:	
IN:	Homogenous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	27.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	7.0
Rubber (R):	5.0
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	1.0
Soils (S):	
Total WMP Weight:	50.0

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68241

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments:
The scan of this SWB was performed by in-training operator Eddie Rios under the supervision of qualified operator Benito Maestas.

RTR Operator:

Benito Maestas/Eddie Rios	B. Maestas / Eddie Rios	12/23/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0125
Examination Date:	12/23/2013
Waste Container ID:	68240
Video/Audio Recorded Media Number:	LA-HERTR-13-0125 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 327.0 kg Tare Wt.: 290.0 kg Net Wt.: 37.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	40 %

CCP Radiography Data Sheet

Waste Container ID: 68240

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal piping
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls
R:	Rubber gloves
XPM:	Plastic sheeting, plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	11.5
Aluminum-based Metals / Alloys (AM):	8.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	5.0
Rubber (R):	2.5
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	37.0

CCP Radiography Data Sheet

Waste Container ID: 68240

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments:
The scan of this SWB was performed by in-training operator Eddie Rios under the supervision of qualified operator Benito Maestas.

RTR Operator:

Benito Maestas/Eddie Rios	B Maestas/Eddie Rios	12/23/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0125
Examination Date:	12/23/2013
Waste Container ID:	68245
Video/Audio Recorded Media Number:	LA-HERTR-13-0125 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 438.5 kg Tare Wt.: 290.0 kg Net Wt.: 148.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 68245

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, hand tools, metal pipes, metal hardware
AM:	Respirator filters
OM:	Scrap lead, "C" batteries
OI:	
C:	Coveralls
R:	Leaded rubber gloves
XPM:	Plastic sheeting, plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	95.5
Aluminum-based Metals / Alloys (AM):	8.0
Other Metals (OM):	6.0
Other Inorganic Materials (OI)	
Cellulosics (C):	10.0
Rubber (R):	20.0
Plastics (waste materials) (XPM):	7.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	2.0
Soils (S):	
Total WMP Weight:	148.5

CCP Radiography Data Sheet

Waste Container ID: 68245

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No

Comments:
The scan of this SWB was performed by in-training operator Eddie Rios under the supervision of qualified operator Benito Maestas.

RTR Operator:

Benito Maestas/Eddie Rios	B Maestas / Eddie Rios	12/23/2013
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-13-0125

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☑ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☑ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-13-0125

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☑ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:
N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

AARON ELLIOTT — Printed Name

Signature

12/24/13 — Date

DIVIDER

PAGE

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-14-0034				**Examination Date(s): 03/14/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 68144 68149 68153 68155 68148 68154 68152
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**	X			NCR-LANL-0550-14 Rejects (68141) NCR-LANL-0551-14 Rejects (68142)
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 3/19/14

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0034	**Examination Date(s): 03/14/2014**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			Except for 68141 68142
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0034	**Examination Date(s): 03/14/2014**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Scale not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Scale not used.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna			3/19/14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-14-0034 ☑ CH ☐ RH Date: 03/14/2014

Waste Container ID Numbers	
Replicate Scan:	68149
Independent Observation:	68144
1	68144
2	68149
3	68153
4	68155
5	68148
6	68141
7	68154
8	68152
9	68142
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Michael Simmons		03/14/2014
Printed Name	Signature	Date

Independent Technical Reviewer:

AARON ELLIOTT		3/17/2014
Printed Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 3/18/14

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-14-0034 Date: 03/14/2014

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	37
6	CCP Independent Technical Reviewer Checklist	43

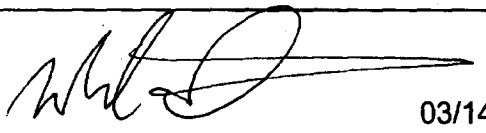
Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

Michael Simmons — RTR Operator

Signature

03/14/2014 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-14-0034		
Examination Date: 03/14/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 8 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Michael Simmons		03/14/2014
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68149
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 389.0 kg Tare Wt.: 290.0 kg Net Wt.: 99.0 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

Waste Container ID: 68149

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hardware, scrap metal
AM:	Respirator filters
OM:	Scrap lead
OI:	
C:	Coveralls, tape rolls
R:	
XPM:	Plastic sheeting, plastic container, plastic bag
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	8.0
Aluminum-based Metals / Alloys (AM):	6.0
Other Metals (OM):	65.0
Other Inorganic Materials (OI)	
Cellulosics (C):	8.0
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	99.0

Waste Container ID: 68149

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: This Replicate Scan agrees with the original scan.	

RTR Operator:

Thad Hasselstrom		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68144
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 567.5 kg Tare Wt.: 290.0 kg Net Wt.: 277.5 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	95 %

Waste Container ID: 68144

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Utility knife, hardware
AM:	
OM:	
OI:	
C:	Wood, cardboard tube, tape rolls, coveralls
R:	
XPM:	Plastic containers, plastic bag, open 5 gallon buckets
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	219.5
Rubber (R):	
Plastics (waste materials) (XPM):	25.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	30.0
Soils (S):	
Total WMP Weight:	277.5

Waste Container ID: 68144

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68144
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 567.5 kg Tare Wt.: 290.0 kg Net Wt.: 277.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

Waste Container ID: 68144

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hand tools, metal hardware
AM:	
OM:	
OI:	
C:	Wood material, cardboard tube, coveralls, tape rolls, cloth material
R:	
XPM:	Plastic bags, open 5 gal plastic buckets, plastic containers, plastic caps, tubing
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.3
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	220.2
Rubber (R):	
Plastics (waste materials) (XPM):	20.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	34.0
Soils (S):	
Total WMP Weight:	277.5

Waste Container ID: 68144

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68149
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 389.0 kg Tare Wt.: 290.0 kg Net Wt.: 99.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 68149

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, metal hardware, saw blade
AM:	Respirator filters
OM:	Scrap lead
OI:	
C:	Coveralls, tape rolls
R:	Rubber gloves
XPM:	Plastic sheeting, plastic containers
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	10.0
Aluminum-based Metals / Alloys (AM):	8.0
Other Metals (OM):	61.0
Other Inorganic Materials (OI)	
Cellulosics (C):	6.0
Rubber (R):	2.0
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	99.0

Waste Container ID: 68149

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: After discussing with the Replicate Scan operator, I agree that there are approximately 5mL of acceptable liquid in this container.	
RTR Operator:	
Michael Simmons (Print Name)	(Signature) 3/14/2014 (Date)

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68153
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 424.5 kg Tare Wt.: 290.0 kg Net Wt.: 134.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	80 %

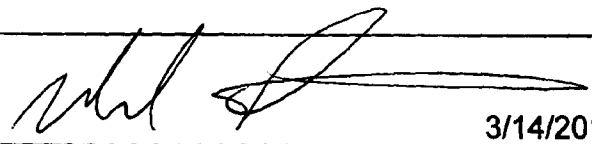
Waste Container ID: 68153

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hand tools, scrap metal, punctured aerosol cans, metal hardware
AM:	Respirator filters
OM:	
OI:	Glass container
C:	Coveralls, cardboard tube
R:	Rubber gloves
XPM:	Plastic bags, plastic sheeting, plastic caps, plastic containers, flex hose, electrical cord
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	51.3
Aluminum-based Metals / Alloys (AM):	11.0
Other Metals (OM):	
Other Inorganic Materials (OI)	0.2
Cellulosics (C):	40.0
Rubber (R):	10.0
Plastics (waste materials) (XPM):	14.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	8.0
Soils (S):	
Total WMP Weight:	134.5

Waste Container ID: 68153

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:		
Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68155
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 449.0 kg Tare Wt.: 290.0 kg Net Wt.: 159.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

Waste Container ID: 68155

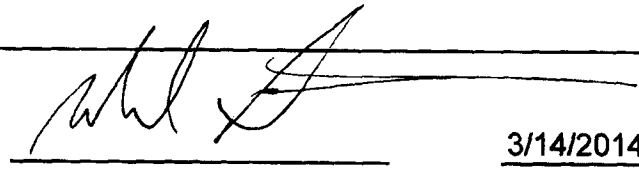
Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, metal hardware, hand tools
AM:	
OM:	
OI:	
C:	Coveralls, tape rolls, cardboard, cardboard tube
R:	Leaded rubber gloves
XPM:	Plastic sheeting, plastic containers, glove ports
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.4
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	35.6
Rubber (R):	82.0
Plastics (waste materials) (XPM):	16.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	22.0
Soils (S):	
Total WMP Weight:	159.0

Waste Container ID: 68155

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68148
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 399.5 kg Tare Wt.: 290.0 kg Net Wt.: 109.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

22 ~~21~~ JAE 3/17/14

Waste Container ID: 68148

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Binder clips, saw blades, scrap metal
AM:	
OM:	Scrap lead
OI:	
C:	Coveralls, tape roll, cloth material, cardboard tube
R:	Rubber gloves
XPM:	Plastic sheeting, plastic caps, pen, plastic bags, plastic hand pumps
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	14.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	25.0
Other Inorganic Materials (OI)	
Cellulosics (C):	22.0
Rubber (R):	1.0
Plastics (waste materials) (XPM):	14.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	33.5
Soils (S):	
Total WMP Weight:	109.5

Waste Container ID: 68148

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

24 ~~23~~ 3/17/14

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68141
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[ ] No [X] Yes NCR No.: NCR-LANL-0550-14 NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 456.5 kg Tare Wt.: 290.0 kg Net Wt.: 166.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

Waste Container ID: 68141

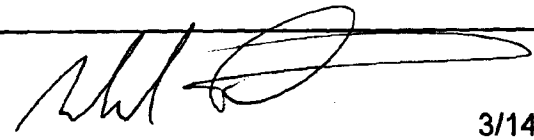
Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, hand tool, metal hardware, punctured aerosol cans, unpunctured aerosol can
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, tape roll
R:	Rubber gloves
XPM:	Plastic bags, plastic caps, flex hose, plastic glove ports
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	101.5
Aluminum-based Metals / Alloys (AM):	10.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	30.0
Rubber (R):	5.0
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	8.0
Soils (S):	
Total WMP Weight:	166.5

Waste Container ID: 68141

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☒ Yes ☐ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: NCR-LANL-0550-14	

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68154
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 457.5 kg Tare Wt.: 290.0 kg Net Wt.: 167.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

Waste Container ID: 68154

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, HEPA hood, vacuum components
AM:	Respirator filters
OM:	
OI:	
C:	Wood, coveralls, tape rolls
R:	Rubber gloves, leaded rubber gloves
XPM:	Plastic sheeting, plastic caps, plastic containers, flex hose, plastic bags, plastic glove ports
OR:	
IN:	Homogenous solids
S:	

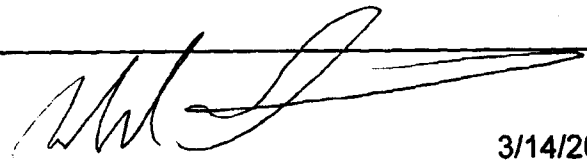
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	89.0
Aluminum-based Metals / Alloys (AM):	12.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	12.0
Rubber (R):	18.5
Plastics (waste materials) (XPM):	22.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	14.0
Soils (S):	
Total WMP Weight:	167.5

Waste Container ID: 68154

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: N/A

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68152
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 409.5 kg Tare Wt.: 290.0 kg Net Wt.: 119.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

Waste Container ID: 68152

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Punctured aerosol cans, scrap metal, metal hardware, drum ring, hand tools
AM:	Respirator filters, radiological probe
OM:	
OI:	
C:	Wood framed HEPA filter, coveralls, cloth straps
R:	Rubber gloves
XPM:	Plastic sheeting, plastic bags, flex hose, plastic glove ports, hand pump, plastic container
OR:	
IN:	Homogeneous solids
S:	

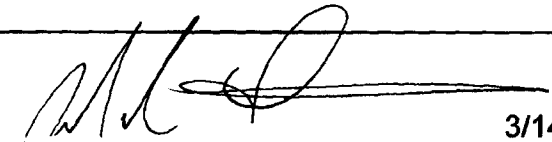
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	36.0
Aluminum-based Metals / Alloys (AM):	12.5
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	24.0
Rubber (R):	10.0
Plastics (waste materials) (XPM):	16.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	21.0
Soils (S):	
Total WMP Weight:	119.5

Waste Container ID: 68152

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: N/A

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68142
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 E&F
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[ ] No [X] Yes NCR No.: NCR-LANL-0551-14 NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 451.0 kg Tare Wt.: 290.0 kg Net Wt.: 161.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	80 %

Waste Container ID: 68142

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal hardware, unpunctured aerosol cans, scrap metal

AM: Respirator filters

OM:

OI:

C: Coveralls, tape rolls, cardboard, wood

R: Rubber gloves, leaded rubber gloves

XPM: Plastic bags, plastic containers, glove ports, plastic caps, plastic tubs

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	8.0
Aluminum-based Metals / Alloys (AM):	11.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	58.0
Rubber (R):	40.0
Plastics (waste materials) (XPM):	16.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	28.0
Soils (S):	
Total WMP Weight:	161.0

35 ~~34~~ JCE 3/17/14

Waste Container ID: 68142

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☒ Yes ☐ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: NCR-LANL-0551-14	

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0550-14 **Revision** 0

1. Lot No., Heat No., or Serial No. (if applicable):	2. Process (e.g., NDA, NDE, VE, Other):	3. Batch Data Report #(s):
N/A	NDE	LA-HERTR-14-0034
4. Order/Work Order/Job Control Number (if applicable):	5. PO # (if applicable):	Container #(s):
N/A	N/A	68141
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☑ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 14, Section 4.4.2 [H] states, in part, "Using Table 1, Prohibited Items, as a reference...confirm there are NO prohibited items in the waste container."
Table 1, Prohibited Items lists, in part, "Compressed gases/Pressurized containers (e.g., aerosol cans)"

7c. Actual Condition:

Unpunctured aerosol can at bottom of SWB

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Michael Simmons (printed name) — (signature) — 03/14/2014 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☑ NO ☐ INDETERMINATE

10. Trend Code: K

11. Responsible Manager: TERRI ANNE GROOVER

12. Significant Condition? ☐ YES ☑ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☑ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

AARON ELLIOTT (printed name) — (signature) — 3/17/2014 (date)

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0550-14 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):
☑ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use
☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0550-14 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair
19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☑ N/A for Reject, Rework, or Scrap]

☑ Reject ☐ Rework ☐ Scrap
19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

RETURN CONTAINER TO LANL

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☑ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri. Anne Grover	T. A Grover	3.17.14

21. QA Engineer or QA Designee:

printed name	signature	date
AARON ELLIOTT		3/12/2014

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date

23. Attachments:

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date

COPY

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0551-14 **Revision** 0

1. Lot No., Heat No., or Serial No. (if applicable):	2. Process (e.g., NDA, NDE, VE, Other):	3. Batch Data Report #(s):
N/A	NDE	LA-HERTR-14-0034
4. Order/Work Order/Job Control Number (if applicable):	5. PO # (if applicable):	Container #(s):
N/A	N/A	68142
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☑ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 14, Section 4.4.2 [H] states, in part, "Using Table 1, Prohibited Items, as a reference...confirm there are NO prohibited items in the waste container."
Table 1, Prohibited Items lists, in part, "Compressed gases/Pressurized containers (e.g., aerosol cans)"

7c. Actual Condition:

Unpunctured aerosol cans wrapped in leaded rubber gloves in the middle of the box.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Michael Simmons (printed name) — signature — 03/14/2014 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☑ NO ☐ INDETERMINATE

10. Trend Code: K

11. Responsible Manager: TERRI ANNE GROOVER

12. Significant Condition? ☐ YES ☑ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☑ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

AARON ELLIOTT (printed name) — signature — 3/17/2014 (date)

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0551-14 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):
☑ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use
☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0551-14 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☑ N/A for Reject, Rework, or Scrap]

☑ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

RETURN CONTAINER TO LANL

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☑ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover	T-A Groover	3.17.14

21. QA Engineer or QA Designee:

printed name	signature	date
AARON ELLIOTT		3/17/2014

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date

23. Attachments:

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date

COPY

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-14-0034

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☑ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☑ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-14-0034

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☑ YES	☐ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:
N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

AARON ELLIOTT
Printed Name

Signature

3/17/14
Date

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	03/18/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0034	HE RTR BACK UP DVD B	03/14/14	N/A
LA-HERTR-14-0034	HE RTR BACK UP DVD D	03/14/14	N/A
LA-HERTR-14-0034	HE RTR BACK UP DVD F	03/14/14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	3/20/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	2425
Address	915056291658
Name	LANL
Start Time	03/20 02:46 PM
Call Length	00'18
Sheets	1
Result	OK

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	03/18/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0034	HE RTR BACK UP DVD B	03/14/14	N/A
LA-HERTR-14-0034	HE RTR BACK UP DVD D	03/14/14	N/A
LA-HERTR-14-0034	HE RTR BACK UP DVD F	03/14/14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	3/20/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-24-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0034	BDR FOR NDE HE RTR	03-14-14	44
LA-HERTR-14-0034	PRIMARY DVD A FOR NDE HE RTR	03-14-14	N/A
LA-HERTR-14-0034	PRIMARY DVD C FOR NDE HE RTR	03-14-14	N/A
LA-HERTR-14-0034	PRIMARY DVD E FOR NDE HE RTR	03-14-14	N/A
	N/A		

Comments

RECEIVED RECEIPT ACKNOWLEDGEMENT FOR BACKUP DVD AND CHECKED IDC FOR SPM COMPLETION

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	3/28/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	2608
Address	915056291658
Name	LANL
Start Time	03/28 08:52 AM
Call Length	00'19
Sheets	1
Result	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-24-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0034	BDR FOR NDE HE RTR	03-14-14	44
LA-HERTR-14-0034	PRIMARY DVD A FOR NDE HE RTR	03-14-14	N/A
LA-HERTR-14-0034	PRIMARY DVD C FOR NDE HE RTR	03-14-14	N/A
LA-HERTR-14-0034	PRIMARY DVD E FOR NDE HE RTR	03-14-14	N/A
	N/A		

Comments

RECEIVED RECEIPT ACKNOWLEDGEMENT FOR BACKUP DVD AND CHECKED IDC FOR SPM COMPLETION

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete Printed Name	3/28/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER

PAGE

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-14-0039	**Examination Date(s): 03/21/14**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 66122, 66124, 68168, 68169, 66130, 66128, 66134, 66135, 66129, 66142, 66127
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 3/31/14

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0039	**Examination Date(s): 03/21/14**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0039	**Examination Date(s): 03/21/14**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	T. A. Groover			3.27.14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-14-0039 ☑ CH ☐ RH Date: 03/21/2014

Waste Container ID Numbers	
Replicate Scan:	66128
Independent Observation:	66130
1	66122
2	66124
3	68168
4	68169
5	66130
6	66128
7	66134
8	66135
9	66129
10	66142
11	66127
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Michael Simmons		03/21/2014
Printed Name	Signature	Date

Independent Technical Reviewer:

AARON ELLIOTT		3/24/2014
Printed Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 3/25/14

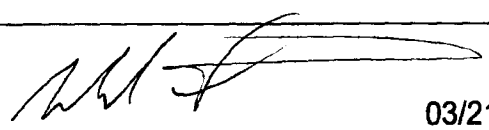
Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-14-0039 Date: 03/21/2014

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	43

Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

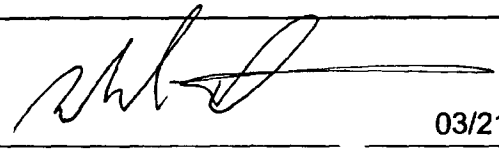
Michael Simmons — RTR Operator



Signature

03/21/2014
Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-14-0039		
Examination Date: 03/21/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 8 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Michael Simmons		03/21/2014
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66128
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1715.5 kg Tare Wt.: 290.0 kg Net Wt.: 1425.5 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 66128

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal, metal can

AM:

OM:

OI:

C:

R:

XPM: Plastic sheeting, electrical cord

OR:

IN:

S: Soil

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	18.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1397.5
Total WMP Weight:	1425.5

Waste Container ID: 66128

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: The Replicate Scan agrees with the original scan.	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66130
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1516.0 kg Tare Wt.: 290.0 kg Net Wt.: 1226.0 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

Waste Container ID: 66130

Section 3: Container Inventory and Comments (Detailed descriptions)
IM: Scrap metal
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soil

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	4.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1212.0
Total WMP Weight:	1226.0

Waste Container ID: 66130

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Thad Hasselstrom		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66122
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1353.0 kg Tare Wt.: 290.0 kg Net Wt.: 1063.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	50 %

Waste Container ID: 66122

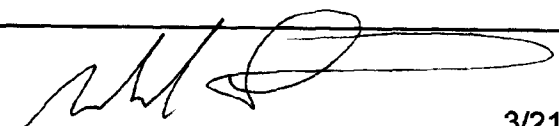
Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	Cardboard
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	25.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	1.0
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1025.0
Total WMP Weight:	1063.0

Waste Container ID: 66122

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66124
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1594.0 kg Tare Wt.: 290.0 kg Net Wt.: 1304.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	60 %

Waste Container ID: 66124

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	Tape roll
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	9.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	0.2
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1282.8
Total WMP Weight:	1304.0

Waste Container ID: 66124

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	
RTR Operator:	
Michael Simmons (Print Name)	(Signature) 3/21/2014 (Date)

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	68168
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 457.0 kg Tare Wt.: 290.0 kg Net Wt.: 167.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	80 %

Waste Container ID: 68168

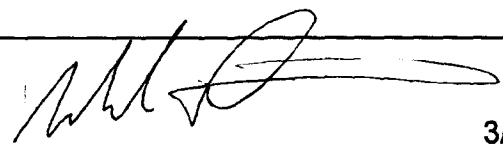
Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Saw blades, scrap metal, metal hardware, paint scraper
AM:	Respirator filters
OM:	
OI:	
C:	Cardboard, coveralls, wood, tape roll
R:	Rubber gloves
XPM:	Plastic sheeting, plastic bags, flex hose, hand pump
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	130.0
Aluminum-based Metals / Alloys (AM):	6.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	20.0
Rubber (R):	3.0
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	167.0

Waste Container ID: 68168

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	68169
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 503.0 kg Tare Wt.: 290.0 kg Net Wt.: 213.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	75 %

Waste Container ID: 68169

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal carts, scrap metal, metal pipes, metal hardware
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, cloth straps, cardboard, tape roll
R:	
XPM:	Plastic sheeting, plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	185.0
Aluminum-based Metals / Alloys (AM):	8.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	16.0
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	213.0

Waste Container ID: 68169

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	
RTR Operator: Michael Simmons (Print Name) / Signature / 3/21/2014 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66130
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1516.0 kg Tare Wt.: 290.0 kg Net Wt.: 1226.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	50 %

Waste Container ID: 66130

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1210.5
Total WMP Weight:	1226.0

Waste Container ID: 66130

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66128
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1715.5 kg Tare Wt.: 290.0 kg Net Wt.: 1425.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	60 %

Waste Container ID: 66128

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic sheeting, electrical cord, plastic container
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	14.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	8.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1391.5
Total WMP Weight:	1425.5

Waste Container ID: 66128

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	
RTR Operator: Michael Simmons (Print Name) — Signature — 3/21/2014 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66134
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1442.0 kg Tare Wt.: 290.0 kg Net Wt.: 1152.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

Waste Container ID: 66134

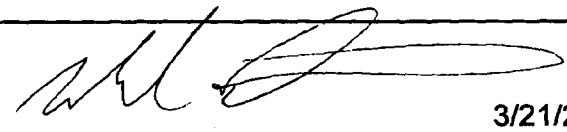
Section 3: Container Inventory and Comments (Detailed descriptions)
IM: Scrap metal
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	6.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1134.0
Total WMP Weight:	1152.0

Waste Container ID: 66134

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66135
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 989.5 kg Tare Wt.: 290.0 kg Net Wt.: 699.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	40 %

Waste Container ID: 66135

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	689.5
Total WMP Weight:	699.5

Waste Container ID: 66135

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66129
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1538.5 kg Tare Wt.: 290.0 kg Net Wt.: 1248.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	70 %

Waste Container ID: 66129

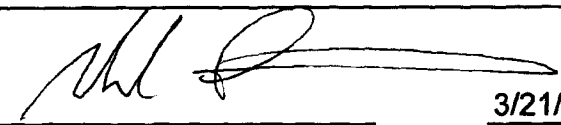
Section 3: Container Inventory and Comments (Detailed descriptions)
IM: Scrap metal
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	15.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1221.5
Total WMP Weight:	1248.5

Waste Container ID: 66129

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66142
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1651.5 kg Tare Wt.: 290.0 kg Net Wt.: 1361.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	70 %

Waste Container ID: 66142

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soils

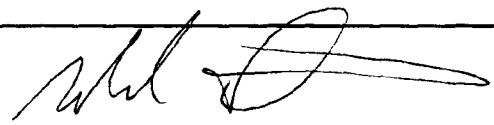
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1349.5
Total WMP Weight:	1361.5

CCP Radiography Data Sheet

Waste Container ID: 66142

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: On the recording the screen displays the Container ID number as "66412," this should have read, "66142" which is the correct ID number for this container. Both this attachment and the video file name on discs C&D reflect this data.	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66127
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1713.0 kg Tare Wt.: 290.0 kg Net Wt.: 1423.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	70 %

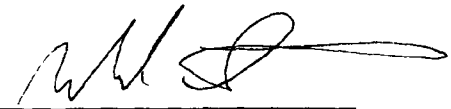
Waste Container ID: 66127

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	22.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1389.0
Total WMP Weight:	1423.0

Waste Container ID: 66127

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:		
Michael Simmons		3/21/2014
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-14-0039

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☑ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☑ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-14-0039

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☑ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:
N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

AARON ELLIOTT — Printed Name

Signature

3/24/2014 — Date

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-25-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0039	BACKUP DVD B FOR NDE HE RTR	03-21-14	N/A
LA-HERTR-14-0039	BACKUP DVD D FOR NDE HE RTR	03-21-14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	3/31/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	2643
Address	915056291658
Name	LANL
Start Time	03/31 01:59 PM
Call Length	00'17
Sheets	1
Result	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-25-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0039	BACKUP DVD B FOR NDE HE RTR	03-21-14	N/A
LA-HERTR-14-0039	BACKUP DVD D FOR NDE HE RTR	03-21-14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	3/31/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0039	SPM CHECKLIST FOR NDE HE RTR	03-27-14	3
LA-HERTR-14-0039	BDR FOR NDE HE RTR	03-21-14	44
LA-HERTR-14-0039	PRIMARY DVD A FOR NDE HE RTR	03-21-14	N/A
LA-HERTR-14-0039	PRIMARY DVD C FOR NDE HE RTR	03-21-14	N/A
	N/A		

Comments

RECEIVED RECEIPT ACKNOWLEDGEMENT FOR BACKUP DVDS

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	4/7/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

```
**********************************
***        Send Results        ***
**********************************

   Sending is complete.

Job No.                    2792
Address                    915056291658
Name                       LANL
Start Time                 04/07 02:23 PM
Call Length                00'18
Sheets                     1
Result                     OK
```

Controlled Copy

CCP-QP-008, Rev. 22 **Effective Date: 03/24/2014**
CCP Records Management **Page 34 of 34**

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0039	SPM CHECKLIST FOR NDE HE RTR	03-27-14	3
LA-HERTR-14-0039	BDR FOR NDE HE RTR	03-21-14	44
LA-HERTR-14-0039	PRIMARY DVD A FOR NDE HE RTR	03-21-14	N/A
LA-HERTR-14-0039	PRIMARY DVD C FOR NDE HE RTR	03-21-14	N/A
	N/A		

Comments

RECEIVED RECEIPT ACKNOWLEDGEMENT FOR BACKUP DVDS

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete Printed Name	4/7/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER

PAGE

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-RTR2-13-0121				**Examination Date(s): 10/31/2013**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 64786 64751 64714
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 11/04/13

COPY

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-13-0121	**Examination Date(s): 10/31/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-13-0121	**Examination Date(s): 10/31/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna			11/04/2013
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-RTR2-13-0121 ☑ CH ☐ RH Date: 10/31/2013

Waste Container ID Numbers	
Replicate Scan:	64751
Independent Observation:	64714
1	64786
2	64751
3	64714
4	N/A
5	N/A
6	N/A
7	N/A
8	N/A
9	N/A
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Benito Maestas		10/31/2013
Printed Name	Signature	Date

Independent Technical Reviewer:

THAO HASSELTINE		11-1-13
Printed Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 11/4/13

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-RTR2-13-0121 Date: 10/31/2013

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	19

Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

Benito Maestas — RTR Operator

Signature

10/31/2013 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-RTR2-13-0121		
Examination Date: 10/31/2013		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 9 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Benito Maestas		10/31/2013
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0121
Examination Date:	10/31/2013
Waste Container ID:	64751
Video/Audio Recorded Media Number:	LA-RTR2-13-0121 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD03.001
Waste Container Weights:	Gross Wt.: 72.5 kg Tare Wt.: 27.7 kg Net Wt.: 44.8 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 64751

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, metal lab equipment, hand tool, metal can with material
AM:	
OM:	Scrap lead
OI:	Glass containers, glass labware
C:	Cardboard
R:	Rubber stoppers
XPM:	Plastic containers, plastic bags, plastic caps, plastic labware
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	11.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	0.3
Other Inorganic Materials (OI)	6.8
Cellulosics (C):	0.6
Rubber (R):	1.1
Plastics (waste materials) (XPM):	9.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	16.0
Soils (S):	
Total WMP Weight:	44.8

CCP Radiography Data Sheet

Waste Container ID: 64751

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This Replicate Scan agrees with the Original Scan.
This drum contains metal cans with material, which may require additional Project Office review.

RTR Operator:

Michael Simmons		10/31/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0121
Examination Date:	10/31/2013
Waste Container ID:	64714
Video/Audio Recorded Media Number:	LA-RTR2-13-0121 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD03.001
Waste Container Weights:	Gross Wt.: 61.5 kg Tare Wt.: 27.7 kg Net Wt.: 33.8 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: 64714

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	Glass labware, glass containers
C:	Tape roll
R:	Rubber gloves
XPM:	Plastic labware, plastic containers, plastic bags, plastic caps
OR:	
IN:	Homogeneous solids
S:	

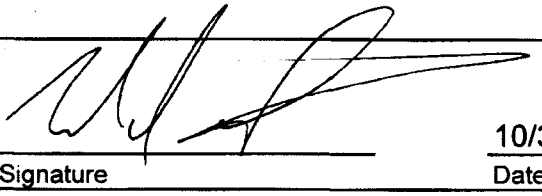
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	9.0
Cellulosics (C):	0.2
Rubber (R):	1.0
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	15.6
Soils (S):	
Total WMP Weight:	33.8

CCP Radiography Data Sheet

Waste Container ID: 64714

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: This Independent Observation agrees with the Original Scan.	

RTR Operator:

Michael Simmons		10/31/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0121
Examination Date:	10/31/2013
Waste Container ID:	64786
Video/Audio Recorded Media Number:	LA-RTR2-13-0121 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD03.001
Waste Container Weights:	Gross Wt.: 75.5 kg Tare Wt.: 27.7 kg Net Wt.: 47.8 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: 64786

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, metal cans with material
AM:	
OM:	Scrap lead
OI:	Glass containers
C:	
R:	
XPM:	Plastic tubing, plastic containers, plastic bags
OR:	
IN:	Homogeneous solids
S:	

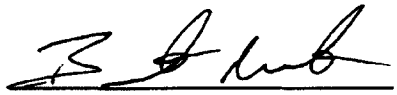
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	12.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	1.0
Other Inorganic Materials (OI)	7.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.8
Organic Matrix (OR):	
Inorganic Matrix (IN):	15.0
Soils (S):	
Total WMP Weight:	47.8

CCP Radiography Data Sheet

Waste Container ID: 64786

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Benito Maestas		10/31/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0121
Examination Date:	10/31/2013
Waste Container ID:	64751
Video/Audio Recorded Media Number:	LA-RTR2-13-0121 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD03.001
Waste Container Weights:	Gross Wt.: 72.5 kg Tare Wt.: 27.7 kg Net Wt.: 44.8 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: 64751

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, metal cans with material
AM:	
OM:	Scrap lead
OI:	Glass containers
C:	
R:	
XPM:	Plastic containers, plastic bags
OR:	
IN:	Homogeneous solids
S:	

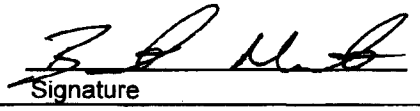
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	12.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	0.5
Other Inorganic Materials (OI)	7.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.8
Organic Matrix (OR):	
Inorganic Matrix (IN):	12.0
Soils (S):	
Total WMP Weight:	44.8

CCP Radiography Data Sheet

Waste Container ID: 64751

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Benito Maestas		10/31/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0121	
Examination Date:	10/31/2013	
Waste Container ID:	64714	
Video/Audio Recorded Media Number:	LA-RTR2-13-0121	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD03.001
Waste Container Weights:	Gross Wt.: 61.5 kg Tare Wt.: 27.7 kg Net Wt.: 33.8 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: 64714

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	Glass containers
C:	
R:	
XPM:	Plastic containers, plastic bags
OR:	
IN:	Homogeneous solids
S:	

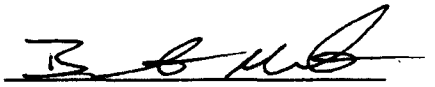
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	5.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	18.8
Soils (S):	
Total WMP Weight:	33.8

CCP Radiography Data Sheet

Waste Container ID: 64714

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as *elemental potassium*?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Benito Maestas		10/31/2013
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-RTR2-13-0121

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☑ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☑ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-RTR2-13-0121

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☑ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments: N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

THAD HASSELSTROM	Thad Hasselstrom	11-1-13
Printed Name	Signature	Date

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	11-04-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0121	BACKUP DVD B	10-31-13	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X] _____ Danette Acosta 11/15/13
Signature / Printed Name / Date

Records Rejected [ ] _____ _____ _____
Signature / Printed Name / Date

Reason for Rejection:

Re-submittal: _____ _____ _____
Signature / Printed Name / Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	0358
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	11/15 11:38
TIME USE	00'15
PAGES SENT	1
RESULT	OK

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	11-04-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0121	BACKUP DVD B	10-31-13	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [X] — Signature: D'Acosta — Printed Name: Danette Acosta — Date: 11/15/13

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	11-05-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0121	BDR	10-31-13	20
LA-RTR2-13-0121	PRIMARY DVD A	10-31-13	N/A
	N/A		

Comments

RECEIVED EMAIL THAT SPM WAS COMPLETED IN CARLSBAD AND BDR CAN BE SENT THANKS

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	D Acosta (Signature)	Danette Acosta (Printed Name)	11/15/13 (Date)
Records Rejected [ ]	(Signature)	(Printed Name)	(Date)

Reason for Rejection:

Re-submittal:

(Signature)	(Printed Name)	(Date)

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	0359
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	11/15 11:38
TIME USE	00'17
PAGES SENT	1
RESULT	OK

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	11-05-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0121	BDR	10-31-13	20
LA-RTR2-13-0121	PRIMARY DVD A	10-31-13	N/A
	N/A		

Comments

RECEIVED EMAIL THAT SPM WAS COMPLETED IN CARLSBAD AND BDR CAN BE SENT THANKS

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [X] D Acosta (Signature) Danette Acosta (Printed Name) 11/15/13 (Date)

DIVIDER

PAGE

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-RTR2-14-0021				Examination Date(s): 02/20/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 69363 69343 69365 69353 69357 69415 69360 69421 69359
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 2/26/14

COPY

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-14-0021				Examination Date(s): 02/20/2014
Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No observable liquid.
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-14-0021	Examination Date(s): 02/20/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna			2/25/2014
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-RTR2-14-0021 ☑ CH ☐ RH Date: 02/20/2014

Waste Container ID Numbers	
Replicate Scan	69365
Independent Observation	69343
1	69363
2	69343
3	69365
4	69353
5	69357
6	69415
7	69360
8	69421
9	69359
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Eddie Rios	Eddie Rios	02/20/2014
Printed Name	Signature	Date

Independent Technical Reviewer:

Dartagnan Jackson	Dartagnan Jackson	2-20-14
Printed Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 2/24/14

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-RTR2-14-0021 Date: 02/20/2014

Table Of Contents

Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	37

Batch Narrative

All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

Eddie Rios — RTR Operator

Eddie Rios — Signature

02/20/2014 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-RTR2-14-0021		
Examination Date: 02/20/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 9 lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Eddie Rios	Eddie Rios	02/20/2014
Printed Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0021
Examination Date:	2/20/2014
Waste Container ID:	69365
Video/Audio Recorded Media Number:	LA-RTR2-14-0021 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 44.5 kg Tare Wt.: 33.4 kg Net Wt.: 11.1 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	50 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 69365

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, utility knife
AM:	
OM:	
OI:	
C:	CARD BOARD CONTAINERS TJH 2-20-14
R:	
XPM:	Liner lid, plastic bags, ~~plastic containers~~ TJH 2-20-14
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	3.0 TJH 2-20-14
Rubber (R):	
Plastics (waste materials) (XPM):	7 ~~10~~.9 TJH 2-20-14
Organic Matrix (OR):	
Inorganic Matrix (IN):	0.1
Soils (S):	
Total WMP Weight:	11.1

CCP Radiography Data Sheet

Waste Container ID: 69365

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This Replicate scan agrees with the original scan.

AFTER REVIEWING THE RECORDING WITH THE ORIGINAL OPERATOR I AGREE THAT THE PLASTIC CONTAINERS I CALLED ARE CARDBOARD CONTAINERS. TJH 2-20-14

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	2/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0021
Examination Date:	2/20/2014
Waste Container ID:	69343
Video/Audio Recorded Media Number:	LA-RTR2-14-0021 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 62.0 kg Tare Wt.: 33.4 kg Net Wt.: 28.6 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 69343

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	Scrap lead
OI:	Glass containers
C:	Paper, coveralls, cardboard, tape roll
R:	
XPM:	Plastic bags, plastic containers
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.2
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	0.1
Other Inorganic Materials (OI)	0.1
Cellulosics (C):	20.2
Rubber (R):	
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	28.6

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 69343

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Thad Hasselstrom		2/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0021
Examination Date:	2/20/2014
Waste Container ID:	69363
Video/Audio Recorded Media Number:	LA-RTR2-14-0021 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD03.001
Waste Container Weights:	Gross Wt.: 65.0 kg Tare Wt.: 33.4 kg Net Wt.: 31.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

Waste Container ID: 69363

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, metal hardware, drum ring, punctured aerosol cans, metal pipes, crushed metal cans, metal cans,hand tools, utility knife
AM:	
OM:	Scrap lead
OI:	Broken glass, glass containers, glass labware
C:	
R:	
XPM:	
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	5.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	0.5
Other Inorganic Materials (OI)	26.1
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	31.6

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 69363

Section 5: RTR Summary (Questions answered 'Yes' will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: SME/OJT Kenneth Simpson monitoring operator Eddie Rios at the controls to evaluate proficiency and provide training/mentoring as required.	

RTR Operator:

Print Name	Signature	Date
Eddie Rios	Eddie Rios	2/20/2014
Kenneth Simpson	Kenneth Simpson	2/20/14

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0021
Examination Date:	2/20/2014
Waste Container ID:	69343
Video/Audio Recorded Media Number:	LA-RTR2-14-0021 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 62.0 kg Tare Wt.: 33.4 kg Net Wt.: 28.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 69343

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Metal hardware, metal wire
AM:	
OM:	
OI:	Glass container
C:	Cardboard, coveralls, tape roll
R:	
XPM:	Plastic sheeting, plastic bags, plastic discs
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	0.1
Cellulosics (C):	16.0
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	2.0
Soils (S):	
Total WMP Weight:	28.6

CCP Radiography Data Sheet

Waste Container ID: 69343

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: SME/OJT Kenneth Simpson monitoring operator Eddie Rios at the controls to evaluate proficiency and provide training/mentoring as required.	

RTR Operator:		
Eddie Rios	Eddie Rios	2/20/2014
Print Name	Signature	Date
Kenneth Simpson	Kenneth Simpson	2-20-14

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0021
Examination Date:	2/20/2014
Waste Container ID:	69365
Video/Audio Recorded Media Number:	LA-RTR2-14-0021 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 44.5 kg Tare Wt.: 33.4 kg Net Wt.: 11.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	55 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 69365

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal, metal hardware, metal wire, utuility knife

AM:

OM:

OI:

C: Carboard containers

R:

XPM: Plastic sheeting, plastic bags, 90 mil liner lid

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	1.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	4.0
Rubber (R):	
Plastics (waste materials) (XPM):	5.1
Organic Matrix (OR):	
Inorganic Matrix (IN):	1.0
Soils (S):	
Total WMP Weight:	11.1

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 69365

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: SME/OJT Kenneth Simpson monitoring operator Eddie Rios at the controls to evaluate proficiency and provide training/mentoring as required.	

RTR Operator:

Print Name	Signature	Date
Eddie Rios	Eddie Rios	2/20/2014
Kenneth Simpson	Ken Simpson	2/20/14

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0021
Examination Date:	2/20/2014
Waste Container ID:	69353
Video/Audio Recorded Media Number:	LA-RTR2-14-0021 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 67.0 kg Tare Wt.: 33.4 kg Net Wt.: 33.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 69353

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, electrical equipment, metal hardware
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bags , electrical cord
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic liner bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	30.6
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	3.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	33.6

CCP Radiography Data Sheet

Waste Container ID: 69353

Section 5: RTR Summary (Questions answered 'Yes' will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: SME/OJT Kenneth Simpson monitoring operator Eddie Rios at the controls to evaluate proficiency and provide training/mentoring as required.	

RTR Operator:		
Eddie Rios	Eddie Rios	2/20/2014
Print Name	Signature	Date
Kenneth Simpson	Kenneth Simpson	2-20-14

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0021
Examination Date:	2/20/2014
Waste Container ID:	69357
Video/Audio Recorded Media Number:	LA-RTR2-14-0021 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 69.5 kg Tare Wt.: 33.4 kg Net Wt.: 36.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

Waste Container ID: 69357

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Metal hardware, Metal tubing, hand tools, metal wire
AM:	Aluminum grease tube
OM:	
OI:	
C:	coveralls, cardboard, tape roll, PVC pipes
R:	
XPM:	Pastic bag, plastic sheeting
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	20.0
Aluminum-based Metals / Alloys (AM):	0.1
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	10.0
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	36.1

CCP Radiography Data Sheet

Waste Container ID: 69357

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: SME/OJT Kenneth Simpson monitoring operator Eddie Rios at the controls to evaluate proficiency and provide training/mentoring as required.	

RTR Operator:		
Eddie Rios	Eddie Rios	2/20/2014
Print Name	Signature	Date
Kenneth Simpson	Kenneth Simpson	2-20-14

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0021
Examination Date:	2/20/2014
Waste Container ID:	69415
Video/Audio Recorded Media Number:	LA-RTR2-14-0021 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD03.001
Waste Container Weights:	Gross Wt.: 56.5 kg Tare Wt.: 33.4 kg Net Wt.: 23.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 69415

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Drum lid Ring, metal lids, metal hardware, crushed metal cans, metal can with material

AM:

OM: Scrap lead

OI:

C: Cloth

R:

XPM: Plastic bags, plastic containers, plastic sheeting

OR:

IN:

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	18.6
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	0.5
Other Inorganic Materials (OI)	
Cellulosics (C):	1.0
Rubber (R):	
Plastics (waste materials) (XPM):	3.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	23.1

CCP Radiography Data Sheet

Waste Container ID: 69415

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: SME/OJT Kenneth Simpson monitoring operator Eddie Rios at the controls to evaluate proficiency and provide training/mentoring as required. This drum contains metal cans with material, which may require additional Project Office review.

RTR Operator:

Print Name	Signature	Date
Eddie Rios	Eddie Rios	2/20/2014
Kenneth Simpson	Kenneth Simpson	2/20/14

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0021
Examination Date:	2/20/2014
Waste Container ID:	69360
Video/Audio Recorded Media Number:	LA-RTR2-14-0021 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD03.001
Waste Container Weights:	Gross Wt.: 66.5 kg Tare Wt.: 33.4 kg Net Wt.: 33.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 69360

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hand tool
AM:	
OM:	Scrap lead
OI:	Glass labware
C:	
R:	
XPM:	Plastic sheeting, plastic containers
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	1.0
Other Inorganic Materials (OI)	18.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	14.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	33.1

CCP Radiography Data Sheet

Waste Container ID: 69360

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description *or the Waste Matrix Code*?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: SME/OJT Kenneth Simpson monitoring operator Eddie Rios at the controls to evaluate proficiency and provide training/mentoring as required.	

RTR Operator:

Eddie Rios	Eddie Rios	2/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0021
Examination Date:	2/20/2014
Waste Container ID:	69421
Video/Audio Recorded Media Number:	LA-RTR2-14-0021 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 67.0 kg Tare Wt.: 33.4 kg Net Wt.: 33.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 69421

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Hepa Filters, drum lid ring, Open 30 gallon drum with material,drum lid,

AM:

OM:

OI:

C:

R:

XPM: Plastic bags

OR:

IN:

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	29.6
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	33.6

CCP Radiography Data Sheet

Waste Container ID: 69421

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments:
This drum contains metal cans with material, which may require additional Project Office review. SME/OJT Kenneth Simpson monitoring operator Eddie Rios at the controls to evaluate proficiency and provide training/mentoring as required.

RTR Operator:

Eddie Rios	Eddie Rios	2/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0021
Examination Date:	2/20/2014
Waste Container ID:	69359
Video/Audio Recorded Media Number:	LA-RTR2-14-0021 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD03.001
Waste Container Weights:	Gross Wt.: 69.5 kg Tare Wt.: 33.4 kg Net Wt.: 36.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: 69359

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	
C:	Cloth,
R:	Leaded rubber gloves
XPM:	Plastic sheeting, plastic tubing, plastic containers,
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	15.0
Rubber (R):	15.0
Plastics (waste materials) (XPM):	6.1
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	36.1

CCP Radiography Data Sheet

Waste Container ID: 69359

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: SME/OJT Kenneth Simpson monitoring operator Eddie Rios at the controls to evaluate proficiency and provide training/mentoring as required.	

RTR Operator:

Eddie Rios	Eddie Rios	2/20/2014
Print Name	Signature	Date
Kenneth Simpson	Ken Simpson	2/20/14

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-RTR2-14-0021

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☒ YES	
3.	Are the WMPs entered correctly?	☐ NO	☒ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☒ YES	
5	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☒ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☒ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☒ YES	
8	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☒ YES	
9	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	
11	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☒ YES	☐ N/A
12.	Was justification made for changing the original data?	☐ NO	☒ YES	☐ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☒ YES	☐ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☒ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☒ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	
17	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☒ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☒ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-RTR2-14-0021

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☒ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☒ YES	
21	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☒ YES	
22	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☒ YES	
23	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☒ YES	
24	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☒ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☒ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☒ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☒ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☒ YES	

Comments: N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Printed Name	Signature	Date
Dartagnan Jackson	Dartagnan Jackson	2-20-14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LA13-OSR-VE-017				Examination Date(s): 06/18/13 & 06/19/13
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: LA00000062759, LA00000067505
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 8/12/13

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-017				**Examination Date(s): 06/18/13 & 06/19/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	No discrepancies
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	Newly generated waste
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-017				Examination Date(s): 06/18/13 & 06/19/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**	X			
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**	X			
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-017				**Examination Date(s): 06/18/13 & 06/19/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**	X			
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**	X			
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**	X			
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	T. A Groover			8/7/13
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – Visual Examination Batch Data Report Cover Page

VE BDR Number: LA13-OSR-VE-017	
Waste stream number: LA-OS-00-01.001	Container Type: Drum

Container Identifiers included in this VE BDR			
1	LA00000062759	11	NA
2	LA00000067505	12	NA
3	NA	13	NA
4	NA	14	NA
5	NA	15	NA
6	NA	16	NA
7	NA	17	NA
8	NA	18	NA
9	NA	19	NA
10	NA	20	NA

VE Independent Technical Reviewer

IOANA WITKOWSKI (Printed Name) | Ioana Witkowski (Signature) | 7/24/13 (Date)

NTPC RECORDS ORIGINAL
DATE REC'D 7/29/13

Attachment 6 – Visual Examination Batch Data Report Table of Contents

VE BDR LA13-OSR-VE-017

Table of Contents		
Item	Description	Page No.
1	Visual Examination Batch Data Report Cover Page (Attachment 5)	1
2	Visual Examination Batch Data Report Table of Contents (Attachment 6)	2
3	Visual Examination Independent Technical Reviewer Review Checklist (Attachment 7)	3
4	Container Packaging and Visual Examination Data Record(s) (Attachment 4)	5
5	Weights for Standardized OSRP Packaging Configurations (Attachment 2)	11
6	List of Acceptable Knowledge Documentation Identifier	12
7	List of Sources in Special Form Capsules	14
8	Copy of Radiological Contamination Surveys	16
9	List of Special Form Documentation	N/A
10	Copy of NCRs, if applicable	N/A
11	Other information (if any; otherwise enter NA for page number)	21

Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist

Page 1 of 1

VE BDR LA13-QSR-VE-017

This review verifies that all quality assurance and quality control requirements are met at the data generation level as stated in this procedure.

Criteria Met?	Required Criterion
☑Yes ☐No	1. The correct revision of CCP-TP-069 was used? Note revision number, R 6.
☐Yes ☐No ☑NA	2. Deviations, if any, have been documented. (Choose NA if there were no deviations.)
☑Yes ☐No	3. The weight data were reported in the correct units. (Note: Total weight must be reported in kilograms (Kg) and the weights of individual sealed sources are reported in grams.) Data are reported with the correct number of significant figures (one decimal place).
☑Yes ☐No	4. The WMPs identified during VE are consistent with those assigned to these materials based on AK.
☑Yes ☐No	5. The Waste Matrix Code is consistent with the AK.
☑Yes ☐No	6. Data generation and reduction were conducted in a technically correct manner in accordance with CCP-TP-069, as evidenced by checks of items 1-5.
☑Yes ☐No	7. Calibration data for torque wrenches are recorded and within the calibration period.
☑Yes ☐No	8. Calculations have been verified by 100% check of all hand calculations. • Sum or waste material parameter weights • Estimated POC or waste weight
☑Yes ☐No	9. The data were reviewed for transcription errors and the data recorded is legible, accurate, and include any identifier numbers.
☑Yes ☐No	10. The forms in the VE BDR are complete and match the Table of Contents (Attachment 6).
☐Yes ☐No ☑NA	11. All NCRs relevant to the packaging of the loaded sealed sources were initiated and entered on the VE BDR. (Choose NA if there were no NCRs.)
☑Yes ☐No	12. Precision: Precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases? (Enter Yes if there were no unresolved discrepancies.)
☑Yes ☐No	13. Accuracy and Comparability: Accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (e.g. operators on LOQI)?
☑Yes ☐No	14. Completeness: There is a completed VE data form for each waste container in the BDR?
Comments, if "No" is checked for any criterion above: None.	

Independent Technical Review conducted by:

IOANA WITKOWSKI	Ioana Witkowski	7/24/13
VE Independent Technical Reviewer (Printed Name)	(Signature)	(Date)

The Following Documents used for this VE BDR are the Best Available Copies

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA13-OSR-VE-017 Page 1 of 3

Container Identifier	LA00000062759
Printed name of VE Packager	J. Matzke
Printed name of VE Recorder	L. Hauschild

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) ___ S100 ___ S200 A ___ S200 B _X_ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL 019EPD • Drum lid filter serial number: BF-22 • Drum lid filter manufacture date: 2/05 • POC lid filter model: UT9400 • POC lid filter serial number: 027408 • POC lid filter manufacture date: JUL 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☒ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☒ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☒ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☒ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☒ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☒ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 65 ft-lbs • Torque Wrench ID # 035314 • Calibration due date of torque wrench 5/7/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 035314 • Calibration due date of torque wrench 5/7/14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-017 Page 2 of 3

Container Identifier LA00000062759

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	Pu239 Be, SFC III-1-293	OM	4000	NONE
2	NA	NA	NA	NA
3	NA	NA	NA	NA
4	NA	NA	NA	NA
5	NA	NA	NA	NA
6	NA	NA	NA	NA
7	NA	NA	NA	NA
8	NA	NA	NA	NA
9	NA	NA	NA	NA
10	NA	NA	NA	NA
11	NA	NA	NA	NA
12	NA	NA	NA	NA
13	NA	NA	NA	NA
14	NA	NA	NA	NA
15	NA	NA	NA	NA
Total estimated weight (kg) for each WMP listed for above items.			4.0 kg	[redacted]
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.			NA☒ None☐ kg	Description: NA / WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).			191.6 kg	[redacted]
Total estimated weight (kg) for loaded container.			195.6 kg	
Container percent full.			95 %	

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-017 Page 3 of 3

Container Identifier		LA00000062759
Present	**Not Present**	**Prohibited Hazardous Items or Conditions**
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

NONE

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

James Mateke — Printed Name VE Packager | Signature | 6-18-13 Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Lorraine Hauschild — Printed Name VE Recorder | Signature | 6-18-13 Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA13-OSR-VE-017 Page 1 of 3

Container Identifier	LA00000067505
Printed name of VE Packager	J. Matzke
Printed name of VE Recorder	L. Hauschild

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) ___ S100 ___ S200 A ___ S200 B _X_ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL 019EPD • Drum lid filter serial number: BF-15 • Drum lid filter manufacture date: 2/05 • POC lid filter model: UT9400 • POC lid filter serial number: 027251 • POC lid filter manufacture date: JUL 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☒ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☒ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☒ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☒ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☒ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☒ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 65 ft-lbs • Torque Wrench ID # 035314 • Calibration due date of torque wrench 5/7/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 035314 • Calibration due date of torque wrench 5/7/14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-017 Page 2 of 3

Container Identifier LA00000067505

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	Pu239 Be, SFC III-1-108	OM	4000	NONE
2	NA	NA	NA	NA
3	NA	NA	NA	NA
4	NA	NA	NA	NA
5	NA	NA	NA	NA
6	NA	NA	NA	NA
7	NA	NA	NA	NA
8	NA	NA	NA	NA
9	NA	NA	NA	NA
10	NA	NA	NA	NA
11	NA	NA	NA	NA
12	NA	NA	NA	NA
13	NA	NA	NA	NA
14	NA	NA	NA	NA
15	NA	NA	NA	NA

Total estimated weight (kg) for each WMP listed for above items.	4.0 kg	[redacted]	
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA☒ None☐ kg	Description: NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	191.6 kg	[redacted]	
Total estimated weight (kg) for loaded container.	195.6 kg		
Container percent full.	95 %		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-05R-VE-017 Page 3 of 3

Container Identifier LA00000067505

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

NONE

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

James Matzke — Printed Name VE Packager; Signature; 6-19-13 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Lorraine Hauschild — Printed Name VE Recorder; Signature; 6-19-13 — Date

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component	Estimated Component(s) Weight (kg)						
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Acceptable Knowledge Documentation

Acceptable Knowledge Documentation

Source Serial No.

MRPUBE199

LA00000062759

NMMSS

Comments: ERID-135462

Record Numbers: 05463

Source Serial No.

MRPUBE372

LA00000067505

NMMSS

Comments: ERID-135462

Record Numbers: 05463

Sources in Special Form Capsule

Appendix B
Sources In Special Form Capsules

(Curies 1 in red if isotope is short-lived and no decayed activity is available)

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
LA00000062759					
III-1-293					
	Indiana University	MRPUBE199	239Pu/Be	29.67	1.84
Total Sources in SFCIII-1-293 (1 source)					
Sum				***29.67***	***1.84***
Total Sources in container LA00000062759 (1 source)					
Sum				***29.67***	***1.84***
LA00000067505					
III-1-108					
	Wabash College	MRPUBE372	239Pu/Be	28.98	1.82
Total Sources in SFCIII-1-108 (1 source)					
Sum				***28.98***	***1.82***
Total Sources in container LA00000067505 (1 source)					
Sum				***28.98***	***1.82***
Grand Total				***58.65***	***3.66***

Contamination Surveys

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 6/17/2013 - 6/20/2013 No. of Samples: 87

TA: 0 Bldg: 0 Rm: 0

RCT: Anthony Lucero Z Number: 214557

RCT Signature: MS: H615

Phone: 505-665-2912 Fax: 7-5186

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

■ Non-Routine / Other: Indiana Source Recovery

ADDITIONAL INFORMATION

RWP No.: N/A

Work Request No.: N/A Incident No.: N/A

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA
E-600	12267	8/14/13	N/A	N/A	N/A	N/A
S43-10-1 Alpha	13658	1/23/14	37.8	N/A	1	5.3
S43-10-1 Beta/Gamma	13658	1/23/14	37.1	N/A	106.1	59.2
E-600	12295	2/15/14	N/A	N/A	N/A	N/A
SHP 380AB	13446	8/27/13	N/A	N/A	A=4, B=707	A=35, B=291
SHP 270	13692	8/2/13	N/A	N/A	<0.1	N/A
SNRD	13124	4/3/2014	N/A	N/A	N/A	N/A

FIELD SMEAR COUNTER MDA

alpha: 5.3

beta: 59.2

RP-1 REVIEW BY

SAMPLE TRACKING NUMBER

RP-1 Sample Tracking

29147182

■ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs

Survey Point	Item / Area	Direct Survey Results		Smear Survey Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	Pre Job 6/17/2013 Zimmer Company	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
2	Pre Job 6/17/2013 Zimmer Company	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
3	Pre Job 6/17/2013 Zimmer Company	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
4	Pre Job 6/17/2013 Zimmer Company	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
5	Pre Job 6/17/2013 Zimmer Company	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
6	Source	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
7	SFC# II-1-613	N/A	N/A	NDA	NDA	N/A	0.4	-	-	-	-	-
8	Sources special formed	N/A	N/A	NDA	NDA	N/A	1.2	-	-	-	-	-
9	Drum PS# OSR-009	N/A	N/A	NDA	NDA	N/A	0.1	-	<0.1	-	NDA	-
10	Drum PS# OSR-009	NDA	NDA	NDA	NDA	N/A	0.1	-	<0.1	-	NDA	-
11	Tools	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
12	Tools	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
13	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	1.9	-	-	-	-	-
14	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
15	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-

*dpm/100 cm²

RP-1 RADIOLOGICAL SURVEY FORM

Survey Point	Item / Area	Direct Survey Results		Smear Survey Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	Pre Job 6/17/2013 Indiana Medical university	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
17	Pre Job 6/17/2013 Indiana Medical university	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
18	Pre Job 6/17/2013 Indiana Medical university	44	NDA	NDA	NDA	N/A	-	-	-	-	-	-
19	Pre Job 6/17/2013 Indiana Medical university	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
20	Pre Job 6/17/2013 Indiana Medical university	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
21	Source	N/A	N/A	NDA	NDA	N/A	NDA	-	-	-	-	-
22	Drum PS# OSR-022A	N/A	N/A	NDA	NDA	N/A	NDA	-	NDA	-	NDA	-
23	Drum PS# OSR-022A	N/A	N/A	NDA	NDA	N/A	NDA	-	NDA	-	NDA	-
24	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
25	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
26	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
27	Pre-Job 6/18/2013 Indiana University	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
28	Pre-Job 6/18/2013 Indiana University	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
29	Pre-Job 6/18/2013 Indiana University	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
30	Pre-Job 6/18/2013 Indiana University	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
31	Pre-Job 6/18/2013 Indiana University	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
32	Source	N/A	N/A	NDA	NDA	N/A	-	210	-	-	-	-
33	Smear of same Source	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
→ 34	SFC III-1-293	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
35	Interior of Drum	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
36	Drum LA# 62759 Top	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
37	Drum LA# 62759 Rim	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
38	Drum LA# 62759 Side	N/A	N/A	NDA	NDA	N/A	3.1	13.2	-	-	0.3	2.6
39	Drum LA# 62759 Seam	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
40	Drum LA# 62759 Bottom	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-

*dpm/100 cm²

RP-1 RADIOLOGICAL SURVEY FORM

Survey Point	Item / Area	Direct Survey Results		Smear Survey Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
41	Tools	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
42	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
43	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
44	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
45	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
46	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
47	Pre-Job 6/19/2013 Hendricks Regional Medical	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
48	Pre-Job 6/19/2013 Hendricks Regional Medical	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
49	Pre-Job 6/19/2013 Hendricks Regional Medical	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
50	Pre-Job 6/19/2013 Hendricks Regional Medical	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
51	Pre-Job 6/19/2013 Hendricks Regional Medical	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
52	Source Open Shutter	NDA	NDA	NDA	NDA	N/A	7	-	-	-	-	-
53	Outer container	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
54	Drum # 032B Top	NDA	NDA	NDA	NDA	N/A	NDA	-	-	-	NDA	-
55	Drum # 032B Side	NDA	NDA	NDA	NDA	N/A	NDA	-	-	-	NDA	-
56	Post Job Survey of Area Small Room	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
57	Post Job Survey of Area Small Room	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
58	Post Job Survey of Area Small Room	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
59	Tools	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
60	Pre-Job 6/20/2013 Wabash College	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
61	Pre-Job 6/20/2013 Wabash College	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
62	Pre-Job 6/20/2013 Wabash College	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
63	Pre-Job 6/20/2013 Wabash College	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
64	Pre-Job 6/20/2013 Wabash College	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
65	Source	N/A	N/A	NDA	NDA	N/A	-	180	-	-	-	-

*dpm/100 cm²

RP-1 RADIOLOGICAL SURVEY FORM

Survey Point	Item / Area	Direct Survey Results		Smear Survey Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
→ 66	SFC# III-1-108	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
67	Drum LA# 67505 Top	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
68	Drum LA# 67505 Rim	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
69	Drum LA# 67505 Side	N/A	N/A	NDA	NDA	N/A	3.5	12.2	-	-	0.4	1.3
70	Drum LA# 67505 Seam	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
71	Drum LA# 67505 Bottom	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
72	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
73	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
74	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
75	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
76	Post Job Survey of Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
77	Tools	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
78	Pre-Job Survey Henry County Hospital	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
79	Pre-Job Survey Henry County Hospital	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
80	Pre-Job Survey Henry County Hospital	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
81	Source	N/A	N/A	NDA	NDA	N/A	30	-	-	-	-	-
82	Bucket # 013 Top	N/A	N/A	NDA	NDA	N/A	-	-	-	-	-	-
83	Bucket # 013 Side	N/A	N/A	NDA	NDA	N/A	NDA	-	-	-	NDA	-
84	Post Job Survey Small Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
85	Post Job Survey Small Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
86	Post Job Survey Small Area	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
87	Tools	NDA	NDA	NDA	NDA	N/A	-	-	-	-	-	-
88	End Of Survey											
89												
90												

*dpm/100 cm²

Other Information

Drum numbers LA00000062759, LA00000067505 of BDRs LA13-OSR-VE-017 & LA13-OSR-CH-017:

One may find serial numbers or identifying information that may not match exactly between documents (e.g. VE attachment 4, rad surveys, markings, source cert, regulatory docs, etc) . This is an artifact that source manufacturers, regulators and customers may use somewhat different nomenclature to identify the same source. Some examples include:

1) Alpha Numeric numbering where the suffix or prefix may be used interchangeably throughout the life of the source. Examples include: LP123 vs LP-123 or 123LP vs 123 LP, etc... 7-1-123G vs 71 1 123g, etc...
2) The addition of a secondary serial number or identification number to reflect the device in which it is used. The most common methods used to identify these are to put the secondary ID number in parenthesis or following a slash. Examples include: MRC-246(135NP), 123LV/269, etc...
3) In addition to secondary numbering some regulators or users may add nomenclature to further identify the source. NMMSS is one of the more common. For example a source manufactured by MRC may be inscribed as MRC PU8PU123 or just PU8PU123 where as the NMMSS database added the manufacture designation to the front of the serial number; in this case the serial in NMMSS is listed as MRPU8BE123
4) Dashes or spacing is also interchangeable in that depending upon the author of the document (including regulators) the format could be determined by internal procedures, typeset, etc.... For example 7-1-123G vs 71 1 123 g found in the Texas State Health Department source list.
5) How the source ID or serial number translated during a recovery. Cylindrical sources with the inscription along the axis may lead to the alpha numeric order not being an exact match to the documentation, e.g. MRC 1234 vs 1234 MRC.

Although there may be instances where the source identification is not "exact" between differing documentation, the offsite source recovery project (OSRP) makes every effort though experience, documentation and research to ensure that the information is accurate, e.g. the identified source isotope is correct and the source activity is conservatively accurate.

Los Alamos
NATIONAL LABORATORY
EST.1943

Memorandum

Nuclear Engineering & Nonproliferation Division
International Threat Reduction Group
Off-Site Source Recovery Project (OSRP)

Subject: ERID Numbers for Off-Site Source Recovery Project Acceptable Knowledge Documentation

The ERID numbers corresponding to the acceptable knowledge documentation for each drum in this Off-Site Source Recovery Project BDR package are listed below:

OSRP Drum Identifier	ERID Number
LA00000062759	ERID-135462
LA00000067505	ERID-135462

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	08/12/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA13-OSR-VE-017	SPM CHECKLIST	08/07/13	4
LA13-OSR-VE-017	BATCH DATA REPORT	07/24/13	23
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [x] Ashley Hoffer — Signature: Ashley Hoffer; Printed Name: Ashley Hoffer; Date: 8.14.13

Records Rejected [ ] — Signature: _____; Printed Name: _____; Date: _____

Reason for Rejection:

Re-submittal: Signature: _____; Printed Name: _____; Date: _____

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	1972
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	08/14 15:30
TIME USE	00'15
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	08/12/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA13-OSR-VE-017	SPM CHECKLIST	08/07/13	4
LA13-OSR-VE-017	BATCH DATA REPORT	07/24/13	23
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [signature] /Ashley Hoffer 8/14/13

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LA13-OSR-VE-024				**Examination Date(s): 12/05/2013**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: LA00000067516
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 2/3/14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-024				**Examination Date(s): 12/05/2013**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-024				**Examination Date(s): 12/05/2013**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**	X			
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**	X			
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-024				**Examination Date(s): 12/05/2013**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**	X			
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**	X			
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**	X			
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	Terri-Anne Groover			1-30-14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – Visual Examination Batch Data Report Cover Page

VE BDR Number: LA13-OSR-VE-024	
Waste stream number: LA-OS-00-04	Container Type: Drum

Container Identifiers included in this VE BDR			
1	LA00000067516	11	NA
2	NA	12	NA
3	NA	13	NA
4	NA	14	NA
5	NA	15	NA
6	NA	16	NA
7	NA	17	NA
8	NA	18	NA
9	NA	19	NA
10	NA	20	NA

VE Independent Technical Reviewer

Ellen Gammon (Printed Name)

Ellen E. Gammon (Signature) 1/15/14 (Date)

NTPC RECORDS ORIGINAL
DATE REC'D 1/27/14

Attachment 6 – Visual Examination Batch Data Report Table of Contents

VE BDR LA13-OSR-VE-024

Table of Contents		
Item	Description	Page No.
1	Visual Examination Batch Data Report Cover Page (Attachment 5)	1
2	Visual Examination Batch Data Report Table of Contents (Attachment 6)	2
3	Visual Examination Independent Technical Reviewer Review Checklist (Attachment 7)	3
4	Container Packaging and Visual Examination Data Record(s) (Attachment 4)	5
5	Weights for Standardized OSRP Packaging Configurations (Attachment 2)	8
6	List of Acceptable Knowledge Documentation Identifier	9
7	List of Sources in Special Form Capsules	11
8	Copy of Radiological Contamination Surveys	13
9	List of Special Form Documentation	n/a
10	Copy of NCRs, if applicable	n/a
11	Other information (if any; otherwise enter NA for page number)	16

Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist

Page 1 of 1

VE BDR LA13-OSR-VE-024

This review verifies that all quality assurance and quality control requirements are met at the data generation level as stated in this procedure.

Criteria Met?	Required Criterion
☒Yes ☐No	1. The correct revision of CCP-TP-069 was used? Note revision number, R 6.
☐Yes ☐No ☒NA	2. Deviations, if any, have been documented. (Choose NA if there were no deviations.)
☒Yes ☐No	3. The weight data were reported in the correct units. (Note: Total weight must be reported in kilograms (Kg) and the weights of individual sealed sources are reported in grams.) Data are reported with the correct number of significant figures (one decimal place).
☒Yes ☐No	4. The WMPs identified during VE are consistent with those assigned to these materials based on AK.
☒Yes ☐No	5. The Waste Matrix Code is consistent with the AK.
☒Yes ☐No	6. Data generation and reduction were conducted in a technically correct manner in accordance with CCP-TP-069, as evidenced by checks of items 1-5.
☒Yes ☐No	7. Calibration data for torque wrenches are recorded and within the calibration period.
☒Yes ☐No	8. Calculations have been verified by 100% check of all hand calculations. • Sum or waste material parameter weights • Estimated POC or waste weight
☒Yes ☐No	9. The data were reviewed for transcription errors and the data recorded is legible, accurate, and include any identifier numbers.
☒Yes ☐No	10. The forms in the VE BDR are complete and match the Table of Contents (Attachment 6).
☐Yes ☐No ☒NA	11. All NCRs relevant to the packaging of the loaded sealed sources were initiated and entered on the VE BDR. (Choose NA if there were no NCRs.)
☒Yes ☐No	12. Precision: Precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases? (Enter Yes if there were no unresolved discrepancies.)
☒Yes ☐No	13. Accuracy and Comparability: Accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (e.g. operators on LOQI)?
☒Yes ☐No	14. Completeness: There is a completed VE data form for each waste container in the BDR?
Comments, if "No" is checked for any criterion above: none	

Independent Technical Review conducted by:

Ellen Gammon — VE Independent Technical Reviewer (Printed Name)

Ellen Gammon — (Signature)

1/15/14 — (Date)

The Following Documents used for this VE BDR are the Best Available Copies

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA-15-OSR-VE-024 Page 1 of 3

Container Identifier	**LA00000067516**
Printed name of VE Packager	Michael Gurley
Printed name of VE Recorder	Ioana Witkowski

1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X__ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-565 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT 9400 • POC lid filter serial number: 025847 • POC lid filter manufacture date: FEB. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☒ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☒ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☒ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☒ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☒ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☒ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-024 Page 2 of 3

Container Identifier **LA00000067516**

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	II-1-599, Am-241	OM	7226	None
2	NA	NA	NA	NA
3	NA	NA	NA	NA
4	NA	NA	NA	NA
5	NA	NA	NA	NA
6	NA	NA	NA	NA
7	NA	NA	NA	NA
8	NA	NA	NA	NA
9	NA	NA	NA	NA
10	NA	NA	NA	NA
11	NA	NA	NA	NA
12	NA	NA	NA	NA
13	NA	NA	NA	NA
14	NA	NA	NA	NA
15	NA	NA	NA	NA

Total estimated weight (kg) for each WMP listed for above items.	7.2kg	[redacted]	
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☒ None☐ kg	Description: NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2kg	[redacted]	
Total estimated weight (kg) for loaded container.	226.4kg		
Container percent full.	95%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA3-OSR-VE-024 Page 3 of 3

Container Identifier **LA00000067516**

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of containment.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Michael Gurley — MICHAEL GURLEY — Printed Name VE Packager — Michael Gurley — Signature — 12-5-13 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Ioana Witkowski — Printed Name VE Recorder — Ioana Witkowski — Signature — 12/5/13 — Date

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component	Estimated Component(s) Weight (kg)						
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Acceptable Knowledge Documentation

Acceptable Knowledge Documentation

Source Serial No. **LA00000067516**

A367

Isotope **Activity**
Source Markings Source Markings
Markings: A367; 50mCi; Am241; Jul 1972; Kevex 0502

A896

Isotope **Activity**
Source Markings Source Markings
Markings: A896; IPL; 50mCi; Am241; Sep 1974 on Kevex holder

C793

Isotope **Activity**
Source Markings Source Markings
Markings: C793; Am241;100mCi
Record Numbers: 03802

C797

Isotope **Activity**
Source Markings Source Markings
Markings: C797; Am241; 25mCi; 4-15-79
Comments: IPL

Sources in Special Form Capsules

Appendix B
Sources In Special Form Capsules

(Curies 1 in red if isotope is short-lived and no decayed activity is available)

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
LA00000067516					
II-1-599					
	University of Georgia	A367	241Am	0.02	0.05
	IBM Endicott Plant	A896	241Am	0.01	0.05
	Emory University	C793	241Am	0.03	0.10
	Connecticut Yankee Atomic Power Co.	C797	241Am	0.01	0.03
Total Sources in SFCII-1-599 (4 sources)					
Sum				***0.07***	***0.23***
Total Sources in container LA00000067516 (4 sources)					
Sum				***0.07***	***0.23***
Grand Total				***0.07***	***0.23***

Radiological Contamination Surveys

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 12/03/13 thru 12-06-2013 No. of Samples: 100

TA: 0 0 Rm: n/a

RCT: Billy Terrazas Z Number: 115030

RCT Signature: MS: E541

Phone: 5-9238 Fax: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	13653	4/30/2014	0.3916	1	21.7	47.96
Beta S43-10-1	13653	4/30/2014	0.3834	1	221	140.84
SHP 270	13692	7/11/2014	n/a	n/a		~0.1mR/hr
SNRD	13749	8/12/2014	n/a	n/a	<0.1	0.25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ MEARS COUNTED IN FIELD

PURPOSE OF SURVEY

☑ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☐ Non-Routine / Other: NSSI, Houston ,Tx

FIELD SMEAR COUNTER MDA (dpm)

alpha: 47.96

beta: 140.84

SAMPLE TRACKING NUMBER

29147061

RP-1 REVIEW BY

5/2/13

ADDITIONAL INFORMATION

RWP No.: n/a

Work Request No.: n/a Incident No.: n/a

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	Pre-job Pb shielding	nda	nda	nda	nda	n/a						
2	Pre-job count table	nda	nda	nda	nda	n/a						
3	Pre-job record table	nda	nda	nda	nda	n/a						
4	Pre-job record table	nda	nda	nda	nda	n/a						
5	Pre-job floor	nda	nda	nda	nda	n/a						
6	Pre-job floor	nda	nda	nda	nda	n/a						
7	Pre-job floor	nda	nda	8.7	nda	n/a						
8	Pre-job floor	nda	nda	nda	nda	n/a						
9	Pre-job floor	nda	nda	nda	nda	n/a						
10	Pre-job floor	nda	nda	nda	nda	n/a						
11	Pre-job floor	nda	nda	nda	nda	n/a						
12	Pre-job floor	nda	nda	nda	nda	n/a						
13	Pre-job Pb shielding	nda	nda	nda	nda	n/a						
14	Pre-job insp rm wk bench	nda	nda	nda	nda	n/a						
15	Pre-job insp rm wk bench	nda	nda	nda	nda	n/a						

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147061

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
66	Drum D-13 w/ 241Am source ext	nda	nda	nda	nda	n/a						
67	Drum D-13 w/ 241Am source int	6000	nda	nda	nda	n/a						
68	post-job tools	nda	nda	8.5	nda	n/a						
69	post-job behind shield	nda	nda	54.6	nda	n/a						
70	post-job wk bench	nda	nda	6.7	nda	n/a						
71	post-job wk bench	nda	nda	24	nda	n/a						
72	post-job wk bench	nda	nda	nda	nda	n/a						
73	post-job floor	nda	nda	nda	nda	n/a						
74	post-job floor	nda	nda	nda	nda	n/a						
75	pre-job job wk bench	nda	nda	nda	nda	n/a						
76	pre-job wk bench	nda	nda	nda	nda	n/a						
77	leak 241Am sources	nda	nda	nda	nda	n/a						
78	SFC II-1-599 w/241Am sources	nda	nda	nda	nda	n/a						
79	Drum LA67516 w/ SFC II-1-599 top	nda	nda	nda	nda	n/a						
80	Drum LA67516 w/ SFC II-1-599 ring	nda	nda	nda	nda	n/a						
81	Drum LA67516 w/ SFC II-1-599 side	nda	nda	nda	nda	n/a	0.2	0.5			0.1	0.3
82	Drum LA67516 w/ SFC II-1-599 side	nda	nda	nda	nda	n/a						
83	Drum LA67516 w/ SFC II-1-599 btm	nda	nda	nda	nda	n/a						
84	leak test 241Am, 241AmBe sources	nda	nda	nda	nda	n/a						
85	cigar tube w/ 241Am source (leaking frm d-13)	nda	nda	nda	nda	n/a						
86	leak test cigar tube "bare" w/ 241Am source	nda	nda	nda	nda	n/a						
87	leak test 241Am sources	nda	nda	nda	nda	n/a						
88	leaking source in bag	nda	nda	nda	nda	n/a						
89	waste bag	nda	nda	nda	nda	n/a						
90	sources in 2nd bag	nda	nda	80.8	23.3	n/a						

Other Information

Drum number LA00000067516 of BDR LA13-OSR-VE-024 and LA13-OSR-CH-024: one may find serial numbers or identifying information that may not match exactly between documents (e.g. VE attachment 4, rad surveys, markings, source cert, regulatory docs, etc) . This is an artifact that source manufacturers, regulators and customers may use somewhat different nomenclature to identify the same source. Some examples include:

1) Alpha Numeric numbering where the suffix or prefix may be used interchangeably throughout the life of the source. Examples include: LP123 vs LP-123 or 123LP vs 123 LP, etc... 7-1-123G vs 71 1 123g, etc...
2) The addition of a secondary serial number or identification number to reflect the device in which it is used. The most common methods used to identify these are to put the secondary ID number in parenthesis or following a slash. Examples include: MRC-246(135NP), 123LV/269, etc...
3) In addition to secondary numbering some regulators or users may add nomenclature to further identify the source. NMMSS is one of the more common. For example a source manufactured by MRC may be inscribed as MRC PU8PU123 or just PU8PU123 where as the NMMSS database added the manufacture designation to the front of the serial number; in this case the serial in NMMSS is listed as MRPU8BE123
4) Dashes or spacing is also interchangeable in that depending upon the author of the document (including regulators) the format could be determined by internal procedures, typeset, etc.... For example 7-1-123G vs 71 1 123 g found in the Texas State Health Department source list.
5) How the source ID or serial number translated during a recovery. Cylindrical sources with the inscription along the axis may lead to the alpha numeric order not being an exact match to the documentation, e.g. MRC 1234 vs 1234 MRC.

Although there may be instances where the source identification is not "exact" between differing documentation, the offsite source recovery project (OSRP) makes every effort though experience, documentation and research to ensure that the information is accurate, e.g. the identified source isotope is correct and the source activity is conservatively accurate.

Calculation of the Pb wt% in Drum LA00000067516

Author: Ellen Gammon EG

Date: 12/18/13

Check: Frank W. Hasselbeck

LA00000067516 contains 4 sources that were recovered from the University of Georgia, IBM Endicott, Emory university and Connecticut Yankee between 2003 and 2010. These sources are lead encased, and the lead can not be removed from the source. These 4 sources were packaged into Special Form Capsule, II-1-599, drum LA00000067516, on 12/5/13. Each source in this capsule weighs 234 grams. As a conservative approach, it is assumed that 10% of the weight is the source, the remainder 90% is the weight of the Pb.

Weight of each source 234 grams

Total weight of the 4 sources is 936 grams

90% * 936 grams is the total weight of Pb, 842.4 grams

From the VE paperwork, mass of the waste in drum is 7226grams.

Weight Fraction of Pb= $\frac{842.4\ grams}{7226\ grams} = \frac{842400mg}{7.226kg}$=116,579mg/kg=116,579ppm

This value is a total concentration for lead, and is considerably higher than the RCRA toxicity characteristic concentration for Pb of 5mg/L (ppm) TCLP.

Los Alamos
NATIONAL LABORATORY
EST. 1943

Memorandum

Nuclear Engineering & Nonproliferation Division
International Threat Reduction Group
Off-Site Source Recovery Project (OSRP)

Subject: ERID Numbers for Off-Site Source Recovery Project Acceptable Knowledge Documentation

The ERID numbers corresponding to the acceptable knowledge documentation for each drum in this Off-Site Source Recovery Project BDR package are listed below:

OSRP Drum Identifier	ERID Number
LA00000067516	ERID-252448

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	02-03-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA13-OSR-VE-024	SPM CHECKLIST	01-30-14	4
LA13-OSR-VE-024	BDR FOR OSR-VE	12-05-13	19
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [ ]	Signature	Leon Navarrete Printed Name	02/12/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	2938
DESTINATION TEL #	915056291658
DESTINATION ID	LANL
ST. TIME	02/17 15:01
TIME USE	00'16
PAGES SENT	1
RESULT	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	02-03-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA13-OSR-VE-024	SPM CHECKLIST	01-30-14	4
LA13-OSR-VE-024	BDR FOR OSR-VE	12-05-13	19
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X] Signature — Leon Navarrete Printed Name — 02/17/14 Date

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LA14-OSR-VE-005 **Examination Date(s): 3/11/14 – 3/12/14**

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: LA00000067538, LA00000067539, LA00000067540
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 5/15/14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-005				**Examination Date(s): 3/11/14 – 3/12/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-005				**Examination Date(s): 3/11/14 – 3/12/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**	X			
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**	X			
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-005 **Examination Date(s):** 3/11/14 – 3/12/14

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**	X			
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**	X			
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**	X			

Comments: N/A

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Terri-Anne Groover	T. A Groover	5.14.14
SPM Printed Name	Signature	Date 5-20-14

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – Visual Examination Batch Data Report Cover Page

VE BDR Number: LA14-OSR-VE-005	
Waste stream number: LA-OS-00-01.001	Container Type: Drum

Container Identifiers included in this VE BDR			
1	LA00000067538	11	NA
2	LA00000067539	12	NA
3	LA00000067540	13	NA
4	NA	14	NA
5	NA	15	NA
6	NA	16	NA
7	NA	17	NA
8	NA	18	NA
9	NA	19	NA
10	NA	20	NA

VE Independent Technical Reviewer

Rick Day (Printed Name) _____ (Signature) 5-1-2014 (Date)

NTPC RECORDS ORIGINAL
DATE REC'D 5/8/14

Attachment 6 – Visual Examination Batch Data Report Table of Contents

VE BDR LA14-OSR-VE-005

Table of Contents		
Item	Description	Page No.
1	Visual Examination Batch Data Report Cover Page (Attachment 5)	1
2	Visual Examination Batch Data Report Table of Contents (Attachment 6)	2
3	Visual Examination Independent Technical Reviewer Review Checklist (Attachment 7)	3
4	Container Packaging and Visual Examination Data Record(s) (Attachment 4)	5
5	Weights for Standardized OSRP Packaging Configurations (Attachment 2)	17
6	List of Acceptable Knowledge Documentation Identifier	18
7	List of Sources in Special Form Capsules	27
8	Copy of Radiological Contamination Surveys	30
9	List of Special Form Documentation	36
10	Copy of NCRs, if applicable	n/a
11	Other information (if any; otherwise enter NA for page number)	39

Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist

Page 1 of 1

VE BDR LA14-OSR-VE-005

This review verifies that all quality assurance and quality control requirements are met at the data generation level as stated in this procedure.

Criteria Met?	Required Criterion
☑Yes ☐No	1. The correct revision of CCP-TP-069 was used? Note revision number, R 6 .
☐Yes ☐No ☑NA	2. Deviations, if any, have been documented. (Choose NA if there were no deviations.)
☑Yes ☐No	3. The weight data were reported in the correct units. (Note: Total weight must be reported in kilograms (Kg) and the weights of individual sealed sources are reported in grams.) Data are reported with the correct number of significant figures (one decimal place).
☑Yes ☐No	4. The WMPs identified during VE are consistent with those assigned to these materials based on AK.
☑Yes ☐No	5. The Waste Matrix Code is consistent with the AK.
☑Yes ☐No	6. Data generation and reduction were conducted in a technically correct manner in accordance with CCP-TP-069, as evidenced by checks of items 1-5.
☑Yes ☐No	7. Calibration data for torque wrenches are recorded and within the calibration period.
☑Yes ☐No	8. Calculations have been verified by 100% check of all hand calculations. • Sum or waste material parameter weights • Estimated POC or waste weight
☑Yes ☐No	9. The data were reviewed for transcription errors and the data recorded is legible, accurate, and include any identifier numbers.
☑Yes ☐No	10. The forms in the VE BDR are complete and match the Table of Contents (Attachment 6).
☐Yes ☐No ☑NA	11. All NCRs relevant to the packaging of the loaded sealed sources were initiated and entered on the VE BDR. (Choose NA if there were no NCRs.)
☑Yes ☐No	12. Precision: Precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases? (Enter Yes if there were no unresolved discrepancies.)
☑Yes ☐No	13. Accuracy and Comparability: Accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (e.g. operators on LOQI)?
☑Yes ☐No	14. Completeness: There is a completed VE data form for each waste container in the BDR?
Comments, if "No" is checked for any criterion above: None	

Independent Technical Review conducted by:

Rick Day
VE Independent Technical Reviewer
(Printed Name)

Rick Day
(Signature)

5-1-2014
(Date)

The Following Documents used for this VE BDR are the Best Available Copies

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR #LA14-OSR-VE-005 Page 1 of 6

Container Identifier	**LA00000067538**
Printed name of VE Packager	Mike Gurley
Printed name of VE Recorder	Bill Stewart

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: _X_ Standard Pipe Overpack (12" pipe component) ___ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-019 EPD • Drum lid filter serial number: LD-89 • Drum lid filter manufacture date: 12/03 • POC lid filter model: UT 9400 • POC lid filter serial number: 028110 • POC lid filter manufacture date: JUL. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☒ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☒ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☒ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☒ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☒ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☒ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☒ No☐ NA ☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 65 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 2 of 6

Container Identifier LA00000067538

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	II-1-578, 241Am	OM	6335	None
2	III-1-086, 241Am	OM	3413	None
3	III-1-388, 241Am/Be, 241Am	OM	3401	None
4	0196CW, 241Am	OM	39	None
5	0229CW, 241Am	OM	39	None
6	1996CW, 241Am	OM	39	None
7	4747LX, 241Am	OM	39	None
8	4765LX, 241Am	OM	39	None
9	5945LX, 241Am	OM	39	None
10	5971LX, 241Am	OM	39	None
11	5975LX, 241Am	OM	39	None
12	5984LX, 241Am	OM	39	None
13	6044LX, 241Am	OM	39	None
14	6645LQ, 241Am	OM	39	None
15	T1905(46 1905) , 241Am/Be	OM	39	None

Total estimated weight (kg) for each WMP listed for above items.	N/A		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☒ None☐ kg	Description: N/A	WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	N/A		
Total estimated weight (kg) for loaded container.	N/A		
Container percent full.	N/A		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 3 of 6

Container Identifier LA00000067538

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
16	T1906(46 1906) , 241Am/Be	OM	39	None
17	T1907(46 1907) , 241Am/Be	OM	39	None
18	CAA 3721 (47 3721) , 241Am/Be	OM	39	None
19	CAA 6240 (47 6240) , 241Am/Be	OM	39	None
20	CAA 6245 (47 6245) , 241Am/Be	OM	39	None
21	CAA 7695 (47 7695) , 241Am/Be	OM	39	None
22	CAA 7776 (47 7776) , 241Am/Be	OM	39	None
23	CAA 8209 (47 8209) , 241Am/Be	OM	39	None
24	CAA1029, 241Am/Be	OM	39	None
25	CAA1343, 241Am/Be	OM	39	None
26	CAA3922, 241Am/Be	OM	39	None
27	Am8663 (55-8663) , 241Am/Be	OM	39	None
28	Am9066 (55-9066) , 241Am/Be	OM	39	None
29	Am9372 (55-9372) , 241Am/Be	OM	39	None
30	Am9026 (55-9026) , 241Am/Be	OM	39	None

Total estimated weight (kg) for each WMP listed for above items.	N/A		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☒ None☐ kg	Description: N/A	WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	N/A		
Total estimated weight (kg) for loaded container.	N/A		
Container percent full.	N/A		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 4 of 6

Container Identifier LA00000067538

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
31	B-085, 241Am	OM	39	None
32	B-319, 241Am	OM	39	None
33	B-390, 241Am	OM	39	None
34	B-431, 241Am	OM	39	None
35	B-424, 241Am	OM	39	None
36	1867, 241Am	OM	39	None
37	2732, 241Am	OM	39	None
38	4929LX, 241Am	OM	39	None
39	3-191867, 241Am	OM	20	None
40	F325B, 241Am	OM	20	None
41	Foil-1, 241Am	OM	20	None
42	Foil-2, 241Am	OM	20	None
43	Foil-3, 241Am	OM	20	None
44	Foil-4, 241Am	OM	20	None
45	Foil-5, 241Am	OM	20	None

Total estimated weight (kg) for each WMP listed for above items.	N/A		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☒ None☐ kg	Description: N/A	WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	N/A		
Total estimated weight (kg) for loaded container.	N/A		
Container percent full.	N/A		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 5 of 6

Container Identifier LA00000067538

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
46	Foil-6, 241Am	OM	20	None
47	T2129(46 2129) , 241Am/Be	OM	40	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None

Total estimated weight (kg) for each WMP listed for above items.	14.7kg	[redacted]	
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☐ None☐ 8 kg	Description: Cane fiberboard	WMP: C
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	152.4	[redacted]	
Total estimated weight (kg) for loaded container.	175.1kg		
Container percent full.	95%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 6 of 6

Container Identifier LA00000067538 8 JW 4/2/14

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Mike Gurley — Printed Name VE Packager — Signature — 3-11-14 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Bill Stewart — Printed Name VE Recorder — Signature — 3/11/14 — Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA14-OSR-VE-005 Page 1 of 3

Container Identifier	**LA00000067539**
Printed name of VE Packager	Mike Gurley
Printed name of VE Recorder	Bill Stewart

Step	**Requirement**
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X_ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-490 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT 9400 • POC lid filter serial number: 017177 • POC lid filter manufacture date: NOV. 2000
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☒ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☒ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☒ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☒ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☒ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☒ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☒ No☐ NA ☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14

11

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 2 of 3

Container Identifier LA00000067539

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	71-1-944B, 241Am/Be	OM	66	None
2	A158, 241Am/Be	OM	549	None
3	A211. 241Am/Be	OM	500	None
4	N/A	N/A	N/A	None
5	N/A	N/A	N/A	None
6	N/A	N/A	N/A	None
7	N/A	N/A	N/A	None
8	N/A	N/A	N/A	None
9	N/A	N/A	N/A	None
10	N/A	N/A	N/A	None
11	N/A	N/A	N/A	None
12	N/A	N/A	N/A	None
13	N/A	N/A	N/A	None
14	N/A	N/A	N/A	None
15	N/A	N/A	N/A	None

Total estimated weight (kg) for each WMP listed for above items.	1.1kg	[redacted]	
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA☒ None☐ kg	Description: N/A	WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2kg	[redacted]	
Total estimated weight (kg) for loaded container.	220.3kg		
Container percent full.	95%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-OSR-VE-005 Page 3 of 3

Container Identifier LA00000067539

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Mike Gurley — Printed Name VE Packager — Signature — 3-11-14 Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Bill Stewart — Printed Name VE Recorder — Signature — 3/11/14 Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR #LA14-OSR-VE-005 Page 1 of 3

Container Identifier	**LA00000067540**
Printed name of VE Packager	Mike Gurley
Printed name of VE Recorder	Bill Stewart

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X_ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-621 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT 9400 • POC lid filter serial number: 025261 • POC lid filter manufacture date: JAN. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☒ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☒ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☒ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☒ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☒ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☒ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 2 of 3

Container Identifier LA00000067540

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	III-1-241, 238Pu	OM	3389	None
2	MRC-Pu8Li-24, 238Pu/Li	OM	114	None
3	MRC-Pu8Li-19, 238Pu/Li	OM	76	None
4	N/A	N/A	N/A	None
5	N/A	N/A	N/A	None
6	N/A	N/A	N/A	None
7	N/A	N/A	N/A	None
8	N/A	N/A	N/A	None
9	N/A	N/A	N/A	None
10	N/A	N/A	N/A	None
11	N/A	N/A	N/A	None
12	N/A	N/A	N/A	None
13	N/A	N/A	N/A	None
14	N/A	N/A	N/A	None
15	N/A	N/A	N/A	None

Total estimated weight (kg) for each WMP listed for above items.	3.6kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☒ None☐ kg	Description: N/A	WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2kg		
Total estimated weight (kg) for loaded container.	222.8kg		
Container percent full.	95%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 3 of 3

Container Identifier LA00000067540

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Mike Gurley — Printed Name VE Packager | Signature | 3-12-14 Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Bill Stewart — Printed Name VE Recorder | Signature | 3/12/14 Date

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component		Estimated Component(s) Weight (kg)						
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Acceptable Knowledge Documentation

Acceptable Knowledge Documentation

Source Serial No.	LA00000067538
0196CW	Source Certificate Record Numbers: 04052
0229CW	Source Certificate Record Numbers: 04052
0819CW	Source Certificate Record Numbers: 04408
1007	**Isotope** **Activity** Source Markings Source Markings Markings: CEA AME3 1007; Am241 300 mCi 1007 24/03/82 Comments: foreign origin letter CEA sources Record Numbers: 04209
1867	**Isotope** **Activity** Source Markings Source Markings Markings: 1867; Am241; 100mCi; 5/3/76
1996CW	Source Certificate Record Numbers: 04052
2732	**Isotope** **Activity** Source Markings Source Markings Markings: 2732; Am241; 100mCi; 3/13/79
3-191867	**Isotope** **Activity** NRC Registry NRC Registry Comments: Model F5B; recovery date 7/21/10; NRD Model A-001 Record Numbers: 02385; 03741

3669LQ

Source Certificate

Record Numbers: 04408

421

Isotope	Activity
Other Doc	Other Doc

Markings: 421; Amersham; 0.1 Ci
Comments: letter to state regulator; Model AMC-K280
Record Numbers: 04409

4747LX

Source Certificate

Record Numbers: 04052

4765LX

Source Certificate

Record Numbers: 04052

4929LX

Isotope	Activity
Source Markings	Source Markings

Markings: 4929LX; Am241; 300mCi; 6/26/91

5-012

Isotope	Activity
Source Markings	Source Markings

Markings: 5-012; Am241, AR.5, 1.03E5 dpm 5/70
Comments: 1.03E5/2.22E12 = 4.64E-8 Ci

5430LX

Source Certificate

Record Numbers: 04408

5945LX

Source Certificate

Record Numbers: 04052

5971LX

Source Certificate

Record Numbers: 04052

5975LX

Source Certificate

Record Numbers: 04052

5984LX Source Certificate

Record Numbers: 04052

6044LX Source Certificate

Record Numbers: 04052

6645LQ Source Certificate

Record Numbers: 04052

992

Isotope **Activity**
Source Markings Source Markings
Markings: CEA AME3 992; Am241 300 mCi 992 24/03/82
Comments: foreign origin letter CEA sources
Record Numbers: 04209

AM 8663 (55-8663)

Isotope **Activity**
Source Markings Source Markings
Markings: AM 8863; Am241Be; 100mCi; 12/5/89
Comments: Device label 55-8663

AM 9026 (55-9026)

Isotope **Activity**
Source Markings Source Markings
Markings: AM 9026; Am241Be; 100mCi; 8/15/90
Comments: Device label 55-9026

AM 9066 (55-9066)

Isotope **Activity**
Source Markings Source Markings
Markings: AM 9066; Am241Be; 100mCi; 8/23/90
Comments: Device label 55-9066

AM 9372 (55-9372)

Isotope **Activity**
Source Markings Source Markings
Markings: AM 9372; Am241Be; 100mCi; 11/8/92
Comments: Device label 55-9372

AMC 2513

Isotope
Other Doc

Activity
Other Doc

Comments: Amersham logbook, Capsule X93

Record Numbers: 00145, 04408

B-085

Isotope
Other Doc

Activity
Other Doc

Comments: New Mexico License # WL405-11; Gamma Industries model VD-HP

Record Numbers: 04434

B-319

Isotope
Source Markings

Activity
Source Markings

Markings: B-319; GI; 25mci; VDHP; Am241
Comments: Gamma Industries

B-390

Isotope
Source Markings

Activity
Source Markings

Markings: B-390; GI; 25mci; VDHP; Am241
Comments: Gamma Industries

B-424

Isotope
Source Markings

Activity
Source Markings

Markings: B-424; GI; 25mci; VDHP; Am241
Comments: Gamma Industries

B-431

Isotope
Source Markings

Activity
Source Markings

Markings: B-431; GI; 25mci; VDHP; Am241
Comments: Gamma Industries

CAA 3721 (47 3721)

Isotope
Source Markings

Activity
Source Markings

Markings: CAA 3721; Am241Be; 40mCi; 3/14/80
Comments: Device label 47 3721

CAA 6240 (47 6240)

Isotope
Source Markings

Activity
Source Markings

Markings: CAA 6240; Am241Be; 40mCi; 3/13/84
Comments: Device label 47 6240

CAA 6245 (47 6245)

Isotope	Activity
Source Markings	Source Markings

Markings: CAA 6245; Am241Be; 40mCi; 3/13/84
Comments: Device label 47 6245

CAA 7695 (47 7695)

Isotope	Activity
Source Markings	Source Markings

Markings: CAA 7695; Am241Be; 40mCi; 3/21/85
Comments: Device label 47 7695

CAA 7776 (47 7776)

Isotope	Activity
Source Markings	Source Markings

Markings: CAA 7776; Am241Be; 40mCi; 4/25/85
Comments: Device label 47 7776

CAA 8209 (47 8209)

Isotope	Activity
Source Markings	Source Markings

Markings: CAA 8209;Am241Be; 40mCi; 2/8/85
Comments: Device label 47 8209

CAA1029

Isotope	Activity
Source Markings	Source Markings

Markings: CAA1029; Am241Be; 40mCi; 9/14/77

CAA1343

Isotope	Activity
Source Markings	Source Markings

Markings: CAA1343; Am241Be; 40mCi; 2/14/78

CAA3922

Isotope	Activity
Other Doc	Other Doc

Comments: Amersham logbook; 40mCi 8/29/80; model AMNV997

Record Numbers: 04052, 00145

F325B

Isotope	Activity
NRC Registry	NRC Registry

Comments: Model F5B; recovery date 7/21/10; Model NRD A-001

Record Numbers: 02385;03741

Foil-1

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

Foil-2

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

Foil-3

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

Foil-4

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

Foil-5

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

Foil-6

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

MRC AM 56F

Isotope	Activity
Other Doc	Other Doc

Markings: Americium-241 100 millicuries

Comments: State Material Licence Ammendment Application dated August 3,1964; MRC source

Record Numbers: 04409

MRC AP-1 (AP-AM-1)

Isotope	Activity
Sales Catalogue	Sales Catalogue

Markings: MRC AP-1, AM 241

Comments: Monsanto

Record Numbers: 03323

MRC-AmBe-16

Shipping Record

Record Numbers: 01958

NEN-1

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am,6.7E4 dpm, 10/73, NEN-1
Comments: 6.7E4 dpm/2.22E12 = 3E-8 Ci

T 1905 (46 1905)

Isotope	Activity
Source Markings	Source Markings

Markings: T 1905; Am241Be, 40mCi, 12/23/83

T 1906 (46 1906)

Isotope	Activity
Source Markings	Source Markings

Markings: T 1906; Am241Be, 40mCi, 12/23/83

T 1907 (46 1907)

Isotope	Activity
Source Markings	Source Markings

Markings: T 1907; Am241Be, 40mCi, 12/23/83

T 2129 (46 2129)

Isotope	Activity
Source Markings	Source Markings

Markings: T 2129; Am241Be; 40mCi; 2/20/84

Source Serial No. **LA00000067539**

71-1-944B

Isotope	Activity
Other Doc	Other Doc

Comments: Texas Dept Health Gulf Nuclear Database

Record Numbers: 01027

A158

Isotope	Activity
NRC Registry	NRC Registry

Comments: Manufactured by MRC

Record Numbers: 02171

A211

Isotope	Activity
NRC Registry	NRC Registry

Comments: Manufactured by MRC

Record Numbers: 02171

Source Serial No. **LA00000067540**

F-555

Isotope	Activity
Source Markings	Source Markings

Markings: Pu-238, 5nCi, F-555, IPL
Comments: Recovery date 3/12/14

LANL-2

Isotope	Activity
Source Markings	Source Markings

Markings: Pu238, 85947 dpm
Comments: 85947dpm/2.22e12 = 3.87E-8 Ci

MRC-Pu8Li-19

NMMSS

Record Numbers: 05463

MRC-Pu8Li-24

NMMSS

Record Numbers: 05463

PPC-239

Isotope	Activity
NRC Registry	NRC Registry

Markings: PPC-239; Pu238;
Comments: Amersham Model PPC-X
Record Numbers: 09459

S-349

Isotope	Activity
Source Markings	Source Markings

Markings: S-349 200uCi Pu-238
Comments: Recovery date 3/12/14

Sources in Special Form Capsules

Appendix B
Sources In Special Form Capsules

(Curies 1 in red if isotope is short-lived and no decayed activity is available)

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
LA00000067538					
II-1-578					
	Eastman Kodak Company	421	241Am	0.03	0.10
	Eastman Kodak Company	MRC AM 56F	241Am	0.03	0.09
Total Sources in SFCII-1-578 (2 sources)					
Sum				***0.06***	***0.19***
III-1-086					
	Advanced Gauging Technologies, LLC	0819CW	241Am	0.14	0.50
	Advanced Gauging Technologies, LLC	3669LQ	241Am	0.29	1.00
	Advanced Gauging Technologies, LLC	5430LX	241Am	0.29	1.00
	Advanced Gauging Technologies, LLC	AMC 2513	241Am	0.29	1.00
Total Sources in SFCIII-1-086 (4 sources)					
Sum				***1.01***	***3.50***
III-1-388					
	Automation and Control Technology, Inc	1007	241Am	0.09	0.30
	SUNY Buffalo	5-012	241Am	0.00	0.00
	Automation and Control Technology, Inc	992	241Am	0.09	0.30
	SUNY Buffalo	AP-AM-1	241Am	0.00	0.00
	TA18	MRC-AmBe-16	241Am/Be	0.55	1.90
	SUNY Buffalo	NEN-1	241Am	0.00	0.00
Total Sources in SFCIII-1-388 (6 sources)					
Sum				***0.72***	***2.50***
Total Sources in SFC in container LA00000067538 (12 sources)					
Sum				***1.78***	***6.19***
LA00000067540					
III-1-241					
	Los Alamos National Laboratory TA-3/SM-40	F-555	238Pu	0.00	0.00
	Los Alamos National Laboratory	LANL-2	238Pu	0.00	0.00
	SPECTRO Analytical Instruments, Inc (1)	PPC-239	238Pu	0.00	0.03
	Los Alamos National Laboratory TA54	S-349	238Pu	0.00	0.00

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
Total Sources in SFCIII-1-241 (4 sources)					
Sum				*0.00*	*0.03*
Total Sources in SFC in container LA00000067540 (4 sources)					
Sum				*0.00*	*0.03*
Grand Total				*1.79*	*6.22*

Radiological Contamination Surveys

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 3/10/14 -thru 3/13/14 — No. of Samples: 100
TA: ____ — Rm: n/a
RCT: Billy Terrazas — Z Number: 115030
RCT Signature: [signature] — MS: E541
Phone: 5-9238 — Fax: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	13665	10/9/2014	0.3520	1	12.8	37.78
Beta S43-10-1	13665	10/9/2014	0.3560	1	279	169.48
Shp 270	13707	5/14/2014			<0.1	~0.1mR/hr
SNRD	13756	4/2/2014			<0.1	0.25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ MEARS COUNTED IN FIELD

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job
☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment
☑ Non-Routine / Other: NSSi, Houston,Tx

FIELD SMEAR COUNTER MDA (dpm)

alpha: 37.78
beta: 169.48

SAMPLE TRACKING NUMBER

29147100

ADDITIONAL INFORMATION

RWP No.: n/a
Work Request No.: n/a — Incident No.: n/a

RP-1 REVIEW BY

[signature] - 152423

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	pre-job count table	nda	nda	nda	nda	n/a						
2	pre-job floor	nda	nda	nda	nda	n/a						
3	pre-job record table	nda	nda	nda	nda	n/a						
4	pre-job floor	nda	nda	nda	nda	n/a						
5	pre-job floor	nda	nda	nda	nda	n/a						
6	pre-job floor	nda	nda	nda	nda	n/a						
7	pre-job floor	nda	nda	nda	nda	n/a						
8	pre-job small table	nda	nda	nda	nda	n/a						
9	pre-job floor	nda	nda	nda	nda	n/a						
10	pre-job floor	nda	nda	nda	nda	n/a						
11	pre-job floor	nda	nda	nda	nda	n/a						
12	pre-job floor	nda	nda	nda	nda	n/a						
13	pre-job floor	nda	nda	nda	nda	n/a						
14	pre-job floor	nda	nda	7.5	nda	n/a						
15	pre-job floor	nda	nda	nda	nda	n/a						

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147100

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	pre-job floor	nda	nda	nda	nda	n/a						
17	pre-job floor	nda	nda	nda	12.3	n/a						
18	pre-job floor	nda	nda	nda	nda	n/a						
19	pre-job floor	nda	nda	nda	nda	n/a						
20	pre-job work bench	nda	nda	nda	nda	n/a						
21	pre-job work bench	nda	nda	nda	nda	n/a						
22	pre-job work bench	nda	nda	nda	nda	n/a						
23	pre-job work bench	nda	nda	nda	nda	n/a						
24	drum sn32988R Empty top	nda	nda	nda	nda	n/a						
25	drum sn32988R Empty ring	nda	nda	nda	nda	n/a						
26	drum sn32988R Empty side	nda	nda	nda	nda	n/a						
27	drum sn32988R btm	nda	nda	nda	nda	n/a						
28	drum sn32988R inside	nda	nda	nda	nda	n/a						
29	drum sn36064 Empty top	nda	nda	nda	nda	n/a						
30	drum sn36064 Empty ring	nda	nda	nda	nda	n/a						
31	drum sn36064 Empty side	nda	nda	nda	nda	n/a						
32	drum sn36064 Empty side	nda	nda	nda	nda	n/a						
33	drum sn36064 Empty inside	nda	nda	nda	nda	n/a						
34	drum s100 sn00752 Empty top	nda	nda	nda	nda	n/a						
35	drum s100 sn00752 Empty ring	nda	nda	nda	nda	n/a						
36	drum s100 sn00752 Empty side	nda	nda	nda	nda	n/a						
37	drum s100 sn00752 Empty btm	nda	nda	nda	nda	n/a						
38	drum s100 sn00752 Empty inside	nda	nda	nda	nda	n/a						
39	pre-job shielding	nda	nda	nda	nda	n/a						
40	pre-job shielding	nda	nda	nda	nda	n/a						

*dpm/100 cm

32

RP-1 Survey Number: 29147100

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
41	pre-job poly holder	nda	nda	nda	nda	n/a						
42	pre-job sfc holder	nda	nda	26.4	nda	n/a						
43	pre-job bird feederholder	nda	nda	nda	nda	n/a						
44	pre-job cart	nda	nda	nda	nda	n/a						
45	pre-job cart	nda	nda	nda	nda	n/a						
46	source buckets	nda	nda	nda	nda	n/a						
47	source buckets	nda	nda	nda	nda	n/a						
48	source buckets	nda	nda	nda	nda	n/a						
49	leak test 241AmBe sources	nda	nda	13.8	nda	n/a						
50	leak test 241AmBe sources	nda	nda	6.7	28.6	n/a						
51	Bird feeder w/ 241AmBe sources	nda	nda	nda	nda	n/a						
52	Drum LA67539 w/Birdfeeder top	nda	nda	nda	nda	n/a						
53	Drum LA67539 w/Birdfeeder ring	nda	nda	nda	nda	n/a						
54	Drum LA67539 w/Birdfeeder side	nda	nda	nda	nda	n/a	41.0	62.0			3.5	9.0
55	Drum LA67539 w/Birdfeeder side	nda	nda	nda	nda	n/a						
56	Drum LA67539 w/Birdfeeder btm	nda	nda	nda	nda	n/a						
57	leak test 241Am sources	nda	nda	nda	nda	n/a						
58	leak test 241AmBe sources	nda	nda	23.6	nda	n/a						
59	leak test 241AmBe sources	nda	nda	18.9	nda	n/a						
60	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
61	leak test 241Am sources	nda	nda	nda	nda	n/a						
62	leak test 241Am sources	nda	nda	27.6	nda	n/a						
63	leak test 241Am sources	nda	nda	nda	nda	n/a						
64	post-job tools	nda	nda	nda	nda	n/a						
65	post-job tools	nda	nda	27.6	nda	n/a						

*dpm/100 cm²

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147100

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
66	post-job shield	nda	nda	nda	nda	n/a						
67	post-job behind shield	nda	nda	nda	nda	n/a						
68	pre-job shield	nda	nda	nda	nda	n/a						
69	pre-job scale	nda	nda	nda	nda	n/a						
70	pre-job shield	nda	nda	nda	nda	n/a						
71	pre-job shield	nda	nda	nda	nda	n/a						
72	pre-job hot cell table	nda	nda	nda	nda	n/a						
73	pre-job hot cell table	nda	nda	31.4	nda	n/a						
74	Al can with sources ext	nda	nda	nda	nda	n/a						
75	Al can with sources inside	nda	nda	nda	nda	n/a						
76	leak test 241AmBe sources	200	nda	nda	nda	n/a						
77	SFC II-1-578 w/ 241Am sources	nda	nda	nda	nda	n/a						
78	SFC III-1-086 w/ 241Am sources	nda	nda	nda	nda	n/a						
79	SFC III-1-388 w/241AmBe , 241Am sources	nda	nda	nda	nda	n/a						
80	Drum LA67538 w/SFCs and sources top	nda	nda	nda	nda	n/a						
81	Drum LA67538 w/SFCs and sources ring	nda	nda	nda	nda	n/a						
82	Drum LA67538 w/SFCs and sources side	nda	nda	nda	nda	n/a	2.6	41.0			0.3	7.0
83	Drum LA67538 w/SFCs and sources side	nda	nda	nda	nda	n/a						
84	Drum LA67538 w/SFCs and sources btm	nda	nda	nda	nda	n/a						
85	empty drum sn00658 top	nda	nda	nda	nda	n/a						
86	empty drum sn00658 side	nda	nda	nda	nda	n/a						
87	empty drum sn00658 btm	nda	nda	nda	nda	n/a						
88	empty drum sn00658 inside	nda	nda	nda	nda	n/a						
89	leak test 238PuLi source	nda	nda	nda	nda	n/a						
90	leak test 238PuLi source	nda	nda	nda	nda	n/a						

*dpm/100 cm

34

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147100

Survey Point	Item / Area 3-26-14	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
91	SFC III-1-241 w/238Pu/Li sources	nda	nda	nda	nda	n/a						
92	Drum LA67540 w/SFC and sources top	nda	nda	nda	nda	n/a						
93	Drum LA67540 w/SFC w/SFCs and sources ring	nda	nda	nda	nda	n/a						
94	Drum LA67540 w/SFC w/SFCs and sources side	nda	nda	6.2	nda	n/a	1.1	1.2			0.4	1
95	Drum LA67540 w/SFC w/SFCs and sources side	nda	nda	nda	nda	n/a						
96	Drum LA67540 w/SFC w/SFCs and sources btm	nda	nda	5.8	nda	n/a						
97	leak test 244Cm sources	200	nda	nda	nda	n/a						
98	leak test 244Cm sources	98	nda	38.7	nda	n/a						
99	leak test 244Cm sources	nda	nda	nda	nda	n/a						
100	Post-job behind shield	nda	nda	nda	nda	n/a						
101	End of Survey											
102												
103												
104												
105												
106												
107												
108												
109												
110												

*dpm/100 cm²

Remarks: Bkgd recounted at #39 9.9 α - 270β MDA 33.6α - 167β Bkgd recounted at #68 12.8 α -263β MDA 37.86α - 165β

Special Form Documentation

Appendix D
Special Form Certificate Status

Serial No	Source Model	Certificate No	Revision	Expiration Date
LA00000067538 (44 Sources)				
0196CW	AMC.P6 (X1277)	USA-0716-S	1	6/30/2015
0229CW	AMC.P6 (X1277)	USA-0716-S	1	6/30/2015
1867	AMCQ505 (XN270)	OSR-SF-009		
1996CW	AMC24 (X101)	USA-0715-S	1	6/30/2015
2732	AMCQ505 (XN270)	OSR-SF-009		
3-191867	A-001	USA-0036-S	11	1/31/2019
4747LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
4765LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
4929LX	AMC.17	USA-0688-S	1	9/30/2014
5945LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
5971LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
5975LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
5984LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
6044LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
6645LQ	AMC.P6 (X1277)	USA-0716-S	1	6/30/2015
AM 8663 (55-8663)	X.1188	USA-0620-S	3	10/31/2017
AM 9026 (55-9026)	X.1188	USA-0620-S	3	10/31/2017
AM 9066 (55-9066)	X.1188	USA-0620-S	3	10/31/2017
AM 9372 (55-9372)	X.1188	USA-0620-S	3	10/31/2017
B-085	VD-HP	USA-0166-S	11	4/30/2017
B-319	VD-HP	USA-0166-S	11	4/30/2017
B-390	VD-HP	USA-0166-S	11	4/30/2017
B-424	VD-HP	USA-0166-S	11	4/30/2017
B-431	VD-HP	USA-0166-S	11	4/30/2017
CAA 3721 (47 3721)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA 6240 (47 6240)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA 6245 (47 6245)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA 7695 (47 7695)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA 7776 (47 7776)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA 8209 (47 8209)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA1029	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA1343	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA3922	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
F325B	A-001	USA-0036-S	11	1/31/2019
Foil-1	A-001	USA-0036-S	11	1/31/2019
Foil-2	A-001	USA-0036-S	11	1/31/2019
Foil-3	A-001	USA-0036-S	11	1/31/2019
Foil-4	A-001	USA-0036-S	11	1/31/2019
Foil-5	A-001	USA-0036-S	11	1/31/2019
Foil-6	A-001	USA-0036-S	11	1/31/2019

Serial No	Source Model	Certificate No	Revision	Expiration Date
T 1905 (46 1905)	24195	USA-0263-S	5	9/30/2016
T 1906 (46 1906)	24195	USA-0263-S	5	9/30/2016
T 1907 (46 1907)	24195	USA-0263-S	5	9/30/2016
T 2129 (46 2129)	24195	USA-0263-S	5	9/30/2016
LA00000067539 (3 Sources)				
71-1-944B	71-1	USA-0114-S	8	1/31/2018
A158	NSR-F	USA-0113-S	11	1/31/2018
A211	NSR-F	USA-0113-S	11	1/31/2018
LA00000067540 (2 Sources)				
MRC-Pu8Li-19	2724	USA-0043-S	12	1/31/2017
MRC-Pu8Li-24	2726-B	USA-0043-S	12	1/31/2017

Other Information

Drum number LA00000067538, LA00000067539, or LA00000067540 in BDRs LA14-OSR-VE-005 and LA14-OSR-CH-005: one may find serial numbers or identifying information that may not match exactly between documents (e.g. VE attachment 4, rad surveys, markings, source cert, regulatory docs, etc) . This is an artifact that source manufacturers, regulators and customers may use somewhat different nomenclature to identify the same source. Some examples include:

1) Alpha Numeric numbering where the suffix or prefix may be used interchangeably throughout the life of the source. Examples include: LP123 vs LP-123 or 123LP vs 123 LP, etc... 7-1-123G vs 71 1 123g, etc...
2) The addition of a secondary serial number or identification number to reflect the device in which it is used. The most common methods used to identify these are to put the secondary ID number in parenthesis or following a slash. Examples include: MRC-246(135NP), 123LV/269, etc...
3) In addition to secondary numbering some regulators or users may add nomenclature to further identify the source. NMMSS is one of the more common. For example a source manufactured by MRC may be inscribed as MRC PU8PU123 or just PU8PU123 where as the NMMSS database added the manufacture designation to the front of the serial number; in this case the serial in NMMSS is listed as MRPU8BE123
4) Dashes or spacing is also interchangeable in that depending upon the author of the document (including regulators) the format could be determined by internal procedures, typeset, etc.... For example 7-1-123G vs 71 1 123 g found in the Texas State Health Department source list.
5) How the source ID or serial number translated during a recovery. Cylindrical sources with the inscription along the axis may lead to the alpha numeric order not being an exact match to the documentation, e.g. MRC 1234 vs 1234 MRC.

Although there may be instances where the source identification is not "exact" between differing documentation, the offsite source recovery project (OSRP) makes every effort though experience, documentation and research to ensure that the information is accurate, e.g. the identified source isotope is correct and the source activity is conservatively accurate.

Los Alamos
NATIONAL LABORATORY
EST.1943

Memorandum

Nuclear Engineering & Nonproliferation Division
International Threat Reduction Group
Off-Site Source Recovery Project (OSRP)

Subject: ERID Numbers for Off-Site Source Recovery Project Acceptable Knowledge Documentation

The ERID numbers corresponding to the acceptable knowledge documentation for each drum in this Off-Site Source Recovery Project BDR package are listed below:

OSRP Drum Identifier	ERID Number
LA00000067538	ERID-255487
LA00000067539	ERID-255487
LA00000067540	ERID-255487

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	05-15-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA14-OSR-VE-005	SPM CHECKLIST FOR VE OSR	05-14-13	4
LA14-OSR-VE-005	BDR FOR VE OSR	03-11-14	41
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [✓] — Signature: [signature] — Printed Name: Jewell Hurrabie — Date: 5/29/14

Records Rejected [ ] — Signature: _____ — Printed Name: _____ — Date: _____

Reason for Rejection:

Re-submittal: — Signature: _____ — Printed Name: _____ — Date: _____

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	4365
DESTINATION TEL #	915056291658
DESTINATION ID	LANL
ST. TIME	06/02 12:55
TIME USE	00'16
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	05-15-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA14-OSR-VE-005	SPM CHECKLIST FOR VE OSR	05-14-13	4
LA14-OSR-VE-005	BDR FOR VE OSR	03-11-14	41
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [✓] Signature Lewell Yurrable Printed Name 5/29/14 Date

Records Rejected [ ]

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE500504 Examination Date(s): 9 July 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				**Containers:** 93978
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs associated with this BDR
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 9-26-13

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE500504 Examination Date(s): 9 July 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No observable liquids
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE500504 **Examination Date(s):** 9 July 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**			X	
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not a Sealed Source
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE500504 **Examination Date(s):** 9 July 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source

Comments: **None**

The container QC checks were properly performed and meett the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

David W. Moody		15 July 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVE500504 Examination Date: 07/09/13

	Waste Container ID Number:
1	93978
2	
3	
4	
5	
6	
7	N/A
8	
9	07/09/13
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

Independent Technical Reviewer:

Print Name	Signature	Date
Peggy Ausmus	Peggy Ausmus	7-11-13

NTPC RECORDS ORIGINAL
DATE REC'D 7/15/13

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE500504 Examination Date: 07/09/13

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	1
2	CCP Waste VE Batch Data Report Table of Contents	2
3	CCP Waste Visual Examination General Information Form	3
4	CCP Waste Visual Examination Data Forms	4
5	CCP Waste VE Independent Technical Reviewer Checklist	9
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE500504

☑ VE for Previously Packaged Waste ☐ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 07/09/13	
Procedure No.: CCP-TP-113 Revision No.: 17	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 019065 Calibration Due Date: 07/31/13 Operational Check: ☑ SAT ☐ UNSAT
Comments: THE VEE HAS DETERMINED THAT THE VESCALE WILL NOT BE USED	
Visual Examination Operator 1: DAVID HEMSING (Print Name) / DAVE HEMSING (Signature) / 07/09/13 (Date)	
Visual Examination Operator 2: Gilbert Gutierrez (Print Name) / (Signature) / 7-9-13 (Date)	

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE50005 04

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: 93139		
Output Waste Container ID: 93978	Waste Stream ID: LA-MHD03.001	
Container Type: 55 GAL DRUM	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 33.0 kg.	Gross Wt: ~~88.2~~ Rev 09/11/13 88.2 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☐ Plastic ☑ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 90 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 038343 Rev 07/11/13 Calibration Due Date: ~~09/11/13~~ 09/11/13 Filter: Model No.: NUCFIL-0190S Serial No.: KL-491 Torque Value: 10 FT/LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 038373 Calibration Due Date: 09/11/13 Lid Ring/Bolt Torque Value: 60 FT/LBS	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE5000504 **Date:** 07/09/13

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	PLEXIGLASS, PLASTIC BAGS, VINYL TAPE	PW	4.0	E
N/A	GLASS JARS, CERAMIC ELEMENT	OI	3.0	E
N/A	CHEESECLOTHS, CARDBOARD TUBE CARDBOARD CONTAINERS	C	0.5	E
N/A	RUBBER GASKETS	R	0.6	E
N/A	LAB SCISSOR JACK, STEEL BOLTS METAL TWEEZERS, METAL TOOLS ELECTRONIC EQUIPMENT, METAL CANS METAL PARTS	IM	40.0	E
N/A	BRASS CAP, CLIP LEADS, ELECTRIC-AL CORD, PASS THRU	OM	7.0	E
N/A	ALUMINUM FOIL, ALUMINUM TUBE	AM	0.1	E

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 93978

TID Removed: N/A **TID Applied:** N/A

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE500504

Output Waste Container ID: 93978

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.2
Plastics (PP):	2.1
Others: (c)	3.7
Total Packaging Weight:	33.0
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	40.0
Aluminum-based Metals/Alloys (AM):	0.1
Other Metals (OM):	7.0
Other Inorganic Materials (OI):	3.0
Cellulosics (C):	0.5
Rubber (R):	0.6
Plastics (waste materials) (PW):	4.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	55.2

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE500504 **Output Waste Container ID:** 93978

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE500504 **Output Waste Container ID:** 93978

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1:

DAVID HEMSING	DAVE HEMSING	07/09/13
Print Name	Signature	Date

Visual Examination Operator 2:

Gilbert Gutierrez		7-9-13
Print Name	Signature	Date

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE500504 Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☑ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☑ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☑ YES	☐ N/A
b. Weight totals	☐ NO	☑ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☑ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☑ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☑ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☑ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☑ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☑ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☑ YES	☐ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☑ YES	☐ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☑ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE500504 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☑ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☑ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☑ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☑ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☑ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☑ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☑ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Peggy Ausmus	Peggy Ausmus	7-11-13
Printed Name	Signature	Date

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record
[ ] Fax Record
[ ] Electronic Record

[ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	08-08-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE500504	BDR	07-09-13	10
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Ashley Hoffer Printed Name	8.29.13 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

```
**********************
***   TX REPORT    ***
**********************

TRANSMISSION OK

TX/RX NO                2374
DESTINATION TEL #       915056627800
DESTINATION ID          LANL
ST. TIME                08/29 10:50
TIME USE                00'20
PAGES SENT                 1
RESULT                  OK
```

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	08-08-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE500504	BDR	07-09-13	10
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X] Ashley Hoffer 8.29.13

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE500507				**Examination Date(s): 03/06/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 69561
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 3/19/14 (2)

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE500507				**Examination Date(s): 03/06/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No observable liquid.
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE500507				**Examination Date(s): 03/06/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**			X	
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not a LANL Sealed Source.
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE500507				**Examination Date(s): 03/06/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna		3/19/14	
SPM Printed Name	Signature		Date	

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVES00507 Examination Date: 3-6-14

	Waste Container ID Number:
1	69561
2	
3	
4	
5	
6	
7	
8	
9	N/A per
10	3-6-14
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

Independent Technical Reviewer:

Peter Robida		3/12/14
Print Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 3/19/14

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVES00507 Examination Date: 3-6-14

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	1
2	CCP Waste VE Batch Data Report Table of Contents	2
3	CCP Waste Visual Examination General Information Form	3
4	CCP Waste Visual Examination Data Forms	4
5	CCP Waste VE Independent Technical Reviewer Checklist	9
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Controlled Copy

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE500507

☒ VE for Previously Packaged Waste ☐ VE for Newly Generated Waste	
☐ Method 1 ☒ Method 2	
Site ID: LA	
Examination Date: 3-6-14	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☒ N/A	☐ SAT
VE Scale Information: ☒ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 019065 Calibration Due Date: 10-14-14 Operational Check: ☒ SAT ☐ UNSAT
Comments: THE VEE HAS DETERMINED NOT TO USE THE VE SCALE.	

Visual Examination Operator 1:		
JOE STEPZINSKI	Joseph Stepzinski	3-6-14
Print Name	Signature	Date
Visual Examination Operator 2:		
Luis Romero	Luis Romero	3-6-14
Print Name	Signature	Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE500507

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: 5851816		
Output Waste Container ID: 69561	Waste Stream ID: LA-MHD01.001	
Container Type: 55 GAL DRUM	TRUCON Code: LA 225	Waste Matrix Code: 55400
Audio/Video Media Recording Number: ☒ N/A		
Waste Container Weights: Tare Wt: 33.0 kg	Gross Wt: 46.4 kg	
Rigid Liner Present? ☐ NO ☒ YES Type of Liner: ☐ Lead ☐ Plastic ☒ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☒ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☒ N/A ☐ Vented: Hole Size: ☒ N/A ☐ Filtered: Model No.: ☒ N/A Serial No.: ☒ N/A	
Bag Liner Present? ☐ NO ☒ YES	Volume Utilization Percentage: 40 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☒ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☒ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 038370 Calibration Due Date: 8-2-14 Filter: Model No.: NUCFIL-019QS Serial No.: KM-328 Torque Value: 10 FT/LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 038370 Calibration Due Date: 8-2-14 Lid Ring/Bolt Torque Value: 60 FT/LBS	
Is total dose rate greater than 200mrem/hr? ☒ NO ☐ YES		
NCR(s) associated with the output container? ☒ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: METAL CAN WITH FILTERED LID HAS NUCFIL-019 FILTER INSTALLED		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE500507 **Date:** 3-6-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	METAL PARTS, METAL CAN WITH LID	IM	9.3	E
N/A	METAL PARTS, METAL SHEET (BERYLLIUM)	OM	3.0	E
N/A	PLASTIC BAG, VINYL TAPE STYROFOAM	PW	1.0	E
N/A	PAPER TAG	C	0.1	E
	N/A 3-6-14			

N/A — VEO 1: Print Name | N/A — Signature | N/A — Date

N/A — VEO 2: Print Name | N/A — Signature | N/A — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 69561

TID Removed: N/A **TID Applied:** LANL 029727

N/A — VEO 1: Print Name | N/A — Signature | N/A — Date

N/A — VEO 2: Print Name | N/A — Signature | N/A — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE500507

Output Waste Container ID: 69561

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.2
Plastics (PP):	2.1
Others: (c)	3.7
Total Packaging Weight:	33.0
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	9.3
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	3.0
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	0.1
Rubber (R):	N/A
Plastics (waste materials) (PW):	1.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	13.4

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVES00502 **Output Waste Container ID:** 69561

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☒
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☒
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☒
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☒
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☒
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☒
Is there an indication of wastes containing explosives or compressed gases?	☐	☒
Is there PCB liquids present?	☐	☒
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☒
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☒
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☒
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☒
Are there sealed containers **GREATER** than 4 liters?	☐	☒
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☒

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE500507 **Output Waste Container ID:** 69561

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1: JOE STEPZINSKI (Print Name)	Joseph D Stepzinski (Signature)	3-6-14 (Date)
Visual Examination Operator 2: Luis Romero (Print Name)	Luis Romero (Signature)	3-6-14 (Date)

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVES00507 Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☒ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☒ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☒ YES	☐ N/A
b. Weight totals	☐ NO	☒ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☒ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☒ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☒ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☒ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☒ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☒ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☒ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☐ YES	☒ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☒ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVES00507 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☒ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☒ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☒ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☒ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☒ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☒ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☒ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Peter Robida		3/12/14
Printed Name	Signature	Date

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	03/24/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE500507	VE 50 BATCH DATA REPORT	03/06/14	10
	N/A		

Comments

BDR is complete. Original SPM is in Carlsbad.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	3/28/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	3730
DESTINATION TEL #	915056291658
DESTINATION ID	LANL
ST. TIME	03/28 11:55
TIME USE	00'15
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	03/24/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE500507	VE 50 BATCH DATA REPORT	03/06/14	10
	N/A		

Comments

BDR is complete. Original SPM is in Carlsbad.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Leon Navarrete 3/28/14

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550128 **Examination Date(s):** 5 May 2014

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				**Containers:** 67386
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs associated with this BDR
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 7/9/14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550128 **Examination Date(s):** 5 May 2014

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No observable liquids
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550128 **Examination Date(s):** 5 May 2014

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**			X	
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not a Sealed Source
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550128 **Examination Date(s):** 5 May 2014

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source

Comments: **None**

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

David W. Moody		8 May 2014
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVES50128 Examination Date: 5-5-14

	Waste Container ID Number:
1	67386
2	
3	
4	
5	
6	
7	
8	
9	N/A
10	
11	5-5-14 (CT)
12	
13	
14	
15	
16	
17	
18	
19	
20	

Independent Technical Reviewer:

Gilbert Gutierrez
Print Name

Signature

5-5-14
Date

NTPC RECORDS ORIGINAL
DATE REC'D 5/6/14

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVESS0128 Examination Date: 5-5-14

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	1
2	CCP Waste VE Batch Data Report Table of Contents	2
3	CCP Waste Visual Examination General Information Form	3
4	CCP Waste Visual Examination Data Forms	4
5	CCP Waste VE Independent Technical Reviewer Checklist	9
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550128

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 5-5-14	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT

Comments:

The VEE has determined not to use the VE scale in glovebox

Visual Examination Operator 1:		
James E. Thompson Print Name	James E. Thompson Signature	5-5-14 Date
Visual Examination Operator 2:		
Luis Romero Print Name	Luis Romero Signature	5-5-14 Date

-4-
5-5-14

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550128

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67386	Waste Stream ID: LA-mHD01.001	
Container Type: 55gal. drum	TRUCON Code: LA225	Waste Matrix Code: 55400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 34.4 kg.	Gross Wt: 46.3 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 70 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101391 Calibration Due Date: 12-10-14 Filter: Model No.: NucFil-019 DS Serial No.: LM-1572 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVES50128 **Date:** 5-5-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738013	Plastic bags, vinyl tape	PW	5.0	E
738013	cheesecloth	C	3.4	E
738013	metal pieces	IM	3.5	E
	N/A (JT)			
	5-5-14			

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67386

TID Removed: N/A **TID Applied:** LANL 029831

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550128

Output Waste Container ID: 67386

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	6.7
Others:	N/A
Total Packaging Weight:	34.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.5
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	3.4
Rubber (R):	N/A
Plastics (waste materials) (PW):	5.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	11.9

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550128 **Output Waste Container ID:** 67386

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550128 **Output Waste Container ID:** 67386

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson	[signature]	5-5-14
Print Name	Signature	Date

Visual Examination Operator 2:

Luis Romero	Luis Romero	5-5-14
Print Name	Signature	Date

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE550128

Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☒ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☒ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☒ YES	☐ N/A
b. Weight totals	☐ NO	☒ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☒ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☒ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☒ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☒ YES	☐ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☒ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☒ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☒ YES	☐ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☒ YES	☐ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☒ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: CAVE550128 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☒ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☒ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☒ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☒ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☒ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☒ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☒ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Gilbert Gutierrez — Printed Name

Signature

5-5-14 — Date

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GAS-212	Telephone Number:	(505) 412-4821
	N/A	Date Sent:	07/10/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE550128	VE 55 BATCH DATA REPORT	05/05/14	10
	N/A		

Comments

BDR IS COMPLETE. ORIGINAL SPM IS IN CARLSBAD.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Jewell Hurrelde (Printed Name)	7/15/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	4963
DESTINATION TEL #	915056678321
DESTINATION ID	LANL
ST. TIME	07/16 12:26
TIME USE	00'19
PAGES SENT	1
RESULT	OK

Controlled Copy

CCP-QP-008, Rev. 22
CCP Records Management

Effective Date: 03/24/2014

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GAS-212	Telephone Number:	(505) 412-4821
	N/A	Date Sent:	07/10/14
Telephone Number:	(575) 234-7523		

Document Number	Title/Description	Record Date	Total Pages
LAVE550128	VE 55 BATCH DATA REPORT	05/05/14	10
	N/A		

COMMENTS

BDR IS COMPLETE. ORIGINAL SPM IS IN CARLSBAD.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550132				**Examination Date(s): 05/29/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 67256, 67626
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 6/5/14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550132				**Examination Date(s): 05/29/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550132				**Examination Date(s): 05/29/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**			X	
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not LANL sealed sources
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550132				**Examination Date(s): 05/29/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	T. A. Groover			6\3\14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVES50132 Examination Date: 5-29-14

	Waste Container ID Number:
1	67256
2	67626
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

N/A

5-29-14

Independent Technical Reviewer:

Print Name	Signature	Date
Peggy Ausmus	Peggy Ausmus	6-2-14

NTPC RECORDS ORIGINAL
DATE REC'D 6/3/14

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVES50132 Examination Date: 5-29-14

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	1
2	CCP Waste VE Batch Data Report Table of Contents	2
3	CCP Waste Visual Examination General Information Form	3
4	CCP Waste Visual Examination Data Forms	4
5	CCP Waste VE Independent Technical Reviewer Checklist	14
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550132

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 5-29-14	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT
Comments: The VEE has determined not to use the VE scale.	
Visual Examination Operator 1: James E. Thompson (Print Name) — Signature — 5-29-14 (Date)	
Visual Examination Operator 2: Luis Romero (Print Name) — Luis Romero (Signature) — 5-29-14 (Date)	

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550132

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67256	Waste Stream ID: LA-MHD01.001	
Container Type: 55gal. drum	TRUCON Code: LA 225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 51.2 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 100 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101391 Calibration Due Date: 12-10-14 Filter: Model No.: Nucfil-0150S Serial No.: LM-1524 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550132 **Date:** 5-29-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
741140	Plastic bottles, plastic lids, plastic bags, vinyl tape, plastic discs	PW	21.0	E
741140	cheese cloth, paint brushes	C	1.5	E
741140	Electrical cord	R	0.2	E
741140	vermiculite	OI	0.2	E
	N/A (J) 5-29-14			

N/A — N/A — N/A
VEO 1: Print Name — Signature — Date

N/A — N/A — N/A
VEO 2: Print Name — Signature — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67256

TID Removed: N/A **TID Applied:** LANL 023729

N/A — N/A — N/A
VEO 1: Print Name — Signature — Date

N/A — N/A — N/A
VEO 2: Print Name — Signature — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550132

Output Waste Container ID: 67256

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	0.2
Cellulosics (C):	1.5
Rubber (R):	0.2
Plastics (waste materials) (PW):	21.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	22.9

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550132 **Output Waste Container ID:** 67256

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550132 **Output Waste Container ID:** 672560

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson	[signature]	5-29-14
Print Name	Signature	Date

Visual Examination Operator 2:

Luis Romero	Luis Romero	5-29-14
Print Name	Signature	Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550132

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67626	Waste Stream ID: LA-MHD01.001	
Container Type: 55gal. drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 46.3 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 90 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101391 Calibration Due Date: 12-10-14 Filter: Model No.: Nucfil-019DS Serial No.: KM-651 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-14 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550132 **Date:** 5-29-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
741141	Plastic bottles, plastic lids, Plastic bags, plastic discs, vinyl tape	PW	17.2	E
741141	cheese cloth	C	0.8	E

N/A ST 5-29-14

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67626

TID Removed: N/A **TID Applied:** LANL 023728

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550132

Output Waste Container ID: 67626

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	0.8
Rubber (R):	N/A
Plastics (waste materials) (PW):	17.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	18.0

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550132 **Output Waste Container ID:** 67626

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550132 **Output Waste Container ID:** 67626

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson	[signature]	5-29-14
Print Name	Signature	Date

Visual Examination Operator 2:

Luis Romero	Luis Romero	5-29-14
Print Name	Signature	Date

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE 550132

Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☑ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☑ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☑ YES	☐ N/A
b. Weight totals	☐ NO	☑ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☑ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☑ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☑ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☑ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☑ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☑ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☐ YES	☑ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☑ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE550132 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☑ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☑ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☑ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☑ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☑ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☑ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☑ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Peggy Ausmus	Peggy Ausmus	6-2-14
Printed Name	Signature	Date

GEN3

Washington
TRU Solutions LLC

CP:09:01169
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: April 8, 2009

FROM: C. M. Weston CMW 04/08/09 LOCATION: Certification

TO: CCP Records Custodian GSA-103 LOCATION: Retrieval, Characterization and Transportation

SUBJECT: APPROVAL OF WASTE STREAM PROFILE FORM FOR LA-MHD04.001

Please accept the attached approved Waste Stream Profile Form (WSPF) LA-MHD04.001 for Los Alamos National Laboratory.

If further information is needed, I may be contacted at (303) 898-2399.

CMW:yhc

Attachment

cc: WTS

W. Cameron	ED
V. K. Cannon	ED
T. R. Gatliffe	ED
M. L. Martinez	ED
M. Pearcy	ED
S. M. Peterman	ED
L. E. Porter	ED
C. E. Simmons	ED
M. R. Walentine	ED
K. O. Zbryk	ED

COPY

Controlled
Copy

Attachment 2 – CCP Waste Stream Profile Form

(1) Waste Stream Profile Number: LA-MHD04.001						
(2) Generator site name: Los Alamos National Laboratory					(4)Technical contact: Susan Peterman	
(3) Generator site EPA ID: NM08900150515					(6) Technical contact phone number: 505-606-2344	
(5) Date of audit report approval by New Mexico Environment Department (NMED): August 27, 2004; June 23, 2005; August 31, 2006						
(7) Title, version number, and date of documents used for WAP Certification: CCP-PO-001, CCP Transuranic Waste Characterization Quality Assurance Project Plan, Revision 16, October 31, 2007 CCP-PO-002, CCP Transuranic Waste Certification Plan, Revision 20, November 2, 2007 CCP-PO-012 CCP/Los Alamos National Laboratory (LANL) Interface Document, Revision 6, August 6, 2007						
(8) Did your facility generate this waste?	YES	X	NO			
(9) If no, provide the name and EPA ID of the original generator: N/A						
Waste Stream Information[1]						
(10) WIPP ID: LA-TA-21-40[3]					(11) Summary Category Group: S5000- Debris Waste	
(12) Waste Matrix Code Group: Heterogeneous Debris Waste					(13) Waste Stream Name: Heterogeneous Debris from the TA-21 DP West Facility	
(14) Description from the TWBIR: Mixed metal scrap, discarded gloveboxes, and incidental combustible waste generated from facility and equipment decontamination and decommissioning at TA21. This waste consists mostly of metals or metal equipment, either whole or sectioned, gloveboxes, glovebox equipment, glass, and small volumes of combustibles generated during decommissioning. This waste may also include items such as small tools, cans, motors, and pumps. Gloveboxes may include gloves, wiring, plastic, glass windows, plastic wrapping, and lead shielding.						
(15) Defense TRU Waste:	YES	X	NO			
(16) Check One:	CH	X	RH			
(17) Number of SWBs: 8	(18) Number of Drums: 10, 308 55-gallon drums[4]				(19) Number of Canisters: N/A	
(20) Batch Data report numbers supporting this waste stream characterization: See Characterization Information Summary (CIS) Correlation of Container Identification Numbers to Batch Data Report Numbers						
(21) List applicable EPA Hazardous Waste Numbers:[2] D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, F005						
(22) Applicable TRUCON Content Numbers: LA 154, LA 215, LA 216, LA 217, LA 218, LA 219, LA 223, LA 225, SQ 154						
(23)**Acceptable Knowledge Information**[1]						
[For the following, enter the supporting documentation used (i.e., references and dates)]						
Required Program Information						
(23A) Map of site: CCP-AK-LANL-010, Revision 2, February 15, 2008, Figures 1, 2 and 3						
(23B) Facility mission description: CCP-AK-LANL-010, Revision 2, February 15, 2008, Sections 4.2.1 and 4.2.2						
(23C) Description of operations that generate waste: CCP-AK-LANL-010, Revision 2, February 15, 2008, Sections 4.4 and 5.3						
(23D) Waste identification/categorization schemes: CCP-AK-LANL-010, Revision 2, February 15, 2008, Sections 4.3.1 and 5.4						
(23E) Types and quantities of waste generated: CCP-AK-LANL-010, Revision 2, February 15, 2008, Sections 4.3.3, 5.2 and 5.4						

Controlled
Copy

(23F) Correlation of waste streams generated from the same building and process, as applicable: CCP-AK-LANL-010, Revision 2, February 15, 2008, Section 4.3.4			
(24) Waste certification procedures: CCP-TP-030, Revision 23, CCP CH TRU Waste Certification and WWIS Data Entry, March 12, 2008			
(25)Required Waste Stream Information			
(25A) Area(s) and building(s) from which the waste stream was generated: CCP-AK-LANL-010, Revision 2, February 15, 2008, Section 5.1			
(25B) Waste stream volume and time period of generation: CCP-AK-LANL-010, Revision 2, February 15, 2008, Section 5.2			
(25C) Waste generating process description for each building: CCP-AK-LANL-010, Revision 2, February 15, 2008, Section 5.3			
(25D) Waste Process flow diagrams: CCP-AK-LANL-010, Revision 2, February 15, 2008, Figures 2-1, 2-2, 2-3, 2-4, 2-5, 2-6 and 2-7			
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form: CCP-AK-LANL-010, Revision 2, February 15, 2008, Section 5.4			
(25F) Waste Material Parameter Weight Estimates per unit of waste: See Table 2 of the Summation of Aspects of AK Summary Report: LA-MHD04.001.			
(26) Which Defense Activity generated the waste: (check one)[5]			
	Weapons activities including defense inertial confinement fusion		Naval Reactors development
	Verification and control technology		Defense research and development
X	Defense nuclear waste and material by products management		Defense nuclear material production
	Defense nuclear waste and materials security and safeguards and security investigations		
(27)Supplemental Documentation			
(27A) Process design documents: N/A			
(27B) Standard operating procedures: See S2 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27C) Safety Analysis Reports: See S3 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27D) Waste packaging logs: NA			
(27E) Test plans/research project reports: See S5 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27F) Site databases: See S6 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27G) Information from site personnel: See S7 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27H) Standard industry documents: See S8 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27I) Previous analytical data: See S9 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27J) Material safety data sheets: See S10 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27K) Sampling and analysis data from comparable/surrogate Waste: NA			
(27L) Laboratory notebooks: See S12 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
Confirmation Information[2]			
For the following, when applicable, enter procedure title(s), number(s) and date(s)			
(28)	Radiography: See list of procedures on the attached CIS, CCP-TP-002-A3		
(29)	Visual Examination: See list of procedures on the attached CIS, CCP-TP-002-A3		

Comments:
For a list of the waste characterization procedures used and the reference and date of the respective procedures see the list of procedures on the attached CIS

Reviewed by AK Expert: YES [X] **Date:** 05/13/08

Reviewed by STR (if necessary): YES [X] NA [ ] **Date:** 05/08/08

Changes were not significant to require re-review of the WSPF.

Waste Stream Profile Form Certification:

I hereby certify that I have reviewed the information in this Waste Stream Profile Form, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

(31) Signature of Site Project Manager	(32) Sue Peterman Printed Name	(33) 05/13/08 Date

NOTE:
(1) Use back of sheet or continuation sheets, if required.
(2) If, radiography, visual examination were used to confirm EPA Hazardous Waste Numbers, attach signed Characterization Information Summary documenting this determination.
(3) TWBIR numbers LA-TA-21-06, LA-TA-21-12, and LA-TA-21-42 also apply.
(4) This estimate of waste stream volume (2144 m^3) is packaged into numerous container types and will be repackaged into 55-gallon drums.
(5) This waste was also generated as a consequence of defense research and development and defense nuclear material production activities.

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD04.001

Lot 1

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 003

CCP Headspace Gas UCL_{90} Evaluation Form..... 004

Headspace Gas Summary Data..... 006

RTR/VE Summary of Prohibited Items and AK Confirmation..... 007

Reconciliation with Data Quality Objectives..... 008

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 1

AK Expert Review: N/A Date: N/A

SPM Review: Craig Simmons Date: 5/13/2008

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 8	11/30/06	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Headspace Gas Sampling and Analysis (HSG):

CCP-TP-129	Rev. 4	05/24/06	CCP Headspace Gas Sampling and Analysis Batch Data Report Preparation (Entech/Agilent)
CCP-TP-131	Rev. 2	03/31/05	CCP Manual Headspace Gas Sampling of TRU Waste Containers for the Entech/Agilent Analytical System
ACMM-9910	Rev. 7	04/24/06	Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-173	Rev. 0	05/03/07	CCP Analysis of Gas Samples for VOCs by GC/FID
ACMM-9930	Rev. 9	02/16/06	Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 0	05/02/07	CCP Analysis of Gas Samples for VOCs by GC/MS

Visual Examination (VE):

CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 19	11/16/06	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry

WAP Certification:

CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 5	11/16/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/07	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 1

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		
80126	LA00000080126	1LANDA0824	LA-RTR1-08-0006	N/A	N/A	N/A		LAHSGS080001	ECL08001M	ECL08001G	ECL08001C
80128	LA00000080128	2LANDA0201	LA-RTR1-08-0008	N/A	N/A	N/A		LAHSGS080001	ECL08001M	ECL08001G	ECL08001C
80354	LA00000080354	2LANDA0230	LA-RTR2-08-0033	N/A	N/A	N/A		LAHSGS080003	ECL08008BM	ECL08008G	ECL08008C
80356	LA00000080356	1LANDA0851	N/A	LAVE500120	N/A	N/A		LAHSGS080003	ECL08008BM	ECL08008G	ECL08008C
80358	LA00000080358	2LANDA0221	N/A	LAVE500120	N/A	N/A		LAHSGS080003	ECL08008BM	ECL08008G	ECL08008C
80360	LA00000080360	2LANDA0218	N/A	LAVE500120	N/A	N/A		LAHSGS080003	ECL08008BM	ECL08008G	ECL08008C
S845054	LAS845054	1LANDA0806	LA-RTR2-07-0313	N/A	N/A	N/A		LAHSGS080001	ECL08001M	ECL08001G	ECL08001C
S845055	LAS845055	1LANDA0806	LA-RTR2-07-0313	N/A	N/A	N/A		LAHSGS080001	ECL08001M	ECL08001G	ECL08001C
S855147	LAS855147	1LANDA0813	LA-RTR2-07-0312	N/A	N/A	N/A		LAHSGS080003	ECL08008BM	ECL08008G	ECL08008C
** Container S845059 has an indeterminate assay in the noted NDA BDR. It is not eligible for certification/emplacement at WIPP using this BDR, and is included for verification of hazardous waste number assignment only.											
**S845059	LAS845059	2LANDA0189	LA-RTR2-07-0309	N/A	N/A	N/A		LAHSGS080003	ECL08008BM	ECL08008G	ECL08008C

Signature of Site Project Manager

Craig Simmons
Printed Name

5/13/2008
Date

CCP Headspace Gas UCL_{90} Evaluation Form

WSPF #: LA-MHD04.001 **Head Space Gas Summary Number** 1 through 1

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
Benzene	Log	4	10	0.00	-2.52	1.26	-1.97	10	2.30		
Bromoform	Log	0	10	-2.59	-4.07	0.66	-3.78	10	2.30		
Carbon tetrachloride	Log	0	10	-2.47	-3.82	0.61	-3.56	10	2.30		
Chlorobenzene	Log	0	10	-2.30	-3.48	0.60	-3.22	10	2.30		
Chloroform	Log	1	10	-2.04	-3.54	0.85	-3.17	10	2.30		
Cyclohexane [a]	Log	3	10	-0.80	-2.76	1.12	-2.27	10	2.30		
1,1-Dichloroethane	Log	0	10	-2.12	-3.40	0.59	-3.14	10	2.30		
1,2-Dichloroethane	SQRT	0	10	0.31	0.20	0.06	0.22	10	3.16		
1,1-Dichloroethylene	Log	0	10	-1.77	-3.11	0.60	-2.85	10	2.30		
cis-1,2-Dichloroethylene	Log	0	10	-2.21	-3.32	0.61	-3.05	10	2.30		
trans-1,2-Dichloroethylene	Log	0	10	-1.83	-3.21	0.61	-2.95	10	2.30		
Ethyl benzene	Log	2	10	-1.08	-2.98	0.90	-2.59	10	2.30		
Ethyl ether	Log	0	10	-1.77	-3.15	0.61	-2.88	10	2.30		
Methylene chloride	Log	6	10	-0.80	-2.07	0.88	-1.69	10	2.30		
1,1,2,2-Tetrachloroethane	Log	0	10	-1.69	-3.25	0.72	-2.94	10	2.30		
Tetrachloroethylene	Log	3	10	-2.04	-3.35	0.67	-3.06	10	2.30		
Toluene	SQRT	9	10	6.78	2.58	2.30	3.59	10	3.16	Yes	F005
1,1,1-Trichloroethane	Log	4	10	0.00	-2.74	1.32	-2.16	10	2.30		
Trichloroethylene	Log	5	10	0.88	-2.73	1.43	-2.11	10	2.30		
1,1,2-Trichloro-1,2,2-trifluoroethane	Log	1	10	-2.53	-3.75	0.57	-3.50	10	2.30		
1,2,4-Trimethylbenzene[a]	Log	0	10	-2.12	-3.38	0.59	-3.12	10	2.30		
1,3,5-Trimethylbenzene[a]	Log	0	10	-2.12	-3.44	0.60	-3.18	10	2.30		
m,p-Xylene[b]	Log	2	10	-2.16	-3.28	0.43	-3.09	10	2.30		
o-Xylene	Log	1	10	-2.41	-3.42	0.51	-3.20	10	2.30		
Acetone	Log	9	10	1.77	-0.12	1.32	0.46	100	4.61		
1-Butanol	Log	6	10	0.18	-1.89	1.06	-1.42	100	4.61		
Methanol	No	0	10	8.00	7.70	0.26	7.81	100	N/A		
Methyl ethyl ketone	Log	5	10	0.10	-1.91	0.88	-1.52	100	4.61		
Methyl isobutyl ketone	Log	0	10	-2.21	-3.48	0.59	-3.22	100	4.61		

CCP Headspace Gas UCL_{90} Evaluation Form

WSPF #: LA-MHD04.001 **Head Space Gas Summary Number** 1 through 1

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
Chloromethane	Log	2	10	0.96	-2.13	1.72	-1.38	10	2.30		
Carbon Disulfide	Log	3	10	-1.97	-3.02	0.70	-2.72	10	2.30		
1,2-Dichloropropane	Log	0	10	-2.12	-3.52	0.62	-3.25	10	2.30		
Trichlorofluoromethane	Log	0	10	-1.58	-3.34	0.87	-2.96	10	2.30		
Formaldehyde[c]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydrazine[d]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[a] These compounds are from the TRAMPAC and are flammable VOCs that do not appear in the QAPjP or the WIPP WAP. These are not part of the target analyte list, but samples may be analyzed for these compounds.

[b] These xylene isomers cannot be resolved by the analytical methods employed in the program. m-Xylene and p-Xylene will be reported as "Total m-p-Xylene."

[c] Required only for homogenous solids and soil/gravel waste from Savannah River Site.

[d] Required only for homogenous solids and soil/gravel wast from Oak Ridge National Laboratory and Savannah River Site.

Comments:

(1) For analytes where there were no samples measured above the MDL value, 1/2 of the MDL value was used. (Per section B4 of the WAP, 1/2 of the MDL value is used in calculating the mean concentration.)

Signature of Site Project Manager

Craig Simmons
Printed Name

5/13/2008
Date

CCP Headspace Gas Summary Data

Waste Stream Number LA-MHD04.001 Lot Number (s) 1

Tentatively Identified Compound	Maximum Observed Estimated Concentrations (ppmv)	# Samples Containing TIC	% Detected
Methyl methylacrylate	0.08	1	10.00%

Data Supports EPA Hazardous Waste Numbers Assigned by AK? Yes ☑ No ☐

If no, describe the basis for assigning the EPA Hazardous Waste Codes:

SPM Signature _____ Date 5/13/2008

CBS 06

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot(s)#: 1

Container Number	RTR Prohibited Items [a]	Visual Examination Prohibited Items [a]
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	RTR Data sheets confirm that none of the containers examined in this lot contain any prohibited items.	None of the containers examined in this lot had prohibited items identified in VE.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Site Project Manager Signature	Craig Simmons	5/13/2008
	Printed Name	Date

CIS 07

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 1

Sampling Completeness

RTR/VE

Number of Valid Samples: 10 Number of Total Samples Analyzed: 10

Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 9 Number of Total Samples Analyzed: 9

Percent Complete: 100 (QAO is 100%)

HSG

Number of Valid Samples: 10 Number of Total Samples collected: 10

Percent Complete: 100 (QAO is ≥90%)

Number of Valid Samples: 10 Number of Total Samples analyzed: 10

Percent Complete: 100 (QAO is ≥90%)

Total VOC

Number of Valid Samples: NA Number of Total Samples collected: NA

Percent Complete: NA (QAO is ≥90%)

Number of Valid Samples: NA Number of Total Samples analyzed: NA

Percent Complete: NA (QAO is ≥90%)

Total SVOC

Number of Valid Samples: NA Number of Total Samples collected: NA

Percent Complete: NA (QAO is ≥90%)

Number of Valid Samples: NA Number of Total Samples analyzed: NA

Percent Complete: NA (QAO is ≥90%)

Total Metals

Number of Valid Samples: NA Number of Total Samples collected: NA

Percent Complete: NA (QAO is ≥90%)

Number of Valid Samples: NA Number of Total Samples analyzed: NA

Percent Complete: NA (QAO is ≥90%)

C35
09

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 1

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
5	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
6	Y	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for each VOC in the HSG of each container were calculated and compared with the program required quantitation limits, as reported in CCP-TP-003, Attachment 3, and additional Environmental Protection Agency (EPA) Hazardous Waste Numbers were assigned as required. Samples were randomly collected (when appropriate).
7a	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for solids VOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 4, and additional EPA Hazardous Waste Numbers were assigned as required. Samples were randomly collected.
7b	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for solids SVOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 5, and additional EPA Hazardous Waste Numbers were assigned as required. Samples were randomly collected.
7c	NA	Mean concentrations, (UCL_{90}) values for the mean concentration, standard deviations, and the number of samples collected for total metals were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 6, and additional EPA Hazardous Waste Numbers were assigned as required. Samples were randomly collected.

CIS
09

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 1

8	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
9	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
10	Y	Waste stream can be classified as hazardous or nonhazardous at the 90-percent confidence level.
11	Y	Appropriate packaging configuration and Drum Age Criteria (DAC) is applied and documented in the headspace gas sampling documentation, and the drum age met prior to sampling.
12	Y	TICs were appropriately identified and reported in accordance with the requirements of Section B3-1 of the QAPjP.
13	Y	The PRQLs for headspace gas VOCs were met for all analyses as evidenced by the analytical batch data reports.
14		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections B3-2 through B3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
NDE	Y	Y	Y
Headspace Gas Analysis	Y	Y	Y
Solids Sampling	NA	NA	NA
Solids VOCs	NA	NA	NA
Solids SVOCs	NA	NA	NA
Solids Metals	NA	NA	NA

Comments: ** Container S845059 has an indeterminate assay in the NDA BDR noted on the CIS. It is not eligible for certification/ emplacement at WIPP using this BDR, and is included for verification of hazardous waste number assignment only.

Signature of Site Project Manager	Craig Simmons	5/13/2008
	Printed Name	Date

CIS 60

SUMMATION OF ASPECTS OF AK SUMMARY REPORT: LA-MHD04.001

Overview:

Waste Stream LA-MHD04.001 consists of heterogeneous debris generated during routine and decontamination and decommissioning activities in the Technical Area 21 (TA-21) Defense Programs (DP) West Facility at Los Alamos National Laboratory (LANL). The TA-21 DP West Facility was established as the LANL main plutonium facility. DP West provided the capability to: produce metal and alloys of plutonium and other transuranic elements from nitrate solution feedstock, fabricate these metals and alloys into precision shapes for defense applications, measure the chemical and physical properties of plutonium metals and alloys, and recover and recycle plutonium scrap or materials used in experiments.

Waste stream LA-MHD04.001 was generated from 1971 to 2000. This waste stream has been generated from the following defense related activities: defense nuclear waste and materials by-products management, defense research and development, and defense nuclear material production activities, and is therefore eligible for disposal at the WIPP as defense related waste.

This Summation of Aspects of the AK Summary Report includes information to support Waste Stream Profile Form (WSPF) number LA-MHD04.001 for Contact Handled (CH) TRU heterogeneous debris. The primary source of information for this Summation is CCP-AK-LANL-010, *Central Characterization Project Acceptable Knowledge Summary Report for Los Alamos National Laboratory TA-21 DP West Facility, Waste Stream: LA-MHD04.001*, Rev. 2, February 15, 2008. CCP-AK-LANL-010 includes information obtained from numerous sources, including facility safety basis documentation, historical document archives, generator and storage facility waste records and documents and interviews with knowledgeable personnel.

Waste Stream Identification Summary:

Site Where TRU Waste Was Generated:	Los Alamos National Laboratory (LANL)
Waste Stream Name:	Heterogeneous Debris from the TA-21 DP West Facility
Waste Stream Number:	LA-MHD04.001
Dates of Waste Generation:	1971 to 2000
Summary Category Group:	S5000 – Debris Waste
Waste Matrix Code Group:	Heterogeneous Debris Waste
Waste Matrix Code:	S5400 (Heterogeneous Debris)
Waste Stream TWBIR Identification:	LA-TA-21-40[1]
Waste Stream Volume:	10,308 55-gallon drums (current/retrievably stored)[2] 0 55-gallon drums per year (projected/newly generated) 8 SWBs (current/retrievably stored) 0 SWBs (projected/newly generated)

[1] TWBIR numbers LA-TA-21-06, LA-TA-21-12, and LA-TA-21-42 also apply.
[2] This volume estimate (2144 m^3) is packaged into numerous container types and will be repackaged into 55-gallon drums.

RCRA EPA Hazardous Waste Numbers:	D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, F005
TRUCON Content Numbers:	LA 154, LA 215, LA 216, LA 217, LA 218, LA 219, LA 223, LA 225, SQ 154

Waste Stream Description and Physical Form:

Waste stream LA-MHD04.001 consists of mixed heterogeneous combustible and noncombustible debris. Combustible debris generated at the TA-21 DP West Facility consists of items that were originally packaged so the waste could be incinerated, but would not require further processing to meet the requirements of the WIPP WAC.

Examples of combustible debris generated at TA-21 include paper, rags, plastic, rubber, wood-based high-efficiency particulate air (HEPA) filters, filter media, cardboard, wipes, paper towels, filter/grinding/transfer paper, stoppers, tubing, valves, bottles, containers, plastic sheeting, cotton gloves, cotton coveralls, coveralls, paper coveralls, plastic booties, tape, laboratory coats, nylon booties, polyvinyl chloride plastic, Plexiglas®, rubber-brass-steel supplied-air hoses, leather gloves, latex gloves, respiratory protection, hoses, hoods, hand tools, ladders, and wood.

Examples of non-combustible debris consist of small tools, equipment, cans, pumps and motors, process equipment, gloveboxes and associated tunnels, holdup tanks, machine shop mill, lathe, and press, glovebox windows, metal and stainless steel ventilation ductwork, composite HEPA filters, metal pipes and valves, graphite, dust, fiberglass filter media, brass nuts, steel washers, stainless steel mesh, steel supports, equipment, glassware, ladders, filter frames, titanium and steel experimental containers, tantalum molds, sintered glass frits, stainless steel filters, anode heels, casting skulls, shielding, foil, lead solder, and crucibles. Small amounts of liquids (cutting oil, lubricating oil and solvents listed in Table 1 of this Summation) solidified in vermiculite, Waste Lock 770 (bentonite powder), zeolite (a silica mineral absorbent), or cement, may be present in this waste stream. Small amounts of solid process residues such as ash, salts, filter cakes, resin, leached residues and filtrate as described in the generating processes may also contaminate this waste.

This waste stream is assigned Waste Matrix Code S5400, Heterogeneous Debris. The waste stream LA-MHD04.001 is comprised of greater than 50 percent heterogeneous inorganic and organic debris. Waste stream LA-MHD04.001 may contain smaller amounts (<50% by volume for each container) of homogeneous solids generated during the solidification and absorption of aqueous or organic liquids and immobilization of particulate materials, but no individual drum will contain greater than 50 percent homogeneous solids. The waste material that comprises waste stream LA-MHD04.001 is generated from a single process or from an activity that is similar in material, physical form, and radiological constituents and is therefore a single waste stream.

Point of Generation - Area and Building of Generation

Waste stream LA-MHD04.001 was generated in the TA-21 DP West Facility at LANL.

Generating Process

The plutonium facilities at LANL were located at TA-21 DP West but were subsequently relocated to the Plutonium Facility at TA-55. This summary of generating processes focuses on operations that were conducted at DP West when waste stream LA-MDH04.001 was generated. The chemicals and constituents identified in these processes may contaminate waste stream LA-MHD04.001 which is heterogeneous debris generated during routine and decontamination and decommissioning activities in the Technical Area 21. Debris, identified in the waste stream description, can be attributed to the following processes because waste segregation did not always occur on a process by process basis but rather on a waste type (combustibles and noncombustibles) basis.

It has been a long-standing waste management practice at LANL that waste is packaged in combinations of operations of origin. That is, waste items from several different operations were frequently commingled in a single container. Therefore, LANL TRU wastes from nuclear products manufacture, plutonium recovery, and R&D are delineated as a single plutonium process. DP West debris waste containers are designated as TRU mixed because the waste was not segregated by hazardous waste content. Wastes generated by specific plutonium operations at TA-21 were not segregated for packaging and disposal.

Considerable focus was placed on recovery of plutonium from plutonium operations at TA-21. Process generated residues were generally recovered (if greater than discard limit) while glovebox generated debris was typically determined to be less than discard level utilizing assay. Small amounts of solid process residues such as salts, filter cakes, and leached residues below the discard limit (DL) were typically disposed of with the debris waste. Liquid waste that had plutonium concentrations less than the DL but that did not meet the waste acceptance criteria for the TA-50 Radioactive Liquid Waste Treatment Facility was sent to Building 257 for cement fixation but may also contaminate the debris. The final waste form for TRU waste generated by treatment of industrial wastewater and liquid wastes at DP West is homogeneous solids and not part of this waste stream.

Following are the plutonium operations at the DP West Facility that generated this waste stream. Process material from these operations may contaminate this debris waste stream.

- Plutonium Recovery operations
- Pyrochemical operations
- Metal operations
- Pu-239 fuel programs
- Americium processing operations
- Pu-238 processing
- Miscellaneous and special processing
- Decontamination and Decommissioning (D&D) operations
- Waste repackaging and prohibited item disposition.

Plutonium Recovery Operations

Plutonium products and plutonium-contaminated scrap and residues were generated as a consequence of manufacturing and research operations at LANL. Plutonium recovery operations processed the residues to recover plutonium. These recovery and manufacturing operations, associated maintenance operations, and plutonium research were the primary sources of TRU waste generated at DP West.

Plutonium recovery operations were performed to recover plutonium from metal, metal alloys, scrap, and residues (e.g. salts and crucibles) and to produce purified plutonium nitrate solution that was used in the preparation of plutonium metal. The DP West plutonium recovery operations were subdivided into pretreatment, dissolution, and purification operations. Each of these process subcategories is described in the following sections.

Pretreatment

Pretreatment included physical processes used to prepare scrap and residues for dissolution. Pretreatment included the following processes: thermal conversion to oxide, calcination, caustic leaching, chemical separation by hydroxide or oxalate precipitation, size reduction, grinding, shredding, distillation, filtering of liquids (e.g. hydroxide and oxalate solutions) or oils (e.g. lubricating, machining, lapping, and cutting oils), and incineration. As materials were received from operations within DP West, they were sorted and sent to pretreatment processes or directly to dissolution depending on the physical nature of the scrap or residue and on the amount and type of plutonium associated with the material.

Particulate solids from pretreatment were sent to dissolution if plutonium concentrations were above the discard limit (DL) and to disposal if concentrations were below the DL. Liquids (e.g. oils thinned with

trichloroethylene) were sent to purification if plutonium concentrations were above the DL or to the Building 257 wastewater treatment facility if concentrations were below the DL.

Pretreatment of Noncombustible Residues

Thermal pretreatment processes were used to prepare plutonium-bearing materials for dissolution. Procedures involved the conversion of metal and its alloys to oxide. Finely divided plutonium metal, anode heels from electrorefining operations, oxides that potentially contained unoxidized plutonium metal, carbides, and nitrides were burned to passivate the material.

A caustic (hydroxide) leach process was used to pretreat residues high in chlorides. Chlorides were removed using sodium hydroxide and the resulting residues were then dissolved in nitric and hydrofluoric acid. The caustic solution was sent for liquid waste disposal at Building 257, and the filtered solids continued through the solution process.

Plutonium oxalate cakes from the oxalate precipitation process underwent calcination to create plutonium oxide. The oxide became feed for the oxide reduction process.

Pretreatment of Combustible Residues

The incinerator was designed to combust residues from TA-21, including paper, rags, wood, emery paper, rubber gloves, graphite, and plastics. The only materials combusted in the incinerator were from TA-21. The AK for this waste stream includes the constituents and EPA HWNs for the feed material to the incinerator. The incinerator off-gas scrub (e.g sodium hydroxide and potassium hydroxide) and the vacuum seal solutions (e.g. vacuum pump oil) were filtered and analyzed for plutonium content to determine if the solutions should be recycled or discarded. The ashes were collected, reduced in a ball mill, sampled for plutonium content, and leached in nitric acid or a combination of nitric and hydrofluoric acids or processed in a dissolver if the plutonium content was greater than the DL. The resulting nitrate solution was purified by anion exchange.

Pretreatment of Oils

Plutonium-contaminated lubricating, machining, lapping and cutting oils were recovered by filtering to remove plutonium metal or oxide particles. Trichloroethylene was used to reduce the viscosity of oils during the filtration step. The liquid was sent to the liquid waste treatment facility in Building 257 for treatment and is not part of this waste stream.

Dissolution

Dissolution generated a plutonium-nitrate solution for subsequent feed to a purification process. Dissolution involved nitric acid and hydrofluoric acid leach solutions, with the addition of chemicals such as aluminum nitrate, calcium fluoride, potassium nitrate, sodium nitrate and ferrous sulfamate for particular dissolution processes. Feed materials to dissolution included ash, glovebox sweepings, ground slag or crucibles, hydroxides, metal, oxides, residues, salts, and sand. Filtered solids from dissolution were leached until plutonium concentrations were below the DL, and then sent for disposal. Debris was disposed of after the plutonium contamination was removed from the surface by leaching. Plutonium-bearing solutions were sent on to purification or to the metal preparation line.

Hydrochloric acid solutions, chloride residues, and organics were often sent to the caustic dissolver. After dissolution, the solutions were filtered and then sent to purification. The filtered solids were sent to other dissolution processes if plutonium concentrations were above the DL or disposed as debris waste if concentrations were below the DL.

Surface Decontamination

Plutonium contaminated metal and noncombustible debris was recovered by leaching in nitric acid. Tantalum molds and crucibles, sintered glass frits, stainless steel filters, and aluminum oxide crucibles were cleaned with nitric and hydrofluoric acid. The acid was filtered, and the items were rinsed with water or dilute nitric acid. Rubber gloves were also decontaminated using cloths and nitric acid to recover plutonium. The cloths were rinsed in water and the water was collected and filtered. The solids were recycled through the dissolution process if plutonium concentrations were above the DL, or disposed as waste if concentrations were below the DL. The plutonium-bearing solutions were sent to purification. The cloths were reused or discarded as solid waste or sent to incineration, depending on the nuclear material content. Plutonium-bearing solutions (e.g. nitric and hydrofluoric acid) were sent to purification, while items below the DL were discarded.

Pickling

Pickling, or leaching with a strong acid (e.g., nitric acid or hydrochloric acid), was the pre-treatment for noncombustible items. Hydrochloric acid pickling solutions underwent nitric acid acidification. The plutonium-bearing nitrate pickling solution was then transferred to anion exchange.

Plutonium Metal and Alloys

Plutonium-bearing metal and alloys were dissolved in a standard leach solution of nitric and hydrofluoric acid after pretreatment. These materials included alloys, anodes, carbides, casting skulls, electrorefining residues (e.g. chloride melts and anode heels), and metals. After dissolution and filtration, solids were discarded if below the DL or recycled if above the DL, while solutions (potentially containing lead, cadmium, mercury, or chromium) of dissolved alloys were sent to purification. Plutonium-aluminum alloys included chromium, copper, gallium, hafnium, indium, iron, manganese, thorium, titanium, uranium, and zirconium. Depending on the plutonium alloy, dissolution might involve mercuric nitrate or hydrofluoric acid followed by helium sparging. Uranium-plutonium oxide mixtures were leached using nitric acid to dissolve the uranium. Aluminum nitrate was added to complex fluoride ions. The uranium-bearing filtrate was discarded, and the plutonium-bearing solids were sent to dissolution and then to either anion-exchange or the oxalate precipitation for purification.

Plutonium oxide

Plutonium oxide was dissolved dependant on the temperature at which the oxide was formed or to which it was heated. Oxides that were heated to less than 600 °C were dissolved in a nitric and hydrofluoric acid. Oxides heated to temperatures between 600 °C and 1000 °C were mixed with a potassium disulfate and sodium fluoride flux, which was then heated. The cooled melt was heated with a nitric acid and aluminum nitrate. The solution was filtered and sent to purification, depending on what types of cations were present.

Graphite

Graphite melt and crucibles were leached with nitric and hydrofluoric acid. Graphite used for filtering solutions and uncoated melt and mold crucibles were incinerated, and the ashes were leached with nitric and hydrofluoric acid.

Silica Solids

Silica entered the process stream from dissolution of crucibles, and leaching of silica from glass equipment. Acid-leached silica residues were dried and treated in hydrofluorination furnaces. The residues were leached with nitric acid and aluminum nitrate. All leach and scrub solutions containing more than one mg/L of plutonium were transferred to anion-exchange for further plutonium recovery and purification. Leach and scrub solutions less that one mg/L may contaminate this debris waste stream.

Acid Insoluble Residues

Acid insoluble residues included refractory oxides and residues for which leaching was uneconomical or infeasible. Examples of acid insoluble residues include incinerator ash, aluminum oxide tubes and crucibles, and carborundum solids. These residues were treated with a mixture of potassium pyrosulfate and sodium fluoride. The resulting melt was dissolved in a nitric acid and aluminum nitrate. The filtrate was purified by anion exchange.

Incinerator Ash

Incinerator ash was processed using nitric acid to remove the more soluble residues, a water leach to remove the nitric acid, hydrofluorination to the remove silica solids, and a fusion with potassium disulfate and sodium fluoride to remove the remaining plutonium.

Electrorefining Chloride Melts

Electrorefining chloride melts were leached with sodium hydroxide, and the plutonium was precipitated as hydroxide. The filtrate, if less than 1 mg/L in plutonium was discarded.
Reduction and Casting Residues

Residues from plutonium metal preparation consisted of MgO packing sand, reduction slag, and the MgO crucible. Slag and crucible material was placed into a dissolver. Nitric acid and aluminum nitrate was added to dissolve the MgO sand, and then air was sparged through the solution to aid in the oxidation of iodide to free iodine. The free iodine was carried through to sodium hydroxide scrubbers. The solution was filtered and sent to nitrate anion exchange. The leached residues were transferred to the hydrofluorination system. Casting residues were treated in a similar manner.

Purification

Plutonium-bearing solutions generated during dissolution were sent to purification for plutonium recovery. Purification consisted of ion exchange and precipitation. After ion exchange and/or dissolution of precipitates in nitric acid, plutonium nitrate solutions were sent to the metal fabrication line.

Plutonium Hydroxide Precipitation

The hydroxide precipitation process took plutonium in filtrate solutions from purification and precipitated it with potassium or sodium hydroxide. The resulting plutonium-enriched hydroxide cakes became feed material for other operations or were returned to the dissolution step for re-processing. Heavy metals (e.g. lead) were known to concentrate in the hydroxide cakes.

Plutonium Peroxide Precipitation

The peroxide precipitation process was used to separate plutonium from impurities such as aluminum, bismuth, calcium, cesium, chromium, cobalt, iron, lanthanum, and magnesium, as well as americium. Peroxide was added to the dissolution filtrate feed. The resulting peroxide filter cake was dissolved in nitric acid and the solution was sent to the metal preparation line for conversion to metal.

The filtrate solution was treated to destroy the excess peroxide (also referred to as the "peroxide kill" process). The filtrate was added to sodium hydroxide, cooled, and acidified with nitric acid to dissolve the hydroxides and provide a solution for the anion exchange process.

Plutonium Oxalate Precipitation

The oxalate precipitation process was used to separate plutonium from iron, aluminum, uranium, or other cations that formed soluble oxalates and to concentrate the plutonium. The resulting oxalate was calcined to the oxide, and the oxide was dissolved in nitric and hydrofluoric acid to produce a plutonium nitrate product.

Anion Exchange

Plutonium recovery operations utilized nitrate anion-exchange to scavenge, purify, and concentrate plutonium. The general procedure was to: get the plutonium into solution, sorb the plutonium on nitrate anion-exchange resin, elute the plutonium, and then determine if impurities required removal. The eluate was concentrated, if necessary, and the purified plutonium nitrate solution was sent to metal preparation.

The nitrate anion exchange processes used resin columns to sorb plutonium. The pH of solutions was adjusted with nitric acid and the plutonium was stabilized using hydrogen peroxide. Additional chemicals used included: aluminum nitrate, ferrous ammonium sulfate, hydrogen peroxide, sodium hydroxide, sodium nitrite, sulfuric acid, and urea. The column was washed with nitric acid to remove non-sorbed species. The plutonium remained on the resin until it was released using hydroxylamine nitrate. The released purified plutonium solution was then processed using precipitation and oxidation. Ion exchange resins were reconditioned using nitric acid. After ion exchange, plutonium solutions were sent to a precipitation process to convert the plutonium solution to plutonium oxalate. This process involved the addition of oxalic acid. The resulting oxalate was calcined to oxide, and was dissolved in nitric and hydrofluoric acid to produce plutonium nitrate.

Plutonium/Thorium Separation

Plutonium/thorium oxides were dissolved in a nitric and hydrofluoric acid solution to which sodium chromate and lanthanum nitrate were added. Thorium was removed from solution by addition of potassium fluoride or hydrogen fluoride to form thorium fluoride precipitate. After filtering out this precipitate, the plutonium and chromium was reduced using peroxide. Peroxide and sulfate were used to precipitate plutonium peroxide, which was subsequently dissolved in nitric acid to provide the nitrate feed for the metal preparation line.

Evaporator

The use of evaporators was developed at the DP West Facility and they were put into production when plutonium recovery operations were relocated to TA-55.

Pyrochemical Operations (Metal Production)

Pyrochemical operations included the metal preparation line, developmental direct oxide reduction, and electrorefining. Plutonium peroxide was precipitated from nitrate solution and converted to plutonium tetrafluoride in the metal production operations. The plutonium tetrafluoride was mixed with calcium metal and heated, leaving metallic plutonium that forms a disc or button. After cooling, the plutonium button was sent on to metal fabrication.

Metal Preparation Line

Plutonium nitrate solutions were processed in the metal production line using plutonium tetrafluoride with calcium. Plutonium peroxide was precipitated and converted to plutonium tetrafluoride. The plutonium tetrafluoride was combined with calcium metal and heated to reduce the plutonium tetrafluoride to plutonium metal and calcium fluoride. Once cooled, plutonium metal was recovered as a button by breaking the crucible and mechanically separating the contents. The waste products were calcium fluoride and calcium iodide, which formed a slag, and magnesium oxide sand and magnesium oxide

crucible pieces. The sand, slag, and crucibles were discarded if the plutonium content was below the DL. If the plutonium content was above the DL, the slag and crucible pieces were sent to recovery operations. The magnesium oxide sand was reused if possible.

Direct Oxide Reduction (DOR)

In the DOR process, plutonium oxide and calcium metal were reacted in molten calcium chloride or calcium chloride mixed with calcium fluoride, to produce plutonium metal. The reaction was conducted in a heated MgO crucible whereby arsenic, mercury, or selenium was driven off. After cooling, a plutonium metal button was removed. A layer of salt above the button contained unreacted oxide and metal shot, which was recovered by addition of fresh salt plus additional calcium metal. The process was then repeated. If the unreacted oxide and metal shot did not process after the second run, the material was sent to aqueous recovery. The salt was then either routed through aqueous chloride operations, or discarded as waste along with the calcium metal and MgO crucible pieces.

Electrorefining

The electrorefining process was used to produce high purity plutonium metal. Impure plutonium was cast, placed in a magnesium oxide crucible with a salt mixture, a metal cathode (typically tungsten), and a seeding reagent such as magnesium chloride or plutonium chloride. After the anode and salt melted, current was applied, and plutonium was oxidized. Impurities in the original plutonium anode that were more easily reduced than plutonium (including cadmium, chromium, lead, and silver) remained in the anode, while impurities more easily oxidized than plutonium (including americium and barium) were left in the molten salt. After cooling, the crucible was broken and the metal was removed.

Metal Operations (Production and Fabrication)

Metal operations consisted of metal production and metal fabrication, casting, machining, assembly and disassembly. The plutonium parts prepared in the metal fabrication operations were used for research programs at LANL.

Alloy Development

This process developed plutonium alloys. Plutonium metal was melted, cooled and observations were made on the success of the alloying process. Bromobenzene was used for density measurements and Freon TF was used to clean parts. This process generated rags, gloves, metal cups, and glovebox maintenance items.

Casting

The casting process received plutonium metal from pyrochemical operations or from the special recovery line. The metal was combined with other metal to produce a product that met purity and isotopic specifications. Specification metal was then cast with gallium metal, analyzed chemically to determine the gallium content, and the metal was placed into storage for future casting and machining

Chemical analysis was performed on parts rejected during inspection. If the rejected parts met the chemical requirements, the parts were blended with other metal. Those parts that did not meet the chemical specifications were cast into ingots, which were then sent for electrorefining. Casting skulls, which were small amounts of plutonium left on the furnace and crucible surfaces, were oxidized to plutonium oxide. This plutonium oxide was sent to aqueous recovery. Waste generated by casting included graphite molds, tantalum crucibles and funnels, tools, rags, gloves (leaded), gaskets, and small amounts of plastics and glass.

Machining and Metal Working

Machining and metal working involved operations performed on cast parts. Machining operations included turning, milling, grinding, and boring to bring the parts to their final dimensional specifications. Chemicals used as coolants during machining include Tap Magic™ (contains 1,1,1-trichloroethane) and Freon TF. Tap Magic™ use was discontinued in 1992, and Freon TF was discontinued in 1995. Methyl ethyl ketone, Metalprep 79 (a phosphoric acid-based metal cleaner), Freon TF, and trichloroethylene were used for cleaning and in machining operations and may contaminate the debris in this waste stream.

Physical Properties

This process involved the study of physical properties of alloys and components, including structural, magnetic, electronic, and metallurgical properties of actinide metals, alloys, and compounds from processes.

Pit Disassembly and Special Recovery Line

Pit disassembly involved the separation and sampling of pit assemblies using milling, turning, and grinding techniques. Pits were cut, and the shells were cleaned with copper wool and Freon TF. Scrap was sent to recovery or to waste management depending in whether the material was special nuclear material or not. After the shells were cleaned, tritium-contaminated water was poured over zeolite, a silica mineral absorbent, for disposal. Copper wool may be part of the debris in this waste stream and Freon TF may contaminate this waste.

Welding and Welding Leak Test

Welding operations consisted of the preparation and encapsulation of foils of U-233, neptunium (Np)-237, Am-241 and plutonium isotopes for use as neutron detectors. Metal oxide compounds were also used in detectors. The foils were welded or soldered into nickel, stainless steel, or copper capsules and leak-tested. The exterior of the capsule was cleaned with Freon TF.

Pu-239 Fuels Programs

The plutonium fuels programs consisted of two primary activities: Liquid Metal Fast Breeder Reactor (LMFBR) fuel production; and the Pu advanced fuels development. The LMFBR fuel program investigated the suitability of plutonium-containing ceramic materials for use in breeder reactors. At DP West, U-235/Pu-239 carbide fuel, Pu-239/thorium-232 carbide driver fuel and U-238 carbide blanket fuel were fabricated.

Ceramic Grade Plutonium Oxide Production

The production of plutonium oxide utilized aged plutonium metal. The impure plutonium metal was converted to an impure oxide by burning the metal. The impure oxide was dissolved in nitric and hydrofluoric acid, and separated from the americium by precipitation of the plutonium as peroxide. The americium remained in the filtrate, and was precipitated as the hydroxide by using sodium hydroxide to "kill" the peroxide. The plutonium peroxide precipitate was redissolved in nitric acid and further purification was achieved by precipitation of the oxalate. The oxalate precipitate was then calcined to purified plutonium oxide.

Advanced Fuels Fabrication

Enriched uranium oxide and plutonium oxide were mixed with graphite and stearic acid then pressed into briquettes during advanced fuel fabrication. The briquettes were then reduced to the carbide form and were then size reduced. The crushed/powdered oxide was mixed with stearic acid and polyethylene glycol, and nickel powder was added.

Advanced Fuels Pellet Preparation and Element Loading

Plutonium and uranium carbide powder was pressed into a pellet, heated to burn off stearic acid and polyethylene glycol, and small amounts of MolyKote™, a silicon-base lubricant, were used for hand pressing of pellets. Pellets were transferred to TA-35 for loading into fuel element(s). Compatibility testing, immersion density measurements, and metallographic inspection were performed at DP West.

Americium Processing Operations

Research on americium was carried out at DP Site West and americium and plutonium waste was commingled. Am-241 was processed for commercial applications such as smoke detectors and oil-well logging instrumentation. Am-241 was separated and purified from stockpiled material, byproduct feed from the Pu-239 oxide ceramic-grade fuel production line, and from the Hanford Ash material.

Solutions (nitric acid) containing high americium concentrations were "conditioned" with hydrogen peroxide, and americium hydroxide precipitate (cake) formed when the solutions were dripped into sodium hydroxide to kill the peroxide. Americium-containing hydroxide cake from the peroxide kill process was re-dissolved in nitric acid and concentrated through distillation. Silica gel was separated by filtration; air dried, and discarded as solid waste. Americium-containing filtrate was sent to purification.

The americium oxide production process received the hydroxide slurry from plutonium oxide production that was filtered and washed with sodium hydroxide. The filter cake was dissolved in nitric acid, and the nitric acid was passed through an anion exchange column. The plutonium was retained on the ion exchange resin and the americium passed, resulting in a purified americium solution. Plutonium was eluted using nitric acid then sent to ion exchange for recovery of the plutonium. The nitric acid solution from the americium purification process was distilled and sent to oxalate precipitation. High purity americium oxalate cakes underwent calcination. After filtration of the americium oxalate, the oxalate filtrate was sent to the hydroxide precipitation.

Pu-238 Processing

The Pu-238 processing operations involved the production of Pu-238 based heat sources along with the recovery of Pu-238 from processing residues and scrap materials. Sources were manufactured for both defense and non-defense activities. The programs included the Systems for Nuclear Auxiliary Power heat source, the artificial heart program and artificial heart heat source fuel, the Solid Solution Cermet fuel form, the Plutonia Molybdenum Cermet fuel form, the Plutonia-Iridium Cermet fuel form, and the Pure Plutonium Oxide fuel form.

Systems for Nuclear Auxiliary Power (SNAP)

Systems for Nuclear Auxiliary Power (SNAP) devices converted thermal energy from radioisotope decay into electrical energy. The Pu-238 heat sources were used to power unmanned weather stations, navigational buoys, satellites, and spacecraft instrumentation. The SNAP power sources also supported space electric power applications.

Artificial Heart Program

The Artificial Heart Program focused on developing an artificial heart powered by Pu-238. The Pu-238 feed material was purified at DP West using the same electrorefining process used to purify Pu-239 materials. The program was cancelled due to the possibility that Pu-238 could be released into the environment.

Solid Solution Cermet (SSC) Fuel Form

The Savannah River Laboratory prepared the solid solution cermet for the TRANSIT Project which consisted of Pu-238 and thorium oxide. The plutonium and thorium oxide were sampled heated, ball milled and combined into pellets. The pellet was sintered, crushed, measured for density, and screened. The granules were coated with molybdenum in the form either molybdenum hexafluoride or molybdenum pentachloride gas mixed with hydrogen gas. The molybdenum was reduced to metal and the hydrogen combined with the fluorine or chlorine to form hydrogen fluoride or hydrogen chloride gas. The halide gas was reacted with calcium oxide or calcium carbonate to form a calcium salt. The granules were then pressed into a disc and machined to their final dimensions.

Plutonia Molybdenum Cermet Fuel Form

The Plutonia Molybdenum Cermet fuel form replaced the SSC fuel form. The fabrication steps were similar to SSC process.

Plutonia-Iridium Cermet (PIC) Fuel Form

The PIC fuel form consisted of plutonium oxide and iridium. The fabrication began with iridium powder which was milled, ground, and mixed with several different slurry solutions consisting of ethanol, acetone, and camphor, dried, and blended to generate an electrostatic charge on the metal particles. Up to this point, the operation was conducted in a non-radioactive environment; therefore, no TRU waste was generated.

The plutonium oxide was then outgassed, ball-milled, granulated, passed through a mesh and fired. The iridium powder was sprinkled onto the plutonium oxide and mixed. The iridium-plutonium oxide charge was then pressed. The chemicals used in this process were camphor and acetone. The camphor volatilized when larger quantities of oxide were mixed together. The acetone and ethanol were vaporized when the iridium camphor cake was dried.

Pure Plutonium Oxide (PPO) Fuel Form

The use of cermet fuel form was replaced by the PPO fuel form. The sintered plutonia fuel was encapsulation in a metal such as iridium or platinum. The plutonium oxide was out-gassed, ball-milled, and pressed into pellets. The pellets were then crushed, screened, pressed, and sintered.

Artificial Heart Heat Source Fuel

Four fuel forms were researched and developed in the Artificial Heart Heat Source Fuel program: Pu-238 metal, Pu-238-3 atom % gallium (performed in TA-55 only and will not be discussed in this report), Pu-238 N-15 nitride, and Pu-238 O-16 oxide.

The medical-grade fuel forms were prepared by dissolving Pu-238 oxide in a nitric and hydrofluoric acid mixture, precipitating it as plutonium peroxide, and isolating the cake by filtration. After filtration, the peroxide was destroyed, and the hydrofluoric acid was neutralized using a hydroxide precipitation and filtration before the solution was transferred to the waste treatment plant at TA-21 East. The peroxide precipitate was converted to tetrafluoride and unreacted hydrogen fluoride gas was scrubbed with potassium hydroxide solution and the solution was sent to the same treatment plant. The plutonium fluoride was reduced to metal with calcium. The calcium fluoride and calcium iodide slag became either recoverable scrap or waste. The metal was cast into rods and electrorefined. The sodium chloride/potassium chloride salt and crucible became recoverable scrap for LANL. Finally, the electrorefined metal was cast into rods and encapsulated as the heat source.

Eventually the process was replaced by the direct oxide reduction process. That process involved the reduction of plutonium oxide to plutonium metal with calcium in molten calcium chloride/calcium fluoride

or plain calcium chloride salt to dissolve the resulting calcium oxide. The salt and crucible became a recoverable residue. The residue was re-introduced to the process as feed material.

The Pu-238 O-16 oxide was prepared using the electrorefined metal rods and converting them to plutonium hydride. The Pu-238 powder was reacted with O-16 water vapor, ball milled, screened, cold pressed, and crushed. Carbowax (a polymer of ethylene oxide) dissolved in trichloroethylene was added to the powder and pressed into a pellet, then sintered.

The Pu-238 N-15 nitride process was identical to the Pu-238 O-16 oxide process except that N-15 gas was reacted with the Pu-238 powder to form plutonium nitride.

Supporting Operations

Preparation of the fuel forms was only a portion of the Pu-238 heat source programs. In order to understand issues such as safety, possible reentry into the earth's atmosphere from outer space, launch accidents, and radiation exposure to an artificial heart recipient, it was necessary to determine the chemical, physical and radiation properties of those fuel forms.

The following supporting activities were performed at TA-21 West.

1) Powder Density Determination – This process was accomplished by mechanical means involving no hazardous materials.
2) Asymmetrical Thermal Ramp of a PIC Sphere - The stability of a PIC sphere was studied under conditions of thermal shock (e.g., heat).
3) Melting Points of plutonium oxide and molybdenum - This process involved measurements such as vapor pressures, heat of melting, and heat of sublimation for both materials. No chemicals were used in these measurements.
4) Thermal Diffusivity for PMC - No hazardous chemicals were used in these measurements.
5) Spectral Emissivity of PMC - No hazardous chemicals were used in these measurements.
6) X-ray Crystallography of the plutonium oxide - No hazardous chemicals were used in these determinations.
7) Chemical interactions of plutonium oxide and plutonium oxide-x – Involved interactions with water, hydrogen, oxygen, carbon, nitrogen, tantalum, tungsten, molybdenum, iridium, titanium, titanium oxide, hafnium, hafnium oxide, thorium, thorium oxide, zirconium and zirconium oxide. There was no use of hazardous materials in these studies.
8) Surface Temperature of SSC Discs – There was no use of hazardous materials.
9) Thermal Dilatometry Measurements of SSC - There was no use of hazardous materials.
10) Mass Spectrometer Study of vaporization of SSC fuel - There was no use of hazardous materials.
11) Thermal Stability of SSC Fuel in Air - There was no use of hazardous materials.
12) Thermoluminescent Dosimetry of Pu-238 heat sources - Dose rates were determined for both neutrons and gamma rays. No hazardous chemicals were used in the dosimetry.
13) Particle Size Determinations for Ball-milled Powders - This determination made use of a viscous solution called Sedisperse™ (a particle dispersion liquid) that possessed no hazardous constituents.
14) Oxygen Isotopic Exchange of Heat Source Pellets on Exposure to Oxygen, Dry Air, and Moist Air– No chemicals were used in this study.
15) Calorimetry of Heat sources to Determine Thermal Power - Small sources were measured in a calorimeter and larger ones in a water-bath calorimeter. No hazardous chemicals were employed.
16) Helium Release Studies on Encapsulated and Bare Heat Source Pellets. No hazardous chemicals were used in these studies.
17) Radon Release Study on an Encapsulated Heat Source - Aqua Regia employed to dissolve any radon decay daughters, but this was done outside the glovebox.

Miscellaneous and Special Processing

The miscellaneous and special processing operations included the development of new recovery processes, metallography, and preparation of isotopes. The overall goal of miscellaneous and special processing involved the study of operations associated with the purification, extraction, recovery, and characterization of actinides.

Development of New Recovery Processes

The development of new recovery processes involved actinide extraction, separation, and characterization R&D studies. These studies included the processing of hydroxide cake using experimental chemical and electrochemical techniques to investigate and improve upon existing extraction and separation processes and techniques (as described within this Generating Process section). The development of sensors and instrumentation for chemical analysis was also conducted under this process. In addition, purification studies were performed on a non-routine basis. These studies involved small scale research and trouble shooting of purification methods and used isotopic mixtures of plutonium, uranium, americium, and neptunium. Waste generated from this process included laboratory debris such as labware (e.g., glass, plastic, rubber, or metal materials and supplies), rags from general cleanup, spent solutions, and glovebox operations waste. Spent solutions included acids, bases and solvents used in the processes described within this Process Description Section. Spent solutions were either sent to TA-50 or Building 257. Glovebox operations waste included HEPA filters, glovebox gloves, glovebox windows, nuts, and washers.

Metallography

The purpose of the metallography operation was to characterize the microstructure of metallic or ceramic pieces to establish the quality of welds. Materials examined consisted of plutonium and uranium carbides, nitrides, and oxides, as well as zirconium and tantalum alloys, and stainless steel. Metal pieces (pellets) were cut, ground, mounted with epoxy (e.g. Epon Resin 8132), then cleaned with a solvent such as 1,1,1-trichloroethane, polished, and etched with several different chemical compounds (e.g. ammonium bifluoride, cerium nitrate, hydriodic acid). Waste generated from this process included stainless steel, standard glovebox maintenance items (e.g., rags, glovebox gloves, and HEPA filters), and grinding paper.

Preparation of Isotopes

The preparation of isotopes involved hydrofluorination to convert isotopic compounds of actinides to fluorides. The compounds were treated with hydrogen fluoride or fluorine gas to produce plutonium fluoride. The plutonium fluoride was mixed with calcium metal, and heated to form calcium fluoride and plutonium metal. A catalyst (e.g., iodine) was sometimes added to ensure a complete reaction. Waste generated from this operation included MgO sand, calcium fluoride, and MgO crucibles.

Decontamination and Decommissioning (D&D) Operations

D&D waste specific to this waste stream was generated from 1971 to 2000. Decontamination activities included the use of mechanical and chemical cleaning techniques such as brushing, stripping, washing with nonhazardous cleaning products such as water and Fantastik™, and wiping to remove contamination. Physical isolation and draining of equipment were also performed. Drained liquids were either treated at the liquid waste treatment facility or solidified with cement or an absorbent material (vermiculite, Waste Lock 770 {bentonite powder}, and zeolite, a silica mineral absorbent). Decommissioning activities included the removal and size reduction of contaminated gloveboxes, equipment, machinery, furnishings, and support systems, process piping and supports, tanks and ancillary equipment, and fixed equipment such as ducting, wires, conduits, electrical panels, and cabinets. Secondary waste such as combustibles, metal, and plastic generated during D&D activities is expected to be part of the waste.

No hazardous chemicals were added to the waste during the D&D activities. Commercially available, non-hazardous cleaning products, such as Fantastik™, and non-hazardous strippable coatings, such as ALARA 1146 and Sensor Coat, were used to remove loose contaminants. Water-based paint was often used to fix remaining contamination in place prior to demolition.

Waste Repackaging and Prohibited Item Disposition

Waste repackaging and prohibited item disposition is performed in three facilities. The first facility was established in 1979 at TA-50 as the Size Reduction Facility (SRF) to size reduce non-routine items such as decommissioned gloveboxes, ductwork, and process equipment to fit in 55-gallon drums or standard waste boxes (SWBs).

A plasma torch was commonly used during size reduction activities to cut up large items into manageable pieces. The SRF historically combined waste from multiple facilities and these containers will be identified and characterized under a separate TA-50 waste stream. As LANL TRU waste characterization and certification activities increased, the mission of the SRF was expanded to support TRU waste characterization.

In 1993, the name of the SRF was changed to the Waste Characterization, Reduction and Repackaging (WCRR) Facility to reflect the expanded remediation and repackaging mission. Size reduction operations at the WCRR Facility were discontinued around 1997. The second repackaging facility (the Decontamination and Volume Reduction [DVRS]]) operated for a short time in the early 2000s and is currently being prepared to resume operations. The DVRS facility will disassemble and process the plywood sheathing and the contents of Fiberboard Reinforced Plastic (FRP) containers. The DVRS will then repackage these wastes into standard containers that can be permanently disposed of at the appropriate disposal facilities. The third remediation and repackaging facility was established in 2006 at the TA-54 Dome, 231 Permacon and CCP personnel began observing these activities. Containers that fail to meet WIPP criteria are sent to the WCRR Facility or the Dome 231 Permacon to be safely remediated. These outside facilities are used to perform VE, repackaging, and prohibited item dispositioning of TRU waste. Some secondary waste generated during remediation/repackaging activities may be added to the waste containers including the absorbent Waste Lock 770, rags and wipes containing Fantastik used during decontamination, personal protective equipment, and rigid liner lids that have been cut into pieces.

Table 1 identifies the RCRA toxicity characteristic and listed constituents identified in this waste stream. These chemicals and constituents were used in processes and contaminate this waste. However, the chemical itself was not discarded in this waste stream as commercial chemical product, an off specification commercial chemical product, or a container residue or spill residue thereof (40 CFR 261.33).

Table 1 – Metals or organic TC and F-Listed Contaminants

Waste Stream LA-MHD04.001

Chemical	CAS Number	EPA Hazardous Waste Numbers
Arsenic	7440-38-2	D004
Barium	7440-39-3	D005
Benzene	71-43-2	F005
Cadmium	7440-43-9	D006
Carbon tetrachloride	56-23-5	F001
Chlorobenzene	108-90-7	F002
Chloroform	67-66-3	D022
Chromium	7440-47-3	D007
1,1,2-trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	F001, F002

Chemical	CAS Number	EPA Hazardous Waste Numbers
Lead	7439-92-1	D008
Mercury	7439-97-6	D009
Methyl ethyl ketone	78-93-3	F005
Methylene chloride	75-09-2	F001, F002
Pyridine	110-86-1	F005
Selenium	7782-49-2	D010
Silver	7440-22-4	D011
Tetrachloroethylene	127-18-4	F001, F002
Toluene	108-88-3	F005
Trichloroethylene	79-01-6	F001, F002
1,1,1-trichloroethane	71-55-6	F001, F002

RCRA Determinations - Hazardous Waste Determinations

Ignitability, Corrosivity, Reactivity

Waste generated in this waste stream does not qualify for the exclusions outlined in 40 CFR 260 or 261. Radiography and/or VE is used to confirm that the waste stream is not a liquid waste and does not contain explosives, non-radioactive pyrophoric materials, compressed gases, or reactive waste. Therefore, this waste stream does not exhibit the characteristic for ignitability (D001), corrosivity (D002), or reactivity (D003).

Ignitability

The waste does not meet the definition of ignitability as defined in 40 CFR 261.21. The waste is not a liquid or compressed gas, an ignitable compressed gas, or an oxidizer, and is not capable of causing fire through friction, absorption of moisture, or spontaneous chemical change. Radiography and/or VE are performed to confirm the absence of free liquids. Therefore, the hazardous waste number for ignitability (D001) does not apply to this waste stream (References C001, D001, D013, and D059).

Corrosivity

This waste does not meet the definition of corrosivity as defined in 40 CFR 261.22. The materials are not liquid and radiography and/or VE are performed to confirm the absence of free liquids. The materials in this waste stream are not corrosive and the characteristic of corrosivity (D002) does not apply to this waste stream (Reference D001, D002, D013, and D059).

Reactivity

This waste stream does not meet the definition of reactivity as defined in 40 CFR 261.23. The waste is stable and will not undergo violent chemical change. The waste will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The waste does not contain cyanides or sulfides in concentrations sufficient to generate toxic gases, vapors, or fumes. The waste is not capable of detonation or explosive reaction if subjected to a strong initiating source or if heated under confinement. The waste is not readily capable of explosive decomposition or reaction at standard temperature and pressure. The materials are not liquid and radiography and/or VE is performed to confirm that the waste is not liquid. The characteristic of reactivity does not apply to this waste stream. Therefore, the EPA hazardous waste number for reactivity (D003) is not assigned.

Debris in this waste stream may be contaminated with unspent calcium metal from DOR salts, but is not pyrophoric. LANL DOR salts have been evaluated for reactivity with water and pyrophoricity and they are not reactive or pyrophoric. (References D013 and D059).

Toxicity Characteristic

This waste stream exhibits the characteristic of toxicity per 40 CFR 261.24. The toxicity characteristic contaminants fall into two categories; metals and organics. Where a constituent has been identified and there is no quantitative data available to demonstrate that the concentration is below the regulatory threshold, the applicable EPA Hazardous Waste Number (HWN) is conservatively applied to the waste stream.

Arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), silver (D011), and chloroform (D022) have been identified as contaminants in this waste.

This waste stream is contaminated with toxicity characteristic organic compounds listed in 40 CFR 261.24. Chloroform (D022) has been identified as present in chloride operations reagents. Therefore, EPA hazardous waste number D022 is conservatively assigned to this waste stream.

Sources of the toxicity characteristic metals and organics assigned to waste stream LA-MHD04.001 are as follows:

- Arsenic (D004)- Contaminant of liquids, filtrates, ash, hydroxide cake and analytical solutions
- Barium (D005)- Contaminant of plutonium feed, ash, hydroxide cake, actinide separation waste, pyrochemical salts and analytical solutions
- Cadmium (D006) - Contaminant of plutonium feed, ash, anode heels, hydroxide cake, actinide separation waste and analytical solutions
- Chromium (D007) - Potassium chromate reagent
- Lead (D008) - Leaded gloves, shielding, discs
- Mercury (D009)- Catalyst in nitrate operations (mercuric nitrate)
- Selenium (D010)- Contaminant of liquids, filtrates, ash, hydroxide cake and analytical solutions
- Silver (D011) - Silver nitrate reagent
- Chloroform (D022) - Chloride operations reagent

The AK has identified the potential presence of toxicity characteristic organics, however the more specific F-listed EPA HWNs have been assigned to waste stream LA-MHD04.001 for the following constituents: benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), methyl ethyl ketone (D035), pyridine (D038), tetrachloroethylene (D039), and trichloroethylene (D040). These characteristic EPA HWNs are not assigned to the waste stream.

EPA HWNs D004, D005, D006, D007, D008, D009, D010, D011and D022 are conservatively assigned to waste stream LA-MHD04.001 (References C014, C015, C016, C023, D002, D004, D007, D009, D036, D037, D038, D039, D040, D041, D042, D050, D059, D065, DR001, M002, M010, P003 and P007).

Listed Waste

Waste stream LA-MHD04.001 is mixed with or derived from F-listed hazardous wastes from non-specific sources as listed in 40 CFR 261.31. F-listed solvents (1,1,1-trichloroethane, carbon tetrachloride, chlorobenzene, 1,1,2-trichloro,1,2,2-trifluoroethane, methylene chloride, methyl ethyl ketone, tetrachloroethylene and trichloroethylene) were used in TA-21 DP West processes and operations for cleaning, degreasing, and solvent properties. Benzene, pyridine, and toluene were used in actinide chemistry reagents. (References C014, C015, D002, D013, D036, D037, D038, D039, D040, D059, D065, DR001, M002, P003 and P007).

F003 solvents including acetone, butanol, ethyl ether, methanol, methyl isobutyl ketone, and xylene were used in TA-21 and contaminate the waste. These solvents are listed solely because they are ignitable in the liquid form. The waste stream does not exhibit the characteristic of ignitability because it is not liquid; therefore, F003 is not assigned.

The following F-listed constituents may contaminate the waste and are conservatively applied:

(F001)
Carbon tetrachloride, methylene chloride, 1,1,1-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoromethane (Freon TF), tetrachloroethylene, trichloroethylene

(F002)
Chlorobenzene, methylene chloride, 1,1,1-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoromethane (Freon TF), tetrachloroethylene, trichloroethylene

(F005)
Benzene, methyl ethyl ketone, pyridine, toluene

U, K, and P-Listed Chemicals

Waste stream LA-MHD04.001 is not mixed with or contaminated with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof (40 CFR 261.33). Waste stream LA-MHD04.001 is not mixed with or contaminated with any of the sources specified in 40 CFR 261.32.

Based on a review of the AK documentation, beryllium powder was not discarded in this waste stream. Any beryllium present is a result of residual contamination from machining operations (e.g. beryllium turnings). No source for pure unused beryllium powder has been identified and therefore P015 does not apply (References D013, D059, P003, and P007).

Hydrofluoric acid was used during sample dissolution; however, no unused acid or materials from spills of the acid were disposed of in this waste stream and U134 does not apply (References D004, D059, and D069).

Waste stream LA-MHD04.001 is therefore not assigned a P- or U-listed HWN (40 CFR 261.33). The waste stream is not a hazardous waste from any of the specific sources (K) listed in 40 CFR 261.32.

Headspace Gas/Volatile Organic Compound Information

Lot 1 from waste stream LA-MHD04.001 consists of 10 55-gallon drums for which all of the drums were analyzed for headspace gas. One target analyte (toluene) had a UCL_{90} value that exceeded the PRQL which is consistent with identification of this analyte in the AK. One TIC (methyl methylacrylate) was reported in Lot #1 but was not detected in greater that 25% of the samples. No additional EPA HWNs were added to the waste stream as a result of Head Space Gas Sampling (HSGS). The specifics of this information are included in the attached Characterization Information Summary report.

Conclusion

The following EPA hazardous waste numbers are assigned to this waste stream: D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, and F005.

Polychlorinated Biphenyls (PCBs)

Based on the review of AK, PCBs are not anticipated in this waste stream. Ballasts in fluorescent light fixtures could contain PCBs. Although, these light fixtures are outside the gloveboxes and are not expected to enter the TRU waste stream, it is possible that activities such as maintenance work or contamination events may have generated light ballasts in this waste stream. Ballasts and fixtures will be identified during RTR or VE. Containers identified with greater that 50 ppm PCBs will be managed and shipped in accordance with the PCB disposal requirements in the WIPP-WAC. Only PCB waste authorized under an EPA PCB waste disposal authorization will be present in this TRU waste stream.

Prohibited Items

The absence of prohibited items is determined and documented through acceptable knowledge and characterization activities. Radiography or VE is performed to verify the absence of prohibited items. The following items have been determined as not present in the waste:

- Liquid waste
- Non-radioactive pyrophoric materials
- Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, or other wastes
- Explosives or compressed gases
- Waste with PCBs not authorized under an EPA PCB waste disposal authorization
- Waste exhibiting the characteristics of ignitability, corrosivity, or reactivity
- Non-mixed hazardous wastes
- Waste that has ever been managed as high-level waste and waste from tanks specified in Table B-8 of the WIPP HWFP, unless specifically approved through a Class 3 permit modification.
- Any waste container from a waste stream (or waste stream lot) which has not undergone either radiographic or visual examination of a statistically representative subpopulation of the waste stream in each shipment, as described in the WIPP HWFP, Attachment B7.

Each container of waste is certified and shipped only after radiography and/or VE either:

- Did not identify any prohibited items in the waste container, or
- All prohibited items found in a waste container by radiography or VE are identified and corrected (i.e., eliminated or removed) through the site non-conformance reporting system.

Method for Determining Waste Material Parameter Weights per Unit of Waste

Waste material parameters (WMPs) for waste stream LA-MHD04.001 were derived from radioactive solid waste disposal record forms for 2,069 containers. Average, minimum, and maximum WMP weight percentages were estimated from the waste container inventory records for drums packaged from 1971 to 2000 and are representative of this waste stream. This evaluation is documented in a memorandum as required by CCP-TP-005, *CCP Acceptable Knowledge Documentation.* The results of the evaluation for waste stream LA-MHD04.001 are presented in Table 2.

Table 2. Waste Stream LA-MHD04.001 Waste Material Parameter Estimates

Waste Material Parameter	Average Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	25.7%	0.0 – 46.6 %
Aluminum-based Metals/Alloys	9.8%	0.0 – 17.8 %
Other Metals	19.7%	0.0 – 35.6 %
Other Inorganic Materials	5.6%	0.0 – 100.0 %
Cellulosics	16.7%	0.0 – 100.0%
Rubber	12.9%	0.0 – 45.9 %
Plastics (waste materials)	9.6 %	0.0 – 100.0 %
Organic Matrix	0.0%	0.0 – 0.0 %
Inorganic Matrix	0.0%	0.0 – 0.0 %
Soil/Gravel	0.0%	0.0 – 0.0 %
Total Inorganic Waste Avg.	60.80%	
Total Organic Waste Avg.	39.20%	

List of AK Sufficiency Determinations

No AK Sufficiency Determinations apply to this waste stream.

Transportation

This waste stream and its chemical constituents have been reviewed for consistency with listed TRUCON codes and they are consistent.

Beryllium is the result of residual contamination from machining operations. Therefore, small amounts of beryllium may contaminate this debris. The level of beryllium contamination in individual drums is anticipated to be less than one weight percent. Waste determined to contain greater than one percent beryllium will be managed in accordance with the WIPP-WAC and the CH-TRAMPAC.

Radionuclide Information

The two most prevalent radionuclides (by weight) in this waste stream based on AK are Pu-239 and U-238. The 10 WIPP tracked radionuclides are presented in Table 3 in addition to other radionuclides that, in aggregate, constitute 95% of the total radiological hazard.

Table 3. Summary of LA-MHD04.001 Radionuclides

WIPP Tracked Radionuclides	Additional Reported Radionuclides
Am-241	Cf-251
Pu-238	Cm-243
Pu-239	Co-56
Pu-240	Co-60
Pu-242	H-3
U-233	I-125
U-234	I-129
U-238	Na-22
Cs-137	Np-237
Sr-90	Pa-231
	Pd-210
	Pu-241
	Pu-244
	Ra-226
	Th-234
	U-235

Payload management will not be utilized for this waste stream.

Attachment 1 AK SOURCE DOCUMENTS, SUPPLEMENTAL DOCUMENTATION

Source Document Tracking Number	AK List	Title	Document Number	Revision	Publication Date
C001	S7	Interview of Tom Keenan: DP Connections Arising Out of the Pu-238 Space Heat Program and J. Foxx summary "Plutonium-238 Heat Source Fabrication for Space and Artificial Heart R&D Activities at TA-21 West and CMR Building from 1970 to 1978"	TWCP-19811/P2010-0778	NA	01/08/04 and 01/20/2004
C002	S7	Record of Communication with Jim Foxx - TA-21 Operations at Buildings 2,3,4,5 and 150 and Pu-238 questions.	TWCP-19433/P2010-0695	NA	01/08/04
C003	S7	Interview of Jim Foxx: DP, Pu-238 information at TA-21 West	TWCP-19812/P2010-0777	NA	01/08/04
C004	S7	Interview: TA-21 DP West Plutonium-238 Operations, 1970-1977, Production-scale Evaporator Not in operation	TWCP-19899	NA	02/17/04
C005	S7	Interview: TA-21 DP West Plutonium Processing Operations, 1970-1977, Waste Management Practices	TWCP-19901/P2010-0774	NA	02/17/04
C006	S7	TA-21 Processing in Reactor Fuel Development, e-mail to C. Smith	TWCP-22444/P2010-0899	NA	2-27-2004
C007	S7	Interview of J. Foxx: TA-21 DP West Plutonium Processing Operations, 1970-1977, Lack of Operating Procedures	TWCP-19902/P2010-0773	NA	02/17/04
C008	S5	WACCC Audit Finding #1 (April 27 - May 1, 1987)	MST-12-ARO-88-077, TWCP-03732, LA-UR-01-6170	NA	April 7, 1988
C009	S7	Interview of J. Foxx: TA-21 DP West Plutonium-238 Operations, 1970-1977, Purity of Pu-238 feed material, commingling of Pu-238 with other material types.	TWCP-19900/P2010-0561	NA	02/17/04
C011	S7	Interview of J. Foxx: TA-21 DP West Plutonium-238 Operations, 1970-1977, Production-scale Evaporator Not in Operation	TWCP-19899/P2010-0775	NA	02/17/04
C013	S7	[UCNI] Email to G. Miller, Re: AK Record [Response from Jim Foxx regarding bomb reduction and plutonium peroxide]	TWCP-19430/P2010-0889	NA	01/21/04
C014	S7	[UCNI] Answers to General Questions About Pyrochemical Salts, Posed by P. Rogers	TWCP-02502/P2010-0068	NA	06/08/99
C015	S7	Review Sheet Documenting An Interview With Jim Foxx on CLS-1 Solvents	TWCP-03547/P2010-0891	NA	09/23/99
C016	S7	Interview of Jim Foxx: All Process Wastes	TWCP-4166/LA-UR-03-7374	NA	10/17/00
C017	S7	Interview of J. Foxx: Sources of Cs-137 and Pa-231 in TA-55 TRU waste	LA-UR-01-6170, TWCP-05164	NA	04/02/01
C018	S7	Interview of J. Foxx: Sources of Cs-137, Pa-231, and Cm-244 in TA-55 Waste	LA-UR-01-6170, TWCP-05165	NA	04/11/01

C019	S7	Memo Assay of U-234	TWCP-09810/P2010-0115	NA	09/12/02
C020	S7	Memo regarding U-234 and Sr-90 Calculations for NDA Reporting	TWCP-12684/LA-UR-03-7054	NA	04/07/03
C023	NA	Interview of Jim Foxx: Answers to questions about various P/S codes	TWCP-4164/P2010-0109	NA	10/16/2000
D001	NA	Guidelines for the Interim Storage of AEC-Generated Solid Transuranic Wastes [Excerpt, thru p. 14]	LA-5645/TWCP-19772	NA	June 1974
D002	NA	Characterization of Transuranic Solid Wastes from a Plutonium Processing Facility	LA-5993-MS, TWCP-18938	NA	Jun-75
D004	S2, S5	A Review of Operating Experience at the Los Alamos Plutonium Electrorefining Facility, 1963-1977	LA-8943, TWCP-18938	NA	Dec-81
D007	NA	TA-55 Plutonium Facility Acceptable Knowledge Report -Process Acceptable Knowledge Report for Plutonium 238 Operations at TA-55	TWCP-15417, LA-UR-01-4200, LA-UR-02-1709	NA	8/7/2001
D009	NA	Acceptable Knowledge Report for Newly generated Waste from Metal/Pyrochemical Operations at TA-55	TWCP-15421, LA-UR-02-6906	NA	10/22/2002
D013	S7	Review Comments on Draft of TA-21 DP West Facility AK Operations Report	TWCP-22446	NA	3/23/04
D014	S3	Final Safety Analysis Report for TRANSIT RTG Volume 1, Reference Design Document - Intro and Table 1-1 only	TRW(A)-11464-0491, TWCP-19438	NA	3/1/1971
D017	S8, S12	Backlog Waste Reassessment Baseline Book	TWCP-02501, P2010-0670	NA	1/04/95
D023	S9	TRU Waste-Sampling Program	TWCP-19467, LA-10479-MS	NA	August 1985
D025	S2	Fused Salt Processing of Impure Plutonium Dioxide to High-Purity Plutonium Metal	TWCP-22580, LA-9154-MS	NA	January 1982
D027	S2	Direct Reduction of 238-PuO2 and 239-PuO2 to Metal	TWCP-22581, LA-9073	NA	02/1982
D029	S2	Six-Kilogram Scale Electrorefining of Plutonium Metal	TWCP-22582, LA-9469-MS	NA	September 1982
D036	NA	Process AK Report for Chloride Operations at TA-55, TWCP-15411	TWCP-AK-2.1-002, LA-UR-02-1710, LA-UR-01-2557	NA	05/17/2001and 03/31/2002
D037	NA	Process AK Report for Metal Operations Processes at TA- 55, TWCP-15412	TWCP-AK-2.1-003, LA-UR-01-2556, LA-UR-02-1716	NA	05/17/2001and 03/21/2002
D038	NA	Process AK Report for Miscellaneous Operations at TA-55, TWCP-15413	TWCP-AK-2.1-004, LA-UR-01-2559, LA-UR-02-1714	NA	05/17/2001, 06/18/2001, and 03/21/2002
D039	NA	Process AK Report for Nitrate Operations at TA-55, TWCP-15414	WCP-AK-2.1-005, LA-UR-01-2555, LA-UR-02-1715	NA	05/17/2001 and 03/21/2002

D040	NA	Process AK Report for Pyrochemical Processes at TA-55, TWCP-15415	TWCP-AK-2.1- 006, LA-UR-01-2558, LA-UR-02-1713	NA	05/18/2001 and 03/21/2002
D041	NA	Process AK Report for Special Processing at TA-55, TWCP-15416	TWCP-AK-2.1- 007, LA-UR-01- 2560, LA-UR-02-1712	NA	05/18/2001and 03/21/2003
D042	NA	Plutonium Processing at the Los Alamos Scientific Laboratory	LA-3542, TWCP-18950	NA	Apr-69
D047	S5	Plutonium-238 Space Electric Power Fuel Development Program	TWCP-21981, LA-4476	NA	3/31/1970
D048	S5	Helium Release of Pu-238-Molybdenum Cermet Fuel	TWCP-21980, LA-5820	NA	March 1975
D049	S5	Initial Development and Characterization of Plutonia-Iridium Cermets	TWCP-21979, LA-5255-MS	NA	5/1973
D050	S5	Data Sheets for PPO Radioisotopic Fuel	TWCP-21978, LA-5160-MS	NA	02/1973
D051	S5	The Relationship of Fabrication Parameters to selected Properties of PuO2 Radioisotopic Fuels	TWCP-21982, LA-5622-MS	NA	5/1974
D056	S9	Plutonium Scrap Processing at the Los Alamos Scientific Laboratory	TWCP-22583, LA-UR-80-835	NA	1980
D059	NA	Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility (Draft Report)	P2010-0608; TWCP 23596; AK-00-23	NA	7/8/2004
D060	S2	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams	AK-00-019	1	9/22/03
D065	NA	LANL Project 2010 Acceptable Knowledge Report -Acceptable Knowledge Operations Report for Plutonium-238 Processes at LANL Facilities	LANL Project 2010	NA	NA
D069	NA	A History of Waste Disposal at Technical Area 21, 1943 -1978	NA	NA	Mar-90
DR001	NA	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers	NA	NA	4/4/2007
M002	S6	An excerpt from Archive generator's databases 95drum	TWCP-06988	NA	10/25/01
M004	S6	TA-55 NMT Waste Management System (CONCERT Database)	n/a	NA	NA
M006	S6	FWO TRU Waste Management Database (AKIR Database)	n/a	NA	NA
M007	S6	Data Dictionary for the Facility and Waste Operations (FWO) TRU Waste Management ORACLE Database	TWCP-15206	NA	12/22/99
M008	S6	Exerpt from CONCERT Database		NA	01/04/05
M009	S6	AKIR Database Extracted DP West (TA-21) Radionuclides in Grams	AK-00-020	0	8/22/2006
M010	S10	Miscellaneous Material Safety Data Sheets (MSDSs) for Commercial Products and other Chemicals Identified in the TA-21 Processes	N/A	NA	Various
P001	S2	Plutonium Electrorefining	432-MMP/TWCP-2505	8	08/25/97

P002	S2	Button Breaking Press	317-CAS, TWCP-3541/MET-45	5	(no date listed)
P003	S2	Safe Operating Procedure for Pit Disassembly	397-SEC, TWCP-3541/MET-42	3	03/25/92
P004	S2	Measuring Physical Properties	116-MRD, TWCP-3541/MET-41	2	(no date listed)
P005	S2	Pit Disassembly	ATP/SRL-104, TWCP-3541/MET-51	0	08/08/95
P006	S2	Processing Material in the SRL Furnace	ATP/SRL-105, TWCP-3541/MET-52	0	08/08/95
P007	S2	Pit Disassembly	397-SRL, TWCP-3541/MET-53	4	07/22/94
P008	S2	Encapsulation of Radioactive Isotopes	353-WEL, TWCP-3541/MET-39	3	06/28/91
P009	S2	Operating Instructions, Procedures, and Equipment for the Los Alamos Plutonium Electrorefining Plant	TWCP-22445, LA-2981, LA-3118	NA	12/18/63 and 7/20/64
P010	S2	Prohibited Item Dispositioning in Dome 231 Permacon	TRU-DOP-0334	0 - 2	9/11/06-11/28/06
P011	S2	Processing Waste in the Waste Characterization Glovebox	EP-WCRR-WO-DOP-0233	5	7/16/07
P012	S2	Standard Waste Visual Examination and Prohibited Item Dispositioning	TRU-DOP-1709	2	9/28/06

Alphanumeric Designations

C Correspondence
D Documents
DR Discrepancy Resolution
M Miscellaneous
P Procedures and Published Documents
U Unpublished Documents

AK Numbers

S1 Process Design Documents
S2 Standard Operating Procedure
S3 Safety Analysis Reports
S4 Waste Packaging Logs
S5 Test plans/research project reports
S6 Site databases
S7 Information from site personnel
S8 Standard industry documents
S9 Previous analytical data
S10 Material safety data sheets
S11 Laboratory Notebooks
S12 Comparable or surrogate sampling and analysis data
S13 Other
NA Not a supplemental source document, but cited in the AK Summation

Washington
TRU Solutions LLC

WRES:08:197
UFC:5822.00

May 14, 2008

Mr. D. H. Haar, Manager
Central Characterization Project
Washington TRU Solutions LLC
P. O. Box 2078
Carlsbad, NM 88221-2078

Subject: TRANSMITTAL OF APPROVED CENTRAL CHARACTERIZATION PROJECT WASTE STREAM PROFILE FORM NUMBER LA-MHD04.001, HETEROGENEOUS DEBRIS FROM THE TA-21 DP WEST FACILITY.

Dear Mr. Haar:

Washington TRU Solutions LLC, on behalf of the Permittees, has evaluated the Central Characterization Project (CCP) Waste Stream Profile Form (WSPF) Number LA-MHD04.001, Heterogeneous Debris from the TA-21 DP West Facility.

We have concluded that the WSPF is complete and that the waste stream determination was made in accordance with applicable procedures and guidance.

The Permittees therefore approve the WSPF as submitted. Using the methods approved for CCP- LANL, CCP- LANL may enter the data into the certification and shipping modules of the WIPP Waste Information System.

If you have any questions, please contact me at (505) 234-7545.

Sincerely,

for W. M. Wierzbicki, Manager
Regulatory Compliance

KSG:dg

cc:	C. Fesmire, CBFO	ED
	C. Gadbury, CBFO	ED
	D. S. Miehls, CBFO	ED
	M. P. Navarrete, CBFO	ED
	K. Watson, CBFO	ED
	P. Gilbert, LANL	ED
	CBFO	M&RC
	WIPP Operating Record	452-09

Washington
TRU Solutions LLC

WRES:08:198
UFC:5822.00

May 14, 2008

Mr. J. Bearzi, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: TRANSMITTAL OF APPROVED CENTRAL CHARACTERIZATION PROJECT WASTE STREAM PROFILE FORM NUMBER LA-MHD04.001, HETEROGENEOUS DEBRIS FROM THE TA-21 DP WEST FACILITY

Dear Mr. Bearzi:

Washington TRU Solutions LLC, on behalf of the Permittees, has approved the Central Characterization Project Waste Stream Profile Form Number LA-MHD04.001, Heterogeneous Debris from the TA-21 DP West Facility.

Enclosed is a copy of the approved form as required by Section B-5a of the WIPP Hazardous Waste Facility Permit, No. NM4890139088-TSDF.

If you have any questions on this matter, please contact me at (575) 234-7545.

Sincerely,

W. M. Wierzbicki, Manager
Regulatory Compliance

KSG:dag

Enclosure

cc: (without enclosure)

J. Kieling, NMED	ED	WIPP Operating Record	486-06
S. Zappe, NMED	ED		
C. Fesmire, CBFO	ED		
C. Gadbury, CBFO	ED		
G. Sena, CBFO	ED		
K. Watson, CBFO	ED		
W. Ledford, CTAC	ED		
P. Gilbert, LANL	ED		
C. Walker, TechLaw	ED		
CBFO	M&RC		

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:13:01497
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: October 24, 2013

FROM: V. M. Waldram V.M. Waldram LOCATION: CCP Certification

TO: NTPC Records Custodian GSA-212 LOCATION: National TRU Program Certification

SUBJECT: TRANSMITTAL OF LOS ALAMOS NATIONAL LABORATORY CHARATERIZATION INFORMATION SUMMARY FOR CCP-AK-LANL-010, WASTE STREAM #LA-MHD04.001, LOT 26, LOT 27, LOT 28, LOT 29, LOT 30, LOT 31, LOT 32, LOT 33, LOT 34, LOT 35, LOT 36, LOT 37, LOT 38, LOT 39, LOT 40, LOT 41, LOT 42, LOT 43, LOT 44, LOT 45, and LOT 46

Please accept the attached Los Alamos National Laboratory Characterization Information Summary to be placed in Records for CCP-AK-LANL-010, Waste Stream #LA-MHD04.001, Lot 26, Lot 27, Lot 28, Lot 29, Lot 30, Lot 31, Lot 32, Lot 33, Lot 34, Lot 35, Lot 36, Lot 37, Lot 38, Lot 39, Lot 40, Lot 41, Lot 42, Lot 43, Lot 44, Lot 45, and Lot 46.

VMW:jmc

Attachment

cc: (without attachment)
T. A. Groover ED
M. W. Pearcy ED
C. E. Simmons ED

NTPC RECORDS ORIGINAL
DATE REC'D 12/30/13

COPY

P.O. Box 2078 • Carlsbad, New Mexico USA 88221-2078
Phone: (575) 234-7200 • Fax: (575) 234-7083

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD04.001

Lot 26

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 004

CCP Headspace Gas UCL_{90} Evaluation Form..... 005

Headspace Gas Summary Data..... 007

RTR/VE Summary of Prohibited Items and AK Confirmation..... 008

Reconciliation with Data Quality Objectives..... 009

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 26

AK Expert Review: N/A Date: N/A

SPM Review: Jim Eastham Date: 6/17/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 8	11/30/06	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 14	08/01/12	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Headspace Gas Sampling and Analysis (HSG):

CCP-TP-129	Rev. 4	05/24/06	CCP Headspace Gas Sampling and Analysis Batch Data Report Preparation (Entech/Agilent)
CCP-TP-131	Rev. 2	03/31/05	CCP Manual Headspace Gas Sampling of TRU Waste Containers for the Entech/Agilent Analytical System
ACMM-9910	Rev. 7	04/24/06	Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-173	Rev. 0	05/03/07	CCP Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-173	Rev. 1	09/30/09	CCP Analysis of Gas Samples for VOCs by GC/FID
ACMM-9930	Rev. 9	02/16/06	Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 0	05/02/07	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 1	03/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 2	12/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 3	08/02/11	CCP Analysis of Gas Samples for VOCs by GC/MS

Visual Examination (VE):

CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/09	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/11	CCP Contact-Handled Standard Waste Visual Examination

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification

C15-02

CCP Characterization Information Summary Cover Page

CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/08	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	09/09/201	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 19	11/16/06	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS Data Entry

WAP Certification:

CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 5	11/16/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/07	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/12	CCP/Los Alamos National Laboratory (LANL) Interface Document

C15-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 26

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		
93641	LA00000093641	3LANDA0175	LA-HERTR-13-0060	N/A	N/A	N/A	N/A	LA13FG2061	N/A	N/A	N/A

Signature of Site Project Manager

Jim Eastham
Printed Name

6/17/2013
Date

CIS-04

CCP Solids Analysis VOC UCL90 Evaluation Form

WSPF #: LA-MHD04.001 **Head Space Gas Summary Number** 1 through 2

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
Benzene	Log	5	11	0.00	-2.40	1.26	-1.87	10	2.30		
Bromoform	Log	0	11	-2.59	-4.15	0.68	-3.87	10	2.30		
Carbon tetrachloride	Log	0	11	-2.47	-3.85	0.58	-3.61	10	2.30		
Chlorobenzene	Log	0	11	-2.30	-3.52	0.58	-3.28	10	2.30		
Chloroform	Log	2	11	-0.84	-3.30	1.14	-2.82	10	2.30		
Cyclohexane [a]	Log	3	11	-0.80	-2.83	1.09	-2.38	10	2.30		
1,1-Dichloroethane	Log	0	11	-2.12	-3.37	0.57	-3.14	10	2.30		
1,2-Dichloroethane	SQRT	0	11	0.31	0.19	0.06	0.22	10	3.16		
1,1-Dichloroethylene	Log	0	11	-1.77	-3.15	0.58	-2.91	10	2.30		
cis-1,2-Dichloroethylene	Log	0	11	-2.21	-3.38	0.62	-3.13	10	2.30		
trans-1,2-Dichloroethylene	Log	0	11	-1.83	-3.29	0.62	-3.03	10	2.30		
Ethyl benzene	Log	2	11	-1.08	-3.07	0.90	-2.69	10	2.30		
Ethyl ether	Log	0	11	-1.77	-3.17	0.58	-2.93	10	2.30		
Methylene chloride	Log	7	11	-0.80	-1.96	0.92	-1.58	10	2.30		
1,1,2,2-Tetrachloroethane	Log	0	11	-1.69	-3.33	0.74	-3.03	10	2.30		
Tetrachloroethylene	Log	3	11	-2.04	-3.42	0.68	-3.14	10	2.30		
Toluene	Log	10	11	3.83	0.54	2.55	1.59	10	2.30		
1,1,1-Trichloroethane	Log	4	11	0.00	-2.89	1.35	-2.33	10	2.30		
Trichloroethylene	Log	5	11	0.88	-2.87	1.43	-2.28	10	2.30		
1,1,2-Trichloro-1,2,2-trifluoroethane	Log	1	11	-2.53	-3.79	0.56	-3.56	10	2.30		
1,2,4-Trimethylbenzene[a]	Log	0	11	-2.12	-3.44	0.59	-3.19	10	2.30		
1,3,5-Trimethylbenzene[a]	Log	0	11	-2.12	-3.49	0.59	-3.24	10	2.30		
m,p-Xylene[b]	Log	2	11	-2.16	-3.35	0.47	-3.16	10	2.30		
o-Xylene	Log	1	11	-2.41	-3.45	0.50	-3.24	10	2.30		
Acetone	Log	10	11	2.40	0.11	1.47	0.72	100	4.61		
1-Butanol	Log	7	11	0.18	-1.73	1.13	-1.27	100	4.61		
Methanol	No	0	11	8.00	7.59	0.44	7.77	100	N/A		
Methyl ethyl ketone	Log	6	11	0.10	-1.73	1.02	-1.31	100	4.61		
Methyl isobutyl ketone	Log	0	11	-2.21	-3.49	0.56	-3.26	100	4.61		

Q15-05

CCP Solids Analysis VOC UCL90 Evaluation Form

WSPF #: LA-MHD04.001 **Head Space Gas Summary Number** 1 through 2

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
Chloromethane	Log	3	11	1.31	-1.82	1.93	-1.02	10	2.30		
Carbon Disulfide	Log	3	11	-1.97	-3.08	0.69	-2.79	10	2.30		
1,2-Dichloropropane	Log	0	11	-2.12	-3.62	0.66	-3.34	10	2.30		
Trichlorofluoromethane	Log	0	11	-1.58	-3.38	0.84	-3.04	10	2.30		
Formaldehyde[c]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydrazine[d]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[a] These compounds are from the TRAMPAC and are flammable VOCs that do not appear in the QAPjP or the WIPP WAP. These are not part of the target analyte list, but samples may be analyzed for these compounds.
[b] These xylene isomers cannot be resolved by the analytical methods employed in the program. m-Xylene and p-Xylene will be reported as "Total m-p-Xylene."
[c] Required only for homogenous solids and soil/gravel waste from Savannah River Site.
[d] Required only for homogenous solids and soil/gravel waste from Oak Ridge National Laboratory and Savannah River Site.

Comments:

(1) For analytes where there were no samples measured above the MDL value, 1/2 of the MDL value was used. (Per section B4 of the WAP, 1/2 of the MDL value is used in calculating the mean concentration.)

Signature of Site Project Manager

Jim Eastham
Printed Name

6/17/2013
Date

CS-06

CCP Headspace Gas Summary Data

Waste Stream Number LA-MHD04.001 Lot Number (s) 26

Tentatively Identified Compound	Maximum Observed Estimated Concentrations (ppmv)	# Samples Containing TIC	% Detected
Methyl methylacrylate	0.08	1	9.09%
Data Supports EPA Hazardous Waste Numbers Assigned by AK? Yes ☑ No ☐			
If no, describe the basis for assigning the EPA Hazardous Waste Codes:			

SPM Signature _____ Date 6/17/2013

C15-07

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot(s)#: 26

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.

a. See Batch Data Reports
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Jim Eastham (Printed Name) | 6/17/2013 (Date)

C/S-08

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 26

Sampling Completeness

RTR/VE

Number of Valid Samples: 1 Number of Total Samples Analyzed: 1
Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 1 Number of Total Samples Collected: 1
Percent Complete: 100 (QAO is 100%)

HSG

Number of Valid Samples: 11 Number of Total Samples Collected: 11
Percent Complete: 100 (QAO is ≥90%)
Number of Valid Samples: 11 Number of Total Samples Analyzed: 11
Percent Complete: 100 (QAO is ≥90%)

Total VOC

Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

Total SVOC

Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

Total Metals

Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

01-5-09

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 26

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
5	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
6	Y	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for each VOC in the HSG of each container were calculated and compared with the program required quantitation limits, as reported in CCP-TP-003, Attachment 3, and additional U.S.Environmental Protection Agency (EPA) Hazardous Waste Numbers were assigned as required. Samples were randomly collected (when appropriate).
7a	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for solids VOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 4, and additional EPA HWN were assigned as required. Samples were randomly collected.
7b	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for solids SVOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 5, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7c	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for total metals were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 6, and additional EPA HWNs were assigned as required. Samples were randomly collected.

C15-10

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 26

8	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
9	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
10	Y	Waste stream can be classified as hazardous or nonhazardous at the 90-percent confidence level.
11	Y	Appropriate packaging configuration and Drum Age Criteria (DAC) is applied and documented in the headspace gas sampling documentation, and the drum age met prior to sampling.
12	Y	TICs were appropriately identified and reported in accordance with the requirements of Section C3-1 of the QAPjP.
13	Y	The PRQLs for headspace gas VOCs were met for all analyses as evidenced by the analytical batch data reports.
14		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	Y	Y	Y
Headspace Gas Analysis	Y	Y	Y
Solids Sampling	NA	NA	NA
Solids VOCs	NA	NA	NA
Solids SVOCs	NA	NA	NA
Solids Metals	NA	NA	NA

Comments: None

Signature of Site Project Manager | Jim Eastham, Printed Name | 6/17/2013, Date

C15-11

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD04.001

Lot 27

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 004

CCP Headspace Gas UCL_{90} Evaluation Form..... 005

Headspace Gas Summary Data..... 007

RTR/VE Summary of Prohibited Items and AK Confirmation..... 008

Reconciliation with Data Quality Objectives..... 009

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 27

AK Expert Review: N/A Date: N/A

SPM Review: Joshua Houghton Date: 6/19/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/13	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 8	11/30/06	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 14	08/01/12	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Headspace Gas Sampling and Analysis (HSG):

CCP-TP-129	Rev. 4	05/24/06	CCP Headspace Gas Sampling and Analysis Batch Data Report Preparation (Entech/Agilent)
CCP-TP-131	Rev. 2	03/31/05	CCP Manual Headspace Gas Sampling of TRU Waste Containers for the Entech/Agilent Analytical System
ACMM-9910	Rev. 7	04/24/06	Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-173	Rev. 0	05/03/07	CCP Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-173	Rev. 1	09/30/09	CCP Analysis of Gas Samples for VOCs by GC/FID
ACMM-9930	Rev. 9	02/16/06	Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 0	05/02/07	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 1	03/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 2	12/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 3	08/02/11	CCP Analysis of Gas Samples for VOCs by GC/MS

Visual Examination (VE):

CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/09	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/11	CCP Contact-Handled Standard Waste Visual Examination

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 21	06/06/13	CCP Project Level Data Validation and Verification

CCP Characterization Information Summary Cover Page

CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/08	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	09/09/201	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 19	11/16/06	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 21	05/31/13	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 27	05/31/13	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 5	11/16/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/07	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/12	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001

Lot # 27

Container ID Number	Historical Container ID	NOA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		
93737	LA00000093737	3LANDA0177	LA-HERTR-13-0068	N/A	N/A	N/A	N/A	LA13FG2072	N/A	N/A	N/A
93754	LA00000093754	3LANDA0176	LA-HERTR-13-0067	N/A	N/A	N/A	N/A	LA13FG2067	N/A	N/A	N/A

Signature of Site Project Manager

Joshua Houghton
Printed Name

6/19/2013
Date

CTS-001

JH 6-19-13

CCP Solids Analysis VOC UCL90 Evaluation Form

WSPF #: LA-MHD04.001 **Head Space Gas Summary Number** 1 through 2

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
Benzene	Log	5	11	0.00	-2.40	1.26	-1.87	10	2.30		
Bromoform	Log	0	11	-2.59	-4.15	0.68	-3.87	10	2.30		
Carbon tetrachloride	Log	0	11	-2.47	-3.85	0.58	-3.61	10	2.30		
Chlorobenzene	Log	0	11	-2.30	-3.52	0.58	-3.28	10	2.30		
Chloroform	Log	2	11	-0.84	-3.30	1.14	-2.82	10	2.30		
Cyclohexane [a]	Log	3	11	-0.80	-2.83	1.09	-2.38	10	2.30		
1,1-Dichloroethane	Log	0	11	-2.12	-3.37	0.57	-3.14	10	2.30		
1,2-Dichloroethane	SQRT	0	11	0.31	0.19	0.06	0.22	10	3.16		
1,1-Dichloroethylene	Log	0	11	-1.77	-3.15	0.58	-2.91	10	2.30		
cis-1,2-Dichloroethylene	Log	0	11	-2.21	-3.38	0.62	-3.13	10	2.30		
trans-1,2-Dichloroethylene	Log	0	11	-1.83	-3.29	0.62	-3.03	10	2.30		
Ethyl benzene	Log	2	11	-1.08	-3.07	0.90	-2.69	10	2.30		
Ethyl ether	Log	0	11	-1.77	-3.17	0.58	-2.93	10	2.30		
Methylene chloride	Log	7	11	-0.80	-1.96	0.92	-1.58	10	2.30		
1,1,2,2-Tetrachloroethane	Log	0	11	-1.69	-3.33	0.74	-3.03	10	2.30		
Tetrachloroethylene	Log	3	11	-2.04	-3.42	0.68	-3.14	10	2.30		
Toluene	Log	10	11	3.83	0.54	2.55	1.59	10	2.30		
1,1,1-Trichloroethane	Log	4	11	0.00	-2.89	1.35	-2.33	10	2.30		
Trichloroethylene	Log	5	11	0.88	-2.87	1.43	-2.28	10	2.30		
1,1,2-Trichloro-1,2,2-trifluoroethane	Log	1	11	-2.53	-3.79	0.56	-3.56	10	2.30		
1,2,4-Trimethylbenzene[a]	Log	0	11	-2.12	-3.44	0.59	-3.19	10	2.30		
1,3,5-Trimethylbenzene[a]	Log	0	11	-2.12	-3.49	0.59	-3.24	10	2.30		
m,p-Xylene[b]	Log	2	11	-2.16	-3.35	0.47	-3.16	10	2.30		
o-Xylene	Log	1	11	-2.41	-3.45	0.50	-3.24	10	2.30		
Acetone	Log	10	11	2.40	0.11	1.47	0.72	100	4.61		
1-Butanol	Log	7	11	0.18	-1.73	1.13	-1.27	100	4.61		
Methanol	No	0	11	8.00	7.59	0.44	7.77	100	N/A		

CTS-005

CCP Solids Analysis VOC UCL90 Evaluation Form

WSPF #: LA-MHD04.001 **Head Space Gas Summary Number** 1 through 2

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
Methyl ethyl ketone	Log	6	11	0.10	-1.73	1.02	-1.31	100	4.61		
Methyl isobutyl ketone	Log	0	11	-2.21	-3.49	0.56	-3.26	100	4.61		
Chloromethane	Log	3	11	1.31	-1.82	1.93	-1.02	10	2.30		
Carbon Disulfide	Log	3	11	-1.97	-3.08	0.69	-2.79	10	2.30		
1,2-Dichloropropane	Log	0	11	-2.12	-3.62	0.66	-3.34	10	2.30		
Trichlorofluoromethane	Log	0	11	-1.58	-3.38	0.84	-3.04	10	2.30		
Formaldehyde[c]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydrazine[d]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[a] These compounds are from the TRAMPAC and are flammable VOCs that do not appear in the QAPjP or the WIPP WAP. These are not part of the target analyte list, but samples may be analyzed for these compounds.
[b] These xylene isomers cannot be resolved by the analytical methods employed in the program. m-Xylene and p-Xylene will be reported as "Total m-p-Xylene."
[c] Required only for homogenous solids and soil/gravel waste from Savannah River Site.
[d] Required only for homogenous solids and soil/gravel waste from Oak Ridge National Laboratory and Savannah River Site.

GTS-CCC

Comments:

(1) For analytes where there were no samples measured above the MDL value, 1/2 of the MDL value was used. (Per section B4 of the WAP, 1/2 of the MDL value is used in calculating the mean concentration.)

Signature of Site Project Manager

Joshua Houghton
Printed Name

6/19/2013
Date

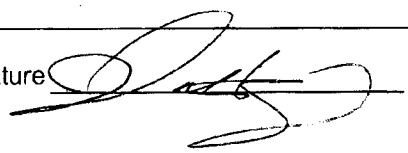
CCP Headspace Gas Summary Data

Waste Stream Number LA-MHD04.001 Lot Number (s) 27

Tentatively Identified Compound	Maximum Observed Estimated Concentrations (ppmv)	# Samples Containing TIC	% Detected
Methyl methylacrylate	0.08	1	9.09%

Data Supports EPA Hazardous Waste Numbers Assigned by AK? Yes ☑ No ☐

If no, describe the basis for assigning the EPA Hazardous Waste Codes:

SPM Signature  Date 6/19/2013

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot(s)#: 27

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.

a. See Batch Data Reports
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Joshua Houghton Printed Name | 6/19/2013 Date

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 27

Sampling Completeness

RTR/VE
Number of Valid Samples: 2 Number of Total Samples Analyzed: 2
Percent Complete: 100 (QAO is 100%)

NDA
Number of Valid Samples: 2 Number of Total Samples Collected: 2
Percent Complete: 100 (QAO is 100%)

HSG
Number of Valid Samples: 11 Number of Total Samples Collected: 11
Percent Complete: 100 (QAO is ≥90%)
Number of Valid Samples: 11 Number of Total Samples Analyzed: 11
Percent Complete: 100 (QAO is ≥90%)

Total VOC
Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

Total SVOC
Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

Total Metals
Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 27

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
5	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
6	Y	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for each VOC in the HSG of each container were calculated and compared with the program required quantitation limits, as reported in CCP-TP-003, Attachment 3, and additional U.S.Environmental Protection Agency (EPA) Hazardous Waste Numbers were assigned as required. Samples were randomly collected (when appropriate).
7a	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for solids VOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 4, and additional EPA HWN were assigned as required. Samples were randomly collected.
7b	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for solids SVOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 5, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7c	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for total metals were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 6, and additional EPA HWNs were assigned as required. Samples were randomly collected.

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 27

8	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
9	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
10	Y	Waste stream can be classified as hazardous or nonhazardous at the 90-percent confidence level.
11	Y	Appropriate packaging configuration and Drum Age Criteria (DAC) is applied and documented in the headspace gas sampling documentation, and the drum age met prior to sampling.
12	Y	TICs were appropriately identified and reported in accordance with the requirements of Section C3-1 of the QAPjP.
13	Y	The PRQLs for headspace gas VOCs were met for all analyses as evidenced by the analytical batch data reports.
14		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	Y	Y	Y
Headspace Gas Analysis	Y	Y	Y
Solids Sampling	NA	NA	NA
Solids VOCs	NA	NA	NA
Solids SVOCs	NA	NA	NA
Solids Metals	NA	NA	NA

Comments: None

Signature of Site Project Manager | Joshua Houghton (Printed Name) | 6/19/2013 (Date)

CES-011
~~Page 11 of 16~~
JH 6-19-13

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD04.001

Lot 28

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 004

RTR/VE Summary of Prohibited Items and AK Confirmation..... 005

Reconciliation with Data Quality Objectives..... 006

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 28

AK Expert Review: N/A Date: N/A

SPM Review: Jim Eastham Date: 6/28/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/13	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 8	11/30/06	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 14	08/01/12	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Visual Examination (VE):

CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/09	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/11	CCP Contact-Handled Standard Waste Visual Examination

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 21	06/06/13	CCP Project Level Data Validation and Verification

C15-02

CCP Characterization Information Summary Cover Page

CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/08	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 26	06/19/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	09/09/201	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/13	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 19	11/16/06	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/13	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 21	05/31/13	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 27	05/31/13	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 5	11/16/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/07	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/12	CCP/Los Alamos National Laboratory (LANL) Interface Document

C15-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 28

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	FG BDRs
93756	LA00000093756	3LANDA0178	LA-HERTR-13-0072	N/A	LA13FG2073
93769	LA00000093769	3LANDA0179	LA-HERTR-13-0072	N/A	LA13FG2074
93771	LA00000093771	3LANDA0178	LA-HERTR-13-0072	N/A	LA13FG2074
93776	LA00000093776	3LANDA0179	LA-HERTR-13-0073	N/A	LA13FG12054
93777	LA00000093777	3LANDA0178	LA-HERTR-13-0072	N/A	LA13FG12054

Signature of Site Project

Jim Eastham
Printed Name

6/28/2013
Date

C15-04

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot(s)#: 28

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: Containers in this waste stream were characterized using RTR. RTR was selected as the characterization method for the containers because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for waste stream LA-CIN01.001.			

Site Project Manager Signature — Jim Eastham, Printed Name — 6/28/2013, Date

CIS-05

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 28

Sampling Completeness

RTR/VE

Number of Valid Samples: 5 Number of Total Samples Analyzed: 5

Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 5 Number of Total Samples Collected: 5

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The Transuranic (TRU) activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 *Code of Federal Regulations* (CFR), Part 261, *Identification and Listing of Hazardous Waste*, Subpart C, *Characteristics of Hazardous Waste.*
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	Y	Y	Y

Comments: None

Jim Eastham — Signature of Site Project Manager

Jim Eastham — Printed Name

6/28/2013 — Date

C15-06

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001

Lot 29

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 29

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 07/11/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Headspace Gas Sampling and Analysis (HSG):

ACMM-9910	Rev. 7	04/24/2006 Analysis of Gas Samples for VOCs by GC/FID
ACMM-9930	Rev. 9	02/16/2006 Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-129	Rev. 4	05/24/2006 CCP Headspace Gas Sampling and Analysis Batch Data Report Preparation (Entech/Agilent)
CCP-TP-131	Rev. 2	03/31/2005 CCP Manual Headspace Gas Sampling of TRU Waste Containers for the Entech/Agilent Analytical System
CCP-TP-173	Rev. 1	09/30/2009 CCP Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-173	Rev. 0	05/03/2007 CCP Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-175	Rev. 3	08/02/2011 CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 2	12/29/2010 CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 1	03/29/2010 CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 0	05/02/2007 CCP Analysis of Gas Samples for VOCs by GC/MS

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/2008 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 19	11/02/2012 CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/2010 CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/2009 CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/2007 CCP Data Analysis for S3000, S4000, and S5000 Characterization

CCP-TP-003	Rev. 15	11/16/2006 CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	09/09/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 16	04/25/2011 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006 CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 18	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 29

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
93770	LA00000093770	3LANDA0180	LA-HERTR-13-0072	N/A	No	LA13FG12054	N/A
93788	LA00000093788	3LANDA0179	LA-HERTR-13-0073	N/A	No	LA13FG8036	N/A

Veronica Waldram — Signature of Site Project Manager

Veronica Waldram — Printed Name

07/11/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 29

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature

Veronica Waldram — Printed Name

07/11/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Lot # 29

Sampling Completeness

RTR/VE:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N/A	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 07/11/2013

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD04.001

Lot 30

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 004

RTR/VE Summary of Prohibited Items and AK Confirmation..... 005

Reconciliation with Data Quality Objectives..... 006

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 30

AK Expert Review: N/A Date: N/A

SPM Review: Jim Eastham Date: 6/28/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/13	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 8	11/30/06	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 14	08/01/12	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Visual Examination (VE):

CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/09	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/11	CCP Contact-Handled Standard Waste Visual Examination

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 21	06/06/13	CCP Project Level Data Validation and Verification

C1S-02

CCP Characterization Information Summary Cover Page

CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/08	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 26	06/19/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	09/09/201	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/13	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 19	11/16/06	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/13	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 21	05/31/13	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 27	05/31/13	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 5	11/16/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/07	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/12	CCP/Los Alamos National Laboratory (LANL) Interface Document

C15-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 30

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	FG BDRs
93808	LA00000093808	3LANDA0181	LA-HERTR-13-0077	N/A	LA13FG2079
93831	LA00000093831	3LANDA0181	LA-HERTR-13-0077	N/A	LA13FG2079

Signature of Site Project

Jim Eastham
Printed Name

6/28/2013
Date

C13-04

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot(s)#: 30

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: Containers in this waste stream were characterized using RTR. RTR was selected as the characterization method for the containers because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for waste stream LA-CIN01.001.			

Site Project Manager Signature — Jim Eastham (Printed Name) — 6/28/2013 (Date)

CIS-05

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 30

Sampling Completeness

RTR/VE

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2
Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 2 Number of Total Samples Collected: 2
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The Transuranic (TRU) activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 *Code of Federal Regulations* (CFR), Part 261, *Identification and Listing of Hazardous Waste*, Subpart C, *Characteristics of Hazardous Waste.*
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	Y	Y	Y

Comments: None

Signature of Site Project Manager — Jim Eastham, Printed Name — 6/28/2013, Date

6/5-06

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD04.001

Lot 31

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 004

RTR/VE Summary of Prohibited Items and AK Confirmation..... 005

Reconciliation with Data Quality Objectives..... 006

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 31

AK Expert Review: N/A Date: N/A

SPM Review: Jim Eastham Date: 7/29/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/13	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 8	11/30/06	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 14	08/01/12	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Visual Examination (VE):

CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/09	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/11	CCP Contact-Handled Standard Waste Visual Examination

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 21	06/06/13	CCP Project Level Data Validation and Verification

C15-02

CCP Characterization Information Summary Cover Page

CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/08	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 26	06/19/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	09/09/201	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/13	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 19	11/16/06	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/13	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/26/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 21	05/31/13	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 27	05/31/13	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 5	11/16/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/07	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/12	CCP/Los Alamos National Laboratory (LANL) Interface Document

C15-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 31

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	FG BDRs
93873	LA00000093873	3LANDA0182	LA-HERTR-13-0079	N/A	LA13FG2081
93874	LA00000093874	3LANDA0181	LA-HERTR-13-0080	N/A	LA13FG2081
93924	LA00000093924	3LANDA0182	LA-HERTR-13-0081	N/A	LA13FG2083
93925	LA00000093925	3LANDA0182	LA-HERTR-13-0081	N/A	LA13FG2083

Signature of Site Project

Jim Eastham
Printed Name

7/29/2013
Date

CIS-04

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot(s)#: 31

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: Containers in this waste stream were characterized using RTR. RTR was selected as the characterization method for the containers because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for waste stream LA-CIN01.001.			

Site Project Manager Signature | Jim Eastham, Printed Name | 7/29/2013, Date

C15-05

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 31

Sampling Completeness

RTR/VE

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4
Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 4 Number of Total Samples Collected: 4
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The Transuranic (TRU) activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 *Code of Federal Regulations* (CFR), Part 261, *Identification and Listing of Hazardous Waste*, Subpart C, *Characteristics of Hazardous Waste.*
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	Y	Y	Y

Comments: None

Signature of Site Project Manager | Jim Eastham (Printed Name) | 7/29/2013 (Date)

C15-06

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD04.001

Lot 32

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 004

RTR/VE Summary of Prohibited Items and AK Confirmation..... 005

Reconciliation with Data Quality Objectives..... 006

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 32

AK Expert Review: N/A Date: N/A

SPM Review: Jim Eastham Date: 8/12/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/13	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 8	11/30/06	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 14	08/01/12	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Visual Examination (VE):

CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/09	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/11	CCP Contact-Handled Standard Waste Visual Examination

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 21	06/06/13	CCP Project Level Data Validation and Verification

CH-02

CCP Characterization Information Summary Cover Page

CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/08	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 26	06/19/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	09/09/201	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/13	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 19	11/16/06	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev 24	08/20/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/13	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 21	05/31/13	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 27	05/31/13	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 5	11/16/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	06/06/07	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/12	CCP/Los Alamos National Laboratory (LANL) Interface Document

C15-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 32

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	FG BDRs
93872	LA00000093872	3LANDA0181	LA-HERTR-13-0079	N/A	LA13FG2091
93876	LA00000093876	3LANDA0183	LA-HERTR-13-0082	N/A	LA13FG2085
93958	LA00000093958	3LANDA0183	LA-HERTR-13-0082	N/A	LA13FG2091
93963	LA00000093963	3LANDA0183	LA-HERTR-13-0082	N/A	LA13FG2085
93971	LA00000093971	3LANDA0184	LA-HERTR-13-0083	N/A	LA13FG2088
94000	LA00000094000	3LANDA0185	LA-HERTR-13-0086	N/A	LA13FG2088
94022	LA00000094022	3LANDA0185	LA-HERTR-13-0086	N/A	LA13FG2089
94024	LA00000094024	1LANDA1812	LA-RTR2-13-0092	N/A	LA13FG2091

Signature of Site Project

Jim Eastham
Printed Name

8/12/2013
Date

C15-04

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot(s)#: 32

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: Containers in this waste stream were characterized using RTR. RTR was selected as the characterization method for the containers because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for waste stream LA-CIN01.001.			

Site Project Manager Signature | Jim Eastham Printed Name | 8/12/2013 Date

C1505

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 32

Sampling Completeness

RTR/VE

Number of Valid Samples: 8 Number of Total Samples Analyzed: 8

Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 8 Number of Total Samples Collected: 8

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The Transuranic (TRU) activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 *Code of Federal Regulations* (CFR), Part 261, *Identification and Listing of Hazardous Waste*, Subpart C, *Characteristics of Hazardous Waste.*
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	Y	Y	Y

Comments: None

Signature of Site Project Manager | Jim Eastham (Printed Name) | 8/12/2013 (Date)

C15-06

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD04.001

Lot 33

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 004

RTR/VE Summary of Prohibited Items and AK Confirmation..... 005

Reconciliation with Data Quality Objectives..... 006

CCP Characterization Information Summary Cover Page

Waste Stream #	LA-MHD04.001	Lot #:	33
AK Expert Review:	N/A	Date:	N/A
SPM Review:	Jim Eastham for Richard Knattbuckle	Date:	8/19/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/13	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 8	11/30/06	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 14	08/01/12	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Visual Examination (VE):

CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/09	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/11	CCP Contact-Handled Standard Waste Visual Examination

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 21	06/06/13	CCP Project Level Data Validation and Verification

CCP Characterization Information Summary Cover Page

CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/08	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 26	06/19/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	09/09/201	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/13	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 26	08/12/13	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 19	11/16/06	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/13	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 21	05/31/13	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 27	05/31/13	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 5	11/16/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/07	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/12	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 33

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	FG BDRs
93999	LA00000093999	3LANDA0186	LA-HERTR-13-0087	N/A	LA13FG2088
94026	LA00000094026	3LANDA0190	LA-HERTR-13-0088	N/A	LA13FG2091
94029	LA00000094029	3LANDA0189	LA-HERTR-13-0088	N/A	LA13FG2091

Signature of Site Project
Richard Kantrowitz

Jim Eastham
Printed Name

8/19/2013
Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot(s)#: 33

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: Containers in this waste stream were characterized using RTR. RTR was selected as the characterization method for the containers because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for waste stream LA-CIN01.001.			

Site Project Manager Signature

Richard Kantrowitz

Jim Eastham
Printed Name

8/19/2013
Date

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 33

Sampling Completeness

RTR/VE

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 3 Number of Total Samples Collected: 3

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The Transuranic (TRU) activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 *Code of Federal Regulations* (CFR), Part 261, *Identification and Listing of Hazardous Waste*, Subpart C, *Characteristics of Hazardous Waste.*
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	Y	Y	Y

Comments: None

Signature of Site Project Manager
Richard Kantrowitz

Jim Eastham
Printed Name

8/19/2013
Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001

Lot 34

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 4

RTR/VE Summary of Prohibited Items and AK Confirmation..... 5

Reconciliation with Data Quality Objectives..... 6

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 34

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 08/21/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA)

CCP-TP-059	Rev. 1	09/19/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/2008 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS Data Entry

CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 17	06/04/2013 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/2011 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006 CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 34

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
93875	LA00000093875	3LANDA0186	LA-HERTR-13-0087	N/A	No	LA13FG2093	N/A
94028	LA00000094028	3LANDA0191	LA-HERTR-13-0090	N/A	No	LA13FG12076	N/A
94030	LA00000094030	3LANDA0188	LA-HERTR-13-0088	N/A	No	LA13FG2091	N/A
94062	LA00000094062	3LANDA0193	LA-HERTR-13-0089	N/A	No	LA13FG12076	N/A
94081	LA00000094081	3LANDA0189	LA-HERTR-13-0089	N/A	No	LA13FG12076	N/A
94100	LA00000094100	3LANDA0191	LA-HERTR-13-0090	N/A	No	LA13FG12076	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
08/21/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 34

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram
Site Project Manager Signature

Veronica Waldram
Printed Name

08/21/2013
Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Lot # 34

Sampling Completeness

RTR/VE:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N/A	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

		Completeness	Comparability	Representativeness
	Radiography	Y	Y	Y
	VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 08/21/2013

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD04.001

Lot 35

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 004

RTR/VE Summary of Prohibited Items and AK Confirmation..... 005

Reconciliation with Data Quality Objectives..... 006

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 35

AK Expert Review: N/A Date: N/A

SPM Review: Jim Eastham Date: 8/23/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/13	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 8	11/30/06	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 14	08/01/12	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Visual Examination (VE):

CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/09	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/11	CCP Contact-Handled Standard Waste Visual Examination

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 21	06/06/13	CCP Project Level Data Validation and Verification

C1S-02

CCP Characterization Information Summary Cover Page

CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/08	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 26	06/19/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	09/09/201	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/13	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 26	08/12/13	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 19	11/16/06	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/13	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 21	05/31/13	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 27	05/31/13	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 5	11/16/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/07	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/12	CCP/Los Alamos National Laboratory (LANL) Interface Document

C/S-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 35

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	FG BDRs	
94041	LA00000094041	3LANDA0194	LA-HERTR-13-0088	N/A	LA13FG12076	
94063	LA00000094063	3LANDA0194	LA-HERTR-13-0089	N/A	LA13FG12076	

Signature of Site Project

Jim Eastham
Printed Name

8/23/2013
Date

C15-04

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot(s)#: 35

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: Containers in this waste stream were characterized using RTR. RTR was selected as the characterization method for the containers because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for waste stream LA-CIN01.001.			

Site Project Manager Signature

Jim Eastham
Printed Name

8/23/2013
Date

C15-05

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 35

Sampling Completeness

RTR/VE

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2
Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 2 Number of Total Samples Collected: 2
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The Transuranic (TRU) activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 *Code of Federal Regulations* (CFR), Part 261, *Identification and Listing of Hazardous Waste*, Subpart C, *Characteristics of Hazardous Waste.*
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	Y	Y	Y

Comments: None

Signature of Site Project Manager | Jim Eastham (Printed Name) | 8/23/2013 (Date)

C15-06

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD04.001

Lot 36

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 004

RTR/VE Summary of Prohibited Items and AK Confirmation..... 005

Reconciliation with Data Quality Objectives..... 006

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 36

AK Expert Review: N/A Date: N/A

SPM Review: Jim Eastham Date: 9/3/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/13	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 8	11/30/06	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 14	08/01/12	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Visual Examination (VE):

CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/08	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/09	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/10	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/11	CCP Contact-Handled Standard Waste Visual Examination

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 21	06/06/13	CCP Project Level Data Validation and Verification

CH-02

CCP Characterization Information Summary Cover Page

CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/08	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 26	06/19/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	09/09/201	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/13	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 26	08/12/13	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 19	11/16/06	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/13	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 21	05/31/13	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 27	05/31/13	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 5	11/16/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/07	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/12	CCP/Los Alamos National Laboratory (LANL) Interface Document

CH-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 36

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	FG BDRs
94132	LA00000094132	3LANDA0193	LA-HERTR-13-0092	N/A	LA13FG12080
94154	LA00000094154	3LANDA0193	LA-HERTR-13-0092	N/A	LA13FG12084
94155	LA00000094155	3LANDA0194	LA-HERTR-13-0092	N/A	LA13FG12084
94158	LA00000094158	3LANDA0194	LA-HERTR-13-0092	N/A	LA13FG12085

Signature of Site Project

Jim Eastham
Printed Name

9/3/2013
Date

C15-04

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot(s)#: 36

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: Containers in this waste stream were characterized using RTR. RTR was selected as the characterization method for the containers because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for waste stream LA-CIN01.001.			

Site Project Manager Signature | Jim Eastham (Printed Name) | 9/3/2013 (Date)

015-05

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD04.001 Lot # 36

Sampling Completeness

RTR/VE

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4

Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 4 Number of Total Samples Collected: 4

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The Transuranic (TRU) activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 *Code of Federal Regulations* (CFR), Part 261, *Identification and Listing of Hazardous Waste*, Subpart C, *Characteristics of Hazardous Waste.*
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	Y	Y	Y

Comments: None

Signature of Site Project Manager | Jim Eastham, Printed Name | 9/3/2013, Date

C/S-06

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001

Lot 37

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 4

RTR/VE Summary of Prohibited Items and AK Confirmation..... 5

Reconciliation with Data Quality Objectives..... 6

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 37

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 09/06/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA)

CCP-TP-059	Rev. 1	09/19/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/2008 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS Data Entry

CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 17	06/04/2013 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/2011 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006 CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 37

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
94095	LA0000009	3LANDA0195	LA-HERTR-13-0093	N/A	No	LA13FG2095	N/A
94184	LA0000009	3LANDA0195	LA-HERTR-13-0093	N/A	No	LA13FG12086	N/A
94197	LA0000009	3LANDA0195	LA-HERTR-13-0093	N/A	No	LA13FG2095	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
09/06/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 37

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
09/06/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Lot # 37

Sampling Completeness

RTR/VE:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N/A	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 09/06/2013

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001

Lot 38

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 4

RTR/VE Summary of Prohibited Items and AK Confirmation..... 5

Reconciliation with Data Quality Objectives..... 6

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 38

AK Expert Review: N/A Date: N/A

SPM Review: Brandye Pyeatt B. Pyeatt Date: 09/12/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA)

CCP-TP-059	Rev. 1	09/19/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/2008 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS Data Entry

CCP-TP-030	Rev. 27	12/14/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006	CCP CH TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 13	05/14/2013	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 17	06/04/2013	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/2011	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/2008	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008	CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006	CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 38

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
94173	LA00000094173	3LANDA0196	LA-HERTR-13-0094	N/A	No	LA13FG2096	N/A
94214	LA00000094214	3LANDA0196	LA-HERTR-13-0094	N/A	No	LA13FG2096	N/A
94218	LA00000094218	3LANDA0196	LA-HERTR-13-0094	N/A	No	LA13FG2096	N/A

B. Pyeatt — Signature of Site Project Manager

Brandye Pyeatt — Printed Name

09/12/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 38

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

B. Pyeatt
Site Project Manager Signature

Brandye Pyeatt
Printed Name

09/12/2013
Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Lot # 38

Sampling Completeness

RTR/VE:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

		Completeness	Comparability	Representativeness
	Radiography	Y	Y	Y
	VE	NA	NA	NA

Comments: None

B. Pyeatt — Signature of Site Project Manager

Brandye Pyeatt — Printed Name

09/12/2013 — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001

Lot 39

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 4

RTR/VE Summary of Prohibited Items and AK Confirmation..... 5

Reconciliation with Data Quality Objectives..... 6

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 39

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 09/13/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA)

CCP-TP-059	Rev. 1	09/19/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/2008 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS Data Entry

CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 17	06/04/2013 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/2011 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006 CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 39

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
52300	LA00000052300	4LANDA0013	LA-HERTR-13-0069	N/A	No	LA13FG2099	N/A
52302	LA00000052302	4LANDA0002	LA-HERTR-13-0061	N/A	No	LA13FG2099	N/A
52303	LA00000052303	4LANDA0002	LA-HERTR-13-0061	N/A	No	LA13FG2099	N/A
53886	LA00000053886	4LANDA0013	LA-HERTR-13-0069	N/A	No	LA13FG2099	N/A
53894	LA00000053894	4LANDA0013	LA-HERTR-13-0069	N/A	No	LA13FG2099	N/A
54201	LA00000054201	4LANDA0013	LA-HERTR-13-0070	N/A	No	LA13FG2099	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
09/13/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 39

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
09/13/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Lot # 39

Sampling Completeness

RTR/VE:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N/A	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Signature of Site Project Manager

Veronica Waldram — Printed Name

09/13/2013 — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001

Lot 40

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 4

RTR/VE Summary of Prohibited Items and AK Confirmation..... 5

Reconciliation with Data Quality Objectives..... 6

CCP Characterization Information Summary Cover Page

Waste Stream #	LA-MHD04.001	Lot #:	40
AK Expert Review:	N/A	Date:	N/A
SPM Review:	Veronica Waldram Veronica Waldram	Date:	09/16/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA)

CCP-TP-059	Rev. 1	09/19/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/2008 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS Data Entry

CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 17	06/04/2013 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/2011 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006 CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 40

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
52305	LA00000052305	4LANDA0002	LA-HERTR-13-0061	N/A	No	LA13FG12090	N/A
52306	LA00000052306	4LANDA0014	LA-HERTR-13-0073	N/A	No	LA13FG12090	N/A
53880	LA00000053880	4LANDA0014	LA-HERTR-13-0070	N/A	No	LA13FG12090	N/A
53881	LA00000053881	4LANDA0014	LA-HERTR-13-0073	N/A	No	LA13FG12090	N/A
53890	LA00000053890	4LANDA0014	LA-HERTR-13-0069	N/A	No	LA13FG12090	N/A
54209	LA00000054209	4LANDA0014	LA-HERTR-13-0069	N/A	No	LA13FG12090	N/A
94232	LA00000094232	3LANDA0199	LA-HERTR-13-0097	N/A	No	LA13FG12089	N/A
94233	LA00000094233	3LANDA0199	LA-HERTR-13-0097	N/A	No	LA13FG12089	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
09/16/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 40

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
09/16/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Lot # 40

Sampling Completeness

RTR/VE:

Number of Valid Samples: 8 Number of Total Samples Analyzed: 8

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 8 Number of Total Samples Analyzed: 8

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	N/A	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 09/16/2013

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001

Lot 41

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 4

RTR/VE Summary of Prohibited Items and AK Confirmation..... 5

Reconciliation with Data Quality Objectives..... 6

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 41

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 09/18/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA)

CCP-TP-059	Rev. 1	09/19/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/2008 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS Data Entry

CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 17	06/04/2013 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/2011 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006 CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 41

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
94234	LA00000094234	3LANDA0199	LA-HERTR-13-0097	N/A	No	LA13FG12091	N/A
94236	LA00000094236	3LANDA0200	LA-HERTR-13-0098	N/A	No	LA13FG12091	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
09/18/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 41

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
09/18/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Lot # 41

Sampling Completeness

RTR/VE:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N/A	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 09/18/2013

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001

Lot 42

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 4

RTR/VE Summary of Prohibited Items and AK Confirmation..... 5

Reconciliation with Data Quality Objectives..... 6

CCP Characterization Information Summary Cover Page

Waste Stream #	LA-MHD04.001	Lot #:	42
AK Expert Review:	N/A	Date:	N/A
SPM Review:	Veronica Waldram Veronica Waldram	Date:	09/19/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA)

CCP-TP-059	Rev. 1	09/19/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/2008 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS Data Entry

CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 17	06/04/2013 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/2011 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006 CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Charactenzation Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 42

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
94204	LA00000094204	3LANDA0201	LA-HERTR-13-0099	N/A	No	LA13FG12091	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
09/19/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 42

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
09/19/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Lot # 42

Sampling Completeness

RTR/VE:

Number of Valid Samples: 1 Number of Total Samples Analyzed: 1

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 1 Number of Total Samples Analyzed: 1

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Signature of Site Project Manager

Veronica Waldram — Printed Name

09/19/2013 — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001

Lot 43

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 4

RTR/VE Summary of Prohibited Items and AK Confirmation..... 5

Reconciliation with Data Quality Objectives..... 6

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 43

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 09/20/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA)

CCP-TP-059	Rev. 1	09/19/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 11	10/22/2008 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS Data Entry

CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 17	06/04/2013 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/2011 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008 CCP Contact-Handled Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006 CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 43

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68200	LA00000068200	3LANDA0201	LA-HERTR-13-0099	N/A	No	~~LA13FG12099~~ LA13FG12100 VW 9/25/13	N/A
68201	LA00000068201	3LANDA0201	LA-HERTR-13-0099	N/A	No	~~LA13FG12099~~ LA13FG12100 VW 9/25/13	N/A

Veronica Waldram — Signature of Site Project Manager

Veronica Waldram — Printed Name

09/20/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 43

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
09/20/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001

Lot # 43

Sampling Completeness

RTR/VE:

Number of Valid Samples: 2

Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 2

Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 09/20/2013

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0

Lot 44

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 44

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 10/01/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan

CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/12/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 44

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
53891	LA00000053891	4LANDA0015	LA-HERTR-13-0070	N/A	No	LA13FG2101	N/A
53897	LA00000053897	4LANDA0013	LA-HERTR-13-0071	N/A	No	LA13FG2101	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
10/01/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 44

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
10/01/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 44

Sampling Completeness

RTR/VE:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 10/01/2013

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0

Lot 45

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 45

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 10/03/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 19	12/29/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/12/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 45

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
54200	LA00000054200	4LANDA0014	LA-HERTR-13-0069	N/A	No	LA13FG2104	N/A
68204	LA00000068204	1LANDA1840	LA-HERTR-13-0099	N/A	No	LA13FG2102	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
10/03/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 , Lot #: 45

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature

Veronica Waldram — Printed Name

10/03/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 45

Sampling Completeness

RTR/VE:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 10/03/2013

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0

Lot 46

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 46

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 10/15/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan

CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/12/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 46

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68000	LA00000068000	3LANDA0207	LA-HERTR-13-0105	N/A	No	LA13FG2105	N/A
68100	LA00000068100	3LANDA0204	LA-HERTR-13-0105	N/A	No	LA13FG12104	N/A
68101	LA00000068101	3LANDA0207	LA-HERTR-13-0105	N/A	No	LA13FG2105	N/A
68102	LA00000068102	3LANDA0205	LA-HERTR-13-0105	N/A	No	LA13FG12104	N/A
68103	LA00000068103	3LANDA0206	LA-HERTR-13-0106	N/A	No	LA13FG2105	N/A
68104	LA00000068104	3LANDA0207	LA-HERTR-13-0105	N/A	No	LA13FG2105	N/A
68105	LA00000068105	3LANDA0207	LA-HERTR-13-0105	N/A	No	LA13FG2105	N/A
68205	LA00000068205	3LANDA0206	LA-HERTR-13-0106	N/A	No	LA13FG2105	N/A
SB10145	N/A	3LANDA0198	LA-HERTR-13-0096	N/A	No	LA13FG12089	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
10/15/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 46

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
10/15/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 46

Sampling Completeness

RTR/VE:

Number of Valid Samples: 9 Number of Total Samples Analyzed: 9

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 9 Number of Total Samples Analyzed: 9

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 10/15/2013

Signature of Site Project Manager — Printed Name — Date

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:14:01060
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: March 5, 2014

FROM: C. Soaterna C Soaterna LOCATION: CCP Certification

TO: NTPC Records Custodian GSA-212 LOCATION: National TRU Program Certification

SUBJECT: TRANSMITTAL OF LOS ALAMOS NATIONAL LABORATORY CHARATERIZATION INFORMATION SUMMARY FOR CCP-AK-LANL-010, WASTE STREAM #LA-MHD04.001, LOT 55, LOT 56, LOT 57, LOT 58, LOT 59, LOT 60, LOT 61, LOT 62, LOT 63, LOT 64, LOT 65, LOT 66, LOT 67, LOT 68, LOT 69 AND LOT 70

Please accept the attached Los Alamos National Laboratory Characterization Information Summary to be placed in Records for CCP-AK-LANL-010, Waste Stream #LA-MHD04.001, Lot 55, Lot 56, Lot 57, Lot 58, Lot 59, Lot 60, Lot 61, Lot 62, Lot 63, Lot 64, Lot 65, Lot 66, Lot 67, Lot 68, Lot 69 and Lot 70.

CS:jmc

Attachment

cc: (without attachment)
T. A. Groover ED
M. Ramirez ED
C. E. Simmons ED

COPY

NTPC RECORDS ORIGINAL JY
DATE REC'D 3/24/14

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 55

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 55

AK Expert Review: N/A Date: N/A

SPM Review: Jerry Jess Fisher Jr. Date: 01/10/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	06/12/2013 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/12/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 55

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68120	LA00000068120	3LANDA0231	LA-HERTR-13-0119	N/A	No	LA13FG2131	N/A
68121	LA00000068121	3LANDA0229	LA-HERTR-13-0118	N/A	No	LA13FG12130	N/A
68228	LA00000068228	3LANDA0233	LA-HERTR-13-0118	N/A	No	LA14FG2001	N/A
68229	LA00000068229	3LANDA0231	LA-HERTR-13-0120	N/A	No	LA13FG2131	N/A
68235	LA00000068235	3LANDA0232	LA-HERTR-13-0120	N/A	No	LA14FG2001	N/A

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 01/10/2014 (Date)

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 55

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Site Project Manager Signature | Jerry Jess Fisher Jr. Printed Name | 01/10/2014 Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 55

Sampling Completeness

RTR/VE:

Number of Valid Samples: 5 Number of Total Samples Analyzed: 5

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 5 Number of Total Samples Analyzed: 5

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Signature of Site Project Manager

Jerry Jess Fisher Jr.
Printed Name

01/10/2014
Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 56

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 56

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Date: 01/14/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan

CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/12/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 56

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68236	LA00000068236	4LANDA0027	LA-HERTR-13-0122	N/A	Yes	LA14FG12005	N/A
68237	LA00000068237	4LANDA0027	LA-HERTR-13-0122	N/A	No	LA14FG12005	N/A
68243	LA00000068243	4LANDA0027	LA-HERTR-13-0122	N/A	No	LA14FG12005	N/A

Rick Whiteley
Signature of Site Project Manager

Rick Whiteley
Printed Name

01/14/2014
Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 56

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Rick Whiteley
Site Project Manager Signature

Rick Whiteley
Printed Name

01/14/2014
Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 56

Sampling Completeness

RTR/VE:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Rick Whiteley — Rick Whiteley — 01/14/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 57

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 57

AK Expert Review: N/A Date: N/A

SPM Review: Jerry Jess Fisher Jr. Date: 01/16/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 57

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68116	LA00000068116	3LANDA0230	LA-HERTR-13-0118	N/A	No	LA13FG12130	N/A
68240	LA00000068240	3LANDA0235	LA-HERTR-13-0125	N/A	No	LA14FG12005	N/A
68241	LA00000068241	3LANDA0235	LA-HERTR-13-0125	N/A	No	LA14FG12005	N/A
68245	LA00000068245	3LANDA0235	LA-HERTR-13-0125	N/A	No	LA14FG12005	N/A

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 01/16/2014 (Date)

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 57

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Site Project Manager Signature | Jerry Jess Fisher Jr. Printed Name | 01/16/2014 Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 57

Sampling Completeness

RTR/VE:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

		Completeness	Comparability	Representativeness
	Radiography	Y	Y	Y
	VE	NA	NA	NA

Comments: None

Signature of Site Project Manager

Jerry Jess Fisher Jr.
Printed Name

01/16/2014
Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 58

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 58

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Date: 01/21/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 58

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68211	LA00000068211	3LANDA0215	LA-HERTR-13-0108	N/A	Yes	LA14FG2004	N/A
68242	LA00000068242	3LANDA0234	LA-HERTR-13-0123	N/A	No	LA14FG12005	N/A
68244	LA00000068244	3LANDA0234	LA-HERTR-13-0123	N/A	No	LA14FG12005	N/A

Roger Whiteaker — Signature of Site Project Manager
Roger Whiteaker — Printed Name
01/21/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 58

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Roger Whiteaker (Printed Name) | 01/21/2014 (Date)

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 58

Sampling Completeness

RTR/VE:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker — Roger Whiteaker — 01/21/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 59

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 59

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Date: 01/23/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 59

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68004	LA00000068004	3LANDA0237	LA-HERTR-14-0002	N/A	No	LA14FG2006	N/A
68122	LA00000068122	3LANDA0236	LA-HERTR-14-0002	N/A	No	LA14FG2006	N/A
68230	LA00000068230	3LANDA0237	LA-HERTR-14-0002	N/A	No	LA14FG2006	N/A
SB10212	N/A	3LANDA0236	LA-HERTR-14-0002	N/A	No	LA14FG2006	N/A

Roger Whiteaker — Signature of Site Project Manager

Roger Whiteaker — Printed Name

01/23/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 59

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Roger Whiteaker — Site Project Manager Signature
Roger Whiteaker — Printed Name
01/23/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 59

Sampling Completeness

RTR/VE:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker — Roger Whiteaker — 01/23/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 60

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 60

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Date: 01/27/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan

CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001

Lot # 60

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68003	LA0000006	4LANDA0031	LA-HERTR-14-0001	N/A	No	LA14FG2006	N/A

Rick Whiteley
Signature of Site Project Manager

Rick Whiteley
Printed Name

01/27/2014
Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 60

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Rick Whiteley
Site Project Manager Signature

Rick Whiteley
Printed Name

01/27/2014
Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 60

Sampling Completeness

RTR/VE:

Number of Valid Samples: 1 Number of Total Samples Analyzed: 1
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 1 Number of Total Samples Analyzed: 1
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Rick Whiteley — Rick Whiteley — 01/27/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 61

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 61

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Roger Whiteaker Date: 01/30/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan
CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 61

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68124	LA00000068124	4LANDA0036	LA-HERTR-14-0007	N/A	No	LA14FG12010	N/A
68232	LA00000068232	4LANDA0035	LA-HERTR-14-0007	N/A	No	LA14FG2009	N/A
68239	LA00000068239	4LANDA0032	LA-HERTR-14-0001	N/A	No	LA14FG2007	N/A
68246	LA00000068246	4LANDA0032	LA-HERTR-14-0001	N/A	Yes	LA14FG2007	N/A
68247	LA00000068247	3LANDA0238	LA-HERTR-14-0005	N/A	No	LA14FG2009	N/A

Roger Whiteaker — Signature of Site Project Manager
Roger Whiteaker — Printed Name
01/30/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 61

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Roger Whiteaker — Site Project Manager Signature
Roger Whiteaker — Printed Name
01/30/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 61

Sampling Completeness

RTR/VE:

Number of Valid Samples: 5 Number of Total Samples Analyzed: 5
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 5 Number of Total Samples Analyzed: 5
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker 01/30/2014

Signature of Site Project Manager Printed Name Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 62

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 62

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Date: 02/03/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/08/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 62

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68126	LA00000068126	3LANDA0240	LA-HERTR-14-0008	N/A	No	LA14FG12014	N/A
68248	LA00000068248	3LANDA0238	LA-HERTR-14-0005	N/A	No	LA14FG12014	N/A
68250	LA00000068250	3LANDA0238	LA-HERTR-14-0005	N/A	No	LA14FG12014	N/A
68252	LA00000068252	3LANDA0238	LA-HERTR-14-0005	N/A	No	LA14FG12014	N/A

Rick Whiteley
Signature of Site Project Manager

Rick Whiteley
Printed Name

02/03/2014
Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 62

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Rick Whiteley
Site Project Manager Signature

Rick Whiteley
Printed Name

02/03/2014
Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 62

Sampling Completeness

RTR/VE:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Rick Whiteley — Signature of Site Project Manager

Rick Whiteley — Printed Name

02/03/2014 — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 63

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 63

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Date: 02/07/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 63

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68123	LA00000068123	4LANDA0036	LA-HERTR-14-0007	N/A	No	LA14FG2013	N/A
68129	LA00000068129	3LANDA0242	LA-HERTR-14-0008	N/A	No	LA14FG2014	N/A
68253	LA00000068253	3LANDA0241	LA-HERTR-14-0008	N/A	No	LA14FG2013	N/A
68254	LA00000068254	4LANDA0038	LA-HERTR-14-0009	N/A	No	LA14FG2013	N/A
68256	LA00000068256	4LANDA0038	LA-HERTR-14-0008	N/A	No	LA14FG2013	N/A
69257	LA00000069257	1LANDA1899	LA-RTR2-14-0010	N/A	No	LA14FG2014	N/A

Roger Whiteaker — Signature of Site Project Manager

Roger Whiteaker — Printed Name

02/07/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 63

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Roger Whiteaker — Site Project Manager Signature

Roger Whiteaker — Printed Name

02/07/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 63

Sampling Completeness

RTR/VE:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker — Roger Whiteaker — 02/07/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 64

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 64

AK Expert Review: N/A Date: N/A

SPM Review: Jerry Jess Fisher Jr. Date: 02/11/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan

CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 64

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68132	LA00000068132	4LANDA0040	LA-HERTR-14-0011	N/A	Yes	LA14FG2015	N/A
68233	LA00000068233	4LANDA0040	LA-HERTR-14-0011	N/A	Yes	LA14FG12020	N/A
68234	LA00000068234	4LANDA0039	LA-HERTR-14-0011	N/A	Yes	LA14FG12020	N/A
68255	LA00000068255	4LANDA0039	LA-HERTR-14-0011	N/A	Yes	LA14FG2015	N/A
68258	LA00000068258	4LANDA0040	LA-HERTR-14-0011	N/A	Yes	LA14FG12020	N/A
68259	LA00000068259	4LANDA0040	LA-HERTR-14-0011	N/A	Yes	LA14FG12020	N/A

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 02/11/2014 (Date)

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 64

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Jerry Jess Fisher Jr. Printed Name | 02/11/2014 Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 64

Sampling Completeness

RTR/VE:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 02/11/2014 (Date)

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 65

TABLE OF CONTENTS

Characterization Information Summary Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 65

AK Expert Review: N/A Date: N/A

SPM Review: Jerry Jess Fisher Jr. Date: 02/24/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan

CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 65

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
53882	LA00000053882	4LANDA0028	LA-HERTR-13-0123	N/A	No	LA14FG2017	N/A
53892	LA00000053892	4LANDA0030	LA-HERTR-13-0124	N/A	No	LA14FG2017	N/A
53893	LA00000053893	4LANDA0029	LA-HERTR-13-0123	N/A	No	LA14FG2017	N/A
53898	LA00000053898	4LANDA0031	LA-HERTR-14-0002	N/A	No	LA14FG2017	N/A
54206	LA00000054206	4LANDA0030	LA-HERTR-13-0124	N/A	No	LA14FG2017	N/A
54208	LA00000054208	4LANDA0029	LA-HERTR-13-0123	N/A	No	LA14FG2017	N/A
54213	LA00000054213	4LANDA0030	LA-HERTR-13-0124	N/A	No	LA14FG2017	N/A

Signature of Site Project Manager

Jerry Jess Fisher Jr.
Printed Name

02/24/2014
Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 65

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Site Project Manager Signature | Jerry Jess Fisher Jr. Printed Name | 02/24/2014 Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 65

Sampling Completeness

RTR/VE:

Number of Valid Samples: 7 Number of Total Samples Analyzed: 7

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 7 Number of Total Samples Analyzed: 7

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Jerry Jess Fisher Jr. — 02/24/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 66

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 66

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Date: 02/12/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan

CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 66

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68261	LA00000068261	4LANDA0039	LA-HERTR-14-0011	N/A	No	LA14FG2016	N/A
68262	LA00000068262	4LANDA0039	LA-HERTR-14-0011	N/A	No	LA14FG2016	N/A

Rick Whiteley
Signature of Site Project Manager

Rick Whiteley
Printed Name

02/12/2014
Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 66

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Rick Whiteley
Site Project Manager Signature

Rick Whiteley
Printed Name

02/12/2014
Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 66

Sampling Completeness

RTR/VE:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Rick Whiteley — Rick Whiteley — 02/12/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 67

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 67

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Roger Whiteaker Date: 02/13/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure

CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 67

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68133	LA00000068133	3LANDA0243	LA-HERTR-14-0014	N/A	No	LA14FG2018	N/A
69289	LA00000069289	1LANDA1904	LA-RTR2-14-0013	N/A	No	LA14FG2018	N/A
69290	LA00000069290	1LANDA1904	LA-RTR2-14-0013	N/A	No	LA14FG2018	N/A

Signature of Site Project Manager | Roger Whiteaker (Printed Name) | 02/13/2014 (Date)

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 67

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Roger Whiteaker — Site Project Manager Signature
Roger Whiteaker — Printed Name
02/13/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 67

Sampling Completeness

RTR/VE:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

		Completeness	Comparability	Representativeness
	Radiography	Y	Y	Y
	VE	NA	NA	NA

Comments: None

Roger Whiteaker — Roger Whiteaker — 02/13/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 68

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 68

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Date: 02/14/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan
CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 68

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68127	LA00000068127	3LANDA0243	LA-HERTR-14-0014	N/A	No	LA14FG2019	N/A
68131	LA00000068131	4LANDA0048	LA-HERTR-14-0010	N/A	No	LA14FG2015	N/A
68260	LA00000068260	4LANDA0044	LA-HERTR-14-0013	N/A	Yes	LA14FG2019	N/A

R P Whiteley
Signature of Site Project Manager

Rick Whiteley
Printed Name

02/14/2014
Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 68

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Site Project Manager Signature | Rick Whiteley Printed Name | 02/14/2014 Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 68

Sampling Completeness

RTR/VE:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

NDA:

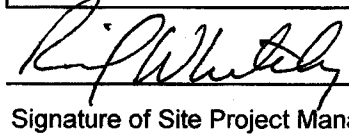
Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None



Signature of Site Project Manager | Rick Whiteley (Printed Name) | 02/14/2014 (Date)

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 69

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 69

AK Expert Review: N/A Date: N/A

SPM Review: Jerry Jess Fisher Jr. Date: 02/19/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000

CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000

CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000

CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000

CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure

CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001 Lot # 69

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68125	LA00000068125	4LANDA0050	LA-HERTR-14-0001	N/A	Yes	LA14FG2006	N/A
68128	LA00000068128	4LANDA0045	LA-HERTR-14-0014	N/A	Yes	LA14FG2020	N/A
69322	LA00000069322	1LANDA1907	LA-RTR2-14-0016	N/A	No	LA14FG2020	N/A

Signature of Site Project Manager | Jerry Jess Fisher Jr. Printed Name | 02/19/2014 Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 69

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Site Project Manager Signature | Jerry Jess Fisher Jr. Printed Name | 02/19/2014 Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 69

Sampling Completeness

RTR/VE:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Signature of Site Project Manager

Jerry Jess Fisher Jr.
Printed Name

02/19/2014
Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 70

TABLE OF CONTENTS

Characterization Information Summary Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD04.001 Lot #: 70

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Roger Whiteaker Date: 02/24/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan

CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD04.001

Lot # 70

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68136	LA00000068136	4LANDA0047	LA-HERTR-14-0017	N/A	No	LA14FG2021	N/A
68137	LA00000068137	4LANDA0047	LA-HERTR-14-0017	N/A	No	LA14FG2021	N/A
68138	LA00000068138	4LANDA0047	LA-HERTR-14-0017	N/A	No	LA14FG2021	N/A
68139	LA00000068139	4LANDA0047	LA-HERTR-14-0017	N/A	No	LA14FG2021	N/A

Roger Whiteaker — Signature of Site Project Manager

Roger Whiteaker — Printed Name

02/24/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD04.001 Lot #: 70

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Roger Whiteaker (Printed Name) | 02/24/2014 (Date)

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD04.001 Rev. 0 Lot # 70

Sampling Completeness

RTR/VE:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker — Roger Whiteaker — 02/24/2014

Signature of Site Project Manager — Printed Name — Date

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:13:01218
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: May 30, 2013

FROM: M. F. Ramirez LOCATION: CCP Certification

TO: NTPC Records Custodian GSA-212 LOCATION: National TRU Program Certification

SUBJECT: TRANSMITTAL OF LOS ALAMOS NATIONAL LABORATORY SITE WASTE STREAM PROFILE FORM LA-MHD01.001, REVISION 1 FOR WASTE STREAM LA-MHD01.001

Please accept the attached Los Alamos National Laboratory site Waste Stream Profile Form LA-MHD01.001, Rev. 1 to be placed in records for Waste Stream # LA-MHD01.001.

MFR:jmc

Attachment

cc: (without attachment)
R. P. Kantrowitz ED
M.W. Pearcy ED

COPY

P.O. Box 2078 • Carlsbad, New Mexico USA 88221-2078
Phone: (575) 234-7200 • Fax: (575) 234-7083

NTPC RECORDS ORIGINAL
DATE REC'D 6/3/13

Attachment 2 – CCP Waste Stream Profile Form

(1) Waste Stream Profile Number: LA-MHD01.001, Revision 1							
(2) Generator site name: Los Alamos National Laboratory						(3) Generator site EPA ID: NM0890010515	
(4) Technical contact: Terri-Anne Groover						(5) Technical contact phone number: 505-606-2344	
(6) Date of audit report approval by New Mexico Environment Department (NMED): September 23, 2011							
(7) Title, version number, and date of documents used for WIPP-WAP Certification: CCP-PO-001, CCP Transuranic Waste Characterization Quality Assurance Project Plan, Revision 20, June 16, 2011; CCP-PO-002, CCP Transuranic Waste Certification Plan, Revision 26, July 14, 2011; CCP-PO-012, CCP/Los Alamos National Laboratory (LANL) Interface Document, Revision 12, November 5, 2012							
(8) Did your facility generate this waste?	YES	X	NO				
(9) If no, provide the name and EPA ID of the original generator: NA							
Waste Stream Information							
(10) WIPP ID[1]: LA-MHD01.001						(11) Summary Category Group: S5000 – Debris Waste	
(12) Waste Matrix Code Group: Heterogeneous Debris Waste						(13) Waste Stream Name: Mixed heterogeneous debris from TA-55	
(14) Description from the ATWIR: Mixed heterogeneous debris waste generated during TA-55 R&D/fabrication and associated recovery, facility and equipment maintenance, decontamination and decommissioning (D&D), waste repackaging, and below-grade retrieval operations.							
(15) Defense TRU Waste:	YES	X	NO				
(16) Check One:	CH	X	RH				
(17) Number of SWBs: 197 (17a) Number of SLB2: NA	(18) Number of Drums[2]: 17,172 55-gallon drum 618 55-gallon drums/year projected					(19) Number of Canisters: NA	
(20) Batch Data Report numbers supporting this waste stream characterization: See Characterization Information Summary (CIS) Correlation of Container Identification Numbers to Batch Data Report Numbers.							
(21) List applicable EPA Hazardous Waste Numbers: D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D035, D038, D039, D040, F001, F002 and F005							
(22) Applicable TRUCON Content Numbers[3]: LA 125 / LA 225, LA154, SQ133 / SQ233, SQ154							
(23)**Acceptable Knowledge Information**							
(For the following, enter the supporting documentation used [i.e., references and dates])							
Required Program Information							
(23A) Map of site: CCP-AK-LANL-006, Revision 12, December 12, 2012, Figures 1 and 2							
(23B) Facility mission description: CCP-AK-LANL-006, Revision 12, December 12, 2012, Section 4.2.1							
(23C) Description of operations that generate waste: CCP-AK-LANL-006, Revision 12, December 12, 2012, Section 4.4							
(23D) Waste identification/categorization schemes: CCP-AK-LANL-006, Revision 12, December 12, 2012, Section 4.3.1							
(23E) Types and quantities of waste generated: CCP-AK-LANL-006, Revision 12, December 12, 2012, Section 4.3.6							
(23F) Correlation of waste streams generated from the same building and process, as applicable: CCP-AK-LANL-006, Revision 12, December 12, 2012, Section 4.3.7							
(24) Waste certification procedures: CCP-TP-030, Revision 31, November 19, 2012							
(25) Required Waste Stream Information							

(25A) Area(s) and building(s) from which the waste stream was generated: CCP-AK-LANL-006, Revision 12, December 12, 2012, Section 5.1			
(25B) Waste stream volume and time period of generation: CCP-AK-LANL-006, Revision 12, December 12, 2012, Section 5.2			
(25C) Waste generating process description for each building: CCP-AK-LANL-006, Revision 12, December 12, 2012, Section 5.3			
(25D) Waste Process flow diagrams: CCP-AK-LANL-006, Revision 12, December 12, 2012, Figure 7 through Figure 22			
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form: CCP-AK-LANL-006, Revision 12, December 12, 2012, Section 5.4			
(25F) Waste Material Parameter Weight Estimates per unit of waste: See table entitled "Waste Stream LA-MHD01.001 Waste Material Parameter Estimates" in Summation of Aspects of AK Summary Report: LA-MHD01.001			
(26) Which Defense Activity generated the waste:			
	Weapons activities including defense inertial confinement fusion		Naval Reactors development
	Verification and control technology	X	Defense research and development
X	Defense nuclear waste and material by products management	X	Defense nuclear material production
	Defense nuclear waste and materials security and safeguards and security investigations		
(27) Supplemental Documentation:			
(27A) Process design documents: NA			
(27B) Standard operating procedures: See M286, M289, M290, M292, M294, M299, M300, M302, M303, M304, P177, P180, P181, P182, P183, P185, P186, P189, P190, D004, D017, D041, D058, M012, M014, M024, M026, M028, M029, M030, M074, M076, M085, M086, M088, M089, M090, M095, M096, M097, M098, M103, M137, M180, M181, M182, M184, M185, M186, M189, M200, M202, M206, M212, P001, P005, P008, P012, P014, P028, P029, P033, P034, P036, P045, P046, P064, P065, P067, P069, P080, P094, P095, P096, P097, P098, P104, P105, P154, P155, P156, P157, P158, P159, P160, P161, P162, P163, P164, P165, P166, P167, P168, P169 and P170 in the Summation of Aspects of AK Summary Report: LA-MHD01.001, Source Documents			
(27C) Safety Analysis Reports: See D014, D045, D068, P147 and P148 in the Summation of Aspects of AK Summary Report: LA-MHD01.001, Source Documents			
(27D) Waste packaging logs: See M296, M303, M304, P177, D004, M012, M013, M018, M019, M215, M216, M217, M218, M219, M224, M273, P090 and P091 in the Summation of Aspects of AK Summary Report: LA-MHD01.001, Source Documents			
(27E) Test plans/research project reports: See C186, C189, M306 and D028 in the Summation of Aspects of AK Summary Report: LA-MHD01.001, Source Documents			
(27F) Site databases: See M298, M307, C101, M156, M157, M158, M159, M222 and U004 in the Summation of Aspects of AK Summary Report: LA-MHD01.001, Source Documents			
(27G) Information from site personnel: See C188, C189, C190, C191, C192, C194, C195, C197, C199, C200, C201, C209, C210, C213, C220, C001, C002, C005, C007, C010, C011, C014, C017, C018, C019, C020, C026, C027, C031, C033, C035, C037, C038, C039, C040, C041, C047, C056, C057, C061, C062, C064, C066, C067, C068, C069, C073, C076, C082, C083, C085, C087, C089, C092, C094, C098, C102, C104, C105, C108, C113, C117, C121, C129, C130, C131, D017, P109 and P110 in the Summation of Aspects of AK Summary Report: LA-MHD01.001, Source Documents			
(27H) Standard industry documents: See D055 in the Summation of Aspects of AK Summary Report: LA-MHD01.001, Source Documents			
(27I) Previous analytical data: See C196, M283, P187, C087, C113, DR005, M002 and M273 in the Summation of Aspects of AK Summary Report: LA-MHD01.001, Source Documents			

(27J) Material safety data sheets: See M284, C009 and C121 in the Summation of Aspects of AK Summary Report: LA-MHD01.001, Source Documents	
(27K) Sampling and analysis data from comparable/surrogate Waste: See P187 in the Summation of Aspects of AK Summary Report: LA-MHD01.001, Source Documents	
(27L) Laboratory notebooks: See M281 in the Summation of Aspects of AK Summary Report: LA-MHD01.001, Source Documents	
Confirmation Information	
For the following, when applicable, enter procedure title(s), number(s) and date(s)	
(28)	Radiography: CCP-TP-053, Revision 12, August 22, 2012
	Visual Examination: CCP-TP-113, Revision 16, April 25, 2011

(29) Comments: For a list of the waste characterization procedures used and date of respective procedures see the list of procedures on the attached CIS.

This WSPF was revised to add Content Code Number LA222 and SQ133 to waste stream LA-MHD01.001. The changes do not affect the waste stream designation or assignment of Environmental Protection Agency (EPA) hazardous waste numbers, as identified in the previously approved WSPF.

Reviewed by AK Expert: YES [X] **Date:** 4/15/2013

Reviewed by STR (if necessary): YES [X] N/A [ ] **Date:** 4/16/2013

Waste Stream Profile Form Certification:

I hereby certify that I have reviewed the information in this Waste Stream Profile Form, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Veronica Waldram	Veronica Waldram	5/22/13
Signature of Site Project Manager	Printed Name	Date

NOTE: (1) Other available ATWIR Identification Numbers are LA-TA-55-19, LA-TA-55-21, LA-TA-55-30 and LA-TA-55-32

(2) This waste stream currently consists of 174 30-gallon drums, 14,225 55-gallon drums (includes POCs), 718 85-gallon drums, 2 110-gallon drums, and 125 other containers totaling an estimated 3,606 cubic meters of waste, which is equivalent to approximately 17,172 55-gallon drums (the 197 SWBs are addressed separately above).

(3) Other applicable TRUCON Content Numbers are LA115, LA215, LA116, LA216, LA117, LA217, LA118, LA218, LA119, LA219, LA122, LA222, LA123, LA223

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD01.001 Rev. 1

Lot 368

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 005

CCP Headspace Gas UCL_{90} Evaluation Form..... 007

Headspace Gas Summary Data..... 009

RTR/VE Summary of Prohibited Items and AK Confirmation..... 010

Reconciliation with Data Quality Objectives..... 011

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Rev. 1 Lot #: 368

AK Expert Review: N/A Date: N/A

SPM Review: Richard Kantrowitz Date: 5/9/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 3	03/21/05	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/05	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 4	12/22/05	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 5	08/28/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/08	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/08	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/08	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/09	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/10	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/10	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/11	CCP Standard Contact-Handled Waste Visual Examination

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 6	10/10/05	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/06	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/06	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/07	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/12	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 4	10/26/04	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 5	07/21/05	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 6	02/08/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000

Headspace Gas Sampling and Analysis (HSG):

CCP-TP-128	Rev. 1	04/21/04	CCP TRU Waste Container HSG Analysis (Entech/Agilent)
CCP-TP-129	Rev. 2	07/15/04	CCP Headspace Gas Sampling and Analysis Batch Data Report Preparation (Entech/Agilent)
CCP-TP-129	Rev. 3	03/31/06	CCP Headspace Gas Sampling and Analysis Batch Data Report Preparation (Entech/Agilent)
CCP-TP-129	Rev. 4	05/24/06	CCP Headspace Gas Sampling and Analysis Batch Data Report Preparation (Entech/Agilent)
CCP-TP-131	Rev. 2	03/31/05	CCP Manual Headspace Gas Sampling of TRU Waste Containers for the Entech/Agilent Analytical System

CCP Characterization Information Summary Cover Page

ACMM-9910	Rev. 6	04/15/04	Analysis of Gas Samples for VOCs by GC/FID
ACMM-9910	Rev. 7	04/24/06	Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-173	Rev. 0	05/03/07	CCP Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-173	Rev. 1	09/30/09	CCP Analysis of Gas Samples for VOCs by GC/FID
ACMM-9925	Rev. 1	04/20/04	Analysis of Gas Samples for Hydrogen and Methane by GC/TCD
ACMM-9925	Rev. 2	05/03/06	Analysis of Gas Samples for Hydrogen and Methane by GC/TCD
ACMM-9930	Rev. 8	07/10/03	Analysis of Gas Samples for VOCs by GC/MS
ACMM-9930	Rev. 9	02/16/06	Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 0	05/02/07	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 1	03/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 2	12/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 3	08/02/11	CCP Analysis of Gas Samples for VOCs by GC/MS

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 11	03/23/05	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 16	06/06/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/08	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 14	09/03/03	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 15	03/31/05	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 17	12/29/05	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/06	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/06	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

CCP Characterization Information Summary Cover Page

WAP Certification:

CCP-PO-001	Rev. 11	03/10/05	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/08/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 13	05/09/05	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/05	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/15/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/15/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 4	03/31/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/06	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/07	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev .9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/12	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Rev. 1 Lot # 368

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR		
								Sample	Analysis	
52897*	LA00000052897	2LANDA0103	LA-RTR2-06-0297	N/A	N/A	N/A		LAHSGS060184	ECL06500M	ECL06500G
52989*	LA00000052989	1LANDA0536	LA-RTR2-06-0289	N/A	N/A	N/A		LAHSGS060184	ECL06500M	ECL06500G
54377*	LA00000054377	2LANDA0113	LA-RTR2-06-0316	N/A	N/A	N/A		LAHSGS070035	ECL07041M	ECL07041G
54404*	LA00000054404	1LANDA0400	LA-RTR2-06-0143	N/A	N/A	N/A		LAHSGS060184	ECL06500M	ECL06500G
54859*	LA00000054859	1LANDA0518	LA-RTR2-06-0272	N/A	N/A	N/A		LAHSGS070035	ECL07040M	ECL07040G
54946*	LA00000054946	1LANDA0634	LA-RTR2-07-0042	N/A	N/A	N/A		LAHSGS070036	ECL07039M	ECL07039G
55886*	LA00000055886	1LANDA0589	LA-RTR2-06-0388	N/A	N/A	N/A		LAHSGS070009	ECL07007M	ECL07007G
55910*	LA00000055910	2LANDA0108	LA-RTR2-06-0305	N/A	N/A	N/A		LAHSGS070035	ECL07041M	ECL07041G
56282*	LA00000056282	1LANDA0521	LA-RTR2-06-0271	N/A	N/A	N/A		LAHSGS070036	ECL07039M	ECL07039G
58001**	LA00000058001	LANDA0180	LA-RTR2-05-0124	N/A	N/A	N/A		LAHSGS070035	ECL07041M	ECL07041G
60174*	LA00000060174	3LANDA0035	LA-HERTR-12-0022	N/A	N/A	N/A		LAHSG1204	ECL12032M	N/A
60405*	LA00000060405	2LANDA0101	LA-RTR2-06-0288	N/A	N/A	N/A		LAHSGS060184	ECL06500M	ECL06500G
60491**	LA00000060491	LANDA0333	LA-RTR2-06-0055	N/A	N/A	N/A		LAHSGS070035	ECL07041M	ECL07041G
61905*	LA00000061905	1LANDA0682	LA-RTR2-07-0102	N/A	N/A	N/A		LAHSGS070036	ECL07039M	ECL07039G
61990*	LA00000061990	1LANDA0517	LA-RTR2-06-0273	N/A	N/A	N/A		LAHSGS060184	ECL06500M	ECL06500G
62292*	LA00000062292	1LANDA0528	LA-RTR2-06-0281	N/A	N/A	N/A		LAHSGS060184	ECL06500M	ECL06500G
63419*	LA00000063419	1LANDA0522	LA-RTR2-06-0275	N/A	N/A	N/A		LAHSGS060184	ECL06500M	ECL06500G
63659*	LA00000063659	2LANDA0283	LA-RTR2-08-0090	N/A	N/A	N/A		LAHSGS100001	ECL10001M	ECL10001G
63681*	LA00000063681	1LANDA0951	LA-RTR2-08-0133	N/A	N/A	N/A		LAHSGS090001	ECL09024M	ECL09024G
63752*	LA00000063752	1LANDA1617	LA-RTR2-12-0091	N/A	N/A	N/A		LAHSG1206	ECL12037M	N/A
63913*	LA00000063913	1LANDA0965	LA-RTR2-08-0135	N/A	N/A	N/A		LAHSGS090001	ECL09024M	ECL09024G
63916*	LA00000063916	1LANDA0950	LA-RTR2-08-0139	N/A	N/A	N/A		LAHSGS090001	ECL09024M	ECL09024G
64354*	LA00000064354	1LANDA1123	LA-RTR2-09-0159	N/A	N/A	N/A		LAHSGS100001	ECL10001M	ECL10001M
64365*	LA00000064365	2LANDA0493	LA-RTR2-09-0159	N/A	N/A	N/A		LAHSGS100002	ECL10028M	ECL10028G
64864*	LA00000064864	2LANDA0513	LA-RTR2-09-0175	N/A	N/A	N/A		LAHSGS100001	ECL10001M	ECL10001M
65050*	LA00000065050	1LANDA1265	LA-RTR2-10-0084	N/A	N/A	N/A		LAHSG1103	ECL11016M	ECL11016G
65097*	LA00000065097	1LANDA1279	N/A	LAVE550032	N/A	N/A		LAHSG1103	ECL11016M	ECL11016G
65100*	LA00000065100	1LANDA1263	LA-RTR2-10-0082	N/A	N/A	N/A		LAHSG1102	ECL11003M	ECL11003G
65296*	LA00000065296	2LANDA0712	N/A	LAVE550038	N/A	N/A		LAHSG1102	ECL11003M	ECL11003G
65392*	LA00000065392	2LANDA0718	LA-RTR2-10-0142	N/A	N/A	N/A		LAHSG1102	ECL11003M	ECL11003G
65604*	LA00000065604	1LANDA1330	LA-RTR2-10-0140	N/A	N/A	N/A		LAHSG1102	ECL11003M	ECL11003G
65749*	LA00000065749	1LANDA1413	LA-RTR2-11-0059	N/A	N/A	N/A		LAHSG1104	ECL11032M	N/A
65993*	LA00000065993	1LANDA1408	LA-RTR2-11-0055	N/A	N/A	N/A		LAHSG1104	ECL11032M	N/A
66051*	LA00000066051	2LANDA0834	LA-RTR2-11-0075	N/A	N/A	N/A		LAHSG1104	ECL11032M	N/A
66097*	LA00000066097	2LANDA0842	LA-RTR2-11-0082	N/A	N/A	N/A		LAHSG1204	ECL12032M	N/A
66171*	LA00000066171	1LANDA1530	N/A	LAVE550053	N/A	N/A		LAHSG1201	ECL12008M	N/A
66186*	LA00000066186	2LANDA0973	LA-RTR2-12-0043	N/A	N/A	N/A		LAHSG1204	ECL12032M	N/A
66190*	LA00000066190	1LANDA1550	LA-RTR2-12-0037	N/A	N/A	N/A		LAHSG1203	ECL12025M	N/A
66191*	LA00000066191	1LANDA1522	LA-RTR2-12-0012	N/A	N/A	N/A		LAHSG1201	ECL12008M	N/A
66324*	LA00000066324	1LANDA1545	LA-RTR2-12-0035	N/A	N/A	N/A		LAHSG1204	ECL12032M	N/A
66345*	LA00000066345	1LANDA1439	LA-RTR2-11-0094	N/A	N/A	N/A		LAHSG1104	ECL11032M	N/A
66361*	LA00000066361	2LANDA0850	LA-RTR2-11-0095	N/A	N/A	N/A		LAHSG1104	ECL11032M	N/A
66435*	LA00000066435	2LANDA0903	LA-RTR2-11-0138	N/A	N/A	N/A		LAHSG1201	ECL12008M	N/A
80240*	LA00000080240	1LANDA0839	LA-RTR2-08-0002	N/A	N/A	N/A		LAHSGS080005	ECL08008AM	ECL08008G
80301*	LA00000080301	1LANDA0841	LA-RTR2-08-0007	N/A	N/A	N/A		LAHSGS080005	ECL08008AM	ECL08008G

D1505

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Rev. 1 Lot # 368

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR		
								Sample	Analysis	
80316*	LA00000080316	1LANDA0844	N/A	LAVE500113	N/A	N/A		LAHSGS080005	ECL08008AM	ECL08008G
80533*	LA00000080533	1LANDA0883	LA-RTR2-08-0050	N/A	N/A	N/A		LAHSGS090001	ECL09024M	ECL09024G
81304*	LA00000081304	1LANDA1008	N/A	LAVE500207	N/A	N/A		LAHSGS090001	ECL09024M	ECL09024G
81376*	LA00000081376	1LANDA1058	LA-RTR2-09-0064	N/A	N/A	N/A		LAHSGS090001	ECL09024M	ECL09024G
81725*	LA00000081725	1LANDA1039	LA-RTR2-09-0042	N/A	N/A	N/A		LAHSGS090003	ECL09035M	ECL09035G
81731*	LA00000081731	1LANDA1036	LA-RTR2-09-0038	N/A	N/A	N/A		LAHSGS090003	ECL09035M	ECL09035G
81858*	LA00000081858	1LANDA1053	LA-RTR2-09-0057	N/A	N/A	N/A		LAHSGS090001	ECL09024M	ECL09024G
82244*	LA00000082244	1LANDA1053	N/A	LAVE500235	N/A	N/A		LAHSGS090001	ECL09024M	ECL09024G
86181*	LA00000086181	1LANDA1271	LA-RTR2-10-0083	N/A	N/A	N/A		LAHSGS100002	ECL10028M	ECL10028G
86364*	LA00000086364	2LANDA0645	LA-RTR2-10-0086	N/A	N/A	N/A		LAHSG1101	ECL11001M	ECL11001G
87597*	LA00000087597	1LANDA1347	LA-RTR2-11-0004	N/A	N/A	N/A		LAHSG1102	ECL11003M	ECL11003G
87795*	LA00000087795	2LANDA0729	N/A	LAVE500424	N/A	N/A		LAHSG1102	ECL11003M	ECL11003G
87811*	LA00000087811	1LANDA1347	LA-RTR2-11-0004	N/A	N/A	N/A		LAHSG1102	ECL11003M	ECL11003G
88181*	LA00000088181	2LANDA0805	LA-RTR2-11-0051	N/A	N/A	N/A		LAHSG1104	ECL11032M	N/A
88191*	LA00000088191	1LANDA1356	N/A	LAVE500434	N/A	N/A		LAHSG1104	ECL11032M	N/A
88250*	LA00000088250	2LANDA0821	LA-RTR2-11-0062	N/A	N/A	N/A		LAHSG1201	ECL12008M	N/A
89201*	LA00000089201	2LANDA0837	LA-RTR2-11-0083	N/A	N/A	N/A		LAHSG1104	ECL11032M	N/A
89308*	LA00000089308	1LANDA1437	LA-RTR2-11-0088	N/A	N/A	N/A		LAHSG1104	ECL11032M	N/A
89846*	LA00000089846	1LANDA1467	LA-RTR2-11-0113	N/A	N/A	N/A		LAHSG1201	ECL12008M	N/A
S794422**	LAS794422	1LANDA0487	LA-RTR2-06-0233	N/A	N/A	N/A		LAHSGS060184	ECL06500M	ECL06500G
S794452**	LAS794452	1LANDA1536	LA-RTR2-05-0062	N/A	N/A	N/A		LAHSGS060184	ECL06500M	ECL06500G
S802584*	LAS802584	2LANDA0122	LA-RTR2-06-0330	N/A	N/A	N/A		LAHSGS070036	ECL07039M	ECL07039G
S825776*	LAS825776	LANDA0117	LA-RTR2-05-0061	N/A	N/A	N/A		LAHSGS060184	ECL06500M	ECL06500G
S833891**	LAS833891	LANDA0326	LA-RTR2-06-0042	N/A	N/A	N/A		LAHSGS070036	ECL07039M	ECL07039G
S844148*	LAS844148	1LANDA0680	LA-RTR2-07-0109	N/A	N/A	N/A		LAHSGS070036	ECL07039M	ECL07039G
S844308**	LAS844308	1LANDA0695	LA-RTR2-07-0138	N/A	N/A	N/A		LAHSGS070036	ECL07039M	ECL07039G
S862416**	LAS862416	LANDA0333	LA-RTR2-06-0046	N/A	N/A	N/A		LAHSGS070035	ECL07040M	ECL07040G
S862463*	LAS862463	LA06-PTGS-003	LA-RTR2-05-0221	N/A	N/A	N/A		LAHSGS070035	ECL07040M	ECL07040G
S871896**	LAS871896	LANDA0345	LA-RTR2-06-0026	N/A	N/A	N/A		LAHSGS070035	ECL07041M	ECL07041G

* Containers previously certified.

** Containers ineligible for disposal at WIPP. BDR information provided for completeness.

CTS006

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

5/9/2013
Date

CCP Headspace Gas UCL90 Evaluation Form

WSPF #: LA-MHD01.001 Rev. 1 **Head Space Gas Summary Number** 1 through 8

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples (2)	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
Acetone	Log	59	74	5.19	0.88	2.33	1.23	100	4.61		
Benzene	Log	43	74	3.04	-1.47	1.82	-1.20	10	2.30		
Bromoform	Log	1	74	-1.71	-4.13	0.88	-3.99	10	2.30		
Butanol	Log	58	74	3.93	-0.79	1.37	-0.58	100	4.61		
Carbon Disulfide	Log	16	74	-0.36	-2.56	0.81	-2.44	10	2.30		
Carbon tetrachloride	Log	3	74	-0.39	-3.59	0.99	-3.44	10	2.30		
Chlorobenzene	Log	13	74	0.00	-3.07	1.07	-2.91	10	2.30		
Chloroform	Log	20	74	0.10	-2.77	1.17	-2.59	10	2.30		
Chloromethane	Log	43	74	4.56	-0.68	2.12	-0.37	10	2.30		
Cyclohexane [a]	Log	5	74	-0.36	-2.91	1.02	-2.76	10	2.30		
1,1-Dichloroethane	Log	11	74	0.26	-2.72	1.11	-2.56	10	2.30		
1,2-Dichloroethane	Log	13	74	1.28	-2.70	1.14	-2.53	10	2.30		
1,1-Dichloroethylene	Log	0	74	-0.43	-3.04	0.89	-2.91	10	2.30		
cis-1,2-Dichloroethylene	Log	2	74	-0.51	-3.05	0.96	-2.91	10	2.30		
trans-1,2-Dichloroethylene	Log	0	74	-0.51	-3.00	0.93	-2.86	10	2.30		
1,2-Dichloropropane	Log	9	74	0.41	-3.28	1.32	-3.08	10	2.30		
Ethyl benzene	Log	7	74	0.79	-3.14	1.08	-2.98	10	2.30		
Ethyl ether	Log	1	74	-0.16	-2.67	0.90	-2.54	10	2.30		
Methanol	Log	26	74	5.44	2.24	1.21	2.42	100	4.61		
Methyl ethyl ketone	Log	47	74	4.70	-0.84	1.95	-0.55	100	4.61		
Methyl isobutyl ketone	Log	24	74	2.77	-2.51	1.77	-2.24	100	4.61		
Methylene chloride	Log	29	74	1.87	-1.93	1.64	-1.68	10	2.30		
1,1,2,2-Tetrachloroethane	Log	1	74	-0.99	-3.69	1.03	-3.54	10	2.30		
Tetrachloroethylene	Log	3	74	-1.11	-3.60	1.00	-3.45	10	2.30		
Toluene	Log	71	74	4.33	1.16	1.96	1.46	10	2.30		
1,1,1-Trichloroethane	Log	8	74	2.71	-3.34	1.28	-3.15	10	2.30		
Trichloroethylene	Log	17	74	4.30	-3.03	1.57	-2.80	10	2.30		
Trichlorofluoromethane	Log	0	64	-1.08	-3.33	0.88	-3.19	10	2.30		

CT5007

CCP Headspace Gas UCL90 Evaluation Form

WSPF #: LA-MHD01.001 Rev. 1 **Head Space Gas Summary Number** 1 through 8

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples (2)	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
1,1,2-Trichloro-1,2,2-trifluoroethane	Log	3	74	0.53	-3.57	1.10	-3.41	10	2.30		
1,3,5-Trimethylbenzene[a]	Log	4	74	-0.15	-3.33	1.03	-3.17	10	2.30		
1,2,4-Trimethylbenzene[a]	Log	11	74	0.74	-3.12	1.06	-2.96	10	2.30		
m,p-Xylene[b]	Log	14	74	2.30	-2.97	1.29	-2.78	10	2.30		
m,p-Xylene[b]	Log	14	74	2.30	-2.97	1.29	-2.78	10	2.30		
o-Xylene	Log	10	74	1.89	-3.04	1.18	-2.86	10	2.30		
Formaldehyde[c]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydrazine[d]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[a] These compounds are from CCP-PO-003, CCP TRAMPAC Authorized Methods for Payload Control (CCP CH- TRAMPAC) and are flammable VOCs that do not appear in the CCP-PO-001. These are not part of the target analyte list, but samples may be analyzed for these compounds.
[b] These xylene isomers cannot be resolved by the analytical methods employed in the CCP. m-Xylene and p-Xylene will be reported as "Total m-p-Xylene."
[c] Required only for homogenous solids and soil/gravel waste from Savannah River Site.
[d] Required only for homogenous solids and soil/gravel waste from Oak Ridge National Laboratory and Savannah River Site.

CES008

Comments:

(1) For analytes where there were no samples measured above the MDL value, 1/2 of the MDL value was used. (Per section C4 of the WAP, 1/2 of the MDL value is used in calculating the mean concentration.)

(2) Trichlorofluoromethane was not reported by the laboratory for the first ten containers used to generate the UCL_{90}. Trichlorofluoromethane was reported in all subsequent analyses. Consequently, only 64 results are used to generated the statistics.

Note:

This UCL_{90} page was generated in compliance with CCP-TP-003. Although the the Facility Permit no longer requires Headspace Gas sampling and analysis, the reporting of the results is required by our procedures.

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

5/9/2013
Date

CCP Headspace Gas Summary Data

Waste Stream Number LA-MHD01.001 Rev. 1 Lot Number (s) 368

Tentatively Identified Compound	Maximum Observed Estimated Concentrations (ppmv)	# Samples Containing TIC	% Detected
1,4 Dioxane	28.00	2	2.70%
Dichlorodifllluoromethane	45.00	1	1.35%
Benzyl chloride	0.07	1	1.35%
Iodomethane	0.21	1	1.35%
Bromomethane	0.57	1	1.35%

Data Supports EPA Hazardous Waste Numbers Assigned by AK? Yes ☑ No ☐

If no, describe the basis for assigning the EPA Hazardous Waste Codes:

SPM Signature _____ Date 5/9/2013

CI5009

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Rev. 1 Lot #: 368

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	None of the containers in this Lot had prohibited items identified during Visual Examination technique.

a. See Batch Data Reports
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as a characterization method because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE. VE was selected as a characterization method because the waste was newly generated and VE meets the Data Quality Objectives for NDE.

Site Project Manager Signature | Richard Kantrowitz (Printed Name) | 5/9/2013 (Date)

CIS010

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD01.001 Rev. 1 Lot # 368

Sampling Completeness

RTR/VE

Number of Valid Samples: 74 Number of Total Samples Analyzed: 74
Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 74 Number of Total Samples Analyzed: 74
Percent Complete: 100 (QAO is 100%)

HSG

Number of Valid Samples: 74 Number of Total Samples Collected: 74
Percent Complete: 100 (QAO is ≥90%)
Number of Valid Samples: 74 Number of Total Samples Analyzed: 74
Percent Complete: 100 (QAO is ≥90%)

Total VOC

Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

Total SVOC

Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

Total Metals

Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD01.001 Rev. 1 Lot # 368

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
5	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
6	Y	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for each VOC in the HSG of each container were calculated and compared with the program required quantitation limits, as reported in CCP-TP-003, Attachment 3, and additional U.S. Environmental Protection Agency (EPA) Hazardous Waste Numbers were assigned as required. Samples were randomly collected (when appropriate).
7a	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for solids VOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 4, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7b	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for solids SVOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 5, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7c	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for total metals were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 6, and additional EPA HWNs were assigned as required. Samples were randomly collected.

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD01.001 Rev. 1 Lot # 368

8	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
9	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
10	Y	Waste stream can be classified as hazardous or nonhazardous at the 90-percent confidence level.
11	Y	Appropriate packaging configuration and Drum Age Criteria (DAC) is applied and documented in the headspace gas sampling documentation, and the drum age met prior to sampling.
12	Y	TICs were appropriately identified and reported in accordance with the requirements of Section C3-1 of the QAPjP.
13	Y	The PRQLs for headspace gas VOCs were met for all analyses as evidenced by the analytical batch data reports.
14		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	Y	Y	Y
Headspace Gas Analysis	Y	Y	Y
Solids Sampling	NA	NA	NA
Solids VOCs	NA	NA	NA
Solids SVOCs	NA	NA	NA
Solids Metals	NA	NA	NA

Comments: NONE

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

5/9/2013
Date

CES013

SUMMATION OF ASPECTS OF AK SUMMARY REPORT: LA-MHD01.001

Overview

Waste stream LA-MHD01.001 is mixed heterogeneous debris waste generated in Technical Area (TA)-55, Plutonium Facility Building 4 (PF-4) at the Los Alamos National Laboratory (LANL). LANL's current central mission is to enhance global security by ensuring the safety and reliability of the U.S. nuclear stockpile, developing technologies to reduce threats from weapons of mass destruction, and solving problems related to energy, environment, infrastructure, health and national security concerns. Since 1978, PF-4 has been located at TA-55 and used for the extraction and recovery of plutonium from residue and scrap generated from operations at LANL facilities and other U.S. Department of Energy (DOE) sites in the defense complex. The scrap and residues are processed to recover as much plutonium as economically feasible. The recovered plutonium is converted into pure plutonium feedstock.

This waste stream consists of mixed heterogeneous debris waste generated in TA-55, PF-4 at LANL during TA-55 research and development (R&D)/fabrication and associated recovery, facility and equipment maintenance, decontamination and decommissioning (D&D), waste repackaging, and below-grade retrieval operations. The defense activities that generated this waste are: defense nuclear waste and materials by-products management, defense nuclear materials production, and defense research and development.

This Summation of the AK Summary Report includes information to support Waste Stream Profile Form (WSPF) number LA-MHD01.001, Revision 1 for mixed heterogeneous debris waste. The WSPF was originally approved on April 7, 2005. The primary source of information for this Summation is CCP-AK-LANL-006, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory TA-55 Mixed Transuranic Waste: Waste Streams LA-MHD01.001, LA-CIN01.001, LA-MIN02-V.001, LA-MIN04-S.001,* Rev. 12, December 12, 2012.

Waste Stream Identification Summary

Waste Stream Name:	Mixed heterogeneous debris from TA-55
Waste Stream Number:	LA-MHD01.001
Dates of Waste Generation:	1978 to present
Waste Stream Volume – Current:	17,172 55-gallon drums[1] 197 standard waste boxes (SWBs)
Waste Stream Volume – Projected:	618 55-gallon drums per year
Summary Category Group:	S5000 – Debris Waste
Waste Matrix Code Group:	Heterogeneous Debris Waste
Waste Matrix Code:	S5400, Heterogeneous Debris Waste

TRUCON Content Number:	LA154, LA115/LA215, LA116/LA216, LA117/LA217, LA118/LA218, LA119/LA219, LA122/LA222, LA123/LA223, LA125/LA225, SQ133/SQ233, SQ154
Annual Transuranic Waste Inventory Report Identification Numbers:	LA-TA-55-19, LA-TA-55-21, LA-TA-55-30, LA-TA-55-32, LA-MHD01.001

[1]This waste stream currently consists of 174 30-gallon drums, 14,225 55-gallons drums (includes pipe overpack containers [POCs]), 718 85-gallon drums, 2 110-gallon drums, and 125 other containers totaling an estimated 3,606 cubic meters of waste, which is equivalent to approximately 17,172 55-gallon drums (the 197 SWBs are addressed separately above).

Waste Stream Description and Physical Form

Waste stream LA-MHD01.001 consists of mixed heterogeneous debris waste generated in TA-55. The debris waste includes paper, rags, plastic, rubber, wood based high efficiency particulate air (HEPA) filters, other plastic based and cellulose based items (e.g., PPE), noncombustible (e.g., metal and glass), and lesser quantities of homogeneous solids (less than 50 percent by volume) contaminated with nuclear materials (e.g., americium oxide). Plastic-based waste includes (but may not be limited to): bottles, dry-box gloves (unleaded neoprene base), gloves including leaded gloves, ion-exchange resins, Plexiglas, polyethylene and vinyl, polystyrene, polyvinyl chloride plastic, rigid liner lids, sheeting, tags and labels, tape, ties, Tygon tubing, and vials. Rubber- and Teflon-based waste includes rubber gloves, Teflon tape, gaskets, and stoppers. Cellulose-based waste includes (but may not be limited to): booties, cardboard, cotton gloves, coveralls, laboratory coats, paper, rags and wipes (Kimwipes), tags and labels, wood/plywood, and similar materials. Noncombustible debris waste includes (but may not be limited to): bottles (e.g., glass), cans (e.g., steel and brass), composite HEPA filters, crucibles, equipment (e.g., furnaces, foundry parts, machine tools and parts), fluorescent bulbs, glass, gloveboxes, glovebox windows, graphite, lead (e.g., shielding), metal pipes, miscellaneous labware, metal (e.g., beryllium), motors, pumps, slag, small tools, ventilation ductwork, and wire ties. Homogeneous solid waste includes: hydroxide cake/filter materials, salts, and ash residues. Hydroxide cake/filter materials are composed of precipitated materials such as americium cadmium, calcium, chromium, iron, lead, magnesium, mercury, neptunium, plutonium potassium, silver, sodium hydroxide, thorium, and uranium. Salt waste can include varying mixtures of calcium chloride, cesium chloride, lithium chloride, magnesium chloride, potassium chloride, sodium chloride, zinc chloride, residual entrained calcium and zinc metal, and various plutonium and americium compounds. Ash residues originate from the thermal reduction of organic-based waste products that were contaminated with plutonium (e.g., plastics, rubber, wood, cellulosics, and oils) and may include incomplete combustion products such as small pieces of plastic and metal debris items. The waste stream also includes a small fraction of liquids (e.g., waste oils and organics) and solids (e.g., nitrate salts) absorbed or mixed with absorbent materials which may include Ascarite, diatomaceous earth, kitty litter, vermiculite, Waste Lock 770, and/or zeolite. Any payload container consisting of more than 50 percent by volume of homogeneous solids will be excluded from this waste stream (References C176, D025, D041, D083, D084, M019, M215, M216, M217, M218, M219, M222, and P178).

The waste stream meets the definition of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity.

This waste stream was generated during TA-55 R&D/fabrication and associated recovery, facility and equipment maintenance, D&D, waste repackaging, and below-grade retrieval operations.

Point of Generation

Location

Waste stream LA-MHD01.001 was generated at LANL in Los Alamos, New Mexico. The waste is stored at the TA-54 Material Disposal Area G (Area G).

Area and/or Buildings of Generation

Waste stream LA-MHD01.001 was generated in the TA-55 Plutonium Facility, Building 4.

Generating Processes

Description of Waste Generating Processes

Plutonium Processing Operations

Wastes were generated from materials used in the process to recover plutonium from residues, metal fabrication, and R&D operations. The variety of plutonium handling operations includes:

- Preparing ultra-pure plutonium metals, alloys, and compounds
- Preparing (on a large scale) specific alloys, including casting and machining these materials into specific shapes
- Determining high-temperature thermodynamic properties of plutonium
- Reclaiming plutonium from scrap and residues produced by numerous feed sources
- Disassembling components for inspection and analysis
- Manufacturing of parts on a limited basis
- Processing plutonium oxide, uranium oxide, americium oxide and mixtures of plutonium and uranium oxides for reactor fuels
- Pu-238 generator and heat source R&D, fabrication, testing, and recycling

Sections 1 through 6 correspond to the six operational areas. Each section describes the operations that generated waste assigned to the debris waste stream.

Sections 7 and 8 correspond to facility and equipment maintenance and D&D operations which are commonly performed in TA-55. These operations originate in the same areas and generate waste and materials that contain the same chemical and radiological contaminants described in Sections 1 through 6.

Section 9 corresponds to the repackaging and prohibited item disposition operations which repackage transuranic (TRU) waste from various LANL facilities including TA-55. The repackaged waste containers retain their original characterization; therefore, the TA-55 plutonium processing operations and associated chemical and radiological contaminants described in Sections 1 through 8 are still applicable.

Section 10 corresponds to the below-grade retrieval project which includes the removal of waste from various LANL facilities including TA-55. The TA-55 below-grade waste originated from the same operations described in Sections 1 through 8.

1. Nitrate Operations

The overall goal of the nitrate operations is to recover plutonium from scrap and residues, and produce a purified plutonium oxide product, or for conversion into metal. The primary feed sources for the nitrate operations are plutonium residues from other recovery operations (e.g., chloride operations), metal preparation, metal fabrication, analytical laboratory operations, and residues from other DOE facilities. Nitrate operations can be broken down into the following six steps (References C129, D008, and D036):

- Pretreatment
- Dissolution
- Purification and Oxide Conversion/Refinement
- Americium Oxide Production
- Evaporation
- Cement Fixation

Pretreatment primarily includes physical methods used to separate scrap and residues for the next step–dissolution. It may include burning metal, thermal decomposition, crushing and pulverizing, incineration, scraping, or sorting. Historically, it also may have included calcination, caustic leaching, chemical separation (hydroxide or oxalate precipitation), distillation, filtering of liquids or oils, magnetic separation or passivation. The filtering of liquids or oils was performed under *Oil Recovery* from 1979 to 1989. Vacuum pump oils and other contaminated liquids from various operations were analyzed for nuclear material content. If they met the discard limit (DL) for plutonium, they were mixed with vermiculite and packaged in a drum for disposal. If the liquids contained plutonium above the DL, they were filtered through a glass frit so as to meet the DL. Any plutonium residue caught in the filter was to be sent to recovery operations. Once in 1979, trichloroethylene was used as a diluent to reduce the viscosity of vacuum pump oil. Heavy metals were not used in the process but were expected to be present from equipment wear (References C130, D008, D036, and M057). After pretreatment, solids are sent to dissolution if plutonium concentrations are above the DL. If concentrations are below the DL, solids are sent to solid waste packaging. Plutonium bearing solutions are sent to purification if plutonium concentrations are above the DL. If concentrations are below the DL, solutions are sent to solid waste packaging (References D008 and D036).

Dissolution includes various steps that generate plutonium nitrate solutions for feed into the purification step. Primary chemicals used in dissolution are nitric acid, calcium fluoride, and/or hydrofluoric acid. Filtered solids are either returned to the dissolution operation until plutonium concentrations are below the DL or sent to the vault for storage. Processed solids with plutonium concentrations below the DL are sent to solid waste packaging for disposal. Debris

items are disposed after removal of plutonium contamination above the DL. Non-acidic plutonium-bearing solutions are sent to purification. Acid solutions are sent to the evaporator (References D008 and D036).

The *Advanced Testing Line for Actinide Separations* (ATLAS) facility is a technology development operation performed in the dissolution process. The mission of the ATLAS facility is to research, develop, and demonstrate state-of-the art methods to reclaim and purify actinides from contaminated scrap. The facility has the capability to recover actinides from a wide range of feed types including oxides, ash, pyrochemical salts, metal conversion residues, and other items such as metal, alloys, and sources. This line employs dissolution, feed treatment for anion exchange, eluate precipitation, purification precipitation, calcinations, and waste treatment technologies. Chemicals used in this process include aluminum nitrate, calcium fluoride, diethyl oxalate, ferrous ammonium sulfate, formamide, hydrogen peroxide, hydroxylamine nitrate, sodium hydroxide, sodium nitrite, urea, and ascorbic, formic, hydrochloric, hydrofluoric, nitric, and sulfuric acids (References C200, D071, and P190).

Purification and Oxide Conversion/Refinement consists of ion exchange, precipitation, calcination, and roasting and blending operations. The ion exchange operations use resin-filled columns to collect plutonium, which binds to the resin while impurities flow through the columns; an eluting agent (nitric acid and hydroxylamine nitrate) is then used to release purified plutonium in solution. The enriched solutions are then sent to oxalate precipitation. Calcination of the oxalate converts the plutonium to oxide form. The oxide is then screened and blended. The depleted liquids are sent to the evaporator after hydroxide precipitation. An alternative purification process involves peroxide precipitation to eliminate a select set of metallic impurities. The plutonium peroxide is then separated by filtration, redissolved in nitric acid and precipitated again as the oxalate. The calcined plutonium oxides are sent to the vault (References C129, D008, and D036).

Americium Oxide Production begins with hydroxide precipitation of americium from the filtrate of the plutonium peroxide precipitation. The americium hydroxide then goes through dissolution, purification and packaging much like the plutonium nitrate operations, but without the refinement step. The processed material is sent to the vault for storage (References C129 and D036).

The *Evaporator* processes plutonium-poor liquids in order to re-concentrate plutonium, if possible, or to reduce the volume of liquid waste. These solutions are collected in tanks and sent to the evaporators in batches of up to 600 liters. The solution batches are then concentrated to approximately 25 liter volumes called "bottoms." As the bottoms cool, salts (i.e., nitrate salts) precipitate out and settle on the bottom of cooling trays. After cooling, the bottoms are sent back to ion exchange if plutonium concentrations are above the DL or to cement fixation if concentrations are below the DL. Attempts are made to re-dissolve settled salts, but if this is not readily achievable, the salts are sent to dissolution if plutonium concentrations are above the DL or sent to cement fixation if concentrations are below the DL. Nitric acid is used in the evaporator to wash nitrate salts having a plutonium concentration above the DL. Spent acid waste is sent to the Radioactive Liquid Waste Treatment Facility (RLWTF). Heavy metals that might be present are concentrated in this operation (References C130, D008, and D036).

Prior to 1992, some nitrate salts below the DL were not sent to cement fixation for immobilization but were packaged as waste. These salts were washed, vacuum dried (to reduce, but not eliminate, moisture content), double- (or triple-) bagged, and placed in 55-gallon drums. These salts are being remediated/repackaged in the Waste Characterization Reduction and Repackaging (WCRR) Facility with an inert absorbent material (e.g., zeolite, kitty litter).

The minimum inert absorbent material to nitrate salts mixture ratio is 1.5 to 1. Containers of nitrate salt waste mixed with inert absorbent material are included in the mixed absorbent waste stream (References C230, C231, D089, D090, D091, and P198).

The *Cement Fixation* process immobilizes aqueous and organic liquids with low plutonium concentrations and solids (e.g., evaporator bottoms, salts) from the six operational areas (e.g., nitrate operations) in cement. Historically, filtered solids and fines were also sometimes sent to cement fixation, but this is no longer done. Prior to 1988, the cement fixation process was performed throughout TA-55 using available glovebox space. Since 1988, the process has been performed in a dedicated glovebox. Liquids and solids are typically transferred to cement fixation in containers. Reagents used during this operation include cement accelerator, gypsum cement, nitric acid (pH adjustment), organic liquid emulsifier, Portland cement, silicone defoamer, sodium citrate retarder, sodium hydroxide, and phthalate and phosphate buffer solutions for pH meter calibration. The waste materials are commonly adjusted to a specific pH prior to mixing with gypsum or Portland cement. In the past, the cement was mixed in plastic bags or in various sized containers. Waste is now mixed directly into a 55-gallon drum attached to the glovebox. Any particulate matter is added during the stirring operation. Based on the review of the AK sources, contaminants of incoming materials may include chromium, lead, mercury, silver, acetone, benzene, butanol, carbon tetrachloride, chlorobenzene, chloroform, tetrachloroethylene, methylene chloride, methanol, pyridine, and xylene. Most of the wastes generated under this operation are classified as cemented wastes; although a small amount of debris waste is also generated (References C132, C171, C200, D008, D036, D050, D077, D078, and U005).

2. Miscellaneous Operations

R&D projects involve applied techniques and methods designed to study and improve operations associated with the purification, separation, extraction, recovery, and characterization of actinides (primarily plutonium). General types of these miscellaneous operations are described below.

Actinide Chemistry R&D. Several small-scale R&D efforts utilizing analytical instrumentation, wet chemistry, and other miscellaneous laboratory techniques primarily focus on plutonium recovery. Examples of some of these efforts include:

- Fluoride sintering of plutonium oxide takes advantage of the presence of fluoride to aid the formation of a sintered mass of plutonium oxide powder at temperatures above 700°C.
- Chlorination of plutonium oxides involves oxides with tantalum chips from the former Rocky Flats Environmental Technology Site. Chlorination is used to recover plutonium from potassium chloride and sodium chloride matrices.
- Processing of molten-salt extraction (MSE) salts generated at LANL and the former Rocky Flats Environmental Technology Site.
- Recovery of plutonium from ash involving plutonium/thorium oxide mixtures.
- Processing of neptunium oxide and metal to remove the protactinium (Pa) daughter in order to use the neptunium for Nondestructive Assay (NDA) standards.

Process outputs from these operations may be sent to the vault, aqueous recovery, or cement fixation based on the DL (References D009 and D032)

Experimental Oxide Characterization is conducted in Room 208 of PF-4 as an experiment designed to calculate the surface area and pore size distribution of a sample and to analyze the surface characteristics of the sample. Mixtures of helium and nitrogen are passed through a V-shaped cell to analyze the sample inside. With the exception of nitrogen and helium, no solvents or chemicals are used in this process. Process outputs from this operation may be sent to the vault, returned to the originating P/S Code, transferred to aqueous recovery, or cement fixation based on the DL (References D009 and D032).

The *Analytical Chemistry Laboratory* includes all analytical techniques performed in Room 124 of the PF-4. Operations involve the analysis of plutonium and americium, Resource Conservation and Recovery Act (RCRA) metals, and trace metals. Originators provide samples, which are prepared for further analyses, such as inductively-coupled plasma (ICP) and x-ray energy spectroscopy (XES). Unused liquid samples are returned to the originator, sent to radiochemistry for counting, sent to aqueous recovery operations, cement fixation, or sent to the RLWTF (References D008, D009 and D032).

Laser Induced Breakdown Spectroscopy is a technique that uses a powerful laser beam which, when focused on a sample, vaporizes a portion of the sample and forms a plasma. The light emitted by the plasma is analyzed in an optical spectrometer and the elemental composition and concentration of the sample can be determined. The advantages of this technique include analysis without sample preparation or dilution and portability. In this operation, originators provide plutonium containing solids or solutions which are analyzed. After analysis, the remaining sample is returned to the originator (Reference D032).

Actinide Processing Demonstration is a hydrothermal processing technique that involves the reaction of aqueous/organic mixtures, pure organic liquids, or contaminated combustible solids (e.g., ion exchange resins, plastic filters, and cellulose rags) with water under supercritical or near supercritical (elevated temperature and/or pressure) conditions. Feed streams may be contaminated with acetone, butanol, carbon tetrachloride, chlorobenzene, chromium, dihexyl N, N-diethylcarbamoylmethyl phosphonate, diisopropyl benzene, lead, methanol, methylene chloride, octylphenyl di isobutyl carbamoylmethyl phosphine oxide, and xylene. Effluents are liquids, oxides, and salts. Organic components are oxidized to carbon dioxide. Nitrate contaminants are converted to nitrogen gas and some nitrous oxide. Components such as chlorine, sulfur, and phosphorus are oxidized and converted to acids or salts. Process outputs from this operation may be sent to the vault, returned to the originating P/S Code, or transferred to aqueous recovery or cement fixation (References C199, D032, D077, and M223,).

Electrochemistry operations examine the electrochemical behavior of actinide or actinide contaminated metal samples and compounds in aqueous and non-aqueous solutions. A wire is attached to the sample with conductive paint and the sample is mounted in epoxy. The surface is polished and then cleaned with ethanol. An electrochemical cell is assembled, including a reference electrode (such as saturated calomel), a counter electrode, the desired solutions, and a gas dispersion tube. The electrodes are attached to a potentiostat and the sample is polarized by the application of voltage to the working electrode. The residual solution is made more basic to precipitate the actinide. After settling, the liquid is decanted and the precipitate is filtered and dried. The filtrate is sent to Aqueous Recovery or to the RLWTF. After drying, the residue is scraped into a storage container and sent to the vault. The remaining samples are returned to the originating P/S Code (Reference C131).

Material Identification and Surveillance involves the preparation of batches of plutonium oxide with well-established characteristics, and non-special nuclear material (SNM) impurities as desired to determine how these materials will interact with water in long-term storage. The preparation of the batches uses any combination of milling, blending, screening, calcining, and splitting to produce the desired plutonium oxide powders. Impurities such as alkaline, alkaline earth, uranium chlorides, metal oxides, hydroxides, fluorides, carbonates, nitrates, and sulfates are added as desired and the material is sent to the vault or other operations as needed (Reference C131).

Long Term Storage and Compatibility Testing is an operation used to measure the chemical and physical changes that occur when plutonium metal or compounds (such as oxides) are placed in various storage configurations, in various gaseous environments, or in contact with process or commercial materials. Small Material Inventory Studies involve the loading of up to 10 grams of plutonium dioxide as well as non-special nuclear material impurities into containers. The containers are monitored for temperature, pressure and gas composition over time. The capability also exists to modify the gas composition at any given time. The containers are heated in a furnace to a temperature corresponding to self-heating of a normal storage container loaded with nuclear material. The plutonium oxide is supplied by the vault or the Material Identification and Surveillance (MIS) process. The purpose of this process is to understand any changes or reactions that might occur in long-term storage of nuclear material. The gas monitoring is accomplished using mass spectrometry or gas chromatography. At the conclusion of testing, the containers and materials are submitted for analysis, returned to MIS, or sent to the vault (References C131 and D009).

Compatibility tests, which are no longer performed, were similar to the long term storage tests, except that (1) tests were prepared with process or commercial materials in contact with the plutonium metal or compounds and stored in the glovebox, (2) the storage containers didn't have a thermocouple, (3) the container may not have been monitored by an automated data acquisition system, and (4) the container had a volume up to 1.3 liters. Materials involved include plutonium metal, alloys or compounds, process or commercial materials (including liquid solder [gallium, indium, and tin], glycol, silicone grease, Sylgard 184, or cellular silicone), and the following gases which were used as atmospheres in the storage containers: helium, hydrogen, or the constituents of air. The test materials were sent out for analysis after the tests. Gas cylinders were attached to a manifold through a two-stage regulator and not used in the gloveboxes (References C131 and D009).

Standard Fabrication originated as Pyrochemical Matrix Studies conducted from 1986-1992 involving rod milling prior to screening. This operation had two objectives: (1) blending large batches of homogeneous plutonium oxide for pyrochemical operations, and (2) blending similar batches for dissolution in nitrate operations. The operation changed in August 1992 when a need developed to blend oxides to provide feed material for making NDA standards. From February 1995 to the present, the operation changed again, with the objective of determining the effect of high purity oxide, salt, and metal matrices on the accuracy of NDA measurements. Operations involve crushing, pulverizing, blending, roasting, and sieving. The results are used to determine protocols for handling and processing the matrices and to correct bias measurements. The product material consists of high-purity oxide standards for use at LANL and throughout the DOE complex (References D009 and D032).

Metallography Operations characterize the microstructure of metallic or ceramic pieces and establish the quality and effectiveness of welds. Materials examined consist of plutonium and uranium carbides, nitrides, and oxides, as well as zirconium and tantalum alloys, and stainless-

steel. Metal pieces (pellets) are cut with a diamond saw. Ceramic and metal pieces are subjected to grinding with standard metal grinding media (e.g., papers impregnated with silicon carbides and diamond). The materials are cleaned, polished, and etched with several different chemical compounds. The spent chemicals are sent to aqueous recovery, to the RLWTF, or mixed with absorbent. The plutonium and uranium carbides, nitrides, and oxides are returned to the vault (References D009 and D032).

Electrolytic Decontamination conducts various electrochemistry R&D experiments in Rooms 105, 106, 112, 208, 209, and 210. Electrochemistry methodologies are designed to decontaminate items, replace operations that produce large amounts of waste, or enhance chemical reactions. Process inputs are from the vault. The process involves uranium decontamination of disassembled weapon components from various sites with various levels of surface contamination with plutonium. The operation is strictly an aqueous process in which an alkaline solution is reacted with the components to precipitate uranium. A stainless-steel cathode is used; therefore, corrosion is not an issue and the electrolyte is not degraded. Significant amounts of metal could be stripped in a short period of time. The precipitated solution comprises either uranyl hydroxide or uranyl sulfate, which is then dried for mass balance. The distillate contains small amounts of uranium. Rinse water is discarded to the RLWTF. Outputs from the process are directed to the vault or cement fixation (References D009 and D032).

Waste Management Operations (P/S Code WM) is currently limited to waste generated from the TRU solid waste management operation in Room 432. This practice has been in place since the beginning of 1993. Room trash boxes from PF-4 have always been handled as low-level waste (LLW). However, when the boxes were assayed to verify contamination levels, some were determined to be TRU waste. These boxes of room trash were diverted to Room 432 for repackaging as TRU waste. From May 1987 through 1992, these boxes were tracked using P/S Code XO or X0 (Inactive or unspecified P/S material) and ultimately designated as having originated in P/S Code WM. These codes were changed to P/S Code WM after 1992 (References D009, D032, and D077).

Additional controls were placed on room trash after 1992 and continue to the present. Trash is assayed with the Multiple Energy Gamma Assay System (MEGAS). When a container is rejected because of MEGAS data, the rejected container is returned to the originator for removal of any "hot" item(s). This operation also allows greater control to prevent discarding regulated materials (e.g., RCRA constituents) in room trash. P/S Code XO indicates waste materials contaminated with RCRA constituents that are generated within specific rooms but cannot be associated with an individual P/S Code in that room. P/S Code X0 is designated for waste materials that cannot be associated with a specific room, such as a hallway, mezzanine offices, restrooms, change rooms, basement, pump rooms, and trolleys. The waste from all these areas, except the pump rooms and trolleys, would be LLW and no RCRA constituents are associated with the waste. P/S Codes XO and X0 are considered interchangeable because of the difficulty in distinguishing them on container paperwork and their inconsistent use by waste generators (References C037, D009, and D077).

Material Management Operations (P/S Codes M1, M2, MM, and M4) are used to introduce and remove items from the glovebox line. TRU waste typically associated with bag-out operations (e.g., stubs, tape) is packaged with other waste items and assigned Hazardous Waste Numbers (HWNs) based on the P/S Code from which the waste originated. Waste generated in the material management rooms is associated with glovebox maintenance operations. No other operations are conducted in these rooms (Reference D009).

The *Non-Confirming Drums* operation occurred from April 1989–April 1991 in Room 432. This operation was established to provide a mechanism for dealing with TRU drums that did not confirm TA-55 characterization information (e.g., recorded weight or nuclear material content). Non-confirming drums were temporarily set aside until such time as personnel could reprocess them under waste management operations to correct the non-confirming condition. After April 1991, non-confirming drums were dealt with immediately, and this operation was no longer needed (Reference D032).

Extraction/Separation Studies is no longer active, but involved the processing of actinide hydroxide cakes generated from chloride and nitrate operations. Research in this area also contributed to the development of sensors and instrumentation for online chemical analysis, and improvements in the purification operation. The R&D operations were non-routine and developmental in nature. The operations involved research, process development, small scale trouble-shooting, and occasionally preparation of various isotopes and isotopic mixtures of plutonium, uranium, americium, and neptunium (Reference D032).

Non-Aqueous Dissolution/Extraction Operations is no longer active, but involved the dissolution of actinide compounds and actinide-containing matrices in superacid media. The superacid solutions were evaporated to leave solid products that were analyzed by a variety of methods. The study of the organometallic chemistry of uranium and thorium in non-aqueous solvents consisted of a variety of small-scale organoactinide operations. The organoactinide operations were designed to study the synthesis of new actinide compounds in non-aqueous media. These operations also examined the characterization and reaction chemistry, and considered applications to existing actinide processing technology. Other non-aqueous operations supported fundamental and applied actinide chemistry research, by preparing solvents and reagents for the synthesis of new compounds, and characterization and analysis of new chemical compounds using wet chemistry methods and analytical instrumentation (Reference D032).

Measurement/Detection Operations and Studies is no longer active, but involved the inspection of oxides and metals. Materials were retrieved from the vault, brought to the glovebox, inspected, assayed by a non-destructive method, and sampled if necessary, then repackaged and returned to the vault. Assay methods included XES, laser-based, Raman and high resolution emission spectroscopy as well as other spectroscopic techniques. In addition to elemental and isotopic analyses, other measurement studies were designed to determine the surface area and pore size distribution of a sample and to analyze its surface characteristics. These studies produced only standard glovebox waste (References C131, D009, and D032).

Halogenation Studies is no longer active, but involved the fluorination of samples containing plutonium residues. A gas flow loop was used to pass a fluorinating agent through a gas-solid reactor where plutonium in the solid residue reacted chemically to form solid plutonium tetrafluoride or gaseous plutonium hexafluoride. Gaseous plutonium hexafluoride was trapped in a cold trap, distilled, and reduced to plutonium tetrafluoride. Separation operations involving experimental chlorination operations were similar to the fluorination procedures. A gas loop was used to flow carbon tetrachloride and perchlorocarbons through a gas-solid reactor to chlorinate plutonium oxides to form recoverable plutonium compounds. These studies produced only legacy waste (References D009 and D032).

3. Special Processing Operations

Special Processing includes operations for MT 42 and R&D for MT 52. Because processing MT 42 is a smaller-scale version of the recovery operations used for MT 52, MT 42 processing has four main recovery steps (References D010 and D030):

- Head-end operations
- Nitrate ion exchange operations
- Chloride ion exchange operations
- Pyrochemical operations

Only head-end operations are covered here. Nitrate ion exchange operations are covered in Section 1. Chloride ion exchange operations and pyrochemical operations (Direct Oxide Reduction, Molten Salt Extraction, and Electrorefining) are covered in Section 5 (References C131, D010, and D030).

Head-end Operations includes pretreatment which may include sorting, crushing, and/or pulverizing feed materials prior to being fed into later operations. A separate pretreatment procedure is the decladding of plutonium-beryllium (Pu-Be) sources. The Pu-Be metal alloy is removed from the sources, which are then entered into the chloride line for plutonium recovery along with other materials (References D007 and D028). The next operation is to leach or pickle tools, labware, crucibles, ash, etc., in nitric, hydrochloric, or hydrofluoric acids to remove recoverable plutonium. Plutonium oxide is typically calcined in nitrate and chloride operations to oxidize any metallic plutonium prior to dissolution. Combustible wastes are burned and the ash sent through the rotary calciners to remove incompletely oxidized organic material (References D010 and D030).

All wastes generated by MT 52 R&D operations are replicated for MT 42, but carry different P/S Codes to differentiate and identify the radionuclide content of the waste. Outputs from Special Processing include high purity metal for casting and machining (References D010 and D030).

4. Metal Operations

The main goal of metal operations is to transform the high purity metal produced primarily by pyrochemical operations into alloyed metal shapes. On-going metal operations include metal casting, machining/metal work on various metals, extrusion, surface preparation, oxidizing, surveillance machining, accelerated aging, impact testing, fuel fabrication, assembly, recovery and extraction, physical property testing, burst testing, special recovery, thermal hydride/ dehydride, research alloy preparation, and welding (References C131, D011, and D029).

Casting is a process that receives plutonium metal from pyrochemical operations or Special Processing Operations depending on material type, or from other sources. The metal is combined with other metal from different sources to produce a product metal that meets purity specifications. Specification metal is then cast as a prealloyed feed aliquot at which time gallium metal is added. It is analyzed chemically in-line to determine the proper gallium content and the metal is placed into in-line storage. Metal is pulled from in-line storage to cast into shapes. Shapes generated by this process are sent to machining, various P/S Codes for testing, plutonium standards extrusion, reduction to metal or salt stripping. Plutonium oxide byproduct is sent to aqueous recovery (References D011 and D029).

Machining involves a variety of operations on cast parts obtained from Casting. Machining operations include turning, milling, grinding, and boring. The objective of the machining operations is to bring the parts to their formal dimensional specifications. Operations within machining use dry machining techniques. Cleaning solvents were used in machining operations in the past, and still are occasionally used, although with less-hazardous substitutes. Freon TF is used to remove oil from turnings (degreasing) before they are sent to recovery. Tetra-chloroethylene is used to degrease metal parts after they are machined. Machined parts are sent to assembly operations or the vault. Scrap metal and turnings are sent to salt stripping and casting for recovery/reuse (References D011 and D029).

Plutonium Standards Extrusion uses high purity metal ingots from casting or machining which are placed in an extruder. The extruder is operated to produce a metallic wire that is cut into 1 gram pieces. Each 100 gram lot of wire pieces is sealed in a stainless-steel storage container for later packaging and shipment as required. The extrusion system consists of a hydraulic press and a microprocessor controlled hydraulic pumping system including a 0.156 inch diameter extruding die. The entire operation is performed in an inert glovebox to prevent oxidation of the metal. Plutonium standards are sent to the vault for storage (Reference C131).

Plutonium Surfaces studies receive samples from other operations and characterize them by the Sievert's Equilibrium System, x-ray, and other physical examinations. These methods can determine pressure-composition-temperature curves for actinide hydride/deuteride compounds or prepare samples of these compounds. These techniques also determine structures of actinide samples and measure helium release in aged plutonium. The samples may require mounting prior to characterization. Samples are returned to the originating P/S Code or to the vault (Reference C131).

Uranium Conversion involves the oxidation of uranium metal in air or a controlled oxygen environment at temperatures up to 1,100° C in a glovebox environment. The uranium pieces are usually received from the vault. The metal may be cut into pieces to fit into the crucible, which is then placed in the furnace and heated to the desired temperature in a slow flow of oxidizing gas. The oxide powder is then rod- or ball-milled to reduce particle size. It is then placed in a bottle before being removed from the glovebox line and transferred to the vault (References C131 and D011).

Surveillance Machining focuses on receiving metal shapes and machining the required metallic samples for a variety of analyses that can document what changes may or may not have occurred in the shaped item over its lifetime. The turnings are ultimately oxidized, while classified shapes and miscellaneous metal go to a variety of operations or to the vault (Reference C131).

Accelerated Aging of Plutonium is similar to casting and machining. Plutonium and other actinide based metals and materials are cast, machined, and inspected in the Actinide Research Machining Glovebox in the 300 wing of PF-4. This program employs Pu-238 to rapidly age weapons-grade plutonium, permitting accelerated self-irradiation induced changes in the material as a function of time. The Pu-238 enrichment level of weapons grade plutonium is performed at approximately 5 to 7.5 percent by weight. The Pu-238 is blended with the weapons-grade plutonium during the casting operation. Machining operations include turning, milling, grinding, and boring. Unlike machining, Freon TF is not used to degrease metal chips and turnings. However, trichloroethylene is used to clean machined parts. Machined parts are

sent to metallography for testing. Plutonium scrap and turnings are sent to Casting and Salt Stripping for reuse/recovery. Oxide from casting is sent to Roasting and Blending for further processing (References C131, D011, D081, and P189).

The Impact Test Facility uses a 7-inch gas gun and a 40-millimeter (mm) powder gun. The 7-inch gun is used for Pu-238 experiments, such as heat source impact testing and impact testing of Pu-238 capsules in graphite blocks. The entire test is conducted in a tube so that the material is contained. The entire tube with contents is transferred back to Nuclear Material Technology (NMT) -9 for recovery elsewhere in PF-4. No TRU waste is generated from the 7-inch gun experiments under normal circumstances. The 40-mm gun enables the experimenter to generate data on materials in high stress environments. During the test, a projectile propelled to hypervelocity by a charge of smokeless powder, strikes an instrumented target contained within a glovebox. The target is shattered into macro and microscopic pieces during the impact and the projectile is arrested by a series of stopping plates. Target materials can range from surrogate materials to actinides. Post test, the remains of the target material, projectile, instrumentation, and stopping plates are removed as waste or are reused (References D011 and D029).

The Kolsky Bar Test Facility is a gas gun operation for physical property testing. A stainless-steel bar with plastic seals at each end is fired by gas pressure down a stainless-steel barrel that strikes a target, usually plutonium. Behind the target is another stainless-steel bar instrumented with sensors. This bar is butted against a plastic wrapped lead brick at the back of the chamber. Wastes include rags, HEPA filters, and gloves. The rags generated by this process may contain some lead/lead oxide from cleaning operations. The barrel is cleaned with a cotton swab. No solvents are used. Residual plutonium is returned to the originating P/S Code (References D011 and D029).

Fuel Fabrication entails the development of reactor fuel. Enriched uranium oxide, depleted uranium, and/or plutonium oxide is blended and mixed with graphite and stearic acid. The blended mixed oxide is then pressed into briquettes. The briquettes are heated, size reduced, and pressed into pellets. The pellets are heated/sintered and inspected. Grinding may be necessary to meet specifications. The accepted mixed oxide fuel pellets are transferred into the cladding glovebox. The cladding tube is held in a lathe while the pellets are pushed into the cladding with a pushrod. A stainless-steel shroud tube is placed in the cladding tube prior to insertion of the pellets. A spring and end cap is placed in the open end of the cladding tube, and a tungsten inert gas (TIG) weld is made at the joint between the end cap and the cladding. Cladding, spring, and end cap are stainless-steel. Bonding of the fuel is done with either helium or sodium. Any excess sodium is reacted with Dowanol 80 to form a stable sodium salt, which prevents metallic sodium from entering the waste streams. As a result of the current effort in mixed oxide fuel development, the issue of gallium removal becomes important. Completed fuel rods are sent to the vault for storage prior to distribution. Oxides and rejected pellets are sent to aqueous recovery or the vault (References D011 and D029).

Assembly Operations involves bringing nuclear material out of the glovebox and encapsulating it in a cold container. This outer container can be a bolted assembly or a welded assembly using electron beam, pressurized inert-gas metal arc, TIG, or laser welding techniques. No solvents are used. Wastes include aluminum foil, plastic bags, and gloves. The waste generated from this process is nearly always LLW, but some TRU waste may be generated. The assembled containers are sent to the vault for storage (References D011 and D029).

The *Advanced Recovery and Integrated Extraction System* (ARIES) is a demonstration operation, which receives and disassembles pits, plutonium hydrides and metallic plutonium, from which it produces plutonium metal or oxide powder. The product is canned for long-term storage. Wastes include plutonium-contaminated debris waste. Operation of the ARIES Electrolytic Can Decontamination System decontaminates the external surfaces of canned plutonium using an electrolytic decontamination system. An electrolyte (sodium sulfate) and water are used in the system in a recycle mode. Sodium hydroxide is used for pH control. Wastes include electrolyte and water solutions contaminated with plutonium. This liquid waste is sent either to cement fixation or to the RLWTF at TA-50. The plutonium metal and oxide powder is sent to the vault (References D011 and D029).

Physical Properties is a procedure that describes techniques for the study of physical properties of alloys, including the structural, magnetic, electronic, and metallurgical properties of actinide metals, alloys and compounds from various operations. A muffle furnace with an argon atmosphere is used for testing sample homogeneity or compatibility, and for temporary storage. Measurements include dilatometry (thermal expansion) and electrical resistivity. A Carver press is used to produce sample wires and pellets. The process takes place in Room 113, glovebox G 187. The actinide metals, alloys, and compounds are returned to the originating P/S Code (References D011 and D029).

Burst Testing involves the placement of hemi-shells on a test stand. A buffered test solution is pumped into the shell, pressurizing it until it bursts. Strain gauges monitor the deformation of the shell. The test solution is sodium tetraborate and sodium hydroxide and is filtered and reused. The solution is eventually discarded in the caustic waste line to the RLWTF at TA-50. Strain gauges have electrical contact points that are tin-lead solder. No solvents are used. The tested hemi-shells are sent to the vault for storage (References D011 and D029).

The *Special Recovery Line* (SRL) conducts pit disassembly on pits which are contaminated with tritium. Tritium is recovered if it is above a specified activity. Separation of pit components is done using a special abrasive cut-off wheel. The pit is cut in half, and the shells are cleaned with copper wool and Freon TF. Scrap is sent to recovery or to waste management depending on whether the material is SNM or not. After the shells are cleaned with the copper wool and Freon TF, they are placed in an ultrasonic bath for cleaning using product SF-2I. Tritium-contaminated water is collected and poured over zeolite absorbent for disposal. Small-scale decontamination of tritium-contaminated plutonium and other SNM is done in the SRL furnace. The SRL furnace area consists of different sections, including metal handling, tritium removal furnace, equipment for collecting tritium liberated in furnace, and effluent treatment system. The procedure that describes the operation of the furnace and furnace gas treatment system contains no details on disposition of output materials, or post-run cleaning operations. Plutonium, uranium, and tritium are sent to the vault for storage. Plutonium metal is also sent to casting, machining, or salt stripping for reuse/recovery (References D011 and D029).

Thermal Hydride/Dehydride:

a) Plutonium Hydriding System. The plutonium hydriding process studies the reactions of plutonium alloys and other actinides with hydrogen and other gases. The process takes place in Room 114, glovebox 110, and uses no chemicals other than the gases. The plutonium alloys and actinides are returned to the originating P/S Code (Reference D029).

b) Operating the Hydride-Dehydride Systems. The hydride-dehydride operating procedure describes how to safely form plutonium hydride, and then to decompose it to plutonium metal.

Three phases are involved: phase one uses hydrogen gas in large amounts and dehydriding is done in a separate reactor. Phases two and three use a closed loop, minimal hydrogen gas, and a single reactor. The process takes place in Room 114, GB 116, GB 119 and GB 154. No chemicals are used besides the gases. The plutonium metal is sent to the vault for storage (Reference D029).

Welding operations fall into two categories: encapsulation of radioactive isotopes and other welding operations. Two methods of welding are employed: a gas tungsten arc welder and an electron beam welder. Encapsulation of radioactive isotopes involves placing the isotope to be sealed into a stainless-steel capsule and subsequently welding the capsule closed. The exterior of the capsule is cleaned with Freon TF. The Freon TF is allowed to evaporate; hence no wiping of the capsule surface with rags is required. Other welding operations include welding of plutonium samples on vanadium in an argon atmosphere, brazing gold to repair platinum frits, welding titanium to repair titanium boats, and welding of aluminum. No welding of lead occurs. Welding outside of the glovebox line is also done under this P/S Code. The welded parts are either returned to the originating P/S Code or sent to the vault for storage (Reference D029).

5. Pyrochemical and Chloride Operations

Pyrochemical operations include metal preparation, metal purification, and ancillary metal production operations (chloride operations and metal oxidation). Pyrochemical outputs are most often high-purity metal feed materials for metal operations (References D011 and D028).

Metal preparation includes the following:

In the single pass *Direct Oxide Reduction* (DOR) operation, plutonium oxide and calcium metal are reacted in molten calcium chloride ($CaCl_2$) to produce plutonium metal. The reaction is conducted in a magnesium oxide (MgO) crucible. After cooling, a plutonium metal button is removed by breaking the crucible. A layer of salt above the button contains unreacted oxide and metal shot, which is sometimes recovered by heating with addition of fresh salt plus calcium metal (Reference D028).

Multiple-Cycle Direct Oxide Reduction (MCDOR) is used to minimize the salt waste. During the MCDOR operation, the molten salt is regenerated by sparging the calcium chloride-calcium Oxide ($CaCl_2$-CaO) mixture with chlorine gas between multiple plutonium metal production runs. After approximately five cycles of metal production, the mixture is cooled and the salt and metal phases are separated. The plutonium metal is sent to casting or electrorefining. Impure plutonium metal is sent to molten salt extraction. Salts and crucibles above the DL are sent to chloride operations or the vault. Salts and crucibles below the DL are sent to solid waste packaging for disposal. Caustic solution from the chlorine off-gas scrubber is sent to chloride operations or the RLWTF (References D011 and D028).

Metal Preparation Line is no longer active, but produced plutonium metal from fluoride salts. Hydrogen fluoride gas was reacted with plutonium oxides obtained from calcination of oxalate or peroxide precipitates from the aqueous nitrate or chloride process lines. The plutonium fluoride was further reacted with calcium metal to produce plutonium metal, which could then be recovered as a small globule, or button, by breaking the crucible. This operation generated only legacy waste (References D011 and D028).

6. Metal purification operations include the following:

MSE is used to separate americium and the more reactive elements such as rare earth elements, alkali metals, and alkaline earth metals from plutonium metal (Reference D048). This operation is employed only if the americium content is greater than 1,000 parts per million (ppm). In the original operation (from 1979 to 1988), magnesium chloride ($MgCl_2$) was added to the impure plutonium metal in a eutectic mixture of sodium chloride (NaCl) and potassium chloride (KCl), contained in a MgO crucible, and heated to 750°C. The $MgCl_2$ oxidized americium to americium chloride although some plutonium was also converted to the chloride salt form. In 1988 and continuing to the present, the MSE operation uses $CaCl_2$, NaCl, KCl, and plutonium chloride ($PuCl_3$) produced by in-situ chlorination in a tantalum or MgO crucible. Ninety percent of the americium and ten percent of the plutonium are transferred from the feed metal to the salt. After cooling, the salt and metal are mechanically separated. The salts and crucibles above the DL are transferred to the vault or chloride operations. Salts and crucibles below the DL are sent to solid waste packaging for disposal. The plutonium metal is sent to electrorefining or metal oxidation. Caustic solution from the chlorine off-gas scrubber is sent to chloride operation or the RLWTF (References D011 and D028).

The *Electrorefining* (ER) operation takes impure metal from the MSE and DOR/MCDOR operations and produces high purity plutonium metal. Impure plutonium is cast as an anode, which is then placed in a MgO crucible with a salt mixture, a metal cathode (typically tungsten), and a seeding reagent that is $MgCl_2$, NaCl, or KCl. After the anode and salt are melted, current is applied to the system, and plutonium at the anode is oxidized to plutonium ions that travel to the cathode and are reduced back to the metal state. Impurities in the original plutonium anode that are more electropositive or have a greater negative free energy of formation than plutonium (including barium and americium) dissolve and remain in the salt, while impurities more electronegative than plutonium (including cadmium, chromium, lead, and silver) remain in the anode. After cooling, the crucible is broken and the residues are physically separated from the high purity product metal. Anode heels were sent to pyroredox from 1984 to 1986. Currently, salts and crucibles above the DL are sent to chloride operations or the vault. Salts and crucibles below the DL are sent to solid waste packaging for disposal. Purified plutonium is sent to casting and the vault. Caustic solution from the chlorine off-gas scrubber is sent to chloride operation or the RLWTF (References D011 and D028).

Ingot Casting is included in the Electrorefining section of pyrochemical operations. Metal is melted in a MgO crucible to cast the ingot (References D011 and D028).

From 1987 to 1989, secondary solvent metals such as cadmium, bismuth, lead, and gallium were added to experimental studies of the ER operation (References D011 and D028).

7. Ancillary metal production operations include the following:

Chloride Operations:
The overall goal of chloride operations is to recover plutonium from scrap and residues and produce a purified plutonium oxide for conversion to metal. The feed sources have included plutonium residues from pyrochemical operations, Pu-Be neutron sources, analytical chemistry laboratory solutions, and residues from other DOE facilities. Chloride operations can be broken down into the following four steps (Reference D007):

- Pretreatment
- Dissolution

- Purification
- Hydroxide precipitation

Pretreatment for chloride operations is discussed in the *Head-end Operations* section of special operations (refer to Section3).

Dissolution uses hydrochloric acid to leach and dissolve plutonium from salts, scrap, crucibles, residues, and various solutions, including solutions from the analytical chemistry laboratory. Enriched solutions undergo further purification and solid wastes are discarded as debris waste or sent to cement fixation in nitrate operations (refer to Section 1) (Reference D007).

Purification includes solvent extraction, ion exchange and oxalate precipitation, depending on the chemical nature of the material to be purified. Ion exchange columns are used to collect plutonium and to separate plutonium from impurities. Enriched solutions may be further treated with oxalic acid to precipitate plutonium oxalate. The resulting plutonium precipitate is sent to nitrate operations to be calcined and eventually to the vault. The liquid solution (filtrate) goes to hydroxide precipitation for further processing. Solid wastes are discarded as debris waste or sent to cement fixation for immobilization. Tetrachloroethylene, which was used in the solvent extraction process until 1992, contaminated the debris waste and the liquid waste absorbed in vermiculite (Reference D007).

Hydroxide Precipitation takes plutonium in filtrate solutions from the purification steps and precipitates it with potassium or sodium hydroxide. Heavy metals are concentrated in the plutonium-rich hydroxide cakes. The sources of heavy metals vary but may include one or more of the following: (a) feed materials that consist of or contain these metals; (b) leaching of chromium from stainless-steel equipment components; or (c) the use of silver salt (until 1994) in the measurement of chloride content. The resulting plutonium-enriched hydroxide cakes may become feed material for nitrate operations, be returned to the dissolution step for re-processing, may be sent to cement fixation for immobilization, or may be discarded as solid waste if they meet the approved DLs. Liquid meeting the TA-50 Waste Acceptance Criteria (WAC) is sent to the TA-50 RLWTF using the caustic waste line (Reference D007).

In *Metal Oxidation* small pieces of metal remaining on furnace or crucible surfaces are collected for conversion to the oxide phase. These metal pieces are placed in a furnace for the conversion process. The oxide is then transferred to the vault (References D011 and D028).

Salt Stripping is no longer an active operation, but the MSE and ER salts were further treated by salt stripping, oxygen sparging or carbonate oxidation, and salt distillation. The salt stripping operation treated the residue by melting and stirring the salt with calcium metal in a MgO crucible at 850°C. This treatment reduced the plutonium in the salt to metal and allowed the metal to coalesce for physical removal and recovery. After cooling, the crucible was broken and the metal physically separated and recycled to the ER operation or burned to oxide and sent back through aqueous recovery. The crucible shards were leached in hydrochloric acid, and then discarded (References D011 and D028).

Oxygen sparging and carbonate oxidation (since 1996) were used to ensure that any plutonium, americium, or metallic sodium or potassium left in the salts was converted to nonpyrophoric oxide forms (References D011 and D028). Vanadium pentoxide was used in place of carbonate to convert metals to oxide as part of the salt stripping operation from February to June 1998.

Wastes that potentially contain residual vanadium pentoxide were, at one time, assigned the EPA HWN P120. However, this assignment has been rescinded (Reference D028).

Salt Distillation is no longer an active process, but allowed for the recovery of plutonium oxide from the chloride salt and produced purified chloride salt for reuse (References D011 and D028).

The *Pyroredox* operation was used to recover plutonium from spent anode heels in the mid- to late 1980s. The anode heel was polished with calcium metal to remove surface oxide, and then oxidized to plutonium (III) with zinc chloride in molten KCl, forming $PuCl_3$. Elements more electropositive than zinc (including barium) were oxidized into the salt phase, and the zinc formed a metal button. The salt was then mixed with calcium metal in $CaCl_2$ to reduce the plutonium to the metal phase, as well as to reduce all elements more electronegative than calcium. The salt phase containing small amounts of the impurity barium was mechanically separated from the metal phase and discarded. The metal phase containing zinc was placed in the vault or further treated, and the plutonium eventually was routed back to ER. This operation generated only legacy waste (References D011 and D028).

The *Metal Coalescence* operation is no longer active. Metal coalescence was used for plutonium turnings to coalesce the turnings into a metal button. Calcium metal and $CaCl_2$ were added to a MgO crucible along with the turnings and melted. Salts and crucibles above the DL were sent to chloride operations for recovery. Salts and crucibles below the DL were sent to solid waste packaging for disposal. Plutonium metal was sent to ER or the vault (References C131, D011, and D028).

The *Neptunium* operation processed neptunium contaminated residues from the vault in 1993. This operation generated only legacy waste (Reference D028).

Plutonium Trichloride Preparation was accomplished by bubbling a carrier gas (such as chlorine) through carbon tetrachloride and passing the mixed gas stream through a bed of plutonium oxide at 500–600°C before being absorbed in a 5–6 molar potassium hydroxide solution. In this operation (January 1987–June 1989) the carbon tetrachloride was broken down into phosgene, carbon monoxide, and carbon dioxide gases. In June 1989 the operation switched to the use of phosgene gas as the carrier gas until the operation ended in May 1991. Feed material was high purity oxides from the vault or from other P/S Codes. The product plutonium trichloride was reduced to metal by the MSE or ER operations. This operation only generated legacy waste (Reference D028).

8. Pu-238 Operations

Heat Source Fabrication:
As described in Section 1, Pu-238 heat sources fabricated at TA-55 included the General Purpose Heat Source (GPHS), Light Weight Radioisotope Heater Unit (LWRHU), and Milliwatt Generator (MWG) sources. Current heat source production involves fuel fabrication and scrap and process residues processing. The primary P/S Code associated with heat source fabrication operations described in this section is P1 (routine Pu-238 heat source). Pellet production and welding and decontamination operations were also part of heat source fabrication but they are no longer active (References C198 and C220).

Fuel Fabrication:
The source of all feed material for Pu-238 fuel fabrication is oxide, originating directly or indirectly from the Savannah River Site (SRS) K Reactor. The feed material selected for fabrication is weighed then prepared using splitting, ball milling, slugging and screening, and granule seasoning. The material also undergoes oxygen isotopic exchange, involving the replacement of oxygen-17 and oxygen-18 with oxygen-16 by heating the feed material in a furnace (750°C). In GPHS processing prior to its inactivation and LWRHU processing, oxygen exchange is followed by heating to 1,000°C to release alpha-decay helium from the plutonium oxide crystal structure. The fuels are further heated or "seasoned" at temperatures ranging from 1,100 to 1,600°C and the resulting oxides are sent to be hot pressed into fuel pellets (References C192, C194, C212, C220, D080, and M285).

During the fuel fabrication process, analytical samples are frequently required for both Pu-238 oxide feed material and product specimens either to characterize the material or to determine whether the material meets current production specifications. The primary sampling capsules containing the oxide samples are cleaned in an ultrasonic bath with ethanol and allowed to air-dry before being placed into a secondary plastic container. Sampling tools are wiped down with cheesecloth containing ethanol
(References C195 and P180).

The oxide samples are taken to perform particle size analysis. Ethylene glycol is used to suspend the Pu-238 oxide powder in a disposable polystyrene cuvette. The cuvette is sealed with a polystyrene cap coated with Duco cement. After the glue has set, the cuvette is ultrasonically cleaned in a water bath containing a high-purity soap (e.g., Alconox), is cleaned a second time in a bath of distilled water, and is wiped down with a cheesecloth pad soaked in Fantastik (nonhazardous) cleaning solution. The cuvette is then transferred to another hood for final decontamination with Fantastik-soaked cheesecloth. This process of cleaning and transferring the cuvette occurred up to 1994. From early 1994 onward, the water bath does not contain soap and Fantastik is not used because all work is performed in the same glovebox line and there is no need to decontaminate the cuvette. Before 1994, if the water was radioactively contaminated, it was discarded to the TA-50 RLWTF. Since 1994, the water has been evaporated (References C197 and M286).

Upon completion of the analysis, the ethylene glycol containing the Pu-238 oxide is poured through a coarse sieve and collected in a polyethylene bottle. When 200 - 500 milliliters of ethylene glycol has accumulated in the bottle, the contents are poured through a filter. The residue and filter paper are allowed to dry and are sent to a plutonium recovery process. The contaminated ethylene glycol is collected until a sufficient amount is available to discard, and then it is poured onto a bed of vermiculite for absorption (References C194 and M286).

The *Scrap and Process Residues Processing* operation receives materials from the vault and various other operations, such as fuel fabrication, pellet production, calorimetry, and metallography. This is a physical process consisting of weighing, sorting, segregating, and loading into a shipping container. The product from this process either goes to the vault or feeds into calorimetry operations (References D080 and M285).

The *Metallography* process began in 1992 and is still active. It receives feed material from P/S Code P1 operations in the form of Pu-238 oxide fuel recovered from encapsulated heat sources, impacted heat sources, fuel pellets, or other sources. The metallography process is a physical process involving cutting, mounting, grinding, polishing, photography, and etching of Pu-238 fuel specimens (References C194 and M287).

An epoxy-based mounting resin, hardener, and mount filler is used to mount the Pu-238 oxide. The epoxy resin, hardener, and mount filler consist of diethylenetriamine, Epon Resin 8132 (nonhazardous), and a Citofix/Durofix liquid (nonhazardous). Epon Resin 8132 is a liquid that polymerizes when mixed with an amine (e.g., diethylenetriamine). The Citofix/Durofix liquid is also a polymer. One end of a phenolic ring is covered with aluminum tape. The Pu-238 oxide sample is placed in the center of the interior surface of the tape. The mixture of epoxy resin, hardener, and filler is poured into the mount ring. The mounted sample is placed in a small aluminum film can, which is placed in a pressure bomb. The bomb is pressurized for a minimum of ten hours, vented, and the sample is removed. The mounted Pu-238 oxide sample then undergoes grinding and polishing (References C197 and P181).

Manual grinding and polishing involves moving the mounted sample across wet silicon carbide grinding papers of varying grits that are laid over a glass plate. Between each grinding step and after the last grinding step, the sample is ultrasonically cleaned in distilled water. The mounted sample is polished using aqueous suspensions of aluminum oxide or diamond powder. After polishing, the sample is cleaned in distilled water. Automated grinding and polishing involves using programmable equipment. The grinding process uses a metal or cloth plate that has been coated with an abrasive slurry. This process also involves cleaning the polished sample in distilled water (Reference P181).

Whenever there is a requirement to examine and/or document the Pu-238 oxide grain boundaries, the surface of the polished sample is etched using a solution consisting of hydrobromic, hydrochloric, and hydrofluoric acids. The sample is rinsed with distilled water and allowed to dry (Reference P181).

Residues from the metallography process feed into the P/S Code P1 process. Before 1994, the Pu-238 oxide was physically removed from the plastic mount (no solvent or chemical was used), and the mount was bagged out with other plastic debris. The Pu-238 oxide sample removed from the mount was sent to the P1 scrap and process residue processing operation for plutonium recovery. However, since 1994, the Pu-238 oxide has been left on the mount and archived (stored) in the glovebox line (References C197 and M287).

The waste generated from the metallography process includes aluminum tape, grinding papers and polishing cloths, aqueous abrasive slurries, acid etching solutions, and aqueous washing and cleaning solutions. The grinding papers and polishing cloths are dried and discarded as debris waste, as is the aluminum tape. The aqueous abrasive slurries are feed material for the Pu-238 waste solidification process. Any etching solution remaining on the Pu-238 oxide sample is rinsed off using distilled water and is collected with the aqueous wash solutions. These solutions are also sent to the waste solidification process (Reference P181).

The *Routine Pu-238 Waste Solidification* process of precipitating Pu-238 in waste solutions (P/S R8) has been conducted since 1979 and is still active. The feed material for this process comes from analytical operations, Pu-238 heat source fabrication operations, metallography operations, and other LANL groups. The feed solutions are strongly acidic, contain heavy metals, and have Pu-238 concentrations that are orders of magnitude above the DL for radioactive waste solutions. The solidification process uses sodium hydroxide, ferric nitrate, and phenolphthalein in ethanol to precipitate the Pu-238 (References C194, C196, M293, and P182).

Ferric nitrate solids are dissolved into the feed solutions to act as a flocculent. Concentrated sodium hydroxide solution is then added to convert the acidic solutions into caustic solutions, and cause the ferric ions and the Pu-238 ions in the solutions to co-precipitate as hydroxides. Phenolphthalein solution is used to indicate when the solution is basic. After sedimentation and vacuum filtration, the liquid portion (filtrate) is sampled and alpha-assayed to determine the residual Pu-238 concentration. The sludge is heated (calcined) to oxidize the hydroxides for disposal. This procedure is repeated as necessary for the filtrate until the Pu-238 concentration in the filtrate is below the DL (References P155 and P182).

The waste generated by this process consists of calcined ferric oxide solids containing Pu-238, a caustic solution containing Pu-238 below the DL, and solid debris. The oxide solids are sent to the vault or disposed as waste, depending on the Pu-238 concentration. Waste containers that are predominantly debris may contain small quantities of the oxide solids. The caustic solution is discarded into the caustic drain to the pretreatment plant at the RLWTF (TA-50, Building 1, Room 60) (References P155 and P182).

Aqueous Scrap Processing involves the purification of Pu-238 oxide in a nitric acid stream, similar to the recovery operations already established for Pu-239 as part of TA-55 nitrate operations (Reference C210).

During comminution, the weighed Pu-238 solid is ground to a particle size less than five microns. After the comminution, all or a portion of the ground material is put into a dissolution vessel. The Pu-238 solid is dissolved in a mixture of refluxing concentrated nitric acid and hydrofluoric acid for up to eight hours. After dissolution is performed, the Pu-238-rich solution is filtered through a five micron Teflon membrane. A portion of the filtrate may be processed through ion exchange, or the entire filtrate may be treated for oxalate precipitation (References C210 and D080).

Oxalate precipitation involves an acid adjustment of the filtrate with nitric acid while the solution is continuously stirred using the mechanical stir bar. Urea is added to scavenge nitrite salt that could interfere with further chemical pretreatment. Hydroxylamine nitrate is added to adjust the valence of the plutonium to (III). Oxalic acid is added to form a plutonium-oxalate precipitate. The precipitate is filtered, and calcination converts the Pu-238 oxalate to Pu-238 oxide product. The solid product is cooled, weighed, and stored (Reference D080).

The dissolution Pu-238 filtrate destined for ion exchange may undergo an aluminum nitrate treatment. The dissolution Pu-238-filtrate is added to aluminum nitrate dissolved in dilute nitric acid, followed by a filtration step to collect any formed solids (typically, the aluminum nitrate treatment is not performed). The filtrate then undergoes a pretreatment involving urea, sodium nitrite, and ferric salt prior to ion exchange. The plutonium-rich eluate is collected and undergoes oxalate precipitation as described above. The plutonium-lean effluent, which contains impurity metal ions, as well as the aluminum from the aluminum nitrate treatment, is neutralized to pH 10-12 with sodium hydroxide. Under these neutralization conditions, the majority of the impurity ions and Pu-238 (not precipitated as an oxalate precipitate) will precipitate as metal hydroxides (References C210, C213, D079, and D080).

The hydroxide precipitate is calcined then stored, and the hydroxide filtrate is sampled to determine the radioactivity level. Waste containers that are predominantly debris may contain small quantities of the metal hydroxides. If above the DL, the hydroxide filtrates are transferred to the residue solidification process. In this process, soluble Pu-238 is recovered with ferric nitrate and sodium hydroxide, and the filtrate resulting from the solidification process is sent to

the TA-50 RLWTF through the caustic waste line. The Pu-238 in the hydroxide filtrates can also be recovered by an ultrafiltration/polymer filtration process operated by NMT-11 personnel. The Pu-238 oxide product is sent to P/S Code P1. The hydroxide cakes are stored either in the vault or in the glovebox line under P/S Codes MM for disposal or ASP for recovery (References C210 and D080).

Induction Heating and Levitation is a technique used to achieve minimal contamination of conductive material. This technique uses Pu-238 metal from various operations and produces small quantities of uncontaminated metal by suspending and then melting the material inside of an induction coil with induction heating. Once the material has melted, the power is shut off, and the molten mass can be dropped or forced into a mold for forming. This process was designed to drive off impurities from the metal by melting it in a vacuum and not reintroducing impurities from a container during the time the material is in the molten state. The purified Pu-238 metal is sent to the vault (References C220 and M306).

Pu-238 Direct Oxide Reduction was an activity that was performed in October 1998 and October 1999 to produce Pu-238 metal for the accelerated plutonium aging program. There are no current plans to perform this operation again, but the code is still active. In this process, plutonium oxide and calcium metal are reacted in molten calcium chloride to produce plutonium metal. The reaction is conducted in a MgO crucible at 820° to 875°C. The reaction proceeds to completion when excess calcium is present and when sufficient calcium chloride is available to dissolve the calcium oxide product. After cooling, a plutonium metal button is removed by breaking the crucible. The salts are exposed to air to oxidize pyrophoric metals that might be present. The salt is then either routed through aqueous recovery operations to recover the plutonium or discarded as waste with the crucible pieces. The plutonium button is sent to the vault (References C211, C221, D080, and P189).

Traditionally, the *Thermal Decomposition of Cellulose* process incinerated organic-based materials contaminated with plutonium to ash to reduce the volume of waste generated or to recover the plutonium using a nitrate dissolution process. Due to increasingly stringent regulations governing the combustion products associated with incineration, the incinerator process was modified to thermally decompose organic-based materials in an argon atmosphere in 1995. The thermal decomposition unit is also referenced in nitrate operations. It consists of a pyrolysis or passivation chamber, a caustic scrubber (potassium hydroxide) unit, and vacuum system. Organic-based materials designated for passivation have been limited to rags (cheesecloth) contaminated with nitric acid solution (References C200, D071, M299, and P156).

During processing, oil contaminated rags are separated from nitrated rags. The nitrated rags are moistened with water to reduce reactivity and excess water is removed using a filtration screen. The rags are then combined, placed in a furnace can, and reduced to ash in an argon atmosphere in the furnace. The ash, rinse water, filter residues, and caustic solution are further processed to recover the plutonium, if these materials are determined to exceed the DL. These materials are sent for disposal, if below the DL. Liquid waste below the DL is sent to the RLWTF at TA-50 (References C200, D071, M299 and P156).

The *Routine Scrap Processing*, which operated from 1988 to 1996, received Pu-238 feed materials (Pu-238 oxide) from calorimetry operations, heat source operations (P/S Codes P1 and GPHS), and the vault. The scrap processing operation involved opening, weighing, sorting, and segregating the Pu-238 oxide that arrived in a stainless-steel inner shipping container (EP-60). The Pu-238 oxide was then transferred into an outer shipping container (EP-61) and sent to the calorimetry process, and then to the vault (References C194, M288, and M289).

The *Recovery of Pu-238 Oxide from Contaminated Iridium* process occurred from 1990 to 1992. The feed material for this process came from metal items in the iridium inventory in PF-4 or in the CMR Facility at TA-3. This process used both molten magnesium chloride and electrochemical dissolution to remove Pu-238 from iridium (References M290 and M291).

The first step in this process involved immersing the Pu-238 oxide-contaminated iridium metal in molten magnesium chloride. The magnesium chloride was melted in a MgO crucible. The same salt was used for subsequent runs until it had lost its effectiveness. The iridium shells were placed into a tantalum basket and immersed in the molten salt. At the end of the treatment, the iridium metal was removed from the salt and the salt coating on the metal was removed with a water wash. This water wash was sent to the Pu-238 solidification process. The spent salt and crucibles were bagged out and assayed before being discarded as Pu-238 contaminated TRU solid waste. The iridium metal was sent to the vault unless additional treatment was necessary (References C194 and C197).

If further treatment was required, the iridium metal underwent electrochemical dissolution. The electrolyte solution consisted of a dilute mineral acid (nitric acid, hydrochloric acid, or sulfuric acid) with optional salt. The iridium metal was immersed in the solution, and a current was passed between the iridium metal and a graphite reference electrode. At the end of the run, the iridium metal was washed with water and allowed to dry. The clean iridium metal was sent to the vault. The spent electrolyte solution, which was acidic and contaminated with small amounts of iridium and Pu-238, and the water wash were sent to the Pu-238 solidification process (References C197, M290, and M292).

The *Recovery of Pu-238 from Sucrose Solutions* occurred from 1979 to 1988. The feed material for this process consisted of a 35 percent sucrose solution composed of sodium pyrophosphate, water, and sucrose. Sucrose solutions were used as a dispersive medium in particle size analysis of Pu-238 oxide; therefore, the feed solutions contained recoverable amounts of Pu-238 oxide (References D080 and M294).

The Pu-238 was recovered from these sucrose suspensions by filtering out the Pu-238 oxide in a ceramic filter boat and evaporating the solution to dryness over low heat. The Pu-238 oxide residue was scraped off the filter paper and calcined, then sent off-site for reprocessing. The residue from the evaporated solution was calcined and sent for discard if the Pu-238 content was below the DL (References D080 and M294).

The *Pellet Production* process is no longer active. The original feed material for the pellet production process consisted of Pu-238 oxide from fuel fabrication. This material underwent the physical operations of screening and weighing, die loading, hot pressing, sintering, and dimensioning. The product was sent to the vault and any residues were sent to the scrap and process residues processing operation (References C220, D074, D080, and M285).

The *Welding and Decontamination* process is no longer active. Heat source capsules were welded and a solution of nitric and hydrofluoric acid was used for decontaminating the fuel clads. The clad heat sources were immersed in the solution a minimum of three times to allow the acids to dissolve any plutonium oxide particles on the clad surface. Each time, the heat sources were removed from the acid solution and placed on a rag dampened with water. A rubbing action removed contamination while the heat of the source caused the acid solution and water on the rag to evaporate at a fairly rapid rate. The TRU acid solutions generated by the decontamination steps were neutralized to precipitate plutonium, and the filtrate was discarded into the caustic waste line to the RLWTF at TA-50. The plutonium precipitate was discarded if it

met the DL. The only other process chemical, UCAR C-34, was an epoxy for sealing the graphite aeroshell of the LWRHU heat source assembly. The epoxy was not RCRA-regulated (References C220, D080, and M284).

The *Material Reclamation* process is no longer active. The process was used to remove specially identified Pu-238/beryllium (Be) neutron source material from its packaging and place it into packaging authorized for shipment to the Waste Isolation Pilot Plant (WIPP). Waste disposal was chosen over reclaiming the source material because there was no capability for purifying and reclaiming the Pu-238. This process involved the disassembly of source materials retrieved from the vault, crushing and sieving the source material, and packaging the products and byproducts as waste. The original packaging was also disposed of as waste (References C156, D060, and P170).

9. Facility and Equipment Maintenance Operations

Facility and equipment maintenance operations conducted in TA-55 involve cleaning and decontamination, equipment inspection and replacement, modification and repair of facilities, and general housekeeping. Cleaning and decontamination operations include physical wiping and the use of cleaning solutions (e.g., Fantastik, water) to remove potential contamination and to restore work areas and equipment to their original condition. Paper, plastic, and rags with a cleaning solution are used to remove or contain the spread of contamination. Equipment inspection, calibration, and replacement operations are performed to ensure continued operability and process efficiency. Solid wastes generated from these operations may include paper and plastic wastes, glass, small equipment (e.g., labware, motors, pumps), and small tools. Modification of facilities include plumbing; electrical fixtures and equipment installation; and installation or removal of gloveboxes, ventilation ductwork, and windows. General housekeeping includes cleaning, repair, and organization of the facility/infrastructure. Solid wastes generated from these operations may include HEPA filters, glass, glovebox gloves, paper, plastic, and rags. Solid waste generated from these operations is disposed of as TRU or LLW waste. General facility maintenance solutions (e.g., wet vacuum water, mop water) are sent to the evaporator or the RLWTF (References D002, D008, D009, D011, D013, D014, D017, D023, D024, D026, D032, D045, M011, P001, P102, and P155).

10. Decontamination and Decommissioning (D&D) Operations

D&D operations are commonly performed at PF-4 in TA-55 to reduce the amount of floor space posted as radiological controlled areas and to support upgrades to existing facilities and equipment. These efforts assist in contamination control and result in a decrease in the amount of radiological waste generated at TA-55. These radiological controlled areas house the equipment and material used to perform the above listed operations and the waste generated during D&D operations contain the same chemical and radiological contaminants. No hazardous chemicals are added to the waste during the D&D operations. Commercially available, non-hazardous cleaning products, such as Fantastik, are used to remove loose contaminants. The goal of the D&D is to reduce the amount of TRU waste generated as much as possible through decontamination and size reduction (References D002, D013, D014, D026, D034, and D041).

Decontamination operations are used to accomplish several goals, such as reducing occupational exposures, limiting potential releases of radioactive materials, permitting the reuse of components, and reducing the amount of TRU waste generated. Decontamination operations included the use of mechanical and chemical cleaning techniques such as brushing,

stripping, washing, and wiping to remove contamination. In addition, physical isolation and draining of equipment are performed when necessary. Based on the radiological contamination, drained liquids are either further treated or solidified. Decommissioning operations included the physical removal of contaminated gloveboxes, equipment, machinery, furnishings, and support systems. This included the removal and size reduction of glovebox internals, process piping and supports, tanks and ancillary equipment, and other fixed equipment such as ducting, wires, conduits, electrical panels, and cabinets. Gloveboxes and equipment are size reduced as necessary and packaged for disposal. Size reduction operations are sometimes performed in other facilities as discussed in the repackaging and prohibited item disposition section. Secondary waste such as combustibles, metal, and plastic generated during D&D is expected to be part of the waste. D&D operations also included the removal of stored radiological and hazardous materials and other related actions (References D002, D013, D014, D026, D034, and D041).

Waste Stream Material and Chemical Inputs

The following table identifies the Resource Conservation and Recovery Act (RCRA) toxicity characteristic and listed constituents identified in this waste stream.

Toxicity Characteristic and Listed Constituents in Waste Stream LA-MHD01.001

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
1,1,1-Trichloroethane	Metallographic sample cleaning (<1992) and contaminant of hydroxide solids. Degreasing solvent and component of Tap Magic.	C019, C020, C089, C194, C195, M154, M160	F001, F002
Arsenic	Contaminant of liquids, filtrates, ash, hydroxide cake, and analytical solutions. Evaporator sludge contaminant and sputter coating reagent.	C010, C196, C197, C207, D078, D080, M153	D004
Barium	Contaminant of plutonium feed, hydroxide cake, ash, actinide separation waste, pyrochemical salts, and analytical solutions.	C038, C087, C192, C197, D075, D078, D080, M153	D005
Benzene	Cement fixation input and actinide chemistry R&D operations reagent.	C027, D009, D032, D077P080, P081,	D018, F005,
Cadmium	Contaminant of plutonium feed, hydroxide cake, anode heels, ash, actinide separation waste, and analytical solutions. Solvent metal used in electrorefining.	C038, C039, C192, C196, C197, C200, D073, D075, D076, D080, M061, M153	D006
Carbon tetrachloride	Contaminant of cement fixation process and hydroxide solids. Used in PTP between 1/87 and 6/89. Chlorination of plutonium oxide and CLS reagent (CCl4, normal butanol, acetone, methanol, tetrachloroethylene, xylene, methylene chloride, chloroform, or chlorobenzene).	C092, C121, C194, C200, D078, M112, M129, P067	D019, F001
Chlorobenzene	Contaminant of cement fixation process and hydroxide solids. CLS reagent.	C092, C095, C200, D007, D077, D078	D021, F002

Toxicity Characteristic and Listed Constituents in Waste Stream LA-MHD01.001

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Chloroform	Contaminant of cement fixation and miscellaneous processing (P/S XO/X0). CLS reagent.	C027, C092, C102, C117, C194, D077, D078	D022
Chromium	Contaminant of plutonium feed, anode heels, hydroxide cake, ash, actinide separation waste, and analytical solutions. Potentially leached from stainless-steel materials.	C038, C039, C192, C196, C197, C200, C205, D073, D074, D075, D078, D080, M061, M153	D007
Freon TF (1,1,2-trichloro, 1,2,2-trifluoroethane)	Miscellaneous processing contaminant and recovery operations reagent. Cleaning, cooling, and ultrasonic degreasing operations solvent.	C011, C017, C019, C085, C102, C104, C105, D029, D077 M026, M032, M041, M123, M212, P044, P046, P049	F001, F002
Lead	Leaded gloves (<1992), shielding, sheeting, and discs. Contaminant of actinide separation waste, analytical solutions, ash, hydroxide cake, plutonium feed, and solder. Solvent metal used in electrorefining.	C039, C041, C192, C196, C197, C200, D002, D011, D073, D074, D075, D076, D078, D080, M061, M153, P183, P186	D008
Lead hydroxide, oxide, and nitrate	Actinide R&D reagents.	D032, M050	D008
Mercuric nitrate	Catalyst used in nitrate operations.	M064, D078	D009
Mercury	Contaminant of actinide separation waste, analytical solutions, ash, evaporator sludge, hydroxide cake, and plutonium feed. Component of fluorescent bulbs.	C023, C095, C176, C196, C197, C200, C207, D029, D078, D080, M153, P109	D009
Methylene chloride	Paint stripper, contaminant of cement fixation, hydroxide cake, and miscellaneous processing (P/S XO/X0). CLS and organoactinide R&D reagent. Component of REZ-N-Bond.	C027, C092, C200, C214, D007, D032, D077, D078, M174, P080	F001, F002
Methyl ethyl ketone	Degreasing solvent. Detected in headspace gas of Pu-238 waste.	D032, D076, D077	D035, F005
Potassium chromate	Dissolution and chloride anion exchange reagent.	C098, M131, M185	D007
Potassium dichromate	Silver nitrate titrations and hydroxide precipitation reagent.	C082, D002, D007, D032, M076	D007
Pyridine	Uranium triiodide reagent, R&D solvent, and contaminate in cement fixation process.	D077, P080	D038, F005
REZ-N-Bond	Solvent bonding (contains methylene chloride).	M154, M174	F002
Selenium	Contaminant of liquids, filtrates, ash, hydroxide cake, and analytical solutions.	C196, C197, C207, D045, D080, M153	D010

Toxicity Characteristic and Listed Constituents in Waste Stream LA-MHD01.001

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Silver	Contaminant of plutonium feed, hydroxide cake, ash, actinide separation waste, cement fixation inputs, and laboratory reagent.	C027, C038, C039, C192, C196, C197, C207, D075, D078, D080, M086, M153	D011
Silver nitrate	Leaching, solvent extraction, and laboratory reagent.	D007, C200, D078, M054, M080, M086, M093, M131	D011
Sodium chromate	Plutonium dissolution and precipitation.	D078, P103	D007
Tap Magic	Machining coolant (contains 1,1,1-trichloroethane).	C009, C019, C020, M154	F002
Tetrachloroethylene	Degreasing, cleaning solvent, diluent, contaminant of cement fixation process and hydroxide solids. CLS reagent.	C092, C200, D007, D032, D078, P067	D039, F001, F002
Toluene	Actinide and organoactinide R&D reagent. Detected in headspace gas of Pu-238 waste.	C027, D032, D076, P080,	F005
Trichloroethylene	Clean and polish machined parts. Miscellaneous process and hydroxide cake contaminant. Hydrothermal processing and solvent extraction reagent.	C009, C019, C035, C102, C200, D077, D081, M223, P071, P085	D040, F001, F002

RCRA Determinations

Historical Waste Management

Waste stream LA-MHD01.001 has historically been managed in accordance with the generator site requirements and in compliance with the requirements of the New Mexico Environmental Department. Based on historical waste management and LANL's TRU Program (reference LANL waste streams LA-TA-55-19, LA-TA-55-30, LA-MHD02-238, and LA-MHD03-DD), the containers in this waste stream were managed as hazardous and assigned EPA HWNs for arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), silver (D011), benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), chloroform (D022), methyl ethyl ketone (D035), pyridine (D038), tetrachloroethylene (D039), trichloroethylene (D040), and F-listed solvents (F001, F002, F003, and F005). A review of available AK documentation has determined that this waste is hazardous for the above constituents, and with the exception of F003, the HWNs were retained because this waste was previously shipped under an approved LANL profile. HWN F003 was not assigned because the waste stream does not exhibit the characteristic of ignitability. It should be noted that this waste stream also includes a small fraction of waste that LANL characterized as nonhazardous (reference LANL waste streams LA-NCD01, LA-NHD01, and LA-NHD02-238). Supplemental information collected and Central Characterization Program (CCP) characterization results of LANL generated nonhazardous containers determined that this waste is hazardous. The following sections describe the characterization rationale for the assignment of EPA HWNs. The table above, Toxicity Characteristic and Listed Constituents in Waste Stream LA-MHD01.001,

summarizes the EPA HWNs assigned to this waste stream. The HWN assignments have been applied on a waste stream basis; individual containers may not contain all of the hazardous materials listed for the waste stream as a whole (Reference C121, C147, D026, D083, and M310).

Hazardous Waste Determinations

Ignitability, Corrosivity, Reactivity

The debris material in waste stream LA-MHD01.001 does not meet the definition of ignitability as defined in 40 CFR 261.21. Ignitable chemicals (e.g., acetone, hexane) are used or present in the facility and operations potentially contaminating this waste stream. However, D001 (ignitability) does not apply because: (a) the solid waste is not liquid, and verification that there are no prohibited liquids in the debris waste is performed prior to certification; (b) the solid waste does not spontaneously ignite at standard pressure and temperature through friction, absorption of moisture, or spontaneous chemical changes; (c) the solid waste is not an ignitable compressed gas; and (d) there are no oxidizers present that can stimulate combustion. Prior to 1992, some nitrate salts below the DL were not sent to cement fixation for immobilization but were packaged as waste. LANL has determined that these salts do not meet the definition of a DOT oxidizer (i.e., they would not stimulate combustion). However, the salts are being remediated/repackaged in the WCRR Facility with an inert absorbent material (e.g., zeolite, kitty litter). The minimum zeolite or kitty litter to nitrate salts mixture ratio is 1.5 to 1. LANL has determined that nitrate salts, when mixed with zeolite or kitty litter, would further support the managing of the waste as non-ignitable. This determination is based on the results of oxidizing solids testing performed by the Energetic Materials Research and Testing Center. The materials in the waste stream are therefore not ignitable wastes (D001) (References C121, C147, C201, C203, C230, C231, D083, D084, D089, D090, D091, P187, and P198).

The debris material in waste stream LA-MHD01.001 is not liquid and does not contain unreactive corrosive chemicals; therefore, it does not meet the definition of corrosivity as defined in 40 CFR 261.22. Corrosive chemicals (e.g., hydrofluoric acid, nitric acid, potassium hydroxide, sodium hydroxide) are used or present in the facility and operations potentially contaminating this waste stream. However, D002 (corrosivity) does not apply because the solid waste is not a liquid, and verification that there are no prohibited liquids in the debris waste is performed prior to certification. The materials in the waste stream are therefore not corrosive wastes (D002) (References C121, C147, C194, C200, D071, P181, P182, and P190).

The debris material in waste stream LA-MHD01.001 does not meet the definition of reactivity as defined in 40 CFR 261.23. Reactive chemicals (e.g., perchloric acid, sodium metal) are used or present in the facility and operations potentially contaminating this waste stream. However, D003 (reactivity) does not apply because the solid waste is stable and will not undergo violent chemical change without detonating. The waste will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The waste does not contain reactive cyanide or sulfide compounds. There is no indication that the waste contains explosive materials, and it is not capable of detonation or explosive reaction. The materials in the waste stream are therefore not reactive wastes (D003) (References C121, C147, C201, and C202).

Controls have also been in place to ensure the exclusion of ignitable, corrosive, and reactive constituents. The associated EPA HWNs do not apply to wastes in this waste stream for the following reasons (References D025, D037, D049, D083, P090, P091, P096, P097, P102, and P165):

- Liquids were prohibited from solid waste streams at LANL when the Plutonium Recovery Facility opened in January 1979. A waste management procedure written to cover operations at the new facility, TA-55 Standard Operating Procedure (SOP) stated that "Liquids are not permitted in any container of solid waste materials." Currently, TA-55 Waste Management, requires that no liquids be disposed of as a solid waste unless the liquid has been absorbed into some media (like vermiculite) that does not carry a D001 code.

- Chemical Waste Disposal Requests, introduced in June 1980, included check boxes that the waste generator was required to check if the waste contained corrosive acids or bases, or pyrophoric, flammable, corrosive, explosive, toxic, carcinogenic or highly reactive materials. The Certification Plan and related Generator Attachments were implemented in 1987. Waste generators are required to sign a statement on the Waste Origination and Disposition Form (WODF) documenting that the waste contains "no free liquids, pyrophorics, explosives, compressed gases, powders or materials other than the indicated matrix." Checkboxes are also present for indicating the presence or absence of corrosive chemicals. Full implementation of this generator statement occurred in May 1987.

- Waste management inspectors perform visual verification of the waste prior to its initial packaging, thus allowing the inspectors to verify the generator's WODF statement.

- In addition to the above-mentioned prohibitions on explosives in waste, explosives were altogether prohibited until installation of the Impact Test Facility in the early 1990s. In case of a misfire or unconsumed explosives, a procedure is in place to ensure that explosives do not enter the waste stream.

- The Waste Profile Request Form (WPRF), which has been in use at LANL since 1991, includes a statement which is authenticated by the waste generator, that the waste is not ignitable, reactive, or corrosive.

- The Generator Attachments to the Certification Plan were updated in 1995, but the prohibition on liquids in the waste, and the waste management inspection, remained in effect.

- The LANL Project 2010 Certification Plan, and TRU Waste Interface Documents (TWIDs) prohibit liquids in waste and the absence of liquids is verified by LANL waste management.

- Solutions containing spent non-halogenated solvents are sent to the RLWTF if they are below the DL for plutonium.

- If above the DL, the solutions are sent to aqueous recovery as part of chloride or nitrate operations. Aqueous recovery steps include dissolution of any solid plutonium in hydrochloric or nitric acid, followed by plutonium recovery by ion exchange. The solutions are then below the DL and are either sent to the RLWTF or to the evaporator.

- Rags that are above the DL for plutonium are thermally decomposed, which destroys any organic component.

- Rags that are below the DL for plutonium are discarded as combustible debris, but headspace gas analyses support the contention that the solvents are below the limits established by the WIPP-WAC.

The absence of these prohibited items is verified through Real-Time Radiography (RTR) and/or Visual Examination (VE) of each waste container. Any prohibited liquids are absorbed and discarded in an appropriate waste stream and containerized gases that are found to be present are removed before waste certification (Reference D083).

Toxicity Characteristic

Based on review of AK relative to chemicals used or present in the facility and operations potentially contaminating the waste, LA-MHD01.001 may be contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24. Where a constituent is identified and there is no quantitative data available to demonstrate at the time of waste generation that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is added to the waste stream. The AK also identified the potential presence of organic toxicity characteristic compounds that are assigned the more specific F-listed EPA HWNs. Although these organic characteristic compounds are covered by the assignment of the F-listed EPA HWNs, the toxicity characteristic EPA HWNs are also assigned to the waste stream for consistency with historical site waste coding. Waste stream LA-MHD01.001 is assigned the following HWNs: D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D035, D038, D039, and D040 (References C121, C173, and D083).

Listed Waste

F-Listed Waste

Based on review of AK relative to chemicals used or present in the facility and operations potentially contaminating the debris waste, LA-MHD01.001 may contain or be mixed with F-listed hazardous wastes from non-specific sources listed in 40 CFR 261.31. F001, F002, F003, and F005 listed solvents are utilized and potentially contaminate the waste. F003 constituents, including acetone, n-butyl alcohol, ethyl ether, methanol, and xylene, are listed solely because these solvents are ignitable in the liquid form. The waste stream does not exhibit the characteristic of ignitability and therefore F003 is not assigned. The waste stream is assigned F-listed EPA HWNs F001, F002, and F005 (References C121, C173, and D083).

K-Listed Waste

The material in this waste stream is not hazardous from specific sources since it is not generated from any of the processes listed in 40 CFR 261.32.

P- and U-Listed Wastes

At one time, HWN P120 was applied to certain drums generated in 1998 because of the temporary use of vanadium pentoxide for about six months in that year. Based upon investigation into the way the material was handled, this code is not assigned to this waste

stream. A P120 assignment would be used only if waste resulted from spillage of this material or from disposal of un-reacted/unspent material. No un-reacted/unspent material was disposed of in TRU waste drums. In addition, no significant spill of this material occurred. If a spill had occurred, suitable records would exist (e.g., incident reports, waste profile forms). The absence of such documentation, coupled with information obtained through interviews of people who worked with the material, indicates that a P120 assignment is not necessary (References C061, C147, M284, and M310).

Beryllium may be present in the waste stream, but does not meet the definition of a P015-listed waste. Available AK did not identify the use of beryllium powder as a constituent in this waste stream. During processing within P/S Codes PU and PUB, beryllium from Pu-Be sources is dissolved with the plutonium in acid, and after dissolution, the beryllium is either precipitated or in the contaminated solution is sent to the RLWTF at TA-50. The precipitate is not included in this waste stream. In some cases, Beryllium turnings are generated during machining operations. However, these turnings are a very low fraction of metal waste that is discarded. The material reclamation process identifies the processing and packaging of Pu-238/beryllium neutron source material. The amount of beryllium material was estimated at approximately two grams per neutron source prior to processing. Based on the description of the process, the beryllium contamination present in the final waste form is expected to be minimal. However, beryllium from metal operations may be present in this waste stream. Containers from these operations that contain greater than one weight percent beryllium will be appropriately identified (References C121, C122, C147, C156, M283, and M310).

Waste stream LA-MHD01.001 does not contain and is not mixed with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof. Constituents identified were further researched and a determination was made that waste does not meet the definition of a listed waste in 40 CFR 261.33. Therefore, this waste stream is not a P-, or U-listed waste stream (References C121 and C147).

Polychlorinated Biphenyls (PCBs)

No sources of PCBs are introduced into waste stream LA-MHD01.001. All transformers known to contain PCBs have been tracked from initiation of recovery operations. When any transformer oil is drained, the oil is handled by a subcontractor who is wholly responsible for its disposal; this oil does not enter the LANL disposal operations. Suspect PCB fluorescent light ballasts occasionally found in heterogeneous debris would not be present in this waste stream. Therefore, this waste stream is not regulated as a Toxic Substances Control Act waste under 40 CFR 761 (References C096, C173, C201, D080, D083, P012, and P162).

Prohibited Items

- Compressed Gases, Liquids, Nonradionuclide Pyrophorics, Sealed Containers > Four Liters In Volume, >1 Percent Radionuclide Pyrophorics, and >200 mrem/hr Waste

Most gases used at the PF-4 are stored outside the building and the gas is plumbed into the glovebox from outside the building (Reference C098). Occasionally, a lecture bottle is used for an operation inside the building, but these bottles are kept outside of the glovebox with the gas plumbed into the glovebox. Consequently, compressed gas cylinders or containers are not expected to be in any of the TRU waste streams (References C223 and D025).

Spray cans, especially WD-40, were in common use in gloveboxes until May 1992 (Reference C081). These were routinely discarded as noncombustible debris waste. From 1988 until May 1992, the protocol was to vent or puncture the spray cans inside the glovebox; venting was indicated by inserting a metal wire into the valve. After May 1992, spray cans are no longer used in gloveboxes (References C201, C206, D025, and D083).

Procedures for oxygen sparging and/or carbonate oxidation have been in use since May 1987 to ensure that potential pyrophorics associated with pyrochemical salt waste are oxidized. In addition, screening tests on similar pyrochemical salts and residues (which contained higher amounts of plutonium) at the former Rocky Flats Environmental Technology Site showed (1) no autoignition, (2) no spontaneous combustion, and (3) no sparking. Experimental results on the reactivity of DOR salt with water and the reactivity in air of heated calcium metal nodules from DOR salts indicate the absence of "dangerous when wet materials" and pyrophoricity in these salts (References C064, C065, C202, C203, D025, D084, P125, and P187).

Chemical Waste Disposal Requests dated as early as June 1980 included boxes that were required to be checked if the waste contained pyrophoric, flammable, corrosive, or explosive materials (Reference D083).

In addition, for wastes generated after the implementation of the 1987 Certification Plan, associated waste packaging procedures, and quality assurance systems, the waste generator has signed a statement on the WODF for each waste item stating that waste contains "no free liquids, pyrophorics, explosives, compressed gases, powders or materials other than the indicated matrix." The Attachments to the Certification Plan describe how these restrictions are verified by waste management personnel (References D025 and P090).

The Project 2010 Certification Plan, and the TWIDS prohibit compressed gases, liquids, nonradionuclide pyrophorics, sealed containers greater than four liters in volume, or >1 percent radionuclide pyrophorics in waste and verified by waste management (Reference D025).

Based on interviews with site personnel performing VE and prohibited item disposition repackaging, internal cans (both shielded and unshielded) have been measured for dose rate during repackaging and found to contain waste with radiation levels exceeding 200 mrem/hr (References C135 and C136).

- Remediation of Prohibited Items

Prohibited items are known to be present. Procedures allowed containers greater than four liters, sealed with tape, to be used for waste packaging until WIPP certification procedures were implemented. The presence of containerized (e.g., butane lighter, lighter fluid can, unpunctured aerosol cans, vials) and uncontainerized liquids have also been observed. Lead shielding is often used to increase handling safety, and thick shielding can obscure RTR observations (References D025, D083, and DR029).

Prohibited items are detected by RTR or VE and reported with the characterization results. Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new drums, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items removed and segregated if necessary prior to certification and shipment. Waste items with a high dose rate may be repackaged into a POC.

Repackaged waste items that are placed into a new drum(s) or POC are from a single parent drum.

Some secondary waste generated during remediation and repackaging operations may be added to the waste containers, including but not limited to: absorbent (e.g., Waste Lock 770), Fantastik bottles used during decontamination, miscellaneous hand tools, paper/plastic tags and labels, plastic/metal wire ties, PPE, plastic sheeting used for contamination control, rags and wipes (Kimwipes), and original packaging material (e.g., plastic bags, plywood sheathing, rigid liner lids cut into pieces) (References C150, C177, D025, D083, P154, P158, P159, P175, and P192).

Method for Determining Waste Material Parameters (WMPs) Weights per Unit of Waste

To estimate the WMPs for waste stream LA-MHD01.001, WMP data were obtained from the Waste Data System (WDS), formerly known as the WIPP Waste Information System (WWIS) database, as of October 3, 2006. The WMP data were derived from RTR and VE by the CCP TRU Waste Certification Program (TWCP) at LANL for this waste stream. In cases where WDS data included both RTR and VE data for the same container, only the VE data was included in this assessment.

The WMPs for waste stream LA-MHD01.001 were estimated by reviewing the WDS waste container inventory records for 1,917 containers. The WDS data provides a weight for packaged waste materials, which were categorized into one or more of the following WMPs: iron based metals/alloys, aluminum based metals/alloys, other metals/alloys, other inorganic materials, cellulosics, rubber, plastics, and inorganic matrix. The 1,917 containers included in the evaluation represent approximately 14 percent of the current waste stream (Reference C179). The waste generation date range for containers included in the evaluation is from December 1979 to June 2004, compared to the generation date range for this waste stream of November 1979 to present. Therefore, it is assumed that the WMP data for the 1,917 containers are representative of waste stream LA MHD01.001 as a whole. Average, minimum, and maximum WMP weight percentages were calculated using the WDS data, and the results of this analysis are presented in the table below.

Waste Stream LA-MHD01.001 Waste Material Parameter Estimates

WMP Description	Average Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	42.05%	0.00% - 100.00%
Aluminum-based Metals/Alloys	0.17%	0.00% - 77.51%
Other Metals	5.04%	0.00% - 91.45%
Other Inorganic Materials	27.27%	0.00% - 100.00%
Cellulosics	3.48%	0.00% - 95.86%
Rubber	5.22%	0.00% - 98.67%
Plastics (waste materials)	16.10%	0.00% - 100.00%
Organic Matrix	0.00%	0.00% - 0.00%
Inorganic Matrix	0.67%	0.00% - 72.48%
Soils/Gravel	0.00%	0.00% - 0.00%
Total Inorganic Waste Average	**75.20%**	
Total Organic Waste Average	**24.80%**	

List of AK Sufficiency Determinations Requested for the Waste Stream

No AK Sufficiency Determinations were requested for this waste stream.

Transportation

This waste stream and its chemical constituents have been reviewed for consistency with the listed TRUCON code and they are consistent.

Beryllium

Beryllium may be present in amounts greater than 1% by weight of the waste in some payload containers. TRUCON code SQ133 is used for containers that include greater than one percent by weight beryllium.

Radionuclide Information

Radionuclide data established by the PF-4 waste generator on a container basis and container data from the Area G waste storage records were evaluated to determine the relative radionuclide weight and activity for waste stream LA-MHD01.001. From this evaluation, the two predominant isotopes for the waste stream are Pu-239 and U-238, while over 95 percent of the total activity in the waste stream is from Pu-238, Pu-239, and Pu 241. It should be noted that although U-238 is the second prevalent radionuclide by mass in the waste stream, it was reported in only 525 containers. The table below, Estimated Radionuclide Distribution in LA-MHD01.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. As illustrated in the table below, the radionuclide weight percent of individual radionuclides varies greatly on a container by container basis. Because of this variability in container loadings, some containers will not contain the waste stream predominant radionuclides but may contain other radionuclides expected in this waste stream (References C133, C153, C175, C179, C225, C232, M159, M241, M298, M307, and M309).

Summary of Radiological Distribution for Waste Stream LA-MHD01.001

Radionuclide	Total Nuclide Weight%[1,5]	Total Nuclide Curie%[2,5]	Nuclide Wt% Range for Individual Containers[3,5]	Nuclide Ci% Range for Individual Containers[4,5]	Expected Present
WIPP Required Radionuclides					
Am-241	0.09%	0.89%	0 - 100.00%	0 - 100.00%	Yes
Pu-238	0.64%	**31.40%**	0 - 100.00%	0 - 100.00%	Yes
Pu-239	**63.23%**	**11.35%**	0 - 100.00%	0 - 100.00%	Yes
Pu-240	4.40%	2.89%	0 - 42.06%	0 - 31.10%	Yes
Pu-242	1.10%	0.01%	0 - 100.00%	0 - 100.00%	Yes
U-233	Trace	Trace	0 - 17.50%	0 - 0.57%	Yes
U-234	Trace	Trace	0 - 25.66%	0 - 0.51%	Yes
U-238	**29.64%**	Trace	0 - 99.88%	0 - 71.97%	Yes
Sr-90	Trace	Trace	0 - Trace	0 - Trace	Yes
Cs-137	Trace	Trace	0 - Trace	0 - Trace	Yes
Additional Radionuclides					

Radionuclide	Total Nuclide Weight%[1,5]	Total Nuclide Curie%[2,5]	Nuclide Wt% Range for Individual Containers[3,5]	Nuclide Ci% Range for Individual Containers[4,5]	Expected Present
Ac-227	Trace	Trace	0 - Trace	0 - Trace	Yes
Am-243	Trace	Trace	0 - 0.52%	0 - 0.32%	Yes
Cd-109	Trace	0.96%	0 - 1.75%	0 - 99.40%	Yes
Ce-144[6]	Not Reported				Yes
Cm-243	Trace	Trace	0 - Trace	0 - 81.34%	Yes
Cm-244	Trace	Trace	0 - 3.12%	0 - 90.33%	Yes
Cm-245	Trace	Trace	0 - Trace	0 - Trace	Yes
H-3	Trace	Trace	0 - Trace	0 - Trace	Yes
Mn-56	Trace	Trace	0 - Trace	0 - Trace	Yes
Na-22	Trace	Trace	0 - Trace	0 - Trace	Yes
Np-237	0.02%	Trace	0 - 100.00%	0 - 100.00%	Yes
Np-239	Trace	Trace	0 - Trace	0 - 97.25%	Yes
Pa-231	Trace	Trace	0 - Trace	0 - Trace	Yes
Pa-233	Trace	Trace	0 - Trace	0 - 0.11%	Yes
Pb-212	Trace	Trace	0 - Trace	0 - Trace	Yes
Pu-241	0.18%	**52.50%**	0 - 20.00%	0 - 93.99%	Yes
Pu-244	Trace	Trace	0 - 0.03%	0 - Trace	Yes
Th-228	Trace	Trace	0 - Trace	0 - Trace	Yes
Th-229	Trace	Trace	0 - Trace	0 - Trace	Yes
Th-230[6]	Not Reported				Yes
Th-232	0.13%	Trace	0 - 56.64%	0 - Trace	Yes
Tl-208	Trace	Trace	0 - Trace	0 - Trace	Yes
U-232[7]	Trace	Trace	0 - 54.69%	0 - 96.73%	Yes
U-235	0.57%	Trace	0 - 98.67%	0 - 99.02%	Yes
U-236	Trace	Trace	0 - 0.42%	0 - Trace	Yes
Other radionuclides that may be present in unknown amounts (no data values were available, although the radionuclides were listed in databases)					
Bk-249 Cf-252 Co-57 Co-60					Yes

1. This listing indicates the total weight percent of each radionuclide over the entire waste stream.
2. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
3. This listing is the weight percent range of each radionuclide on a container-by-container basis.
4. This listing is the curie percent range of each radionuclide on a container-by-container basis.
5. "Trace" indicates <0.01 weight or activity percent for that radionuclide.
6. Radionuclides not reported but suspected present from secondary radionuclides or decay.
7. Upper range values are from CCP NDA characterization results not waste generator reported values (Reference DR048).

Payload management will not be utilized for this waste stream.

Source Documents

Source Document Tracking Number	Title
C001	Assay of U-234
C002	Vent and Closure dates for TWISP containers submitted to WWIS
C005	TA-55 Pu-238 Processes Issues and SMEs (Acceptable Knowledge Personnel Interview Form)
C007	Segregation of Pu-238 Processing
C009	Electronic Communication from the Author
C010	Interview with R. Gutierrez, SME, re: P/S Code PE
C011	Interview with Dale Soderquist, SME Re: P/S Code DA
C014	Interview with J. Milewski, SME, re: P/S Code ELW
C017	Interview with B. Martinez, SME, re: P/S Codes RAP, RAP2, FSPF, PF, JA, and BC
C018	Interview with J. Simpson, SME, re: P/S Code RL
C019	Interview with G. Zaker, SME, re: P/S Code MA and Chemicals Used in Machining
C020	Interview with G. Zaker, SME, re: P/S Code CA
C023	Interview with G. Jarvinen re: P/S Codes AD, APD
C026	Interview with L. Avens re: P/S Codes MAS, SA
C027	Interview with B. Zwick and J. Byrd Re: P/S Codes AC1 and AC2
C031	Interview with C. Davis re: P/S Code SMP
C033	Interview with J. Foxx re: P/S Codes RD, NCD, WM, and XO/XO
C035	Interview with R. Masen re: P/S Code ME
C037	Interview with D. Wulff re: P/S Code XO/XO
C038	Interview with John Musgrave – TA-55 Miscellaneous Operations, RD&D Processes
C039	Interview with J. Foxx re: Process inputs to P/S Code AD
C040	Interview with J. Foxx re: P/S Codes PB, PuBe, CC, MB, MS, FF, BF, and other issues
C041	Interview with J. Foxx re: Use of Lead in P/S Codes DOP
C047	Interview with F. Hampel re: Metal Operations Process AK; Information on Chemical Use in P/S Code FF
C054	Air Sparging to Eliminate Pyrophoric Sodium
C056	Layers of Packaging in TA-55 Combustible TRU Waste
C057	Commingling of Defense and Nondefense TRU Waste
C061	Interview with J. Foxx re: Vanadium, Vanadium Pentoxide, TA-55-19, TA-55-30
C062	Wire Twist-Tie and Plastic Electrical Tie Bag Closure
C064	Air Sparging to Eliminate Pyrophoric Sodium
C065	WACCC Audit Finding #1 (April 27-May 1, 1987)
C066	Interview with F. Hampel re: Information on Chemical Use in P/S Code FF
C067	Interview with J. Foxx re: Sources of Cs-137, Pa-231, and Cm-244 in TA-55 waste
C068	Interview with J. Foxx re: Timeline for disposal of TA-55 waste with P120
C069	Ac-227 Drums
C073	Interview of J. Foxx re: Sources of Cs-137 and Pa-231 in TA-55 Waste

Source Document Tracking Number	Title
C076	Memo to P. Rogers re: "Secondary Radionuclides and Toxic Metals in TA-55 TRU Waste"
C079	Interview of J. Foxx re: P/S Codes PPD, UA, VD, IN, and WE
C080	Collection of Correspondence, Comments, and AK Summaries
C081	Interview with J. Foxx re: P/S Code DO
C082	Interview with J. Foxx and Supporting Documentation re: Defense Relationship of TA-55 Waste
C083	Interview with J. Foxx, SME re: P/S Codes
C085	Interview with M. West of NMT-2 and G. Bird of NMT-2 re: P/S Codes SBB and SCB
C087	Answers to Questions About Pyrochemical Processes
C089	Interview with J. Foxx re: Pu-238 and Effluent to TA-50
C092	Interview with J. Foxx re: CLS-1 Solvents
C094	Interview with T. Hayes of TA-55 Nitrate Operations re: Draft AK Summary for TA-55 Nitrate Operations, 12-19-99 (attached)
C095	Comments from T. Hayes and J. Foxx on the Acceptable Knowledge Summary for TA-55 Nitrate Operations
C096	Response to comments on the AK Summary for TA-55 Nitrate Operations
C098	Interview with J. Foxx re: P/S Code PY
C100	Memo with Attachments to K. Dziewinski re: Material Type Isotopic Compositions
C101	AK Isotopic Files for Input to NDA Radioassay Spreadsheets
C102	Interview with R. Simpson re: P/S Codes CN, CO, CT, EL, FF, ID, OB, OM, MOX, RS
C104	Interview with J. Foxx re: P/S UA
C105	Interview with J. Foxx re: P/S Codes AO, EVAC and WLT
C108	Interview with J. Foxx re: Secondary radionuclides used in P/S Code PI
C113	AK Interview with Jim Foxx re: P/S Code FF, Use of Kynar, Portland Cement, Code HRA, 40 mm Gun
C117	A Few Issues
C121	Detailed Chemical Evaluation MHD01.001
C122	Be Contamination
C124	Interview with Jim Fox Regarding Material Type 83 used at TA-55
C125	Decay Corrected Values for LANL Heat Source Plutonium
C129	Jim Foxx's Review and Comments on CCP-AK-LANL-006
C130	Jim Foxx's Review and Comments on Nitrate and Pyrochemical/Chloride Operations Process Flow Diagrams
C131	Jim Foxx's Review and Comments on Draft Process Flow Diagrams
C132	Pu-239 Operations Detailed Process Flow Diagrams
C133	Radiological Evaluation of Waste Stream LA-MHD01.001 Based on the Addition of Waste Stream LA-MHD02.01

Source Document Tracking Number	Title
C135	Interview with Site Personal Performing VE and PID Repackaging Regarding Potential for High Dose Rate Waste from TA-55
C136	Interview with Dennis Wulff Regarding Potential for High Dose Rate Waste from TA-55
C138	Addition of Mixed Inorganic and Organic Process Solids (Waste Stream # LA-CIN01.001) to Acceptable Knowledge Report AK6
C139	Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream # LA-CIN01.001
C140	Interview with Gerry Veazey Regarding the TA-55 Cement Fixation Process
C142	Opening of Drum (#8260) of Retrieved TA-55 Cement Waste
C143	Documentation Re Evaluation of TRU Waste Can Drums Retrieved from TA-54, Area G
C144	Interview with Dennis Wulff Regarding the Packaging of Pu-238 Waste at TA-55
C145	Evaluation of LANL Pu-238 Waste Management Practices
C147	RCRA and Chemical Evaluation for LANL Waste Streams LA-MHD01.001 and LA-CIN01.001
C149	Fiberboard Drum Liners Used During Repackaging
C150	Secondary Waste Discussions to be Added to AK4 and AK6
C152	Interview with J. Foxx re: Future Waste Generation for Waste Streams LA-MHD01.001 and LA-MIN02-V.001
C153	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD01.001
C154	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MIN02-V.001
C155	RCRA and Chemical Evaluation for LANL Waste Stream LA-MIN02-V.001
C156	Email to M. J. Papp re: Material Reclamation Project
C157	Prohibition on PCB waste lifted from LANL
C163	Change of LA Waste Stream Designation For TRU Oversize Crates at TA-54
C164	Information on Packaging Changes
C165	Decontamination and Volume Reduction System (DVRS) Information
C171	Homogeneity of LANL Waste Stream LA-CIN01.001
C172	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MIN04-S.001
C173	RCRA and Chemical Evaluation for LANL Waste Stream LA-MIN04-S.001
C174	Projected Future Waste Generation for Waste Stream LA-MIN04-S.001

Source Document Tracking Number	Title
C175	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD01.001
C176	Email from Kapil Goyal Regarding Compact Fluorescent Bulbs
C177	Secondary Waste Generated by the Remediation/Repackaging Processes at Dome 231 and WCRRF
C178	Drum Washing of Drums Retrieved from Below-Grade
C179	Evaluation of Volume and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD01.001
C180	Evaluation of Volume and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-CIN01.001
C181	Evaluation of Volume and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MIN02-V.001
C182	Evaluation of Volume and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MIN04-S.001
C184	Determination of Flammable VOCs For LANL TA-55 Mixed Transuranic Waste, Waste Stream LA-CIN01.001
C185	TA-54 Building 412 vs. DVRS Facility
C186	Letter on Material Type Isotopic Composition
C187	Memorandum to Pamela Rogers, Transuranic Database Modifications
C188	Memorandum to Pam Rogers; Layers of Packaging in TA-55 Combustible TRU Waste
C189	Secondary Radionuclides and Toxic Metals in TA-55 TRU Waste
C190	Memo to TWCP Records Center: Commingling of Defense and Nondefense TRU Waste
C191	Segregation of Pu-238 Processing
C192	Memorandum to Pamela Rogers; Acceptable Knowledge of Pu-238 Waste Generated at the Los Alamos Plutonium Facility, TA-55
C194	Comments from Jim Foxx on the Draft Pu-238 AK Summary Report (dated November 1999)
C195	Interview with Jim Foxx: Pu-238 and Effluent to TA-50
C196	Email from Jim Foxx: RCRA Codes for Pu-238
C197	Interview with Jim Foxx and Gary Rinehart Relating to the RCRA Characterization and Management of Pu-238 Liquids and P/S Code Operations
C198	Interview with Jim Foxx Regarding P/S Code PI
C199	Interview with Gordon Jarvinen Regarding TA-55 Miscellaneous Operations – RD&D Processes
C200	Jim Foxx's comments on Draft Acceptable Knowledge Summary for TA-55 Nitrate Operations

Source Document Tracking Number	Title
C201	Comment Resolution for Nitrates AK Summary Report (dated 2/25/00)
C202	Memorandum to B.T. Reich : Air Sparging to Eliminate Pyrophoric Sodium
C203	Memorandum to B.T. Reich: xperimental data on calcium pyrophoricity in salts
C204	Interview with Jim Foxx; Segregation of non-defense wastes from defense wastes
C205	Interview with Jim Foxx; Answers to questions of use of Ag, disposal of ash and resins, and use of gases
C206	Acceptable Knowledge Personnel Interview with Jim Foxx: Disposal of Spray Cans Used in Gloveboxes
C207	Interview with Jim Foxx re: Volatile RCRA-Listed Metals
C208	Acceptable Knowledge Personnel Interview with Jim Foxx: Sources of Cs-137 and Pa-231 in TA-55 TRU Waste
C209	Interview with J. Foxx re: Sources of Cs-137, Pa-231, and Cm-244 in TA-55 TRU Waste
C210	AK Personnel Interview of Lisa Pansoy-Hjelvik, Description of P/S Code ASP
C211	Interview with Gary Rinehart regarding P/S code WS Operations
C212	Memorandum to Ed Wilmont, Pu-238 Waste at TA-55
C213	AK Personnel Interview with Jim Foxx: Information on P/S Codes PPD, UA, VD, IN, and WE
C214	AK Personnel Interview with Jim Foxx: RD&D Processes (RD, NCD, WM)
C215	Email From Wayne Punjak to Pamela Rogers: Ac-227 Drums
C216	Memorandum to RMDC; Vent and Closure dates for TWISP containers submitted to WWIS
C219	Interview with Jim Foxx: Material Type 83 used at TA-55
C220	Jim Foxx's Review and Comments on Draft Process Flow Diagrams
C221	Detailed Pu-238 Operations Process Flow Diagrams
C222	Decay Corrected Values for LANL Heat Source Plutonium
C223	Record of Communication for interview with Jim Foxx: All Process Wastes
C224	Addition of 7 Containers to Waste Stream LA-MIN04-S.001
C225	Evaluation of Additional Containers for waste stream LA-MHD01.001
C226	Waste Packaging Issues with CCP-AK-LANL-006, Waste Stream LA-CIN01.001 (TA-55 cemented waste packaged in cans and monoliths)
C228	Evaluation of Los Alamos National Laboratory Circumferentially Taped Slip-Lid Cans (>4 Liters)
C230	Memo: Legacy TA-55 Nitrate Salt Wastes at TA-54 - Potential Applicability of RCRA D001/D002/D003 Waste Codes

Source Document Tracking Number	Title
C231	Email RE: Nitrate Salt Processing Guidance
C232	Evaluation of Volumes and Calculations of Individual and Total Radionuclide Masses and Activities for Waste Streams LA-MHD01.001, LA-CIN01.001, LA-MIN02-V.01, and LA-MIN04-S.001
D002	Acceptable Knowledge Report for Legacy Debris TA-55 Waste Streams Containing Pu-239
D003	Hazardous Waste Facility Contract with DOE, University of California & Summary of Modifications
D004	Attachment A (Waste Analysis Plan) of the LANL Hazardous Waste Permit
D007	Process Acceptable Knowledge Report for Chloride Operations at TA-55
D008	Acceptable Knowledge Report for Newly Generated Waste from Nitrate Operations at TA-55
D009	Acceptable Knowledge Report for Newly Generated Waste from Miscellaneous Operations at TA-55
D010	Acceptable Knowledge Report for Newly Generated Waste from Special Processing Operations at TA-55
D011	Acceptable Knowledge Report for Newly Generated Waste from Metal/Pyrochemical Operations at TA-55
D013	Los Alamos National Laboratory Transuranic Waste Characterization Acceptable Knowledge Information Summary (AKIS)
D014	TA-55 Facility Safety Analysis Report (FSAR), Excerpt (Chapter 1 missing)
D017	Draft Acceptable Knowledge (Report) for TA-55 Nitrate Operations (and Interview comments from Tim Hayes)
D018	Transuranic Waste Interface Document for the Waste Characterization, Reduction, and Repackaging Facility and the Radioactive Materials Research, Operations, and Demonstration Facility
D019	Waste Management Plan for the 40-mm Powder Breach Project
D023	TA-55 Plutonium Facility Acceptable Knowledge Report
D024	TA-55 Transuranic Waste Interface Document
D025	Acceptable Knowledge Report for Debris Waste Streams Containing Pu-239
D026	Acceptable Knowledge Information Summary For LANL Transuranic Waste Streams
D028	Process Acceptable Knowledge Report for Pyrochemical Processes at TA-55
D029	Process Acceptable Knowledge Report for Metal Operation Processes at TA-55
D030	Process Acceptable Knowledge Report for Special Processing at TA-55
D032	Process Acceptable Knowledge Report for Miscellaneous Operations at TA-55
D034	Waste Management Site Plan

Source Document Tracking Number	Title
D036	Process Knowledge Report for Nitrate Operations at TA-55
D037	Los Alamos TRU Waste Certification Plan for Newly Generated TRU Waste
D041	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams
D044	Lightweight Radioisotope Heater Unit (LWRHU) Production for the Cassini Mission
D045	Final Safety Analysis Report for TA-55 NMT
D048	Wastes from Plutonium Conversion and Scrap Recovery Operations
D049	40-mm Powder Breech Project, TA-55 Bldg PF-4, Waste Management Plan
D050	Waste-form Development for Conversion to Portland Cement at LANL Technical Area 55
D055	Rocky Flats Environmental Technology Site Backlog Waste Reassessment Baseline Book – Waste Form 34 Pyrochemical Salts
D056	TWISP Final Report
D057	Processing Waste Acceptance Criteria Exception Forms
D058	Review and Completion of the TWSR
D059	Environmental Protection: Managing Waste; Air Quality; Ecological and Cultural Resources...
D060	Repackaging Plutonium-238 High Dose Rate Material for Waste Disposal
D062	Upgrade and Performance Testing for the LINC Systems at TA-54 Area G
D063	Project Management Objectives for Pit 9 TRU Waste Retrieval
D064	Retrieval Plan for TA-54, Area G TRU Waste for Pit 9
D065	TA-54, Area G Pit 9 Waste Description
D066	TA-54, Area G Pit 9 Waste Description
D067	TA-54, Area G Trenches A-D Waste Description
D068	TA-54 Area G Documented Safety Analysis
D070	Wastes from Plutonium Conversion and Scrap Recovery Operations
D071	Final Safety Analysis Report for TA-55 NMT
D073	Lightweight Radioisotope Heater Unit (LWRHU) Production for the Galileo Mission
D074	Lightweight Radioisotope Heater Unit (LWRHU) Production for the Cassinni Mission
D075	Sampling and Analysis Project Validates Acceptable Knowledge on TA-55-43, Lot No. 01
D076	Acceptable Knowledge Summary Report for Waste Streams TA-55-43, TA-55-44, TA-55-45, TA-55-46, TA-55-47
D077	Process Acceptable Knowledge Report for Miscellaneous Operations at TA-55
D078	Process Acceptable Knowledge Report for Nitrate Operations at TA-55
D079	Process Acceptable Knowledge Report for Special Processing at TA-55
D080	Process Acceptable Knowledge Summary Report for Plutonium-238 Operations at TA-55
D081	AK Report for NG Waste from Metal/Pyrochemical Operations at TA-55
D082	Institutional Plan FY2002-FY2007
D083	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams
D084	Acceptable Knowledge Report for Debris Waste Streams Containing Pu-239
D085	Determination of H2 Diffusion Rates through Various Closure on TRU Waste Bag-Out Bags

Source Document Tracking Number	Title
D089	Amount of Zeolite Required to Meet the Constraints Established by the EMRTC Report RF 10-13: Application to LANL Evaporator Nitrate Salts
D090	Results of Oxidizing Solids Testing - EMRTC Report FR 10-13
D091	Solution Package Scope Definition REPORT-72, Salt Waste (SP #72) Rev 1
DR001	Discrepancy Resolution Waste Stream Assignment
DR004	Discrepancy Resolution Non-Mixed TA-55 Pu-239 Debris Drums
DR005	Acceptable Knowledge Source Document Discrepancy Resolution - Homogeneous Solids in Containers S818280, S818308, S822622, S818309, S832485, S862359, S802994, and S811632
DR007	Acceptable Knowledge Source Document Discrepancy Resolution – Layers of Confinement
DR008	Acceptable Knowledge Source Document Discrepancy Resolution – TA-55 Homogeneous Solids Containing Greater Than 50% Heterogeneous Debris
DR029	Acceptable Knowledge Source Document Discrepancy Resolution – Drum No. 86309 Contained a Small Lighter Fluid Can with ~ 65 ml of liquid
DR043	Miscellaneous Debris Items in LA-CIN01.001 (cemented) Container No. 53706
DR044	Removal of 114 Heterogeneous Drums from Cemented Waste Stream (LA-CIN01.001)
DR048	Acceptable Knowledge Source Document Discrepancy Resolution – Waste Stream LA-MHD01.001 Radiological Characterization
M002	Review of Headspace Gas Data from Pre-WAP Analyses for Additions to AK
M006	Pit Production
M011	Waste Determination Report for Waste Stream TA-55-43 Lot No. 01
M012	Waste Profile Form Guidance
M013	Waste Generator Guidance for Completing the TRU Waste Storage Record (TWSR)
M014	General Waste Management Requirements
M015	Managing Radioactive Waste
M016	Hazardous and Mixed Waste
M017	Final Documentation for RadWaste ORACLE Database's List of Acceptable Radioisotopes, Specific Activities, Categories and Regulatory Limits
M018	Los Alamos National Laboratory Waste Profile System Forms
M019	Generator Documentation
M023	Procedure Review Sheets for 410-MPP, "Electrorefining of Plutonium Metal-Crac Cell"
M024	Procedure Review Sheets for 435-MPP, "Reverse Cell Electrorefining (R&D Project)"
M026	Coalesence of Plutonium Metal (Excerpts) and Procedure Review Sheets
M028	Procedure Review Sheets and Excerpts from Salt Stripping of Electrorefining Salts Using Oxygen/Argon
M029	Procedure Review Sheets and Excerpts from Electrorefining of Plutonium Metal, Nominal Six Kilogram Scale
M030	Measuring Physical Properties (Excerpt)
M032	Acceptable Knowledge Personnel Interview Form - Metal Operations

Source Document Tracking Number	Title
M037	Multiple-Cycle Direct Oxide Reduction
M041	Procedure Review Sheets for Revs 0-5 of "Electrorefining of Plutonium Metal," Doc. # 258-MPP-R00
M043	Procedure Review Sheet for Procedure 290-MPP-R02
M044	Procedure Review Sheets for Procedure 216-MPP-R01 "Oxalate Precipitation of Ion-Exchange Eluates"
M045	Procedure Review Sheets for Procedure 215-MPP-R01, "Oxalate Precipitation of Plutonium from Nitrate Solutions"
M048	Procedure Review Sheets for Procedure 230-MPP-R01, "Hydroxide Precipitation for Oxalate Filtrates"
M050	Procedure Review Sheet for 474-REC-R01, "Process Research and Development Facilities"
M053	Procedure Review Sheet for 426-REC-R00, "Residue Leaching"
M054	Procedure Review Sheet for 461-REC-R00, "Nitrate Anion Exchange"
M057	Procedure Review Sheet for 431-REC, "Procedure for Disposal of Oils Containing Recoverable Amounts of Pu in the Form of (U, Pu) Carbides"
M061	Process Review Sheet for RAB-MS-2000, "Carbothermic Process Material Specification for Uranium Oxide Powder (Depleted)"
M064	Process Accountability Flow Documents for Various Nitrate Processes
M067	Procedure Review Sheet for 430-REC, "Recovery of Contaminated Platinum"
M069	Procedure Review Sheet for 420-REC, "Processing of Contaminated Solids"
M072	Procedure Review Sheets for 444-REC, "Dissolving Chloride Melt Portion of Electrorefining Residues"
M074	Procedure 474-CLO, Hydroxide Precipitation of Chloride Waste Streams
M076	Hydroxide Precipitation of the Plutonium in Chloride Waste Streams
M080	Interview with J. Foxx re: Solvent Extraction Developmental Work
M084	Procedure 437-REC, "Polystyrene Cube Processing"
M085	Procedure 445-REC, "Preferential Dissolution of Uranium Oxides from a Uranium-Plutonium Oxide Mixture"
M086	Procedure 490-REC, "Catalyzed Electrochemical Plutonium Oxide Dissolver (CEPOD)"
M088	Procedure 423-REC, "Ash Leaching"
M089	Procedure 431-REC, "Leaching of Contaminated Metals in Nitric Acid"
M090	Procedure 421-REC, "Pickling or Surface Leaching" and "Leaching of Noncombustible Materials in Nitric Acid"
M092	Procedure 490-REC, "Mediated Electro-Oxidation of Low-Level Organic Waste" and "Catalyzed Electrochemical Plutonium Oxide Dissolver"
M093	Procedure 427-REC, "Incinerator Ash R&D Facility"

Source Document Tracking Number	Title
M095	Procedure 447-REC, "Dissolution of Impure Plutonium Dioxides, Filter Residues, and Glovebox Sweepings in Hot HNO3-HF"
M096	Procedure 472-REC, "Nitrate Anion Exchange for the Rich Column Material System"
M097	Procedure 471-REC, "Nitrate Anion Exchange for the Lean Residue System"
M098	Procedure 470-REC, "Nitrate Anion Exchange for the Rich Residues Ion Exchange Column"
M099	Procedure 473-REC, "Nitrate Anion Exchange for the Dissolved Solids (DS) System"
M103	Procedure 480-REC, "Peroxide Precipitation"
M112	Procedure 407-MPP, Chlorination of Plutonium Compounds
M113	Procedure 420-MPP, Reduction of PuO_2 to metal
M116	Review Sheet for Procedure 445-MPP, "Coalescence of Plutonium Metal"
M118	Review Sheet for Procedure 209-MPP, "Pickling, Leaching, and Dissolution"
M123	Procedure 213-MPP, Conversion of Plutonium Oxalate to Oxide using heat lamp and hot plate
M125	Procedure 217-MPP, Peroxide precipitation
M126	Procedure 226-MPP, Dissolving Chloride Melt Portion of Electrorefining Residues
M127	Procedure 232-MPP, Oxalate Precipitation of Pu from Hydrochloric solutions
M129	Procedure 224-MPP, Chlorination of Plutonium Compounds
M130	Procedure 251-MPP, Multiple-cycle Direct Oxide Reduction
M131	Procedure 273-CLO, Purifying and Recovering Pu by Chloride anion exchange
M132	Procedure 242-MPP, Precipitation of Plutonium Oxalate in Hydrochloric Acid
M134	Direct Oxide Reduction R&D
M137	Procedure HS-NMT9-PP-42, "Particle Size Analysis of Oxide Powders Procedure"
M142	Procedure 435-REC, "Processing Lapping Oil and Similar Organics"
M144	Procedure 491-REC, "Advanced Testing Line for Actinide Separations (ATLAS) Unit Operations"
M151	Procedure 464-Rec, "Peroxide Precipitation"
M153	Development of Control Charts for the Evaporator Bottoms Newly Generated Waste Stream from TA-55
M154	Miscellaneous MSDSs
M156	Project 2010 Container Specific Database Information for LA-MHD01.001
M157	Project 2010 Database Summary of Waste Codes from LA-MHD01.001
M158	Project 2010 Database Information Waste Item Descriptions Summary
M159	Project 2010 Container Specific Database Information - Area G Reported Radionuclides
M160	LANL Project 2010 Summary of AK Discrepancies

Source Document Tracking Number	Title
M164	Procedure Review Sheet for Identification of Potential Hazards Associated with Metallographic Operations in Rooms G104 and G107
M169	Procedure Review Sheet - Comminution and Nickel Addition Procedures for Uranium Carbide or Uranium-Plutonium Carbide
M172	Procedure Review Sheet for Manual Pellet Pressing Procedure for Uranium Carbide or Uranium-Plutonium Carbide Powders
M174	Procedure Review Sheet for Procedure for Measuring the Density of Sintered Fuel or Insulator Pellets by a Water Immersion Technique
M180	Procedure Review Sheet - Hydroxide Precipitation of Chloride Solutions Containing Organic Chemicals
M181	Procedure Review Sheet - Oxalate Precipitation of Plutonium from Chloride Solutions
M182	Procedure Review Sheet - Purification and Recovery of Plutonium by Chloride Anion Exchange
M184	Procedure Review Sheet - Dicesium Hexachloro Plutonate (DCHP)
M185	Procedure Review Sheet - Head End Processing of Aqueous Chloride Plutonium
M186	Procedure Review Sheet - Plutonium Recovery from Chloride Solutions by Oxalate
M189	Procedure Review Sheet - Vessel Handling and Unloading
M200	Plutonium Electrorefining
M202	Preparation of Pu Metal by the Fluoride Reduction Process
M206	Procedure Review Sheet - Salt Stripping of Electrorefining Salts
M212	Procedure Review Sheet - Six Foot Sphere Handling and Unloading
M215	LANL Hard Copy TWSRs for LA-MHD01 and LA-MHD02 from 2500 Set
M216	LANL Hard Copy TWSRs for LA-MHD01 and LA-MHD02 from AK6 Remaining Set
M217	LANL Hard Copy TWSRs for LA-MHD01 and LA-MHD02 from AK7 Remaining Set
M218	LANL Hard Copy TWSRs for LA-MHD01 and LA-MHD02 from Imagic Printout Set
M219	Electronic image of TWSRs and RSWD Forms from Imagic Software
M220	Vent Date Information Sources
M222	CONCERT Database
M223	Design of Hydrothermal Waste Treatment Units for Operation at Pressures from 1 to 1,000 Bar
M224	LANL Hard Copy RSWDs and TWSRs for LA-MHD01 and LA-MHD02
M226	LANL Hard Copy RSWDs and TWSRs for LA-MHD01 and LA-MHD02
M236	TA-55 Cemented RSWDs/TWSRs
M238	NUGEN Drum TWSRs
M241	Drum Spreadsheet for Additional LA-MHD01.001 Containers
M242	TA-55 Waste Stream LA-MIN02-V.001 RSWDs/TWSRs and Drum Spreadsheet
M252	TA-55 Cement Fixation Drum Logbook
M273	LA-MHD01.001 TWSRs

Source Document Tracking Number	Title
M274	TWSRs for Containers 8000 Series
M275	TA-55 NUGEN TWSRs
M276	TA-55 VE NUGEN TWSRs
M279	TA-55 Waste Stream LA-MIN04-S.001 RSWDs/TWSRs, Drum Spreadsheet, and BDRs
M280	Pit 9 Waste Information
M281	Trenches A-D logbook
M283	Assembled Tables taken from Milliwatt Generator Project Progress Reports
M284	MSDSs for Pu-238 Operations
M285	Process Flow Diagram for Routine Pu-238 Heat Source Production - Fuel Fabrication
M286	Particle Size Analysis of Oxide Powders
M287	Process Flow Diagram for Metallography
M288	Process Flow Diagram for Pu-238 Scrap Processing
M289	Introductory Glovebox Transfer of an EP-60 into and EP-61
M290	Decontamination of Ir Using Molten MgCl2
M291	Process Flow Diagram for Recovery of Pu-238 Oxide from Contaminated Iridium
M292	Dissolution of Ir by Electrochemical Methods
M293	Process Flow Diagram for Pu-238 Waste Solidification
M294	Recovery of Plutonium-238 from Sucrose Solutions
M295	Documentation for RadWaste ORACLE Database's List of Acceptable Radioisotopes, Specific Activities, Categories and Regulatory Limits
M296	Generator Documentation (RSWD/TWSRs)
M298	Concert Database Query, Physical Parameter Inventory Analysis for Waste Stream LA-MHD02.002
M299	Thermal Decomposition of Cellulose Items
M300	General Waste Management Requirements
M301	Hazardous and Mixed Waste
M302	Managing Radioactive Waste
M303	Waste Profile Form Guidance
M304	Waste Generator Guidance for Completing the TRU Waste Storage Record (TWSR)
M306	The Actinide Research Quarterly, Magnetic Levitation Results in High-Purity Plutonium Metal.
M307	Acceptable Knowledge Isotopic Ratios (AKIR) database, Versions 2.0 and 2.1
M308	Pu-238 Defense Determination Resolution
M309	Radiological Discrepancy Report
M310	RCRA EPA Hazardous Waste Code Assignment Discrepancy Report
M312	CCP-AK-LANL-007 Document Conversion To CCP-AK-LANL-006 Source Documents
P001	Nitric Acid Process Evaporator
P005	Thorium Fluoride Precipitation
P008	Cement Fixation of Process Residues in 55-Gallon Drums (Excerpts)
P011	Cement Fixation of Process Residues in One-Gallon Cans (Excerpts)

Source Document Tracking Number	Title
P012	Organic Liquid Emulsification
P014	Casing Enriched Plutonium
P024	Nitrate Anion Exchange
P025	Dissolution and/or Leaching of Various Materials in Hydrochloric Acid
P026	Oxalate Precipitation of Plutonium from Hydrochloric Acid Solutions
P027	Purification and Recovery of Plutonium by Chloride Anion Exchange
P028	Hydroxide Precipitation
P029	Procedure for Pyroredox Processing of Spent Electrorefining Anodes (P/S RA)
P033	Procedure "Cleaning Requirements for Large Components" P/S EL
P034	Procedure "Cleaning for Small Components"
P036	Procedure "Fabrication and Inspection of He-Bonded Fuel Elements" P/S EL
P042	Procedure "Sodium Bonding" P/S EL
P044	Procedure "Encapsulation of Radioactive Isotopes" P/S WE
P045	Procedure "Plasma Chemical Reactor" P/S PCH
P046	Procedure "Safe Operating Procedure for Pit Disassembly" P/S MW, PD, SRL
P049	Procedure "Ultrasonic Degreaser" P/S MA
P051	Procedure "Operating the Autoclave Hot Isostatic Press" P/S BA
P052	Procedure "Cleaning of SP-100 Fuel Pin Components"
P053	Procedure "Pit Disassembly" P/S SRL
P056	Procedure "Heat Treatment of SP-100 Components"
P064	Procedure "Hydrothermal Processing"
P065	Procedure "Superacid Research and Development"
P067	Procedure "Room 208 Purification Process Development"
P069	Procedure "Super Oxidizer Fluorination of Ash"
P070	Procedure "Operation of the Plutonium FOOF Loop"
P071	Procedure "Operation of the Plutonium Fluorination Loop"
P076	Procedure "Research, Development, and Demonstration Facilities"
P077	Procedure "Research, Development, and Demonstration Facilities"
P078	Procedure "Sensors and Instrumentation Development"
P080	Procedure "Organoactinide R&D"
P081	Procedure "Actinide Chemistry Research and Development"
P083	Procedure "Plutonium Chlorination"
P085	Procedure "Developmental Chloride Solvent Extraction Process"
P090	TA-55 Generator Attachment to the Los Alamos TRU Waste Certification Plan

Source Document Tracking Number	Title
P091	Attachment 3 to the TRU Waste Certification Plan, R05
P092	TA-55 Transuranic Waste Interface Document for Debris Waste
P094	Documenting Acceptable Knowledge For Legacy Waste Items
P095	Inspecting, Packaging, Rejecting, and Remediating Transuranic Waste for WIPP and for TA-54 Safe Storage
P096	TA-55 Waste Management, TWCP-351
P097	Performing Visual Inspections of TRU Waste
P098	Packing TRU Waste Containers
P102	Procedure 406-GEN, "Standard Operating Procedure for the Waste Management at TA-55, CMB-11 Facility"; also LA-UR-01-6170
P103	Thorium Fluoride Precipitation
P104	Electrorefining of Plutonium Metal, Nominal Six Kg Scale
P105	Chloride Melt Preparation for Electrorefining and Fused Salt Extraction
P109	Acceptable Knowledge Personnel Interview Form re: Pyrochemical waste stream
P110	Acceptable Knowledge Personnel Interview Form re: Pyrochemical waste stream
P117	Waste Visual Examination and Packaging
P118	Acceptable Knowledge Documentation
P125	Characterization of Direct Oxide Salts
P147	Electrochemical Systems Operations, NMT-15 Hazard Control Plan
P148	Machining of Special Nuclear Materials in Glovebox Enclosures, NMT-15 Hazard Control Plan
P152	Cement Fixation of Process Residues in One-Gallon Cans
P153	Cement Fixation of Process Residues in 55-Gallon Drums
P154	Standard Waste Visual Examination and Prohibited Item Disposition
P155	Pu-238 Residue Solidification
P156	Thermal Decomposition of Cellulose Items Contaminated with Plutonium-238
P157	Direct Oxide Reduction of Pu-238 Oxide
P158	Prohibited Items Disposition Dome 231 Permacon
P159	Processing Waste in the Waste Characterization Glovebox
P160	Introducing and Removing Items and Samples from the Glovebox Systems in PF-4
P161	TA-55 Waste Management
P162	TA-55 Waste Management Requirements
P163	Nuclear Materials Packaging
P164	Inspecting, Labeling, and Preparing TRU Waste Containers

Source Document Tracking Number	Title
P165	Performing Visual Inspections of TRU Waste
P166	Packing TRU Waste Containers
P167	Packing TRU Waste Containers
P168	Sealing TRU Waste Containers
P169	Sealing TRU Waste Containers
P170	Material Reclamation
P171	Inspecting and Preparing a Drum
P172	Inspecting the Cement and Performing the Drum-in and Drum-out
P173	Waste Generating Instruction for Heat-Source Plutonium Solid TRU Waste
P174	Trenches A – D Retrieval Operations
P175	Sort, Segregate, Size Reduction, and Repackaging Activities
P177	TA-55 Waste Management
P178	Attachment 3 to the Los Alamos TRU Waste Certification Plan for Newly Generated TRU Waste
P179	TA-55 Generator Attachment to the Los Alamos TRU Waste Certification Plan
P180	Sampling PuO2 Procedure
P181	Ceramography of 238 PuO2 Fuel Samples
P182	238 Pu Waste Solidification
P183	Cement Fixation of Process Residues in 55-Gallon Drums
P185	Cement Fixation of Process Residues in One-Gallon Cans
P186	Organic Liquid Emulsification
P187	Characterization of Direct Oxide Salts
P188	Standard Operating Procedure for the Waste Management at TA-55
P189	Direct Oxide Reduction of 238PuO2
P190	Advanced Testing Line for Actinide Separations (ATLAS) Unit Operations
P192	TA-54 Area G TRU Crate SSSR Activities
P194	TA-54-231 PermaCon Upgrades
P195	Sort, Segregate, Size Reduction, and Repackaging Activities
P196	TA-54 Area G Sludge Remediation Activities
P197	TA-54 Area G TRU Crate SSSR Activities
P198	WCRRF Waste Characterization Glovebox Operations
P199	TA-54-375 TRU Oversized Box Processing Capability Project
U002	Review of RTR Data From Pre-WAP Analysis For AK

Source Document Tracking Number	Title
U004	Process Status Data from Area 55 WMD & Cert. Database
U005	Twenty-Five Years of Radioactive Waste Cementation at Los Alamos National Laboratory
U007	Review of RTR Data From Pre-WAP Analysis for AK

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:14:01059
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: March 5, 2014

FROM: C. Soaterna CSoaterna LOCATION: CCP Certification

TO: NTPC Records Custodian GSA-212 LOCATION: National TRU Program Certification

SUBJECT: TRANSMITTAL OF LOS ALAMOS NATIONAL LABORATORY CHARATERIZATION INFORMATION SUMMARY FOR CCP-AK-LANL-006, WASTE STREAM #LA-MHD01.001, LOT 417, LOT 418, LOT 419, LOT 420, LOT 421, LOT 422, LOT 423, LOT 424, AND LOT 425

Please accept the attached Los Alamos National Laboratory Characterization Information Summary to be placed in Records for CCP-AK-LANL-006, Waste Stream #LA-MHD01.001, Lot 417, Lot 418, Lot 419, Lot 420, Lot 421, Lot 422, Lot 423, Lot 424, and Lot 425.

CS:jmc

Attachment

cc: (without attachment)
T. A. Groover ED
M. Ramirez ED
C. E. Simmons ED

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 3/24/14

P.O. Box 2078 • Carlsbad, New Mexico USA 88221-2078
Phone: (575) 234-7200 • Fax: (575) 234-7083

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 417

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 417

AK Expert Review: N/A Date: N/A

SPM Review: Jerry Jess Fisher Jr. Date: 01/06/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 18	09/25/2013 CCP Standard Contact-Handled Waste Visual Examination

CCP-TP-113	Rev. 17	06/04/2013	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/2011	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/2008	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008	CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 5	08/28/2006	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 4	12/22/2005	CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/12/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 417

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
55952	LA00000055952	1LANDA1879	LA-RTR2-11-0137	N/A	No	LA11FG2090	N/A
56370	LA00000056370	1LANDA1882	LA-RTR2-11-0137	N/A	No	LA11FG2090	N/A
56920	LA00000056920	1LANDA1878	LA-RTR2-11-0139	N/A	No	LA11FG8123	N/A
58161	LA00000058161	1LANDA1877	LA-RTR2-11-0138	N/A	No	LA11FG8122	N/A
65661	LA00000065661	1LANDA1880	LA-RTR2-13-0136	N/A	Yes	LA11FG8100	N/A
85273	LA00000085273	4LANDA0021	N/A	LAVE500355	Yes	LA10FG2073	N/A
87907	LA00000087907	4LANDA0026	LA-RTR2-11-0028	N/A	Yes	LA11FG2019	N/A
88053	LA00000088053	4LANDA0025	LA-RTR2-11-0021	N/A	No	LA11FG8035	N/A

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 01/06/2014 (Date)

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 417

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	None of the containers in this Lot had prohibited items identified during Visual Examination technique.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste, VE was selected as the characterization method because VE meets the Data Quality Objectives'

Site Project Manager Signature | Jerry Jess Fisher Jr. Printed Name | 01/06/2014 Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 417

Sampling Completeness

RTR/VE:

Number of Valid Samples: 8 Number of Total Samples Analyzed: 8
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 8 Number of Total Samples Analyzed: 8
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

		Completeness	Comparability	Representativeness
	Radiography	Y	Y	Y
	VE	Y	Y	Y

Comments: None

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 01/06/2014 (Date)

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 418

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....6

RTR/VE Summary of Prohibited Items and AK Confirmation.....7

Reconciliation with Data Quality Objectives.....8

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 418

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Date: 01/13/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005	CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005	CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005	CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004	CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 18	09/25/2013 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 17	06/04/2013 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/2011 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/2008 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 5	08/28/2006 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 4	12/22/2005 CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/12/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 418

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
66769	LA00000066769	2LANDA1240	LA-RTR2-13-0125	N/A	No	LA13FG2130	N/A
66957	LA00000066957	2LANDA1239	LA-RTR2-13-0125	N/A	No	LA13FG2130	N/A
67207	LA00000067207	2LANDA1240	N/A	LAVE550112	No	LA13FG2130	N/A
67224	LA00000067224	1LANDA1861	N/A	LAVE550114	No	LA13FG2130	N/A
67226	LA00000067226	2LANDA1240	N/A	LAVE550114	No	LA13FG2130	N/A
67325	LA00000067325	1LANDA1861	N/A	LAVE550114	No	LA13FG2130	N/A
67351	LA00000067351	2LANDA1247	N/A	LAVE550107	No	LA13FG2130	N/A
67369	LA00000067369	2LANDA1247	N/A	LAVE550105	No	LA13FG2130	N/A
68001	LA00000068001	3LANDA0231	LA-HERTR-13-0119	N/A	No	LA13FG2131	N/A
68002	LA00000068002	3LANDA0229	LA-HERTR-13-0118	N/A	No	LA13FG2131	N/A
68226	LA00000068226	3LANDA0231	LA-HERTR-13-0118	N/A	No	LA13FG2131	N/A
68763	LA00000068763	3LANDA0228	LA-HERTR-13-0118	N/A	No	LA13FG2131	N/A
84453	LA00000084453	4LANDA0023	N/A	LAVE500314	No	LA10FG2149	N/A

Roger Whiteaker — Signature of Site Project Manager

Roger Whiteaker — Printed Name

01/13/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 418

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	None of the containers in this Lot had prohibited items identified during Visual Examination technique.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste, VE was selected as the characterization method because VE meets the Data Quality Objectives'

Roger Whiteaker — Site Project Manager Signature
Roger Whiteaker — Printed Name
01/13/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 418

Sampling Completeness

RTR/VE:

Number of Valid Samples: 13 Number of Total Samples Analyzed: 13

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 13 Number of Total Samples Analyzed: 13

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	Y	Y	Y

Comments: None

Roger Whiteaker 01/13/2014

Signature of Site Project Manager | Printed Name | Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 419

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 419

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Rick Whiteley Date: 01/17/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000

CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000

CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	08/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Visual Examination (VE):

CCP-TP-113	Rev. 18	09/25/2013 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 17	06/04/2013 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/2011 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/2010 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 14	06/30/2010 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/2009 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/2008 CCP Standard Contact-Handled Waste Visual Examination

CCP-TP-113	Rev. 11	11/12/2008 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/2008 CCP Standard Contact-Handled Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/2008 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/2007 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/2006 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 5	08/28/2006 CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 4	12/22/2005 CCP Standard Waste Visual Examination

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 419

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
65207	LA00000065207	1LANDA1880	LA-RTR2-13-0135	N/A	No	LA13FG12133	N/A
~~68408~~	~~LA00000068408~~	~~1LANDA1881~~	~~LA-RTR2-13-0135~~	~~N/A~~	~~No~~	~~LA13FG12133~~	~~N/A~~
69017	LA00000069017	1LANDA1873	LA-RTR2-13-0133	N/A	YES	LA13FG12133	N/A
69024	LA00000069024	1LANDA1875	LA-RTR2-13-0134	N/A	No	LA13FG12133	N/A
69028	LA00000069028	1LANDA1885	LA-RTR2-13-0136	N/A	No	LA14FG2002	N/A
85894	LA00000085894	1LANDA1883	N/A	LAVE500383	No	LA10FG8022	N/A
92522	LA00000092522	1LANDA1753	LA-RTR2-13-0049	N/A	No	LA13FG2126	N/A
93231	LA00000093231	1LANDA1880	LA-RTR2-13-0136	N/A	No	LA13FG12133	N/A
93551	LA00000093551	1LANDA1880	LA-RTR2-13-0136	N/A	No	LA13FG12133	N/A
93917	LA00000093917	1LANDA1885	LA-RTR2-13-0136	N/A	No	LA14FG2002	N/A
93967	LA00000093967	1LANDA1881	LA-RTR2-13-0135	N/A	No	LA13FG12133	N/A
93973	LA00000093973	1LANDA1881	LA-RTR2-13-0135	N/A	No	LA13FG12133	N/A
93987	LA00000093987	1LANDA1808	LA-RTR2-13-0091	N/A	YES	LA13FG12133	N/A
94064	LA00000094064	1LANDA1885	LA-RTR2-13-0136	N/A	No	LA14FG2002	N/A
~~94227~~	~~LA00000094227~~	~~1LANDA1881~~	~~LA-RTR2-13-0135~~	~~N/A~~	~~No~~	~~LA13FG12133~~	~~N/A~~

1 CS 6/6/14

1 CS 6/6/14

Rick Whiteley — Signature of Site Project Manager
Rick Whiteley — Printed Name
01/17/2014 — Date

Carolina Soatema — Carolina Soatema — 6/6/14

1. To be remediated. CS 6/6/14

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 419

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	None of the containers in this Lot had prohibited items identified during Visual Examination technique.	The physical form of the waste match the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste, VE was selected as the characterization method because VE meets the Data Quality Objectives'			

Rick Whiteley — Site Project Manager Signature
Rick Whiteley — Printed Name
01/17/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 419

Sampling Completeness

RTR/VE:

Number of Valid Samples: 15 Number of Total Samples Analyzed: 15

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 15 Number of Total Samples Analyzed: 15

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

		Completeness	Comparability	Representativeness
	Radiography	Y	Y	Y
	VE	Y	Y	Y

Comments: None

Rick Whiteley — Rick Whiteley — 01/17/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 420

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 420

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Roger Whiteaker Date: 01/22/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 420

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
63398	LA00000063398	2LANDA0409	LA-RTR2-08-0132	N/A	No	LA09FG2040	N/A
64617	LA00000064617	2LANDA0408	LA-RTR2-08-0142	N/A	No	LA09FG2040	N/A
67137	LA00000067137	4LANDA0001	LA-HERTR-13-0060	N/A	No	LA14FG2005	N/A
69029	LA00000069029	1LANDA1888	LA-RTR2-13-0138	N/A	No	LA14FG12008	N/A
69047	LA00000069047	1LANDA1889	LA-RTR2-14-0003	N/A	No	LA14FG12008	N/A
69057	LA00000069057	1LANDA1887	LA-RTR2-13-0140	N/A	No	LA14FG12008	N/A
69062	LA00000069062	1LANDA1888	LA-RTR2-14-0001	N/A	No	LA14FG12008	N/A
~~92669~~	~~LA00000092669~~	~~1LANDA1889~~	~~LA-RTR2-14-0003~~	~~N/A~~	~~No~~	~~LA14FG12008~~	~~N/A~~
93881	LA00000093881	1LANDA1887	LA-RTR2-13-0139	N/A	No	LA14FG12008	N/A
S845248	LAS845248	1LANDA1871	LA-RTR2-13-0131	N/A	No	LA14FG2005	N/A
S846124	LAS846124	1LANDA1602	LA-RTR2-06-0057	N/A	No	LA14FG2005	N/A
S855286	LAS855286	2LANDA1162	LA-RTR2-13-0070	N/A	No	LA14FG2005	N/A
S861972	LAS861972	1LANDA1760	LA-RTR2-13-0063	N/A	No	LA14FG2005	N/A
S862524	LAS862524	2LANDA1220	LA-RTR2-06-0234	N/A	No	LA14FG2005	N/A
SB10210	N/A	3LANDA0236	LA-HERTR-14-0002	N/A	No	LA14FG2006	N/A

1 CB 6/6/14

Roger Whiteaker — Signature of Site Project Manager

Roger Whiteaker — Printed Name

01/22/2014 — Date

Carolina Soaterna

Carolina Soaterna 6/6/14

1. To be remediated CB 6/6/14

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 420

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Roger Whiteaker (Printed Name) | 01/22/2014 (Date)

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 420

Sampling Completeness

RTR/VE:

Number of Valid Samples: 15 Number of Total Samples Analyzed: 15

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 15 Number of Total Samples Analyzed: 15

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

		Completeness	Comparability	Representativeness
	Radiography	Y	Y	Y
	VE	NA	NA	NA

Comments: None

Roger Whiteaker — Roger Whiteaker — 01/22/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 421

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 421

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Date: 01/23/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000

CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000

CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan
CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 421

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
69035	LA00000069035	1LANDA1884	LA-RTR2-13-0136	N/A	No	LA14FG2003	N/A
69046	LA00000069046	1LANDA1886	LA-RTR2-13-0140	N/A	No	LA14FG2003	N/A
69072	LA00000069072	1LANDA1886	LA-RTR2-14-0001	N/A	No	LA14FG2003	N/A
~~92472~~	~~LA00000092472~~	~~1LANDA1886~~	~~LA-RTR2-13-0139~~	~~N/A~~	~~No~~	~~LA14FG2003~~	~~N/A~~ 1 CS 6/6/14
93915	LA00000093915	1LANDA1883	LA-HERTR-13-0121	N/A	No	LA14FG2003	N/A

Roger Whiteaker — Signature of Site Project Manager
Roger Whiteaker — Printed Name
01/23/2014 — Date

Carolina Soatema — Carolina Soatema — 6/6/14

1. To be remediated CS 6/6/14

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 421

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Roger Whiteaker — Site Project Manager Signature
Roger Whiteaker — Printed Name
01/23/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 421

Sampling Completeness

RTR/VE:

Number of Valid Samples: 5 Number of Total Samples Analyzed: 5
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 5 Number of Total Samples Analyzed: 5
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker 01/23/2014

Signature of Site Project Manager Printed Name Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 422

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 422

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Roger Whiteaker Date: 01/23/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 23	12/29/2010	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005	CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005	CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005	CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004	CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013	CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012	CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012	CCP-HE-RTR Operating Procedure

CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	08/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 422

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
~~68553~~	~~LA00000068553~~	~~1LANDA1889~~	~~LA-RTR2-14-0003~~	~~N/A~~	~~No~~	~~LA14FG2007~~	~~N/A~~
~~68567~~	~~LA00000068567~~	~~1LANDA1890~~	~~LA-HERTR-14-0004~~	~~N/A~~	~~No~~	~~LA14FG2007~~	~~N/A~~
~~68638~~	~~LA00000068638~~	~~1LANDA1889~~	~~LA-RTR2-14-0003~~	~~N/A~~	~~No~~	~~LA14FG2007~~	~~N/A~~
68657	LA00000068657	1LANDA1890	LA-RTR2-14-0003	N/A	No	LA14FG2007	N/A
68683	LA00000068683	4LANDA0033	LA-RTR2-13-0138	N/A	No	LA14FG2007	N/A
69031	LA00000069031	1LANDA1889	LA-RTR2-14-0003	N/A	No	LA14FG2007	N/A
69032	LA00000069032	1LANDA1889	LA-RTR2-14-0003	N/A	No	LA14FG2007	N/A
69042	LA00000069042	1LANDA1890	LA-RTR2-13-0138	N/A	No	LA14FG2007	N/A

1. CS 6/6/14
2. CS 6/6/14
3. CS 6/6/14

Roger Whiteaker — Signature of Site Project Manager

Roger Whiteaker — Printed Name

01/23/2014 — Date

Carolina Soatema

Carolina Soatema

6/6/14

1. Containers to be remediated. CS 6/6/14

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 422

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Roger Whiteaker (Printed Name) | 01/23/2014 (Date)

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 422

Sampling Completeness

RTR/VE:

Number of Valid Samples: 8 Number of Total Samples Analyzed: 8
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 8 Number of Total Samples Analyzed: 8
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker 01/23/2014

Signature of Site Project Manager Printed Name Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 423

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 423

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Rick Whiteley Date: 01/30/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 20	06/16/2011	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 423

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
55151	LA00000055151	2LANDA1250	LA-RTR2-06-0154	N/A	No	LA14FG2008	N/A
59788	LA00000059788	1LANDA1885	LA-RTR2-13-0136	N/A	No	LA14FG2008	N/A
67139	LA00000067139	1LANDA1751	LA-RTR2-13-0056	N/A	No	LA14FG2008	N/A
68396	LA00000068396	1LANDA1881	LA-RTR2-13-0135	N/A	No	LA14FG2008	N/A
68505	LA00000068505	1LANDA1874	LA-RTR2-13-0133	N/A	No	LA14FG2008	N/A
~~68540~~	~~LA00000068540~~	~~1LANDA1891~~	~~LA-RTR2-14-0004~~	~~N/A~~	~~No~~	~~LA14FG2007~~	~~N/A~~
68658	LA00000068658	4LANDA0030	LA-RTR2-13-0137	N/A	No	LA14FG2007	N/A
69039	LA00000069039	4LANDA0032	LA-RTR2-13-0137	N/A	Yes	LA14FG2007	N/A
69065	LA00000069065	2LANDA1253	LA-RTR2-14-0002	N/A	No	LA14FG2009	N/A
69082	LA00000069082	2LANDA1253	LA-RTR2-14-0002	N/A	No	LA14FG2009	N/A
69104	LA00000069104	1LANDA1876	LA-RTR2-13-0134	N/A	No	LA14FG2008	N/A
91960	LA00000091960	1LANDA1628	LA-RTR2-12-0103	N/A	No	LA14FG2008	N/A
93405	LA00000093405	4LANDA0034	LA-RTR2-14-0005	N/A	No	LA14FG12010	N/A

1. 6/6/14

Rick Whiteley
Signature of Site Project Manager

Rick Whiteley
Printed Name

01/30/2014
Date

Carolina Soatelma

Carolina Soatelma 6/6/14

1. To be remediated. CS 6/6/14

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 423

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Rick Whiteley
Site Project Manager Signature

Rick Whiteley
Printed Name

01/30/2014
Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 423

Sampling Completeness

RTR/VE:

Number of Valid Samples: 13 Number of Total Samples Analyzed: 13
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 13 Number of Total Samples Analyzed: 13
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Rick Whiteley — Rick Whiteley — 01/30/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 424

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 424

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Date: 01/30/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 20	06/16/2011	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 424

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
69050	LA00000069050	1LANDA1888	LA-RTR2-13-0138	N/A	No	LA14FG12009	N/A
69054	LA00000069054	4LANDA0033	LA-RTR2-13-0138	N/A	Yes	LA14FG12009	N/A
69055	LA00000069055	4LANDA0034	LA-RTR2-13-0137	N/A	No	LA14FG12009	N/A
69059	LA00000069059	4LANDA0033	LA-RTR2-13-0137	N/A	No	LA14FG12009	N/A
69070	LA00000069070	1LANDA1888	LA-RTR2-14-0001	N/A	No	LA14FG12009	N/A
69071	LA00000069071	1LANDA1890	LA-RTR2-14-0003	N/A	No	LA14FG12009	N/A
89068	LA00000089068	1LANDA1887	LA-RTR2-13-0139	N/A	No	LA14FG12009	N/A
94221	LA00000094221	1LANDA1892	LA-RTR2-14-0006	N/A	Yes	LA14FG12009	N/A

Signature of Site Project Manager | Rick Whiteley (Printed Name) | 01/30/2014 (Date)

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 424

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

R D Whiteley

Site Project Manager Signature | Rick Whiteley Printed Name | 01/30/2014 Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 424

Sampling Completeness

RTR/VE:

Number of Valid Samples: 8 Number of Total Samples Analyzed: 8
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 8 Number of Total Samples Analyzed: 8
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Signature of Site Project Manager | Rick Whiteley (Printed Name) | 01/30/2014 (Date)

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 425

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 425

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Roger Whiteaker Date: 02/05/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 20	06/16/2011	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 425

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
54169	LA00000054169	1LANDA1899	LA-RTR2-06-0147	N/A	No	LA11FG8104	N/A
60489	LA00000060489	1LANDA1899	LA-RTR2-05-0040	N/A	No	LA11FG8107	N/A
63466	LA00000063466	4LANDA0040	LA-RTR2-14-0008	N/A	No	LA14FG12014	N/A
65208	LA00000065208	1LANDA1898	LA-RTR2-14-0007	N/A	No	LA14FG12014 RW 2/11/14	N/A
66018	LA00000066018	1LANDA1901	LA-RTR2-11-0049	N/A	No	~~LA11FG2028~~ LA14FG2015	N/A
66019	LA00000066019	2LANDA1260	LA-RTR2-11-0074	N/A	No	LA11FG8067	N/A

Roger R Whiteaker — Signature of Site Project Manager

Roger Whiteaker — Printed Name

02/05/2014 — Date

Roger Whiteaker

ROGER WHITEAKER 2/11/14

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 425

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Roger Whiteaker — Site Project Manager Signature
Roger Whiteaker — Printed Name
02/05/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 425

Sampling Completeness

RTR/VE:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker — Roger Whiteaker — 02/05/2014

Signature of Site Project Manager — Printed Name — Date

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:14:01128
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: May 15, 2014

FROM: C. Soaterna LOCATION: CCP Certification

TO: NTPC Records Custodian GSA-212 LOCATION: National TRU Program Certification

SUBJECT: TRANSMITTAL OF LOS ALAMOS NATIONAL LABORATORY CHARATERIZATION INFORMATION SUMMARY FOR CCP-AK-LANL-006, WASTE STREAM #LA-MHD01.001, LOT 446, LOT 447, LOT 448, LOT 449, LOT 450 AND LOT 451

Please accept the attached Los Alamos National Laboratory Characterization Information Summary to be placed in Records for CCP-AK-LANL-006, Waste Stream #LA-MHD01.001, Lot 446, Lot 447, Lot 448, Lot 449, Lot 450, and Lot 451.

CS:jmc

Attachment

cc: (without attachment)
T. A. Groover ED
M. Ramirez ED
C. E. Simmons ED

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 5/20/14 JV

P.O. Box 2078 • Carlsbad, New Mexico USA 88221-2078
Phone: (575) 234-7200 • Fax: (575) 234-7083

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 446

TABLE OF CONTENTS

Characterization Information Summary Cover Page..... 1

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 446

AK Expert Review: N/A Date: N/A

SPM Review: Jerry Jess Fisher Jr. Date: 04/03/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000

CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000

CCP-TP-076	Rev. 1	03/25/2014 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000

CCP-TP-077	Rev. 1	04/01/2014 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000

CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 446

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
59600	LA00000059600	2LANDA1271	LA-RTR2-14-0027	N/A	No	LA14FG2047	N/A
59601	LA00000059601	4LANDA0063	LA-RTR2-14-0027	N/A	No	LA14FG2047	N/A
68980	LA00000068980	2LANDA1274	LA-RTR2-14-0034	N/A	No	LA14FG2049	N/A

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 04/03/2014 (Date)

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 446

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Jerry Jess Fisher Jr. Printed Name | 04/03/2014 Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 446

Sampling Completeness

RTR/VE:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Signature of Site Project Manager — Jerry Jess Fisher Jr. (Printed Name) — 04/03/2014 (Date)

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 447

TABLE OF CONTENTS

Characterization Information Summary Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 447

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Roger Whiteaker Date: 04/04/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 1	03/25/2014 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 1	04/01/2014 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification

CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 447

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68155	LA00000068155	3LANDA0260	LA-HERTR-14-0034	N/A	No	LA14FG2050	N/A
69556	LA00000069556	2LANDA1274	LA-RTR2-14-0035	N/A	No	LA14FG2050	N/A
69557	LA00000069557	2LANDA1274	LA-RTR2-14-0035	N/A	No	LA14FG2050	N/A
~~69568~~	~~LA00000069568~~	~~2LANDA1277~~	~~LA-RTR2-14-0037~~	~~N/A~~	~~No~~	~~LA14FG2050~~	~~N/A~~
69569	LA00000069569	2LANDA1274	LA-RTR2-14-0035	N/A	No	LA14FG2050	N/A
SB10172	N/A	4LANDA0046	LA-HERTR-14-0015	N/A	No	LA14FG2050	N/A

1. CJ 6/6/14

Roger Whiteaker — Signature of Site Project Manager
Roger Whiteaker — Printed Name
04/04/2014 — Date

Carolina Soatierna — Carolina Soatierna — 6/6/14

1. To be remediated CJ 6/6/14

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 447

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Roger Whiteaker — Site Project Manager Signature
Roger Whiteaker — Printed Name
04/04/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 447

Sampling Completeness

RTR/VE:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker — Roger Whiteaker — 04/04/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 448

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 448

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Rick Whiteley Date: 04/08/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000

CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000

CCP-TP-076	Rev. 1	03/25/2014 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000

CCP-TP-077	Rev. 1	04/01/2014 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000

CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001

Lot # 448

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68987	LA00000068987	2LANDA1274	LA-RTR2-14-0034	N/A	No	LA14FG2051	N/A
69012	LA00000069012	4LANDA0065	LA-RTR2-14-0035	N/A	No	LA14FG2051	N/A

Rick Whiteley
Signature of Site Project Manager

Rick Whiteley
Printed Name

04/08/2014
Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 448

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Rick Whiteley
Site Project Manager Signature

Rick Whiteley
Printed Name

04/08/2014
Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 448

Sampling Completeness

RTR/VE:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Rick Whiteley — Signature of Site Project Manager
Rick Whiteley — Printed Name
04/08/2014 — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 449

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 449

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Date: 04/22/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure

CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 449

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68161	LA00000068161	3LANDA0268	LA-HERTR-14-0044	N/A	No	LA14FG2057	N/A
68299	LA00000068299	3LANDA0268	LA-HERTR-14-0045	N/A	No	LA14FG2055	N/A
69384	LA00000069384	1LANDA1913	LA-RTR2-14-0019	N/A	No	LA14FG2052	N/A
~~69417~~	~~LA00000069417~~	~~2LANDA1282~~	~~LA-HERTR-14-0046~~	N/A	No	LA14FG2055	N/A

1 CS 6/6/14

Rick Whiteley
Signature of Site Project Manager

Rick Whiteley
Printed Name

04/22/2014
Date

Carolina Scaterna

Carolina Scaterna 6/6/14

1. To be remediated. CS 6/6/14

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 449

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Rick Whiteley
Site Project Manager Signature

Rick Whiteley
Printed Name

04/22/2014
Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 449

Sampling Completeness

RTR/VE:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4
Percent Complete: 100 (QAO is 100%)

Radiological:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Rick Whiteley — Signature of Site Project Manager
Rick Whiteley — Printed Name
04/22/2014 — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 450

TABLE OF CONTENTS

Characterization Information Summary Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 450

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Roger Whiteaker Date: 04/23/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000

CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000

CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan
CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-012	Rev. 15	02/12/2014	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 450

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
66111	LA00000066111	1LANDA1918	LA-HERTR-14-0024	N/A	No	LA14FG2031	N/A
66112	LA00000066112	1LANDA1918	LA-HERTR-14-0024	N/A	No	LA14FG2031	N/A
66114	LA00000066114	1LANDA1918	LA-HERTR-14-0024	N/A	No	LA14FG2031	N/A
66115	LA00000066115	1LANDA1918	LA-HERTR-14-0024	N/A	No	LA14FG2031	N/A
66116	LA00000066116	1LANDA1918	LA-HERTR-14-0024	N/A	No	LA14FG2031	N/A
66117	LA00000066117	1LANDA1918	LA-HERTR-14-0024	N/A	No	LA14FG2031	N/A

Roger Whiteaker — Signature of Site Project Manager
Roger Whiteaker — Printed Name
04/23/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 450

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Roger Whiteaker (Printed Name) | 04/23/2014 (Date)

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 450

Sampling Completeness

RTR/VE:
Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

Radiological:
Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker — Roger Whiteaker — 04/23/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD01.001 Rev. 1 (CCP-AK-LANL-006)

Lot 451

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD01.001 Lot #: 451

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Date: 04/23/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000

CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000

CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan
CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-012	Rev. 15	02/12/2014	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 451

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
69400	LA00000069400	1LANDA1932	LA-HERTR-14-0048	N/A	No	LA14FG12045	N/A

Signature of Site Project Manager | Rick Whiteley (Printed Name) | 04/23/2014 (Date)

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD01.001 Lot #: 451

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Site Project Manager Signature | Rick Whiteley Printed Name | 04/23/2014 Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD01.001 Rev. 1 Lot # 451

Sampling Completeness

RTR/VE:

Number of Valid Samples: 1 Number of Total Samples Analyzed: 1

Percent Complete: 100 (QAO is 100%)

Radiological:

Number of Valid Samples: 1 Number of Total Samples Analyzed: 1

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Signature of Site Project Manager — Rick Whiteley (Printed Name) — 04/23/2014 (Date)

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: DR001
Waste Stream Number(s): LA-MHD04.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Additional Information	Category: ☐ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☑ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]: Acceptable Knowledge Source Document Discrepancy Resolution - Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers for Waste Stream LA-MHD04.001, Revised	
Source Document Reference Information (author(s), document and revision number, date, publisher): Michael Papp, NA, NA, 06/20/2014, P2010-3673	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR7, WS2, WS8, WS12, S4	1-2	The TA-55 AK Summary Report assigns EPA HWNs F001, F002, F005, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D035, D038, D039, and D040. The TA-21 AK Summary Report assigns the aforementioned EPA HWNs with the exception of D018, D019, D021, D035, D038, D039, and D040. This is inconsistent with the TA-55 AK Summary Report. Resolution: Although the assignment of both listed and associated toxicity characteristics HWNs in TA-55 AK Summary Report and historical LANL characterization is not required and is inconsistent with the characterization of TA-21 waste, this method of characterization is considered acceptable by RCRA. The waste identified in TA-55 AK Summary Report is also the same type of waste characterized by LANL under a previously approved profile and it was determined that removing the toxicity characteristic HWNs was unnecessary. Therefore the HWNs associated with TA-55 waste will not be updated.

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 5-2014

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: DR001
Source Document Data Limitations (If any): 1. None	
Acceptable Knowlege Expert: Amy Johns / [signature] Date: 8/20/2014 Print /Sign	

a Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
b Obtain from Acceptable Knowledge Documentation Checklist
c For microfilm or microfiche, identify box, tape, reel number and location.

Attachment 11 - Acceptable Knowledge Source Document Discrepancy Resolution - Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers for Waste Stream LA-MHD04.001, Revised

Waste Stream Number(s): LA-MHD04.001 P2010-3673

Waste Stream Description: TA-21 Mixed Heterogeneous Combustible and Non-Combustible Debris

AK Source Document Discrepancy Form Tracking Number: DR001					
Tracking #	**Title**	**Document/Rev #**	**Author**	**Date**	**Page #**
D059	Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility (Draft Report)	TWCP 23596; AK-00-23, Rev. 0	C. Smith	07/08/2004	All
D060	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams	AK-00-019	C. Smith	09/22/2003	All
N/A	CCP Acceptable Knowledge Summary Report Los Alamos National Laboratory TA-21 DP West Facility	CCP-AK-LANL-010, Rev. 7	CCP	Draft	Section 5.4.3
N/A	CCP Acceptable Knowledge Summary Report Los Alamos National Laboratory TA-55 Mixed Transuranic Waste	CCP-AK-LANL-006, Rev. 13	CCP	02/10/2014	Section 5.4.3
N/A	CCP Acceptable Knowledge Documentation	CCP-TP-005, Rev. 26	CCP	08/12/2013	Sections 4.4.16 – 4.4.20
N/A	McCoy's RCRA Unraveled	N/A	McCoy and Associates, Inc.	2012 Edition	Chapters 3 & 13

NTPC RECORDS ORIGINAL
DATE REC'D 7-1-14

DR001

Nature of Discrepancy:

The CCP Acceptable Knowledge (AK) Summary Report for Los Alamos National Laboratory (LANL) TA-21 DP West Facility, CCP-AK-LANL-010, was created to characterize TRU waste generated from the DP West facility. The materials and chemicals used in past operations at the DP West Facility are the same or similar as materials and chemicals used at the TA-55 Plutonium Facility. The number of AK source documents relating to the DP West Facility and the level of detail in these documents is also less than that available in the compilation of AK for the TA-55 Plutonium Facility. Therefore, the TA-21 AK Summary Report relies heavily on the AK documentation that has been compiled for plutonium operations conducted in TA-55 including associated chemical and material inputs.

The TA-55 AK Summary Report assigns Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWN) F001, F002, F005, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D035, D038, D039, and D040. The TA-21 AK Summary Report assigns the aforementioned EPA HWNs with the exception of EPA HWNs D018, D019, D021, D035, D038, D039, and D040. This is inconsistent with the TA-55 AK Summary Report (References CCP-AK-LANL-006, D059, and D060).

Resolution:

In accordance to CCP Acceptable Knowledge Documentation, CCP-TP-005, a review of available AK was completed to determine the Resource Conservation and Recovery Act (RCRA) characterization and the assignment of EPA HWNs, if applicable. To assign EPA HWNs, AK source documents including procedures, personnel interviews, reports, container packaging, shipping documentation, material safety data sheets (MSDS), and manufacturer information for commercial products are reviewed to determine potential waste material inputs and possible chemical contaminants associated with the waste. EPA HWNs are often conservatively assigned for compounds used due to the lack of analytical evidence or inconsistent process knowledge that these constituents are not present in the waste or exceed the regulatory thresholds.

CCP-TP-005 provides specific instruction on the review of AK to determine if toxicity characteristic EPA HWNs are to be assigned. The appropriate toxicity characteristic HWN is assigned if characteristic contamination is identified, and has NOT been assigned a more specific listed HWN, unless data is available that demonstrates the concentration in the waste is less than the regulatory threshold. In addition, McCoy's RCRA Unraveled indicates that if the treatment standard for the listed waste specifically addresses the characteristic exhibited by the waste, only the listed HWN applies. Since the waste characterized in the TA-21 AK Summary Report includes the assignment of HWNs F001, F002, and F005, the following toxicity characteristics are specifically addressed by these listed HWNs and they are not assigned: D018 (benzene), D019 (carbon tetrachloride), D021 (chlorobenzene), D035 (methyl ethyl ketone), D038 (pyridine), D039 (tetrachloroethylene), and D040 (trichloroethylene).

Although the assignment of both listed and associated toxicity characteristic HWNs in TA-55 AK Summary Report and historical LANL characterization is not required and is inconsistent with the characterization of TA-21 waste, this method of characterization is considered acceptable by RCRA. The waste identified in TA-55 AK Summary Report is also the same type of waste characterized by LANL under a previously approved profile and it was determined that removing the toxicity characteristic HWNs was unnecessary. Therefore, the HWNs associated with TA-55 waste will not be updated.

Based on the above information, waste stream LA-MHD04.001 contains RCRA regulated constituents and is assigned EPA HWNs D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, and F005.

Discrepancy Resolved: ☒ Yes ☐ No			
Acceptable Knowledge Expert: Michael J. Papp (Print)	/	(Sign)	Date: 06/16/14
Site Project Manager: Carolina Soderna (Print)	/	Carolina Soderna (Sign)	Date: 6/20/14

GEN5

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:13:01440
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: October 10, 2013

FROM: for V. Waldram T. A. Groover — LOCATION: CCP Certification

TO: C. E. Simmons ED — LOCATION: CCP Operations, Los Alamos National Laboratory

SUBJECT: REQUEST FOR THIRD QUARTER 2013 (JULY 1, 2013 THROUGH SEPTEMBER 30, 2013) REAL-TIME RADIOGRAPHY QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW AT THE LOS ALAMOS NATIONAL LABORATORY

A completion of Data Generation Review of Real-Time Radiography (RTR) conducted at the Los Alamos National Laboratory (LANL) during the 92 days of reporting from July 1, 2013 through September 30, 2013. Therefore, the requirement to complete a quarterly review is required. Container number 93941, Batch Data Report (BDR) LA-RTR2-13-0089, was randomly selected from among all drums processed through Data Generation Level (DGL) review, validation, and verification during this time frame. The container will be processed through the quarterly repeat of DGL Review as described in CCP-TP-001, *CCP Project Level Data Validation and Verification*.

Please assign available qualified personnel to serve as Independent Technical Reviewers in performing the review as well as preparing a Batch Narrative and Table of Contents. Not all containers included in the original BDR will be included in this review. Only the selected drum noted above must be reviewed along with any Quality Control information.

Please perform the RTR quarterly repeat of DGL review, validation and verification and return the information by October 24, 2013, to the National TRU Program Certification Records Department, naming the BDR as "LA-RTR2-13-0089 QTR."

If you have any questions regarding this review, please contact me at (505) 606-2344.

TAG:jmc

Attachment

cc: NWP
(without attachment)
A. D. Chavarria ED
R. P. Kantrowitz ED
M. W. Pearcy ED
M. L. Sensibaugh ED

(with attachment)
NTPC Records Custodian GSA-212

LANL
(with attachment)
A. Elliott ED
K. Simpson ED

COPY

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-RTR2-13-0089		
Examination Date: 07/09/2013		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 9 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Thad Hasselstrom (Printed Name)	Signature	07/09/2013 (Date)

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0089
Examination Date:	7/9/2013
Waste Container ID:	93941
Video/Audio Recorded Media Number:	LA-RTR2-13-0089 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 124.5 kg Tare Wt.: 33.4 kg Net Wt.: 91.1 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 EL 7/10/13 4 layers EL 7/10/13
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 93941

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, metal lids
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	5.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	82.1
Soils (S):	
Total WMP Weight:	91.1

CCP Radiography Data Sheet

Waste Container ID: 93941

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This Replicate scan agrees with the original scan.
After review of the audio video recording media the operator stated 1 Layer. after review it appears to have 2 Layers of confinement. This attachment 2 reflects the correct data.
EL 7/10/13

RTR Operator:

Eric Lyles		7/9/2013
Print Name	Signature	Date 7/10/13

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0089
Examination Date:	7/9/2013
Waste Container ID:	93920
Video/Audio Recorded Media Number:	LA-RTR2-13-0089 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 194.5 kg Tare Wt.: 33.4 kg Net Wt.: 161.1 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

Waste Container ID: 93920

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, metal lids
AM:	
OM:	
OI:	
C:	Cardboard tube
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	8.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	0.1
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	147.0
Soils (S):	
Total WMP Weight:	161.1

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 93920

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Eric Lyles		7/9/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0089	
Examination Date:	7/9/2013	
Waste Container ID:	93941	
Video/Audio Recorded Media Number:	LA-RTR2-13-0089	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2 Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 124.5 kg Tare Wt.: 33.4 kg Net Wt.: 91.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

Waste Container ID: 93941

Section 3: Container Inventory and Comments (Detailed descriptions)
IM: Metal cans with material, metal lids
AM:
OM:
OI:
C:
R:
XPM: Plastic bags
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	6.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	81.1
Soils (S):	
Total WMP Weight:	91.1

CCP Radiography Data Sheet

Waste Container ID: 93941

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	7/9/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0089	
Examination Date:	7/9/2013	
Waste Container ID:	93920	
Video/Audio Recorded Media Number:	LA-RTR2-13-0089	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 194.5 kg Tare Wt.: 33.4 kg Net Wt.: 161.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 93920

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, metal lid
AM:	
OM:	
OI:	
C:	Tape rolls
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	10.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	0.2
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	144.9
Soils (S):	
Total WMP Weight:	161.1

CCP Radiography Data Sheet

Waste Container ID: 93920

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	[signature]	7/9/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0089
Examination Date:	7/9/2013
Waste Container ID:	93942
Video/Audio Recorded Media Number:	LA-RTR2-13-0089 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 118.5 kg Tare Wt.: 33.4 kg Net Wt.: 85.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	60 %

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:13:01441
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: October 10, 2013

FROM: for V. Waldram T. A. Groover — LOCATION: CCP Certification

TO: C. E. Simmons ED — LOCATION: CCP Operations, Los Alamos National Laboratory

SUBJECT: REQUEST FOR THIRD QUARTER 2013 (JULY 1, 2013 THROUGH SEPTEMBER 30, 2013) OFF-SITE SOURCE RECOVERY PROJECT VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW AT THE LOS ALAMOS NATIONAL LABORATORY

Off-Site Source Recovery (OSR) Project Visual Examination (VE) of the Los Alamos National Laboratory (LANL) has completed 92 days of reporting from July 1, 2013 through September 30, 2013. Container number LA00000064558, Batch Data Report (BDR) LA13-OSR-VE-015, was randomly selected from among all drums processed through Data Generation Level (DGL) review, validation, and verification during this time frame. The container will be processed through the quarterly repeat of DGL Review as described in CCP-TP-001, *CCP Project Level Data Validation and Verification*.

Please assign available qualified personnel to serve as Independent Technical Reviewers in performing the review as well as preparing a Batch Narrative. Not all containers included in the original BDR will be included in this review. Only the selected drum noted above must be reviewed along with any Quality Control information.

Please perform the OSR VE quarterly repeat of DGL review, validation and verification and return the information by October 24, 2013, to the National TRU Program Certification Records Department, naming the BDR as "LA13-OSR-VE-015QTR."

If you have any questions regarding this review, please contact me at (505) 606-2344.

TAG:jmc

Attachment

cc: NWP Distribution
(without attachment)

A.D. Chavarria	ED
R. P. Kantrowitz	ED
M. W. Pearcy	ED
M. L. Sensibaugh	ED

(with attachment)

NTPC Records Custodian	GSA-212

LANL Distribution
(with attachment)

C. Abeyta	ED
E. Gammon	ED
I. Witkowski	ED

COPY

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA13-05R-VE-015 Page 1 of 3

Container Identifier	LA00000064568		
Printed name of VE Packager	M. Gurley		
Printed name of VE Recorder	I. Witkowski		
1	Procedure used CCP-TP-069, R5 Effective Date 11/09/2010	JW	06-03-2013
2	Indicate the container configuration used (refer to Attachment 2 for configuration types. *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X_ S100 ___ S200 (A or B) ___ S300 ___ Standard 55-gallon drum (no POC)	JW	06-03-2013
3	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-700 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT9400 • POC lid filter serial number: 025449 • POC lid filter manufacture date: JAN 2003	JW	06-03-2013
4	Verify based on VE:		
	• The sealed sources meet applicable regulatory definitions.	JW	06-03-2013
	• The outer casing is made of non-VOC bearing material, as the sources are placed in the container.	JW	06-03-2013
	• That each sealed source is, or is contained in, a rigid sealed container less than or equal to 4 liters in size.	JW	06-03-2013
	• That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK.	JW	06-03-2013
	• That there are no non-packaging items placed in the container other than the source(s).	JW	06-03-2013
	• That there are no more than 2 layers of confinement.	JW	06-03-2013
	• The serial numbers on the POC and the lid match.	JW	06-03-2013
5	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100	JW	06-03-2013
6	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 039456 • Calibration due date of torque wrench 10/19/2013	JW	06-03-2013
7	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039456 • Calibration due date of torque wrench 10/19/2013	JW	06-03-2013

BEST AVAILABLE COPY

Attachment 4 – Container Packaging and Visual Examination Data Record – (Continued)
BDR # LA13-OSR-VE-015 Page 2 of 3

Container Identifier LA00000064558

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	OSRP Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Verified item information during VE Enter Y (yes) or N (no)	Comments (if any)
1	Am241Be, SFC III-1-101	OM	4000	Yes	None
2	NA	NA	NA	NA	NA
3	NA	NA	NA	NA	NA
4	NA	NA	NA	NA	NA
5	NA	NA	NA	NA	NA
6	NA	NA	NA	NA	NA
7	NA	NA	NA	NA	NA
8	NA	NA	NA	NA	NA
9	NA	NA	NA	NA	NA
10	NA	NA	NA	NA	NA
11	NA	NA	NA	NA	NA
12	NA	NA	NA	NA	NA
13	NA	NA	NA	NA	NA
14	NA	NA	NA	NA	NA
15	NA	NA	NA	NA	NA

Total estimated weight (kg) for each WMP listed for above items	4.0 kg
Total estimated weight for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA kg
Container percent full.	95 %
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2)	219.2 kg
Total estimated weight (kg) for loaded container	223.2 kg

If the list of items is continued on additional pages, attach and number added pages (Page ___ of ___).
* WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record – (Continued)

BDR # LA13-05R-VE-015 Page 3 of 3

Container Identifier	LA00000064558

NP There are no indicators for the presence of the prohibited item in this container.

P An indicator for the possible presence of the prohibited item has been observed. (If any condition is noted as present [or possibly present], note details in the comments section at the end of this form.)

Enter P or NP	Prohibited Hazardous Items or Conditions
NP	Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid. Overpacking the outermost container, that was examined by radiography or visual examination, or redistributing untreated liquid within the container shall not be used to meet the liquid volume limits.
NP	Nonradionuclide pyrophoric material.
NP	Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
NP	Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
NP	Explosives.
NP	Compressed gas or potentially pressurized containers.
NP	Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
NP	Wastes exhibiting the characteristic of ignitability.
NP	Wastes exhibiting the characteristic of reactivity.
NP	Wastes exhibiting the characteristic of corrosivity.
NP	Radioactive pyrophorics greater than or equal to 1% by weight of the container that have not been rendered nonreactive.
NP	Inadequately blocked or braced sharp or heavy items.
NP	Sealed containers greater than 4 liters

Comments, including the identifiers of any relevant NCRs; and the description, WMP code, and weight of any dunnage used in the payload area of a Standard POC or a Standard 55-gallon drum.

Zero layers of confinement

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Signature of VE Packager — Date: 6-3-13

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Signature of VE Recorder: Tonia Witkowski — Date: 06-03-13

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component	Estimated Component(s) Weight (kg)						
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Acceptable Knowledge Documentation

Acceptable Knowledge Documentation

Source Serial No. **LA00000064558**

71-2A-734B

Isotope	Activity
Other Doc	Other Doc

Markings: 71-2A-734B; Am241Be; 20Ci
Comments: Texas Dept of Health-Gulf Nuclear Database; ERID-501350
Record Numbers: 01027

Source Serial No. **LA00000065489**

71-2A-735B

Isotope	Activity
Other Doc	Other Doc

Markings: 71-2A-735B; Am241Be; 20Ci
Comments: Texas Dept of Health-Gulf Nuclear Database; ERID-501350
Record Numbers: 01027

71-2A-885B

Isotope	Activity
Other Doc	Other Doc

Markings: 71-2A-885B; Am241Be; 20Ci
Comments: Texas Dept of Health-Gulf Nuclear Database; ERID-501350
Record Numbers: 01027

Sources in Special Form Capsules

Appendix B
Sources In Special Form Capsules

(Curies 1 in red if isotope is short-lived and no decayed activity is available)

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
LA00000064558					
III-1-101					
	HLS ASIA LTD	71-2A-734B	241Am/Be	5.76	20.00
Total Sources in SFCIII-1-101 (1 source)					
Sum				***5.76***	***20.00***
Total Sources in container LA00000064558 (1 source)					
Sum				***5.76***	***20.00***
LA00000065489					
II-1-430					
	HLS ASIA LTD	71-2A-735B	241Am/Be	5.76	20.00
	HLS ASIA LTD	71-2A-865B	241Am/Be	5.76	20.00
Total Sources in SFCII-1-430 (2 sources)					
Sum				***11.53***	***40.00***
Total Sources in container LA00000065489 (2 sources)					
Sum				***11.53***	***40.00***
Grand Total				***17.29***	***60.00***

Radiological Contamination Surveys

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 6/3/2013-thru-6/06/13 No. of Samples: 100

TA: n/a n/a Rm: n/a

RCT: Billy Terrazas Z Number: 115030

RCT Signature: [signature] MS: E541

Phone: 5-8238 Fax: n/a

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☑ Non-Routine / Other: NSSI

ADDITIONAL INFORMATION

RWP No.: n/a

Work Request No.: n/a Incident No.: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	13652	2/22/2014	0.3810	1	13.1	22.84
Beta S43-10-1	13652	2/22/2014	0.3490	1	200	82.59
Ship 270	12900	8/2/2013	n/a		0	~0.1mR/hr
SNRD	13142	10/15/2013	n/a		0	0.25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ MEARS COUNTED IN FIELD

FIELD SMEAR COUNTER MDA (dpm)

alpha: 22.84

beta: 82.59

SAMPLE TRACKING NUMBER

29147028

RP-1 REVIEW BY

[signature] 15243

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma		at Contact		at 30 cm		at 1 Meter	
		dpm'	dpm'	dpm'	dpm'	dpm'	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	pre-job count table	nda	nda	nda	nda	n/a						
2	pre-job record table	nda	nda	nda	nda	n/a						
3	pre-job inspection room work bench	nda	nda	nda	nda	n/a						
4	pre-job inspection room work bench	nda	nda	nda	nda	n/a						
5	pre-job inspection room work bench	nda	nda	nda	nda	n/a						
6	pre-job inspection room work bench	nda	nda	nda	nda	n/a						
7	pre-job hot cell tray	nda	nda	nda	nda	n/a						
8	pre-job hot cell tray	nda	nda	nda	nda	n/a						
9	pre-job hot cell floor	nda	nda	nda	nda	n/a						
10	pre-job hot cell floor	nda	nda	nda	nda	n/a						
11	pre-job cart	nda	nda	nda	nda	n/a						
12	psi drum osr-008 John Hopkins int	nda	nda	nda	nda	n/a						
13	leak test 241Am source	nda	nda	nda	nda	n/a						
14	empty drum LA64558 top IW 7/16/13 64558	nda	nda	nda	nda	n/a						
15	empty drum LA64558 side IW 7/16/13 64558	nda	nda	nda	nda	n/a						

17

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29028343

Survey Point	Item / Area 64558	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	empty drum LA#64558 inside JW 7/16/13	nda	nda	nda	nda	n/a						
17	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
18	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
19	SFC III-1-101 w/241AmBe source	nda	nda	nda	nda	n/a						
20	Drum La#64558w/sfcIII-1-101w/241AmBe source top	nda	nda	nda	nda	n/a						
21	Drum La#64558w/sfcIII-1-101w/241AmBe source ring	nda	nda	nda	nda	n/a						
22	Drum La#64558w/sfcIII-1-101w/241AmBe source side	nda	nda	nda	nda	n/a	20.8	22.0	8.0	11.8	1.7	4.9
23	Drum La#64558w/sfcIII-1-101w/241AmBe source side	nda	nda	nda	nda	n/a						
24	Drum La#64558w/sfcIII-1-101w/241AmBe source btm	nda	nda	nda	nda	n/a						
25	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
26	SFC II-1-430 w/241AmBe source	nda	nda	nda	nda	n/a	63.0	1300.0				
27	Drum La65489w/SFC II-1-430 w/241AmBe source top	nda	nda	nda	nda	n/a						
28	Drum La65489w/SFC II-1-430 w/241AmBe source ring	nda	nda	nda	nda	n/a						
29	Drum La65489w/SFC II-1-430 w/241AmBe source side	nda	nda	nda	nda	n/a	43.0	48.3	19.4	29.1	3.0	8.3
30	Drum La65489w/SFC II-1-430 w/241AmBe source side	nda	nda	nda	nda	n/a						
31	Drum La65489w/SFC II-1-430 w/241AmBe source btm	nda	nda	nda	nda	n/a						
32	bucket of sources	nda	nda	nda	nda	n/a						
33	leak test 241Am sources	nda	nda	nda	nda	n/a						
34	post-job behind shield	nda	nda	nda	nda	n/a						
35	post-job tools	nda	nda	nda	nda	n/a						
36	post-job floor	nda	nda	nda	nda	n/a						
37	post-job tools	nda	nda	nda	nda	n/a						
38	post-job tools	nda	nda	nda	nda	n/a						
39	post-job hot cell tray	nda	nda	nda	nda	n/a						
40	pre-job inspection room wk bench	nda	nda	nda	nda	n/a						

(gamma/beta)

Other Information

Other Information

LA13-OSR-VE-015

1. Drum LA00000064558 and LA00000065489 were packaged under procedure CCP-TP-069, R5 with the effective date of 11/09/2010.
2. The original weights for this drum were obtained from the above procedure which was in effect at the time of packaging, see Attachment 2, Rev 5 in this section. The drum weights on the VE sheets have been verified to reflect the weights in Attachment 2 of current CCP-TP-069, Revision 6, with the effective date of 06/06/2013.

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component	Estimated Component(s) Weight (kg)						
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	OM	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:13:01442
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: October 10, 2013

FROM: for V. Waldram T. A. Groover — LOCATION: CCP Certification

TO: C. E. Simmons ED — LOCATION: CCP Operations, Los Alamos National Laboratory

SUBJECT: REQUEST FOR THIRD QUARTER 2013 (JULY 1, 2013 THROUGH SEPTEMBER 30, 2013) VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW AT THE LOS ALAMOS NATIONAL LABORATORY

A completion of Data Generation Review of Visual Examination (VE) conducted at the Los Alamos National Laboratory (LANL) during the 92 days of reporting from July 1, 2013 through September 30, 2013. Therefore, the requirement to complete a quarterly review is required. Container number 93978, Batch Data Report (BDR) LAVE500504, was randomly selected from among all drums processed through Data Generation Level (DGL) review, validation, and verification during this time frame. The container will be processed through the quarterly repeat of DGL Review as described in CCP-TP-001, *CCP Project Level Data Validation and Verification*.

Please assign available qualified personnel to serve as Independent Technical Reviewers in performing the review as well as preparing a Table of Contents. Not all containers included in the original BDR will be included in this review. Only the selected drum noted above must be reviewed along with any Quality Control information.

Please perform the VE quarterly repeat of DGL review, validation and verification and return the information by October 24, 2013 to the National TRU Program Certification Records Department, naming the BDR as "LAVE500504QTR."

If you have any questions regarding this review, please contact me at (505) 606-2344.

TAG:jmc

Attachment

cc: NWP Distribution
(without attachment)

A. D. Chavarria	ED
R. P. Kantrowitz	ED
M. W. Pearcy	ED
M. L. Sensibaugh	ED

(with attachment)

T. Mojica	ED
NTPC Records Custodian	GSA-212

LANL Distribution
(with attachment)

D. Hemsing	ED

COPY

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE500504

☑ VE for Previously Packaged Waste ☐ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 07/09/13	
Procedure No.: CCP-TP-113 Revision No.: 17	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 019065 Calibration Due Date: 07/31/13 Operational Check: ☑ SAT ☐ UNSAT
Comments: THE VEE HAS DETERMINED THAT THE VESCALE WILL NOT BE USED	
Visual Examination Operator 1: DAVID HEMSING (Print Name) — DAVE HEMSING (Signature) — 07/09/13 (Date)	
Visual Examination Operator 2: Gilbert Gutierrez (Print Name) — (Signature) — 7-9-13 (Date)	

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE5005 04

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: 93139		
Output Waste Container ID: 93978	Waste Stream ID: LA-MHD03.001	
Container Type: 55 GAL DRUM	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 33.0 kg.	Gross Wt: 88.2 Dev 07/11/13 ~~88.2~~ kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☐ Plastic ☑ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 90 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 038595 Dev 07/11/13 Calibration Due Date: ~~09/11/13~~ 09/11/13 Filter: Model No.: NUCFIL-0190S Serial No.: KL-491 Torque Value: 10 FT/LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 039373 Calibration Due Date: 09/11/13 Lid Ring/Bolt Torque Value: 60 FT/LBS	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE5000504 **Date:** 07/09/13

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.a]	Weighing Code(s) [Table 4.b]
N/A	PLEXIGLASS, PLASTIC BAGS, VINYL TAPE	PW	4.0	E
N/A	GLASS JARS, CERAMIC ELEMENT	OI	3.0	E
N/A	CHEESECLOTHS, CARDBOARD TUBE CARDBOARD CONTAINERS	C	0.5	E
N/A	RUBBER GASKETS	R	0.6	E
N/A	LAB SCISSOR JACK, STEEL BOLTS METAL TWEEZERS, METAL TOOLS ELECTRONIC EQUIPMENT, METAL CANS METAL PARTS	IM	40.0	E
N/A	BRASS CAP, CLIP LEADS, ELECTRIC -AL CORD, PASS THRU	OM	7.0	E
N/A	ALUMINUM FOIL, ALUMINUM TUBE	AM	0.1	E

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 93978

TID Removed: N/A **TID Applied:** N/A

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE500504

Output Waste Container ID: 93978

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.2
Plastics (PP):	2.1
Others: (C)	3.7
Total Packaging Weight:	33.0
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	40.0
Aluminum-based Metals/Alloys (AM):	0.1
Other Metals (OM):	7.0
Other Inorganic Materials (OI):	3.0
Cellulosics (C):	0.5
Rubber (R):	0.6
Plastics (waste materials) (PW):	4.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	55.2

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE500504 **Output Waste Container ID:** 93978

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE500504 **Output Waste Container ID:** 93978

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1:

DAVID HEMSING	DAVE HEMSING	07/09/13
Print Name	Signature	Date

Visual Examination Operator 2:

Gilbert Gutierrez		7-9-13
Print Name	Signature	Date

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:13:01442
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: October 10, 2013

FROM: for T. A. Groover (V. Waldram) LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations
Los Alamos National Laboratory

SUBJECT: REQUEST FOR THIRD QUARTER 2013 (JULY 1, 2013 THROUGH SEPTEMBER 30, 2013) VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW AT THE LOS ALAMOS NATIONAL LABORATORY

A completion of Data Generation Review of Visual Examination (VE) conducted at the Los Alamos National Laboratory (LANL) during the 92 days of reporting from July 1, 2013 through September 30, 2013. Therefore, the requirement to complete a quarterly review is required. Container number 93978, Batch Data Report (BDR) LAVE500504, was randomly selected from among all drums processed through Data Generation Level (DGL) review, validation, and verification during this time frame. The container will be processed through the quarterly repeat of DGL Review as described in CCP-TP-001, *CCP Project Level Data Validation and Verification.*

Please assign available qualified personnel to serve as Independent Technical Reviewers in performing the review as well as preparing a Table of Contents. Not all containers included in the original BDR will be included in this review. Only the selected drum noted above must be reviewed along with any Quality Control information.

Please perform the VE quarterly repeat of DGL review, validation and verification and return the information by October 24, 2013 to the National TRU Program Certification Records Department, naming the BDR as "LAVE500504QTR."

If you have any questions regarding this review, please contact me at (505) 606-2344.

TAG:jmc

Attachment

cc: NWP Distribution
(without attachment)
A. D. Chavarria ED
R. P. Kantrowitz ED
M. W. Pearcy ED
M. L. Sensibaugh ED

(with attachment)
T. Mojica ED
NTPC Records Custodian GSA-212

LANL Distribution
(with attachment)
D. Hemsing ED

COPY

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE5000504

☑ VE for Previously Packaged Waste ☐ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 07/09/13	
Procedure No.: CCP-TP-113 Revision No.: 17	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 019065 Calibration Due Date: 07/31/13 Operational Check: ☑ SAT ☐ UNSAT
Comments: THE VEE HAS DETERMINED THAT THE VE SCALE WILL NOT BE USED	
Visual Examination Operator 1: DAVID HEMSING (Print Name) — DAVID HEMSING (Signature) — 07/09/13 (Date)	
Visual Examination Operator 2: Gilbert Gutierrez (Print Name) — (Signature) — 7-9-13 (Date)	

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE50005 04

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: 93139		
Output Waste Container ID: 93978	Waste Stream ID: LA-MHD03.001	
Container Type: 55 GAL DRUM	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 33.0 kg.	Gross Wt: ~~88.2~~ 88.2 ~~88.2~~ kg. (Tare 07/11/13)	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☐ Plastic ☑ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 90 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 038345 (Dan 07/11/13) Calibration Due Date: ~~09/11/13~~ 09/11/13 Filter: Model No.: NUCFIL-019DS Serial No.: KL-491 Torque Value: 10 FT/LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 038373 Calibration Due Date: 09/11/13 Lid Ring/Bolt Torque Value: 60 FT/LBS	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE5000504 **Date:** 07/09/13

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	PLEXIGLASS, PLASTIC BAGS, VINYL TAPE	PW	4.0	E
N/A	GLASS JARS, CERAMIC ELEMENT	OI	3.0	E
N/A	CHEESECLOTHS, CARDBOARD TUBE CARDBOARD CONTAINERS	C	0.5	E
N/A	RUBBER GASKETS	R	0.6	E
N/A	LAB SCISSOR JACK, STEEL BOLTS METAL TWEEZERS, METAL TOOLS ELECTRONIC EQUIPMENT, METAL CANS METAL PARTS	IM	40.0	E
N/A	BRASS CAP, CLIPLEADS, ELECTRIC -AL CORD, PASS THRU	OM	7.0	E
N/A	ALUMINUM FOIL, ALUMINUM TUBE	AM	0.1	E

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 93978

TID Removed: N/A **TID Applied:** N/A

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE5005041

Output Waste Container ID: 93978

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.2
Plastics (PP):	2.1
Others: (c)	3.7
Total Packaging Weight:	33.0
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	40.0
Aluminum-based Metals/Alloys (AM):	0.1
Other Metals (OM):	7.0
Other Inorganic Materials (OI):	3.0
Cellulosics (C):	0.5
Rubber (R):	0.6
Plastics (waste materials) (PW):	4.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	55.2

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE500504 **Output Waste Container ID:** 93978

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE500504 **Output Waste Container ID:** 93978

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1:

DAVID HEMSING — Print Name

DAVE HEMSING — Signature

07/09/13 — Date

Visual Examination Operator 2:

Gilbert Gutierrez — Print Name

Signature

7-9-13 — Date

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:14:01076
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: April 3, 2013

FROM: T. A. Groover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations - LANL

SUBJECT: REQUEST FOR FIRST QUARTER 2014 (January 1, 2014 THROUGH March 31, 2014) VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW AT LANL

A completion of Data Generation Review of Visual Examination (VE) conducted at LANL during the 90 days of reporting from January 1, 2014 through March 31, 2014. Therefore, the requirement to complete a quarterly review is required. Container number 67296, Batch Data Report (BDR) LAVE550120, was randomly selected from among all drums processed through Data Generation Level (DGL) review, validation, and verification during this time frame. The container will be processed through the quarterly repeat of DGL Review as described in CCP-TP-001, *CCP Project Level Data Validation and Verification.*

Please assign available qualified personnel to serve as Independent Technical Reviewers in performing the review as well as preparing a Table of Contents. Not all containers included in the original BDR will be included in this review. Only the selected drum noted above must be reviewed along with any Quality Control information.

Please perform the VE quarterly repeat of DGL review, validation and verification and return the information by May 1, 2014 to the National TRU Program Certification Records Department, naming the BDR as "LAVE550120QTR."

If you have any questions regarding this review, please contact me at (505) 606-2344.

TAG:jmc

Attachment

cc: (without attachment)
A. D. Chavarria ED
M. F. Ramirez ED
C. Soaterna ED

(with attachment)
J. Candelaria ED
D. Hemsing ED
T. Mojica ED
NTPC Records Custodian GSA-212

COPY

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550120

Section 1: Output Waste Container Data

Input Waste Container ID, as applicable: N/A

Output Waste Container ID: 672946 | Waste Stream ID: LA-MHD01.001

Container Type: 55gal. POC | TRUCON Code: LA225 | Waste Matrix Code: S5400

Audio/Video Media Recording Number: ☑ N/A

Waste Container Weights:
Tare Wt: 151.7 kg. Gross Wt: 155.8 kg.

Rigid Liner Present? ☐ NO ☑ YES
Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other:
Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil

Rigid Liner Lid Present? ☐ NO ☑ YES
Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A
☑ Vented: Hole Size: 0.875 ☐ N/A
☐ Filtered: Model No.: ☑ N/A
Serial No.: ☑ N/A

Bag Liner Present? ☑ NO ☐ YES

Volume Utilization Percentage: 95 %

Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])?
☐ NO ☑ YES

Does the physical form of the waste match the Waste Matrix Code?
☐ NO ☑ YES

Closure Method: TTF
Number of Layers of Confinement: 1

Filter Torque Wrench
Serial/ID No.: 101382
Calibration Due Date: 12-4-14
Filter: Model No.: Nucfil-0190S
Serial No.: LM-1732
Torque Value: 10 ft./lbs

Lid Ring/Bolt Torque Wrench
Serial/ID No.: 101381
Calibration Due Date: 12-4-14
Lid Ring/Bolt Torque Value: 60 ft./lbs.

Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES

NCR(s) associated with the output container? ☑ NO ☐ YES
NCR No.: N/A
NCR No.: N/A

Comments: (S) 3-11-14 ~~N/A~~ The VE was initiated on CCP-TP-113, Rev. 16.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550120 **Date:** 6-3-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
938912 LANL 021331	salts	IN ③ 10-7-13 ~~OI~~	0.9	E
938912 LANL 021331	metal can metal lid	IM	3.0	E
938912 LANL 021331	plastic bag vinyl tape	PW	0.2	E

N/A A.H. 6-3-13

Anthony Harley — VEO 1: Print Name — Signature — Date 6-3-13
Robert Geyer — VEO 2: Print Name — Signature — Date 6-3-13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67296

PCI Removed: N/A **PCI Applied:** LANL 029730

James E. Thompson — VEO 1: Print Name — Signature — Date 3-11-14
Michael C. Trujillo — VEO 2: Print Name — Signature — Date 3/11/14
Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVES50120

Output Waste Container ID: 67296

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+95.6=122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	0.9
Soils (S):	N/A
Total WMP Weight:	4.1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVES50120 **Output Waste Container ID:** 67296

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block.)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550126 **Output Waste Container ID:** 67296

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:		
James E. Thompson Print Name	James E. Thompson Signature	3-11-14 Date
Visual Examination Operator 2:		
Michael C. Trujillo Print Name	Michael C. Trujillo Signature	3/11/14 Date

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550120

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 3-11-14	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT
Comments: The VEE has determined not to use the VE Scale in glovebox.	
Visual Examination Operator 1: James E. Thompson (Print Name) — (Signature) — 3-11-14 (Date)	
Visual Examination Operator 2: Michael C. Trujillo (Print Name) — (Signature) — 3/11/14 (Date)	

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:13:01482
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: October 17, 2013

FROM: V. M. Waldram V. M. Waldram LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations - LANL

SUBJECT: RESULTS OF REAL-TIME RADIOGRAPHY QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW: LOS ALAMOS THIRD QUARTER 2013 (JULY 1, 2013 THROUGH SEPTEMBER 30, 2013)

Procedure CCP-TP-001, *CCP Project Level Data Validation and Verification*, requires that a repeat of Data Generation Level (DGL) review, validation and verification be performed on the data for a minimum of one randomly chosen waste container each quarter. The Site Project Manager uses this information to document that the DGL data review is being performed according to procedures.

Inter-office Correspondence Number CP:13:01440 was issued October 10, 2013. This memorandum identified Waste Container 93941, from Batch Data Report (BDR) LA-RTR2-13-0089, as the randomly selected container for DGL repeat of Real-Time Radiography at LANL for the third calendar quarter of 2013.

The mini-BDR containing waste container 93941 was reviewed for the quarterly repeat on October 16, 2013. The results of this review indicate that the data quality remains acceptable and no discrepancies were identified. The Project Level Verification and Validation Checklist (Attachment 2, Revision 21 of procedure CCP-TP-001) has been completed and authenticated.

If you have any questions regarding this review, please contact me at Extension 7187.

VW:jmc

cc:

A. D. Chavarria	ED
T. A. Groover	ED
T. M. Mojica	ED
M. W. Pearcy	ED
M. L. Sensibaugh	ED
NTPC Records Custodian	GSA-212

COPY

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:13:01493
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: October 24, 2013

FROM: T. Groover tgroover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations - LANL

SUBJECT: RESULTS OF OFF-SITE SOURCE RECOVERY PROJECT VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW: LOS ALAMOS THIRD QUARTER 2013 (JULY 1, 2013 THROUGH SEPTEMBER 30, 2013)

Procedure CCP-TP-001, *CCP Project Level Data Validation and Verification*, requires that a repeat of Data Generation Level (DGL) review, validation and verification be performed on the data for a minimum of one randomly chosen waste container each quarter. The Site Project Manager (SPM) uses this information to document that the DGL data review is being performed according to procedures.

Inter-office Correspondence Number CP:13:01441 was issued October 10, 2013. This memorandum identified Waste Container LA00000064558 from Batch Data Report (BDR) LA13-OSR-VE-015, as the randomly selected container for DGL repeat of Off-Site Source Recovery Project Visual Examination at LANL for the second calendar quarter of 2013.

The mini-BDR containing waste container LA00000064558 was reviewed for the quarterly repeat on October 21, 2013. The results of this review indicate that the data quality remains acceptable and no discrepancies were identified. The Project Level Verification and Validation Checklist (Attachment 1- of procedure CCP-TP-001 Rev.21) has been completed and authenticated.

If you have any questions regarding this review, please contact me at (505) 606-2344.

TG:jmc

cc: W. W. Cameron ED
A. D. Chavarria ED
R. P. Kantrowitz ED
T. M. Mojica ED
M. W. Pearcy ED
M. L. Sensibaugh ED
NTP Records Custodian GSA-212

COPY

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:13:01516
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: October 30, 2013

FROM: T. Groover — LOCATION: CCP Certification

TO: C. E. Simmons ED — LOCATION: CCP Operations
Los Alamos National Laboratory

SUBJECT: RESULTS OF VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW: LOS ALAMOS THIRD QUARTER 2013 (JULY 1, 2013 THROUGH SEPTEMBER 30, 2013)

Procedure CCP-TP-001, *CCP Project Level Data Validation and Verification*, requires that a repeat of Data Generation Level (DGL) review, validation and verification be performed on the data for a minimum of one randomly chosen waste container each quarter. The Site Project Manager (SPM) uses this information to document that the DGL data review is being performed according to procedures.

Inter-office Correspondence Number CP:13:01442 was issued October 7, 2013. This memorandum identified Waste Container 93978 from Batch Data Report (BDR) LAVE500504, as the randomly selected container for DGL repeat of Visual Examination at LANL for the third calendar quarter of 2013.

The mini-BDR containing waste container 93978 was reviewed for the quarterly repeat on October 28, 2013. The results of this review indicate that the data quality remains acceptable and no discrepancies were identified. The Project Level Verification and Validation Checklist (Attachment 1- of procedure CCP-TP-001 Rev.21) has been completed and authenticated.

If you have any questions regarding this review, please contact me at (505) 606-2344.

TG:jmc

cc: W. W. Cameron ED
A. D. Chavarria ED
T. M. Mojica ED
M. W. Pearcy ED
M. L. Sensibaugh ED
NTPC Records Custodian GSA-212

COPY

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:14:01024
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: January 20, 2014

FROM: T. A. Groover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations - LANL

SUBJECT: REQUEST FOR FOURTH QUARTER 2013 (OCTOBER 1, 2013 THROUGH DECEMBER 31, 2013) VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW AT LANL

Procedure CCP-TP-001, CCP Project Level Data Validation and Verification, and the Waste Analysis Plan require that a repeat of the Data Generation Level (DGL) review, validation and verification be performed by the Site Project Manager (SPM) on a quarterly basis for a minimum of one randomly chosen waste container. The repeat DGL review, validation and verification are completed for each required characterization methodology that was performed in the last quarter at each Host site where the Central Characterization Program performed characterization.

At this time there are no batch data reports from the LANL that have been completed through DGL review and SPM validation and verification during this quarter for Visual Examination. Therefore, there will be no randomly selected waste container for the quarterly review process.

If you have any questions regarding this letter, please contact me at (505) 606-2344.

TAG:jmc

cc: A. D. Chavarria ED
T. Mojica ED
M. F. Ramirez ED
V. M. Waldram ED
NTPC Records Custodian GSA-212

COPY

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:14:01025
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: January 20, 2014

FROM: T. A. Groover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operation - LANL

SUBJECT: REQUEST FOR FOURTH QUARTER 2013 (OCTOBER 1, 2013 THROUGH DECEMBER 31, 2013) REAL-TIME RADIOGRAPHY QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW AT THE LANL

A completion of Data Generation Review of Real-Time Radiography (RTR) conducted at the Los Alamos National Laboratory (LANL) during the 92 days of reporting from October 1, 2013 through December 31, 2013. Therefore, the requirement to complete a quarterly review is required. Container number 68610, Batch Data Report (BDR) LA-RTR2-13-0130, was randomly selected from among all drums processed through Data Generation Level (DGL) review, validation, and verification during this time frame. The container will be processed through the quarterly repeat of DGL Review as described in CCP-TP-001, *CCP Project Level Data Validation and Verification.*

Please assign available qualified personnel to serve as Independent Technical Reviewers in performing the review as well as preparing a Batch Narrative and Table of Contents. Not all containers included in the original BDR will be included in this review. Only the selected drum noted above must be reviewed along with any Quality Control information.

Please perform the RTR quarterly repeat of DGL review, validation and verification and return the information by February 13, 2014, to the National TRU Certification Program Records Department, naming the BDR as "LA-RTR2-13-0130 QTR."

If you have any questions regarding this review, please contact me at (505) 606-2344.

TAG:jmc

Attachment

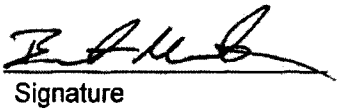
cc: NWP
(without attachment)
A. D. Chavarria ED
M. F. Ramirez ED
V. M. Waldram ED

(with attachment)
NTPC Records Custodian GSA-212

LANL
(with attachment)
K. Simpson ED

COPY

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-RTR2-13-0130		
Examination Date: 11/19/2013		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 9 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Benito Maestas		11/19/2013
Printed Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0130
Examination Date:	11/19/2013
Waste Container ID:	68649
Video/Audio Recorded Media Number:	LA-RTR2-13-0130 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 94.5 kg Tare Wt.: 33.4 kg Net Wt.: 61.1 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	40 %

CCP Radiography Data Sheet

Waste Container ID: 68649

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hardware
AM:	
OM:	Scrap lead
OI:	
C:	Leather gloves
R:	
XPM:	Liner lid, plastic bag
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	3.0
Other Inorganic Materials (OI)	
Cellulosics (C):	0.5
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	52.5
Soils (S):	
Total WMP Weight:	61.1

CCP Radiography Data Sheet

Waste Container ID: 68649

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Replicate Scan agrees with the Original Scan.	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	11/19/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0130
Examination Date:	11/19/2013
Waste Container ID:	68430
Video/Audio Recorded Media Number:	LA-RTR2-13-0130 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 174.0 kg Tare Wt.: 145.1 kg Net Wt.: 28.9 kg
Rigid Liner and Liner Vent Description:	Liner: ☐ No ☒ Yes Lid: ☐ No ☒ Yes Type: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☒ Yes ☐ N/A Punctured: ☐ No ☒ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	75 %

07

CCP Radiography Data Sheet

Waste Container ID: 68430

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC)	8.1
Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	28.9
Soils (S):	
Total WMP Weight:	28.9

CCP Radiography Data Sheet

Waste Container ID: 68430

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: Standard Pipe Overpack Component (P.O.C.)
There is separation between the liner and liner lid, therefore, the liner is vented.
This Independent Observation agrees with the Original Scan.

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	11/19/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0130
Examination Date:	11/19/2013
Waste Container ID:	68430
Video/Audio Recorded Media Number:	LA-RTR2-13-0130 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 174.0 kg Tare Wt.: 145.1 kg Net Wt.: 28.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	70 %

CCP Radiography Data Sheet

Waste Container ID: 68430

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic bag
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC)	8.1
Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	26.9
Soils (S):	
Total WMP Weight:	28.9

CCP Radiography Data Sheet

Waste Container ID: 68430

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: Standard Pipe Overpack Component (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.	

RTR Operator:

Benito Maestas		11/19/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0130
Examination Date:	11/19/2013
Waste Container ID:	68649
Video/Audio Recorded Media Number:	LA-RTR2-13-0130 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 94.5 kg Tare Wt.: 33.4 kg Net Wt.: 61.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	40 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68649

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM: Scrap lead
OI:
C:
R:
XPM: Plastic bags, plastic lid
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	3.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	53.1
Soils (S):	
Total WMP Weight:	61.1

CCP Radiography Data Sheet

Waste Container ID: 68649

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Benito Maestas	[signature]	11/19/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0130
Examination Date:	11/19/2013
Waste Container ID:	68610
Video/Audio Recorded Media Number:	LA-RTR2-13-0130 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 164.5 kg Tare Wt.: 33.4 kg Net Wt.: 131.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 68610

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM: Scrap lead
OI:
C:
R:
XPM: Plastic bags, plastic lid
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	7.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	119.1
Soils (S):	
Total WMP Weight:	131.1

CCP Radiography Data Sheet

Waste Container ID: 68610

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Benito Maestas		11/19/2013
Print Name	Signature	Date

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:14:01026
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: January 20, 2014

FROM: T. A. Groover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations - LANL

SUBJECT: REQUEST FOR FOURTH QUARTER 2013(OCTOBER 1, 2013 THROUGH DECEMBER 31, 2013) OFF-SITE SOURCE RECOVERY PROJECT VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW AT THE LANL

Off-Site Source Recovery (OSR) Project Visual Examination (VE) of the Los Alamos National Laboratory (LANL) has completed 92 days of reporting from October 1, 2013 through December 31, 2013. Container number LA00000067513, Batch Data Report (BDR) LA13-OSR-VE-022, was randomly selected from among all drums processed through Data Generation Level (DGL) review, validation, and verification during this time frame. The container will be processed through the quarterly repeat of DGL Review as described in CCP-TP-001, *CCP Project Level Data Validation and Verification*.

Please assign available qualified personnel to serve as Independent Technical Reviewers in performing the review as well as preparing a Batch Narrative. Not all containers included in the original BDR will be included in this review. Only the selected drum noted above must be reviewed along with any Quality Control information.

Please perform the OSR VE quarterly repeat of DGL review, validation and verification and return the information by February 13, 2014, to the National TRU Certification Program Records Department, naming the BDR as "LA13-OSR-VE-022QTR."

If you have any questions regarding this review, please contact me at (505) 606-2344.

TAG:jmc

Attachment

cc: NWP
(without attachment)
A.D. Chavarria ED
M. F. Ramirez ED
V. M. Waldram ED

(with attachment)
NTPC Records Custodian GSA-212

LANL
(with attachment)
C. Abeyta ED
I. Witkowski ED

COPY

The Following Documents used for this VE BDR are the Best Available Copies

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LAB-052-VE-022 Page 1 of 3

Container Identifier	LA00000067513
Printed name of VE Packager	A. Martinez
Printed name of VE Recorder	R. Day

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X_ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-773 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT9400 • POC lid filter serial number: 026042 • POC lid filter manufacture date: FEB. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☒ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☒ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☒ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☒ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☒ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☒ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 041181 • Calibration due date of torque wrench 11-27-13
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 041181 • Calibration due date of torque wrench 11-27-13

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-022 Page 2 of 3

Container Identifier LA00000067513

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	Am241 SFC II-1-656	OM	7200	None
2	NA	NA	NA	NA
3	NA	NA	NA	NA
4	NA	NA	NA	NA
5	NA	NA	NA	NA
6	NA	NA	NA	NA
7	NA	NA	NA	NA
8	NA	NA	NA	NA
9	NA	NA	NA	NA
10	NA	NA	NA	NA
11	NA	NA	NA	NA
12	NA	NA	NA	NA
13	NA	NA	NA	NA
14	NA	NA	NA	NA
15	NA	NA	NA	NA
Total estimated weight (kg) for each WMP listed for above items.			7.2 kg	[redacted]
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.			NA☒ None☐ kg	Description: NA / WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).			219.2 kg	[redacted]
Total estimated weight (kg) for loaded container.			226.4 kg	
Container percent full.			95 %	

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-SSR-VE-033 Page 3 of 3

Container Identifier		LA00000067513
Present	**Not Present**	**Prohibited Hazardous Items or Conditions**
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

RSD 11-713
~~None~~ This drum is packaged with "0" layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

ADAM MARTINEZ		9-19-13
Printed Name VE Packager	Signature	Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Rick Day		9-19-13
Printed Name VE Recorder	Signature	Date

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component		Estimated Component(s) Weight (kg)					
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Source Serial No. **LA00000067513**

0623LA

Isotope **Activity**
Source Markings
NRC Registry
Markings: 0623LA Am241 AMC17 TRC
Comments: From Yokagawa Model PS6, Amersham source
Record Numbers: 03949

0908 LX

Source Certificate
Record Numbers: 04207

1295LX

Isotope **Activity**
Source Markings Source Markings
Markings: 1295LX Am241 300 mCi Al

132/02

Source Certificate
Record Numbers: 04208

1368CW

Source Certificate
Markings: 1368CW Am241 30mCi Al
Record Numbers: 05775

1583LQ

Source Certificate
Record Numbers: 04207

1996LQ

Isotope **Activity**
Source Markings Source Markings
Markings: 1996LQ Am241 1Ci Al

2074LV

Isotope **Activity**
Source Markings
NRC Registry
Markings: 2074LV Am241 AMC17
Comments: From Yokagawa Model PS6, Amersham source
Record Numbers: 04223 03949

2968 LV	Source Certificate Record Numbers: 04207	
2970 LV	Source Certificate Record Numbers: 04207	
4215LA	**Isotope** Other Doc Markings: 4215LA Comments: Amersham Capsule X101 Record Numbers: 00145 04223	**Activity** Other Doc
4399LX	Source Certificate Markings: 150mCi Am241 Record Numbers: 04207	
4463LX	Source Certificate Record Numbers: 04207	
4592LX	**Isotope** Source Markings Markings: 4592LX Am241 1 Ci Al	**Activity** Source Markings
5121LQ	**Isotope** Source Markings Markings: 5121LQ Am241 30mCi Al	**Activity** Source Markings
5278LX	**Isotope** Source Markings Markings: 5278LX Am241 300 mCi Al	**Activity** Source Markings
5474LX	**Isotope** Source Markings Markings: 5474LX Am241 300 mCi Al	**Activity** Source Markings

5483LX

Isotope **Activity**
Source Markings Source Markings
Markings: 5483LX Am241 300 mCi Al

6155LA

Isotope **Activity**
Source Markings
NRC Registry
Markings: 6155LA Am241 AMC17 Al
Comments: From Yokagawa Model PS6, Amersham source
Record Numbers: 03949

6358LX

Source Certificate

Record Numbers: 04207

6791LQ

Source Certificate

Record Numbers: 04207

7137 LQ

Source Certificate

Record Numbers: 04207

8024LQ

Source Certificate

Record Numbers: 04207

8036LQ

Source Certificate

Record Numbers: 04207

8657LX

Isotope **Activity**
Source Markings Source Markings
Markings: 8657LX Am241 1Ci Al

9468 LV

Source Certificate

Record Numbers: 04207

9635 LX

Isotope — **Activity**
Source Markings — Source Markings
Markings: 9635 LX Am241 1Ci Al

9846 LV

Source Certificate

Record Numbers: 04207

MRC-AM-1585

Isotope — **Activity**
Source Markings — Source Markings
Markings: MRC-AM-1585 Am241 1000mCi 3-83

Z2967

Isotope — **Activity**
NRC Registry — NRC Registry
Markings: Z2967
Comments: Thermo EGS Gauging, Inc., Model HUB-SS-3
Record Numbers: 04223 03253

Z2970

Isotope — **Activity**
NRC Registry — NRC Registry
Markings: Z2970
Comments: Thermo EGS Gauging, Inc., Model HUB-SS-3
Record Numbers: 04223 03253

Z4118

Isotope — **Activity**
NRC Registry — NRC Registry
Markings: Z4118
Comments: Thermo EGS Gauging, Inc., Model HUB-SS-3
Record Numbers: 03253 04223

Z4120

Isotope — **Activity**
NRC Registry — NRC Registry
Markings: Z4120
Comments: Thermo EGS Gauging, Inc., Model HUB-SS-3
Record Numbers: 04223 03253

Z4121

Isotope — **Activity**
NRC Registry — NRC Registry
Markings: Z4121
Comments: Thermo EGS Gauging, Inc., Model HUB-SS-3
Record Numbers: 04223 03253

Z4122

Isotope	Activity
NRC Registry	NRC Registry

Markings: Z4122

Comments: Thermo EGS Gauging, Inc., Model HUB-SS-3

Record Numbers: 04223 03253

Source Serial No. **LA00000067514**

1619

Isotope	Activity
NRC Registry	NRC Registry

Markings: 1619

Comments: Berthold Technologies, Model LB 379; Used conservative Activity from SSDR; Date from Thermo Memo

Record Numbers: 04223 04198

1736LQ

Source Certificate

Markings: 1736LQ Am241 300 mCi Al

Record Numbers: 05775

1737LQ

Source Certificate

Markings: 1737LQ Am241 300 mCi Al

Record Numbers: 05775

1801 LQ

Isotope	Activity
Source Markings	Source Markings

Markings: 1801 LQ Am241 5 mCi Al

1995LQ

Source Certificate

Markings: 1995LQ Am241 1Ci Al

Record Numbers: 05775

3092LX

Isotope	Activity
Source Markings	Source Markings

Markings: 3092LX Am241 300 mCi Al

3770LX

Source Certificate

Markings: 3770LX Am241 300 mCi Al

Record Numbers: 04208

Sources in Special Form Capsules

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	Thermo Fisher Corp - Sugar Land	8879LQ	241Am	0.03	0.10
	Thermo Fisher Corp - Sugar Land	9632LQ	241Am	0.01	0.03
	Thermo Fisher Corp - Sugar Land	9862LX	241Am	0.09	0.30
	Thermo Fisher Corp - Sugar Land	9933LX	241Am	0.02	0.08
	Thermo Fisher Corp - Sugar Land	9952LX	241Am	0.02	0.08
	Thermo Fisher Corp - Sugar Land	9962LX	241Am	0.02	0.08
	Thermo Fisher Corp - Sugar Land	9963LX	241Am	0.02	0.08
	Thermo Fisher Corp - Sugar Land	A2253	241Am	0.14	0.50
	Thermo Fisher Corp - Sugar Land	A2259	241Am	0.14	0.50
	Thermo Fisher Corp - Sugar Land	A2261	241Am	0.14	0.50
	Thermo Fisher Corp - Sugar Land	A2262	241Am	0.14	0.50
	Thermo Fisher Corp - Sugar Land	A830H	241Am	0.06	0.20
	Thermo Fisher Corp - Sugar Land	TFS-1	241Am	0.06	0.20
	Thermo Fisher Corp - Sugar Land	TFS-2	241Am	0.06	0.20
	Thermo Fisher Corp - Sugar Land	V780	241Am	0.01	0.03
Total Sources in SFCII-1-642 (85 sources)					
Sum				***3.87***	***13.42***
Total Sources in container LA00000067512 (85 sources)					
Sum				***3.87***	***13.42***

LA00000067513

II-1-656

	Thermo Fisher Corp - Sugar Land	0623LA	241Am	0.16	0.55
	Thermo Fisher Corp - Sugar Land	0908 LX	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	1295LX	241Am	0.09	0.30
	Thermo Fisher Corp - Sugar Land	132/02	241Am	0.01	0.03
	Thermo Fisher Corp - Sugar Land	1368CW	241Am	0.01	0.03
	Thermo Fisher Corp - Sugar Land	1583LQ	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	1996LQ	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	2074LV	241Am	0.16	0.55
	Thermo Fisher Corp - Sugar Land	2968 LV	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	2970 LV	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	4215LA	241Am	0.00	0.02
	Thermo Fisher Corp - Sugar Land	4399LX	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	4463LX	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	4592LX	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	5121LQ	241Am	0.01	0.03
	Thermo Fisher Corp - Sugar Land	5278LX	241Am	0.09	0.30
	Thermo Fisher Corp - Sugar Land	5474LX	241Am	0.09	0.30

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	Thermo Fisher Corp - Sugar Land	5483LX	241Am	0.09	0.30
	Thermo Fisher Corp - Sugar Land	6155LA	241Am	0.16	0.55
	Thermo Fisher Corp - Sugar Land	6358LX	241Am	0.02	0.08
	Thermo Fisher Corp - Sugar Land	6791LQ	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	7137 LQ	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	8024LQ	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	8036LQ	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	8657LX	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	9468 LV	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	9635 LX	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	9646 LV	241Am	0.04	0.15
	Thermo Fisher Corp - Sugar Land	MRC-AM-1585	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	Z2967	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	Z2970	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	Z4118	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	Z4120	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	Z4121	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	Z4122	241Am	0.29	1.00
Total Sources in SFCII-1-656 (35 sources)					
Sum				***4.56***	***15.83***
Total Sources in container LA00000067513 (35 sources)					
Sum				***4.56***	***15.83***

LA00000067514

II-1-658

	Thermo Fisher Corp - Sugar Land	1619	241Am	0.03	0.11
	Thermo Fisher Corp - Sugar Land	1736LQ	241Am	0.09	0.30
	Thermo Fisher Corp - Sugar Land	1737LQ	241Am	0.09	0.30
	Thermo Fisher Corp - Sugar Land	1801 LQ	241Am	0.00	0.01
	Thermo Fisher Corp - Sugar Land	1995LQ	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	3092LX	241Am	0.09	0.30
	Thermo Fisher Corp - Sugar Land	3770LX	241Am	0.09	0.30
	Thermo Fisher Corp - Sugar Land	5984LV	241Am	0.09	0.30
	Thermo Fisher Corp - Sugar Land	6162LV	241Am	0.29	1.00
	Thermo Fisher Corp - Sugar Land	936	241Am	0.03	0.11
Total Sources in SFCII-1-658 (10 sources)					
Sum				***1.07***	***3.73***

Radiological Contamination Surveys

DSESH TA-55 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 9-17-13 thru 9-19-13 No. of Samples: 46 (146)

TA: N/A Bldg: N/A Rm: N/A

RCT: Andrew Maestas Z Number: 089345

RCT Signature: Andrew Maestas MS: E503

Phone: 7-9410 Fax:

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☑ Non-Routine / Other: OSR-NSSI, Sugar Land, TX

ADDITIONAL INFORMATION

RWP No.: N/A Incident No.: N/A

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF	BKG	MDA
Alpha 43-10-1	12413	7/9/2014	39.16	1	1.276	9.4 dpm
Beta 43-10-1	12413	7/9/2014	38.34	1	500	122.3 dpm
SHP 270	13184	10/3/2013	N/A	N/A	0.5	~0.1mr/hr
SNRD	13589	10/12/2013	N/A	N/A	0.1	0.25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs

COMMENTS

DS ESH REVIEW BY

SAMPLE TRACKING NUMBER

29147048

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
101	SFC II-1-656 W/Sources, Top	NDA	NDA	NDA	NDA	N/A						
102	SFC II-1-656 W/Sources, Bottom	0.78	NDA	NDA	NDA	N/A						
103	Top Sources in Transfer Pig = AM 30	5.89	6.42	NDA	NDA	N/A						
104	Drum LA0...67513, W/ SFC II-1-656, Top	2.06	NDA	NDA	NDA	N/A						
105	Drum LA0...67513, W/ SFC II-1-656, Ring	NDA	NDA	NDA	NDA	N/A						
106	Drum LA0...67513, W/ SFC II-1-656, Seam Side	0.786	NDA	NDA	NDA	N/A	0.2	0.1	0.2	0.1	0.2	0.1
107	Drum LA0...67513, W/ SFC II-1-656, Other Side	0.786	NDA	NDA	NDA	N/A						
108	Drum LA0...67513, W/ SFC II-1-656, Bottom	NDA	NDA	NDA	NDA	N/A						
109	Top Sources in Yellow Transfer Pig = AM 31	0.786	NDA	NDA	NDA	N/A						
110	Sources = 10 EA	30.1	NDA	23.2	NDA	N/A						
111	Round Poly Inspection Block	646	71.6	N/A	N/A	N/A						
112	SFC II-1-658 W/Sources, Top	0.786	NDA	NDA	NDA	N/A						
113	New Red Pig for Transfering Sources, Inside	4.61	119.1	7.6	77.2	N/A						
114	New Red Pig for Transfering Sources (Re-Smear)	NDA	NDA	NDA	NDA	N/A						
115	New Red Pig for Transfering Sources, Outside	2.06	5.12	NDA	NDA	N/A						

Other Information

Drum number LA00000067512, and LA00000067513, LA00000067514 of BDR LA13-OSR-VE-022 and LA13-OSR-CH-022: one may find serial numbers or identifying information that may not match exactly between documents (e.g. VE attachment 4, rad surveys, markings, source cert, regulatory docs, etc) . This is an artifact that source manufacturers, regulators and customers may use somewhat different nomenclature to identify the same source. Some examples include:

1) Alpha Numeric numbering where the suffix or prefix may be used interchangeably throughout the life of the source. Examples include: LP123 vs LP-123 or 123LP vs 123 LP, etc... 7-1-123G vs 71 1 123g, etc...
2) The addition of a secondary serial number or identification number to reflect the device in which it is used. The most common methods used to identify these are to put the secondary ID number in parenthesis or following a slash. Examples include: MRC-246(135NP), 123LV/269, etc...
3) In addition to secondary numbering some regulators or users may add nomenclature to further identify the source. NMMSS is one of the more common. For example a source manufactured by MRC may be inscribed as MRC PU8PU123 or just PU8PU123 where as the NMMSS database added the manufacture designation to the front of the serial number; in this case the serial in NMMSS is listed as MRPU8BE123
4) Dashes or spacing is also interchangeable in that depending upon the author of the document (including regulators) the format could be determined by internal procedures, typeset, etc.... For example 7-1-123G vs 71 1 123 g found in the Texas State Health Department source list.
5) How the source ID or serial number translated during a recovery. Cylindrical sources with the inscription along the axis may lead to the alpha numeric order not being an exact match to the documentation, e.g. MRC 1234 vs 1234 MRC.
6) The most conservative values is used when assigning activity values in cases where the supporting data differs, e.g. SSDR value vs site log entries.

Although there may be instances where the source identification is not "exact" between differing documentation, the offsite source recovery project (OSRP) makes every effort though experience, documentation and research to ensure that the information is accurate, e.g. the identified source isotope is correct and the source activity is conservatively accurate.

Los Alamos
NATIONAL LABORATORY
EST. 1943

Memorandum

Nuclear Engineering & Nonproliferation Division
International Threat Reduction Group
Off-Site Source Recovery Project (OSRP)

Subject: ERID Numbers for Off-Site Source Recovery Project Acceptable Knowledge Documentation

The ERID numbers corresponding to the acceptable knowledge documentation for each drum in this Off-Site Source Recovery Project BDR package are listed below:

OSRP Drum Identifier	ERID Number
LA00000067512	ERID-252343
LA00000067513	ERID-252343
LA00000067514	ERID-252343

DIVIDER

PAGE

Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:14:01037
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: January 30, 2014

FROM: T. Groover — LOCATION: CCP Certification

TO: C. E. Simmons ED — LOCATION: CCP Operations
Los Alamos National Laboratory

SUBJECT: RESULTS OF OFF-SITE SOURCE RECOVERY PROJECT VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW: LOS ALAMOS FOURTH QUARTER 2013 (OCTOBER 1, 2013 THROUGH DECEMBER 31, 2013)

Procedure CCP-TP-001, *CCP Project Level Data Validation and Verification*, requires that a repeat of Data Generation Level (DGL) review, validation and verification be performed on the data for a minimum of one randomly chosen waste container each quarter. The Site Project Manager (SPM) uses this information to document that the DGL data review is being performed according to procedures.

Inter-office Correspondence Number CP:14:01026 was issued January 20, 2014. This memorandum identified Waste Container LA00000067513 from Batch Data Report (BDR) LA13-OSR-VE-022, as the randomly selected container for DGL repeat of Off-Site Source Recovery Project Visual Examination at LANL for the fourth calendar quarter of 2013.

The mini-BDR containing waste container LA00000067513 was reviewed for the quarterly repeat on January 28, 2013. The results of this review indicate that the data quality remains acceptable and no discrepancies were identified. The Project Level Verification and Validation Checklist (Attachment 1- of procedure CCP-TP-001 Rev.21) has been completed and authenticated.

If you have any questions regarding this review, please contact me at (505) 606-2344.

TG:jmc

cc: W. W. Cameron ED
A. D. Chavarria ED
T. M. Mojica ED
M. F. Ramirez ED
M. L. Sensibaugh ED
NTPC Records Custodian GSA-212

COPY

DIVIDER

PAGE

CP 14 01038 JC
1/30/14

~~CP:01038~~
UFC:5900.00

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

INTER-OFFICE CORRESPONDENCE

DATE: January 30, 2014

FROM: T. Groover — LOCATION: CCP Certification

TO: C. E. Simmons ED — LOCATION: CCP Operations - LANL

SUBJECT: RESULTS OF REAL-TIME RADIOGRAPHY QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW: LOS ALAMOS FOURTH QUARTER 2013 (OCTOBER 1, 2013 THROUGH SEPTEMBER 30, 2013)

Procedure CCP-TP-001, *CCP Project Level Data Validation and Verification*, requires that a repeat of Data Generation Level (DGL) review, validation and verification be performed on the data for a minimum of one randomly chosen waste container each quarter. The Site Project Manager (SPM) uses this information to document that the DGL data review is being performed according to procedures.

Inter-office Correspondence Number CP: 14:01025 was issued January 20, 2014. This memorandum identified waste container 68610, from Batch Data Report (BDR) LA-RTR2-13-0130, as the randomly selected container for DGL repeat of Non-Destructive Examination at LANL for the fourth calendar quarter of 2013.

The mini-BDR containing waste container 68610 was reviewed for the quarterly repeat on January 22, 2014. The results of this review indicate that the data quality remains acceptable and no discrepancies were identified. The Project Level Verification and Validation Checklist (Attachment 2 of procedure CCP-TP-001, Rev. 21) has been completed and authenticated.

If you have any questions regarding this review, please contact me at 505-606-2344.

TG:jmc

cc:
W. W. Cameron	ED
A. D. Chavarria	ED
T. M. Mojica	ED
M. F. Ramirez	ED
M. L. Sensibaugh	ED
NTPC Records Custodian	GSA-212

COPY

BEST AVAILABLE COPY

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:14:01074
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: April 3, 2014

FROM: T. A. Groover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations - LANL

SUBJECT: REQUEST FOR FIRST QUARTER 2014 (JANUARY 1, 2014 THROUGH MARCH 31, 2014) REAL-TIME RADIOGRAPHY QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW AT THE LOS ALAMOS NATIONAL LABORATORY

A completion of Data Generation Review of Real-Time Radiography (RTR) conducted at LANL during the 90 days of reporting from January 1, 2014 through March 31, 2014. Therefore, the requirement to complete a quarterly review is required. Container number 69428, Batch Data Report (BDR) LA-HERTR-14-0030, was randomly selected from among all drums processed through Data Generation Level (DGL) review, validation, and verification during this time frame. The container will be processed through the quarterly repeat of DGL Review as described in CCP-TP-001, *CCP Project Level Data Validation and Verification*.

Please assign available qualified personnel to serve as Independent Technical Reviewers in performing the review as well as preparing a Batch Narrative and Table of Contents. Not all containers included in the original BDR will be included in this review. Only the selected drum noted above must be reviewed along with any Quality Control information.

Please perform the RTR quarterly repeat of DGL review, validation and verification and return the information by May 1, 2014, to the National TRU Program Certification Records Department, naming the BDR as "LA-HERTR-14-0030QTR."

If you have any questions regarding this review, please contact me at (505) 606-2344.

TAG:jmc

Attachment

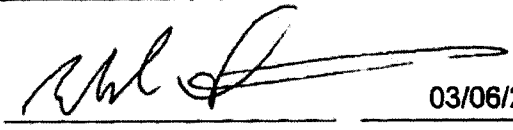
cc: NWP
(without attachment)
A. D. Chavarria ED
M. F. Ramirez ED
C. Soaterna ED

(with attachment)
NTPC Records Custodian GSA-212

LANL
(with attachment)
A. Elliott ED
K. Simpson ED

COPY

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-14-0030		
Examination Date: 03/06/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 8 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Michael Simmons		03/06/2014
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0030
Examination Date:	3/6/2014
Waste Container ID:	65811
Video/Audio Recorded Media Number:	LA-HERTR-14-0030 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA211
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN02.001
Waste Container Weights:	Gross Wt.: 260.0 kg Tare Wt.: 27.7 kg Net Wt.: 232.3 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

Waste Container ID: 65811

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	232.3
Soils (S):	
Total WMP Weight:	232.3

CCP Radiography Data Sheet

Waste Container ID: 65811

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Replicate Scan agrees with the original scan.	

RTR Operator:

Thad Hasselstrom		3/6/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0030
Examination Date:	3/6/2014
Waste Container ID:	69492
Video/Audio Recorded Media Number:	LA-HERTR-14-0030 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 160.0 kg Tare Wt.: 33.4 kg Net Wt.: 126.6 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	70 %

Waste Container ID: 69492

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hardware
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bags, 90 mil liner lid
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	118.5
Soils (S):	
Total WMP Weight:	126.6

Waste Container ID: 69492

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the original scan.	
RTR Operator: Thad Hasselstrom (Print Name) — Thad Hasselstrom (Signature) — 3/6/2014 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0030
Examination Date:	3/6/2014
Waste Container ID:	69492
Video/Audio Recorded Media Number:	LA-HERTR-14-0030 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 160.0 kg Tare Wt.: 33.4 kg Net Wt.: 126.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	75 %

Waste Container ID: 69492

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic bags, 90 mil liner lid
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	118.6
Soils (S):	
Total WMP Weight:	126.6

Waste Container ID: 69492

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:		
Michael Simmons		3/6/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0030
Examination Date:	3/6/2014
Waste Container ID:	69428
Video/Audio Recorded Media Number:	LA-HERTR-14-0030 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 174.5 kg Tare Wt.: 33.4 kg Net Wt.: 141.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

Waste Container ID: 69428

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	
C:	Tape rolls
R:	
XPM:	Plastic bags, 90 mil liner lid
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	0.3
Rubber (R):	
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	132.8
Soils (S):	
Total WMP Weight:	141.1

CCP Radiography Data Sheet

Waste Container ID: 69428

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/6/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0030
Examination Date:	3/6/2014
Waste Container ID:	65811
Video/Audio Recorded Media Number:	LA-HERTR-14-0030 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA211
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN02.001
Waste Container Weights:	Gross Wt.: 260.0 kg Tare Wt.: 27.7 kg Net Wt.: 232.3 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	60 %

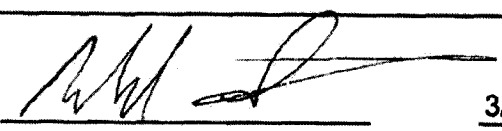
Waste Container ID: 65811

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	232.3
Soils (S):	
Total WMP Weight:	232.3

Waste Container ID: 65811

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:		
Michael Simmons		3/6/2014
Print Name	Signature	Date

DIVIDER PAGE

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:14:01075
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: April 2, 2014

FROM: T. A. Groover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations - LANL

SUBJECT: REQUEST FOR FIRST QUARTER 2014 (JANUARY 1, 2014 THROUGH MARCH 31, 2014) OFF-SITE SOURCE RECOVERY PROJECT VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW AT LANL

Off-Site Source Recovery (OSR) Project Visual Examination (VE) of the LANL has completed 90 days of reporting from January 1, 2014 through March 31, 2014. Container number LA00000061574, Batch Data Report (BDR) LA14-OSR-VE-001, was randomly selected from among all drums processed through Data Generation Level (DGL) review, validation, and verification during this time frame. The container will be processed through the quarterly repeat of DGL Review as described in CCP-TP-001, *CCP Project Level Data Validation and Verification*.

Please assign available qualified personnel to serve as Independent Technical Reviewers in performing the review as well as preparing a Batch Narrative. Not all containers included in the original BDR will be included in this review. Only the selected drum noted above must be reviewed along with any Quality Control information.

Please perform the OSR VE quarterly repeat of DGL review, validation and verification and return the information by May 1, 2014, to the National TRU Program Certification Records Department, naming the BDR as "LA14-OSR-VE-001QTR."

If you have any questions regarding this review, please contact me at (505) 606-2344.

TAG:jmc

Attachment

cc: NWP
(without attachment)
A.D. Chavarria ED
M. F. Ramirez ED
C. Soaterna ED

(with attachment)
NTPC Records Custodian GSA-212

LANL
(with attachment)
C. Abeyta ED
I. Witkowski ED

COPY

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LAH-DSR-VE-001 Page 1 of 3

Container Identifier		LA0CCC00 61574
Printed name of VE Packager		Charles Streeper
Printed name of VE Recorder		Mike Gurley
1	Indicate the container configuration used (refer to Attachment 2 for configuration types. *(check one)*: ___ Standard Pipe Overpack (12" pipe component) ___ S100 ___ S200 A ___ S200 B X S300 ___ Standard 55-gallon drum (no POC)	
2	• Drum lid filter model: NUCFIL019EPD • Drum lid filter serial number: BF-106 • Drum lid filter manufacture date: 2/05 • POC lid filter model: WT9400 • POC lid filter serial number: 027371 • POC lid filter manufacture date: JUL. 2003	
3	Verify based on VE:	Verified
	• The item(s) meet a sealed source regulatory definition.	Yes☒ No☐
	• The outer casing is made of non-VOC bearing material, as the sources are placed in the container	Yes☒ No☐
	• That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size.	Yes☒ No☐
	• That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK.	Yes☒ No☐
	• That there are no non-packaging items placed in the container other than the source(s).	Yes☒ No☐
	• Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources*	Yes☒ No☐
	• If POC lid and body have visible serial numbers, ensure the serial numbers match	Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100	
5	POC Bolt Torque • POC bolts tightened to 65 ft-lbs • Torque Wrench ID # 035314 • Calibration due date of torque wrench 5-7-14	
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 035314 • Calibration due date of torque wrench 5-7-14	

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-OSR-VE-001

Page 2 of 3

Container Identifier LA000000061574

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	Pu239Be,SFC II-2-61	OM	6590g	None
2	NA	NA	NA	NA
3	NA	NA	NA	NA
4	NA	NA	NA	NA
5	NA	NA	NA	NA
6	NA	NA	NA	NA
7	NA	NA	NA	NA
8	NA	NA	NA	NA
9	NA	NA	NA	NA
10	NA	NA	NA	NA
11	NA	NA	NA	NA
12	NA	NA	NA	NA
13	NA	NA	NA	NA
14	NA	NA	NA	NA
15	NA	NA	NA	NA

Total estimated weight (kg) for each WMP listed for above items.	6.6 kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA ☒ None ☐ kg	Description: NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	191.6 kg		
Total estimated weight (kg) for loaded container.	198.2 kg		
Container percent full.	95 %		

If the list of items is continued on additional pages, attach and number added pages appropriately.* WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.

† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-DSR-VE-001 Page 3 of 3

Container Identifier LA0000000615 74

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1% by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

This drum was packaged with zero layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Charles Streeper — Printed Name VE Packager; Signature; 12-17-13 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Michael Gurley — Printed Name VE Recorder; Signature; 12-17-13 — Date

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component		Estimated Component(s) Weight (kg)					
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Acceptable Knowledge Documentation

Appendix B
Sources In Special Form Capsules

(Curies 1 in red if isotope is short-lived and no decayed activity is available)

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
LA00000061574					
II-1-611					
	Navy Munitions Command, CONUS East Division	M587	239Pu/Be	74.00	4.65
Total Sources in SFCII-1-611 (1 source)					
Sum				***74.00***	***4.65***
Total Sources in container LA00000061574 (1 source)					
Sum				***74.00***	***4.65***
Grand Total				***74.00***	***4.65***

Contamination Surveys

Acceptable Knowledge Documentation

Source Serial No.

M587

LA00000061574

NMMSS

Record Numbers: 05463

Sources in Special Form Capsule

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 12/16/2013 thru 12/20/2013 No. of Samples: 24

TA: _____ Rm: n/a

RCT: Billy Terrazas Z Number: 115030

RCT Signature: MS: E541

Phone: 5-9236 Fax: n/a

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☑ Non-Routine / Other: Pearl Harbor, Naval Base, HI

ADDITIONAL INFORMATION

RWP No.: n/a

Work Request No.: n/a Incident No.: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	11181	2/22/2014	0.3740	1	9.36	45.28
Beta S43-10-1	11181	2/22/2014	0.3510	1	192.2	143.99
SHP270	12922	3/7/2014	n/a		<0.1	
SNRD	13756	4/2/2014	n/a		<0.1	

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ SMEARS COUNTED IN FIELD

FIELD SMEAR COUNTER MDA (dpm)

alpha: 45.28

beta: 143.99

RP-1 REVIEW BY

1/24/13

SAMPLE TRACKING NUMBER

29147057

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	Pre-job count table	nda	nda	nda	nda	n/a						
2	Pre-job count table	nda	nda	nda	nda	n/a						
3	Pre-job howitzer	nda	nda	nda	nda	n/a						
4	Pre-job howitzer	nda	nda	nda	nda	n/a						
5	Pre-job howitzer	nda	nda	nda	nda	n/a						
6	Pre-job howitzer	nda	nda	nda	nda	n/a						
7	Pre-job drum empty	nda	nda	nda	nda	n/a						
8	Pre-job work table	nda	nda	nda	nda	n/a						
9	Pre-job work table	nda	nda	nda	nda	n/a						
10	Pre-job poly	nda	nda	nda	nda	n/a						
11	Pre-job poly	nda	nda	nda	nda	n/a						
12	leak test source 239PuBe	nda	nda	nda	nda	n/a						
13	SFC II-1-611 w/239PuBe source	nda	nda	nda	nda	n/a	36.0	339.0				
14	Drum LA#61574 w/SFC II-1-611 top	nda	nda	nda	nda	n/a						
15	Drum LA#61574 w/SFC II-1-611 ring	nda	nda	nda	nda	n/a						

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147057

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	Drum LA#61574 w/SFC II-1-611 side	nda	nda	nda	nda	n/a	25..2	20.4	x	x	0.4	3.6
17	Drum LA#61574 w/SFC II-1-611 side	nda	nda	nda	nda	n/a						
18	Drum LA#61574 w/SFC II-1-611 btm	nda	nda	nda	nda	n/a						
19	Post -job SFC kit	nda	nda	nda	nda	n/a						
20	Post -job SFC kit	nda	nda	nda	nda	n/a						
21	Post -job SFC tools	nda	nda	nda	nda	n/a						
22	Post-job tools	nda	nda	nda	nda	n/a						
23	Post-job Howitizer	nda	nda	nda	nda	n/a						
24	Post-job Howitizer	nda	nda	nda	nda	n/a						
25	End Of Survey											
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												

*dpm/100 cm

Other Information

Drum number LA00000061574 of BDR LA14-OSR-VE-001 and LA14-OSR-CH-001: one may find serial numbers or identifying information that may not match exactly between documents (e.g. VE attachment 4, rad surveys, markings, source cert, regulatory docs, etc) . This is an artifact that source manufacturers, regulators and customers may use somewhat different nomenclature to identify the same source. Some examples include:

1) Alpha Numeric numbering where the suffix or prefix may be used interchangeably throughout the life of the source. Examples include: LP123 vs LP-123 or 123LP vs 123 LP, etc... 7-1-123G vs 71 1 123g, etc...
2) The addition of a secondary serial number or identification number to reflect the device in which it is used. The most common methods used to identify these are to put the secondary ID number in parenthesis or following a slash. Examples include: MRC-246(135NP), 123LV/269, etc...
3) In addition to secondary numbering some regulators or users may add nomenclature to further identify the source. NMMSS is one of the more common. For example a source manufactured by MRC may be inscribed as MRC PU8PU123 or just PU8PU123 where as the NMMSS database added the manufacture designation to the front of the serial number; in this case the serial in NMMSS is listed as MRPU8BE123
4) Dashes or spacing is also interchangeable in that depending upon the author of the document (including regulators) the format could be determined by internal procedures, typeset, etc.... For example 7-1-123G vs 71 1 123 g found in the Texas State Health Department source list..
5) How the source ID or serial number translated during a recovery. Cylindrical sources with the inscription along the axis may lead to the alpha numeric order not being an exact match to the documentation, e.g. MRC 1234 vs 1234 MRC.

Although there may be instances where the source identification is not "exact" between differing documentation, the offsite source recovery project (OSRP) makes every effort though experience, documentation and research to ensure that the information is accurate, e.g. the identified source isotope is correct and the source activity is conservatively accurate.

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:14:01076
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: April 3, 2013

FROM: T. A. Groover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations - LANL

SUBJECT: REQUEST FOR FIRST QUARTER 2014 (January 1, 2014 THROUGH March 31, 2014) VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW AT LANL

A completion of Data Generation Review of Visual Examination (VE) conducted at LANL during the 90 days of reporting from January 1, 2014 through March 31, 2014. Therefore, the requirement to complete a quarterly review is required. Container number 67296, Batch Data Report (BDR) LAVE550120, was randomly selected from among all drums processed through Data Generation Level (DGL) review, validation, and verification during this time frame. The container will be processed through the quarterly repeat of DGL Review as described in CCP-TP-001, *CCP Project Level Data Validation and Verification.*

Please assign available qualified personnel to serve as Independent Technical Reviewers in performing the review as well as preparing a Table of Contents. Not all containers included in the original BDR will be included in this review. Only the selected drum noted above must be reviewed along with any Quality Control information.

Please perform the VE quarterly repeat of DGL review, validation and verification and return the information by May 1, 2014 to the National TRU Program Certification Records Department, naming the BDR as "LAVE550120QTR."

If you have any questions regarding this review, please contact me at (505) 606-2344.

TAG:jmc

Attachment

cc: (without attachment)
A. D. Chavarria ED
M. F. Ramirez ED
C. Soaterna ED

(with attachment)
J. Candelaria ED
D. Hemsing ED
T. Mojica ED
NTPC Records Custodian GSA-212

E COPY

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550120

Section 1: Output Waste Container Data

Input Waste Container ID, as applicable: N/A

Output Waste Container ID: 67296 | Waste Stream ID: LA-mHD01.001

Container Type: 55gal. POC | TRUCON Code: LA225 | Waste Matrix Code: S5400

Audio/Video Media Recording Number: ☑ N/A

Waste Container Weights:
Tare Wt: 151.7 kg. Gross Wt: 155.8 kg.

Rigid Liner Present? ☐ NO ☑ YES
Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other:
Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil

Rigid Liner Lid Present? ☐ NO ☑ YES
Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A
☑ Vented: Hole Size: 0.875 ☐ N/A
☐ Filtered: Model No.: ☑ N/A
Serial No.: ☑ N/A

Bag Liner Present? ☑ NO ☐ YES

Volume Utilization Percentage: 95 %

Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])?
☐ NO ☑ YES

Does the physical form of the waste match the Waste Matrix Code?
☐ NO ☑ YES

Closure Method: TTF
Number of Layers of Confinement: 1

Filter Torque Wrench
Serial/ID No.: 101382
Calibration Due Date: 12-4-14
Filter: Model No.: Nucfil-0190S
Serial No.: LM-1732
Torque Value: 10 ft./lbs

Lid Ring/Bolt Torque Wrench
Serial/ID No.: 101381
Calibration Due Date: 12-4-14
Lid Ring/Bolt Torque Value: 60 ft./lbs.

Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES

NCR(s) associated with the output container? ☑ NO ☐ YES
NCR No.: N/A
NCR No.: N/A

Comments: (5) 3-11-14 ~~N/A~~ The VE was initiated on CCP-TP-113, Rev. 16.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550120 **Date:** 6-3-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.[a]]	Weighing Code(s) [Table 4[b]]
938912 LANL 021331	salts	IN 10-7-13 OI	0.9	E
938912 LANL 021331	metal can metal lid	Im	3.0	E
938912 LANL 021331	plastic bag vinyl tape	PW	0.2	E

N/A A.H. 6-3-13

Anthony Hardey — VEO 1: Print Name — Signature — Date 6-3-13
Robert Geyer — VEO 2: Print Name — Signature — Date 6-3-13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67296

PCI Removed: N/A **PCI Applied:** LANL 029730

James E. Thompson — VEO 1: Print Name — Signature — Date 3-11-14
Michael C. Trujillo — VEO 2: Print Name — Signature — Date 3/11/14
Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVES50120

Output Waste Container ID: 67296

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+95.6=122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	0.9
Soils (S):	N/A
Total WMP Weight:	4.1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVES50120 **Output Waste Container ID:** 67296

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50120 **Output Waste Container ID:** 67296

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:
James E. Thompson (Print Name) — James E. Thompson (Signature) — 3-11-14 (Date)

Visual Examination Operator 2:
Michael C. Trujillo (Print Name) — Michael C. Trujillo (Signature) — 3/11/14 (Date)

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550120

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 3-11-14	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT

Comments: The VEE has determined not to use the VE scale in glovebox.

Visual Examination Operator 1:		
James E. Thompson Print Name	Signature	3-11-14 Date
Visual Examination Operator 2:		
Michael C. Trujillo Print Name	Signature	3/11/14 Date

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:14:01108
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: April 22, 2014

FROM: T. Groover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations
Los Alamos National Laboratory

SUBJECT: RESULTS OF REAL TIME RADIOGRAPHY QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW: LANL FIRST QUARTER 2014 (JANUARY 1, 2014 THROUGH MARCH 31, 2014)

Procedure CCP-TP-001, *CCP Project Level Data Validation and Verification*, requires that a repeat of Data Generation Level (DGL) review, validation and verification be performed on the data for a minimum of one randomly chosen waste container each quarter. The Site Project Manager (SPM) uses this information to document that the DGL data review is being performed according to procedures.

Inter-office Correspondence Number CP:14:01074 was issued April 03, 2014. This memorandum identified Waste Container 69428 from Batch Data Report (BDR) LA-HERTR-14-0030, as the randomly selected container for DGL repeat of Off-Site Source Recovery Project Visual Examination at LANL for the first calendar quarter of 2014.

The mini-BDR containing waste container 69428 was reviewed for the quarterly repeat on April 10, 2014. The results of this review indicate that the data quality remains acceptable and no discrepancies were identified. The Project Level Verification and Validation Checklist (Attachment 2- of procedure CCP-TP-001 Rev.21) has been completed and authenticated.

If you have any questions regarding this review, please contact me at (505) 606-2344.

TG:jmc

cc: W. W. Cameron ED
A. D. Chavarria ED
T. M. Mojica ED
M. F. Ramirez ED
M. L. Sensibaugh ED
NTPC Records Custodian GSA-212

COPY

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:14:01109
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: April 22, 2014

FROM: T. Groover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations -LANL

SUBJECT: RESULTS OF VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW: LANL FIRST QUARTER 2014 (JANUARY 1, 2014 THROUGH MARCH 31, 2014)

Procedure CCP-TP-001, *CCP Project Level Data Validation and Verification*, requires that a repeat of Data Generation Level (DGL) review, validation and verification be performed on the data for a minimum of one randomly chosen waste container each quarter. The Site Project Manager (SPM) uses this information to document that the DGL data review is being performed according to procedures.

Inter-office Correspondence Number CP:14:01076 was issued April 03, 2014. This memorandum identified Waste Container 67296 from Batch Data Report (BDR) LAVE550120, as the randomly selected container for DGL repeat of Off-Site Source Recovery Project Visual Examination at LANL for the first calendar quarter of 2014.

The mini-BDR containing waste container 67296 was reviewed for the quarterly repeat on April 10, 2014. The results of this review indicate that the data quality remains acceptable and no discrepancies were identified. The Project Level Verification and Validation Checklist (Attachment 1- of procedure CCP-TP-001 Rev.21) has been completed and authenticated.

If you have any questions regarding this review, please contact me at (505) 606-2344.

TG:jmc

cc: W. W. Cameron ED
A. D. Chavarria ED
T. M. Mojica ED
M. F. Ramirez ED
M. L. Sensibaugh ED
NTPC Records Custodian GSA-212

COPY

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:14:01110
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: April 22, 2014

FROM: T. Groover TGroover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations - LANL

SUBJECT: RESULTS OF OFF-SITE SOURCE RECOVERY PROJECT VISUAL EXAMINATION QUARTERLY REPEAT OF DATA GENERATION LEVEL REVIEW: LANL FIRST QUARTER 2014 (JANUARY 1, 2014 THROUGH MARCH 31, 2014)

Procedure CCP-TP-001, *CCP Project Level Data Validation and Verification*, requires that a repeat of Data Generation Level (DGL) review, validation and verification be performed on the data for a minimum of one randomly chosen waste container each quarter. The Site Project Manager (SPM) uses this information to document that the DGL data review is being performed according to procedures.

Inter-office Correspondence Number CP:14:01075 was issued April 02, 2014. This memorandum identified Waste Container LA00000061574 from Batch Data Report (BDR) LA14-OSR-VE-001, as the randomly selected container for DGL repeat of Off-Site Source Recovery Project Visual Examination at LANL for the first calendar quarter of 2014.

The mini-BDR containing waste container LA00000061574 was reviewed for the quarterly repeat on April 09, 2014. The results of this review indicate that the data quality remains acceptable and no discrepancies were identified. The Project Level Verification and Validation Checklist (Attachment 1- of procedure CCP-TP-001 Rev.21) has been completed and authenticated.

If you have any questions regarding this review, please contact me at (505) 606-2344.

TG:jmc

cc: W. W. Cameron ED
A. D. Chavarria ED
T. M. Mojica ED
M. F. Ramirez ED
M. L. Sensibaugh ED
NTPC Records Custodian GSA-212

COPY

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0587-13 Revision 1

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): AK	3. Batch Data Report #(s): LA13-OSR-VE-007 LA13-OSR-CH-007
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): LA00000064586 LA00000064589
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-005, Revision 24, *CCP Acceptable Knowledge Documentation,* Section 4.4.2 states "Evaluate the waste stream to verify that the waste materials meet the definition of defense waste defined in CCP-PO-002."
Section 4.4.4 states "Document the defense determination, high-level waste and spent nuclear fuel assessments in the AK Summary Report."

7c. Actual Condition:

Containers were characterized without completing a defense determination.

Reason for Revision: Change final disposition.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Veronica Waldram (printed name) Veronica Waldram (signature) August 14, 2013 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☒ YES ☐ NO ☐ INDETERMINATE

10. Trend Code: L

11. Responsible Manager: **Craig Simmons**

12. Significant Condition? ☒ YES ☐ NO (If Yes, enter CAR No.): CAR-LANL-0003-13

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation: Laura R. Jones (printed name) Laura Rawson Jones (signature) 08/14/2013 (date)

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0587-13 **Revision 1**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0587-13 Revision 1

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair
19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☐ Reject ☒ Rework ☐ Scrap
19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

Add containers to AK Tracking Spreadsheet.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

Veronica Waldram	Veronica Waldram	8/14/13
printed name	signature	date

21. QA Engineer or QA Designee:

Laura R. Jones	Laura Raven Jones	08/14/2013
printed name	signature	date

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Veronica Waldram	Veronica Waldram	8/14/13
printed name	signature	date

23. Attachments: 1.- Email Documenting containers were added to the AKTSS.
2.- Email Documenting Reportability Rev. 1.3.-Hold tag removal.

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☑
24b. If HOLD TAG is not applicable, check: ☐ and explain:

See Attachment 3.

25. Final Disposition Verified – NCR Closed QA Engineer:

Laura R. Jones	Laura Raven Jones	09/17/2013
printed name	signature	date

Groover, Terri-Anne

From: JRFESQ2@aol.com
Sent: Tuesday, August 06, 2013 8:04 PM
To: Auckland, Sherry L; Fitzgerald, Randy; Witkowski, Ioana; Abeyta, Cristy L; Shepard, Mark D; Groover, Terri-Anne
Cc: Cameron, William; Watson, Lisa; Simmons, Craig E; Ams, David A; McAlpin, Jerry D; Gammon, Ellen
Subject: 64586 & 64589 - 2 OSRP Containers Added to AKTSS .

Sherry, *et al.*, OSRP containers 64586 & 64589 have been added to the AKTSS...

Thanks,

Randy Fitzgerald, CCP AKE
Technical Specialists
Nuclear Waste Partnership, LLC - Subcontractor
LTP-SSS: SHIPPING AND SAFE STORAGE PROJECT
TA-54, Bldg. 533, Room 1017
Mail Stop - J962
505-231-7582 (LANL Cell)
214-460-7060 (Cell)
randy_fitz@lanl.gov jdesq2@aol.com

In a message dated 8/6/2013 4:33:12 PM Central Daylight Time, sauckland@lanl.gov writes:

Randy,

Please add two drums to the Acceptable Knowledge Tracking Spreadsheet (AKTSS):

In accordance with Section 4.10 (Updating AK for Additional Waste Stream Containers) of CCP-TP-005, I have evaluated the following container-specific information for the drums listed below and found that they are correctly described by the existing AK summary report for the waste stream LA-OS-00-01.001:

* Waste generation location and process

* Time period of generation

* Physical form (the waste material parameter on VE forms was "other material" (OM) as expected) and waste matrix code (S5100)

* Chemical content (containers are all non-hazardous)

* Prohibited items (none)

* Radionuclides: Containers contain Pu-238 sources

These containers also have sufficient AK for radiological characterization, and an approved defense determination (see source document D049). Based on the above evaluation, please add the following containers to the AK Tracking Spreadsheet:

- LA00000064586 – generated and closed August 10, 2010
- LA00000064589 – generated and closed August 10, 2010

These containers will be described in VE-BDR number LA13-OSR-VE-007. Please let me know if you have questions or comments.

Thank you.

Sherry Auckland

CCP Acceptable Knowledge/WIPP Project

Repository Science and Operations Division

Los Alamos National Laboratory Contractor to U.S. DOE

Carlsbad Operations

Mail Stop A141

Carlsbad, NM 88220

Phone: 575-628-1378 / Mobile: 575-706-6707

NCR - LANL-0587-13 R1 ECO VW 8/14/13

Attachment 1 Page 2 of 2

Jones, Laura - NWP

From: Ramirez, Mike - NWP
Sent: Wednesday, August 14, 2013 7:53 AM
To: Jones, Laura - NWP
Subject: RE: Revised NCR-LANL-0587-13– 1

08/14/13 LAJ

This revision in not reportable the original NCR was a reportable.

Mike Ramirez
Central Characterization Project
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
(575)-234-7034

From: Jones, Laura - NWP
Sent: Wednesday, August 14, 2013 7:37 AM
To: Hoffer, Ashley - Stoller; Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Kantrowitz, Rich - NWP; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; Terri-Anne Groover; Waldram, Veronica - NWP; Ramirez, Mike - NWP
Cc: Jones, Laura - NWP; Walker, Mak (Maryann) - NWP; Mueller, Terry - NWP
Subject: Revised NCR-LANL-0587-13

Antonio/Veronica/Craig/Terri-Anne – For your information.
Mark / Mike – Please review for notification purposes, final disposition has changed.
Ashley – Please post this open revised NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR – LANL-0587-13 Rev. 1
Attachment 2 Page 1 of 1

Jones, Laura - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Tuesday, August 20, 2013 4:53 PM
To: Jones, Laura - NWP
Subject: RE: Hold tags to be pulled NCR-LANL-0587-13-1

Laura:

The tags for the NCR listed below have been removed.

Please let me know if you have any questions.

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Wednesday, August 14, 2013 8:14 AM
To: Chavarria, Antonio - NWP
Cc: Waldram, Veronica - NWP; Groover, Terri-Anne - NWP; Walker, Mak (Maryann) - NWP; Mueller, Terry - NWP
Subject: Hold tags to be pulled NCR-LANL-0587-13-1
Importance: High

Antonio – Containers below have been resolved at the project office please remove hold tags and notify to proceed closure of NCR.

LA13-OSR-VE-007	LA00000064586	Resolved	Containers have been added to the AK Tracking Spreadsheet.	NCR-LANL-0587-13-1
LA13-OSR-CH-007	LA00000064586	Resolved	Containers have been added to the AK Tracking Spreadsheet.	
LA13-OSR-VE-007	LA00000064589	Resolved	Containers have been added to the AK Tracking Spreadsheet.	
LA13-OSR-CH-007	LA00000064589	Resolved	Containers have been added to the AK Tracking Spreadsheet.	

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR - LANL-0587-13 Rev. 1
Attachment 3 Page 1 of 1

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 2, if necessary)

NCR No. NCR-LANL-0587-13 **Revision:** 0

1. Lot No., Heat No., or Serial No. (if applicable):	2. Process (e.g., NDA, HSG, NDE, VE, Other):	3. Batch Data Report #(s):
N/A	AK	LA13-OSR-VE-007 LA13-OSR-CH-007
4. Order/Work Order/Job Control Number (if applicable):	**5. PO # (if applicable):**	**Container #(s):**
N/A	N/A	LA00000064586 LA00000064589
	6. Supplier (if applicable):	
	N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-005, Revision 24, *CCP Acceptable Knowledge Documentation,* Section 4.4.2 states "Evaluate the waste stream to verify that the waste materials meet the definition of defense waste defined in CCP-PO-002."

Section 4.4.4 states "Document the defense determination, high-level waste and spent nuclear fuel assessments in the AK Summary Report."

7c. Actual Condition:

Containers were characterized without completing a defense determination.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO **(If no is checked, explain:)**

06/13/2013 LRS

8. NCR Originator:

Veronica Waldram (printed name) Veronica Waldram (signature) June 11, 2013 (date)

9. Does the identified condition have the potential to impact AK? ☒ YES ☐ NO ☐ INDETERMINATE

If YES or INDETERMINATE, enter Trend Code L in Block 10.

10. Trend Code: L

11. Responsible Manager: Craig Simmons

12. Significant Condition? ☒ YES ☐ NO **(If Yes, enter CAR No.:)** CAR-LANL-0008-13

13. Recurring Condition? ☐ YES ☒ NO **(If Yes, list NCRs and CARs:)**

14. CCP QA Engineer or CCP QA Designee validation:

Laura R. Jones (printed name) Laura Lauren Jones (signature) 06/11/2013 (date)

SUPERSEDED BY REV 1 08/14/2013 LRS

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0587-13 **Revision:** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☐ N/A (See Final Disposition) ☒ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

1. Remove containers from WDS.
2. Remove containers from AKTSS.
3. AKE evaluate status of defense determination for containers.

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:			16b. CCP QA Engineer or CCP QA Designee:		
Veronica Waldram	Veronica Waldram	6/11/13	Laura R. Jones	Laura Ramos Jones	06/11/13
printed name	signature	date	printed name	signature	date
Additional Approvals:			**Additional Approvals:**		
printed name	signature	date	printed name	signature	date

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

Veronica Waldram Veronica Waldram 8/8/13
printed name signature date

18. Interim Disposition Verified – CCP QA Engineer:

Laura R. Jones Laura Ramos Jones 08/13/2013
printed name signature date

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0587-13 **Revision:** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. (Enter "N/A" for Reject, Rework, and Scrap:)
N/A

☐ Reject ☒ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap. (Enter "N/A" for Use-As-Is:)
1. Add containers to ARTSS.
2. Process containers to be added to WOS.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable. Enter "N/A," if not applicable, and for Use-As-Is, Reject, and Scrap):
N/A

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:			21. CCP QA Engineer or CCP QA Designee:		
Veronica Waldram	Veronica Waldram	8/13/13	Laura R Jones	Laura Rayon Jones	08/13/13
printed name	signature	date	printed name	signature	date
Additional Approvals:			Additional Approvals:		
printed name	signature	date	printed name	signature	date

CLOSURE

22. Final Disposition Complete – Responsible Manager or Individual:

printed name signature date

23. Attachments: 1.- Documentation for Interim Disposition 2.- Email Documenting Reportability. 3.- Hold tag application notification 4.- Defense Determination approval form.

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR. ☐
24b. Check if not applicable (N/A) and explain. ☐

25. Final Disposition Verified – NCR Closed CCP QA Engineer:

printed name signature date

Jones, Laura - NWP

From: Waldram, Veronica - NWP
Sent: Tuesday, June 11, 2013 2:51 PM
To: Jones, Laura - NWP
Subject: FW: New NCR-LANL-0587-13

Documentation for the interim disposition of NCR-LANL-0587-13.

Thank you,

Veronica Waldram
Site Project Manager
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
(575) 234-7187

From: Ramirez, Mike - NWP
Sent: Tuesday, June 11, 2013 2:51 PM
To: Waldram, Veronica - NWP
Subject: RE: New NCR-LANL-0587-13

Containers have been removed from WDS

Mike Ramirez
Central Characterization Project
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
(575)-234-7034

From: Waldram, Veronica - NWP
Sent: Tuesday, June 11, 2013 2:44 PM
To: Ramirez, Mike - NWP
Subject: FW: New NCR-LANL-0587-13

Please remove the following containers from WDS: LA00000064586 and LA00000064589. They have been dropped from their assigned lots and excluded in IDC.

Thank you,

Veronica Waldram
Site Project Manager
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
(575) 234-7187

NCR – LANL-0587-13 Rev. 0
Attachment 1 Page 1 of 4

From: Jones, Laura - NWP
Sent: Tuesday, June 11, 2013 1:02 PM
To: Hoffer, Ashley - Stoller; Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Kantrowitz, Rich - NWP; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; Terri-Anne Groover; Waldram, Veronica - NWP

Cc: Jones, Laura - NWP; Walker, Mak (Maryann) - NWP; Mueller, Terry - NWP
Subject: New NCR-LANL-0587-13

Antonio/Veronica/Terri-Anne/Craig – Please ensure that hold tags are applied and notify.
Mark – Please review for notification purposes.
Ashley – Please post this open NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

Jones, Laura - NWP

From:	Waldram, Veronica - NWP
Sent:	Tuesday, June 11, 2013 2:42 PM
To:	Jones, Laura - NWP
Subject:	FW: OSRP Container Numbers 64586 and 64589 REMOVED FROM AKTSS - NCR-LANL-0587-13
Attachments:	NCR-LANL-0587-13.pdf

Documentation for interim disposition of NCR-LANL-0587-13. Thank you.

Veronica Waldram
Site Project Manager
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
(575) 234-7187

From: Fitzgerald, Randy [mailto:randy_fitz@lanl.gov]
Sent: Tuesday, June 11, 2013 2:05 PM
To: Simmons, Craig - LANL; Groover, Terri-Anne - LANL; Waldram, Veronica - NWP
Cc: Greenwood, Trey; Papp, Michael; jrfesq2@aol.com
Subject: OSRP Container Numbers 64586 and 64589 REMOVED FROM AKTSS - NCR-LANL-0587-13

OSRP Container Numbers **64586** and **64589** have been removed from the AKTSS....

Attached is the associated Trend Code L NCR regarding these two (2) containers (identifying CAR-LANL-0003-13)....

Thanks,

Randy Fitzgerald, CCP AKE
Technical Specialists
Nuclear Waste Partnership, LLC Subcontractor
LTP-SSS: SHIPPING AND SAFE STORAGE PROJECT
TA-54, Bldg 533, Room 1017
Mail Stop - J962
505-231-7582 (LANL Cell)
214-460-7060 (Cell)

NCR – LANL-0587-13 Rev. 0
Attachment 1 Page 3 of 4

From: Waldram, Veronica - NWP [mailto:Veronica.Waldram@wipp.ws]
Sent: Tuesday, June 11, 2013 1:09 PM
To: Fitzgerald, Randy; jrfesq2@aol.com
Subject: NCR-LANL-0587-13

Based on the attached NCR, please remove the following containers from the AKTSS: LA00000065486 and LA00000064589. Please also forward this NCR to the appropriate AKE for evaluation.

Thank you,

Veronica Waldram
Site Project Manager
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
(575) 234-7187

From: Jones, Laura - NWP
Sent: Tuesday, June 11, 2013 1:02 PM
To: Hoffer, Ashley - Stoller; Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Kantrowitz, Rich - NWP; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; Terri-Anne Groover; Waldram, Veronica - NWP
Cc: Jones, Laura - NWP; Walker, Mak (Maryann) - NWP; Mueller, Terry - NWP
Subject: New NCR-LANL-0587-13

Antonio/Veronica/Terri-Anne/Craig – Please ensure that hold tags are applied and notify.
Mark – Please review for notification purposes.
Ashley – Please post this open NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

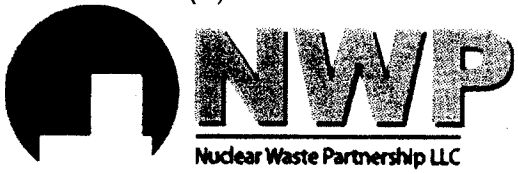
Jones, Laura - NWP

From: Pearcy, Mark - NWP
Sent: Wednesday, June 12, 2013 8:02 AM
To: Jones, Laura - NWP
Cc: Waldram, Veronica - NWP; Kantrowitz, Rich - NWP
Subject: RE: New NCR-LANL-0587-13

This NCR is reportable.

Veronica,
Please make the notification to WIPP Notify.

Mark Pearcy
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
575-234-7394 (W)
575-499-7339 (C)



A URS-led partnership with B&W and AREVA

From: Jones, Laura - NWP
Sent: Tuesday, June 11, 2013 1:02 PM
To: Hoffer, Ashley - Stoller; Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Kantrowitz, Rich - NWP; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; Terri-Anne Groover; Waldram, Veronica - NWP
Cc: Jones, Laura - NWP; Walker, Mak (Maryann) - NWP; Mueller, Terry - NWP
Subject: New NCR-LANL-0587-13

Antonio/Veronica/Terri-Anne/Craig – Please ensure that hold tags are applied and notify.
Mark – Please review for notification purposes.
Ashley – Please post this open NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR – LANL-0587-13 Rev.0
Attachment 2 Page 1 of 3

Jones, Laura - NWP

From: IDC [SQLMaster@wipp.ws]
Sent: Wednesday, June 12, 2013 8:02 AM
To: Jones, Laura - NWP; Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Morrison, Jim - NWP
Subject: Project Office NCR [NCR-LANL0587130] was just reviewed.

Certification Manager/Designee has just reviewed the project office NCR NCR-LANL0587130 and has indicated that it [should] be reported to CBFO. IDC has already updated the NCR for you.

Jones, Laura - NWP

From:	Waldram, Veronica - NWP
Sent:	Wednesday, June 12, 2013 8:16 AM
To:	WIPP Notify - Special Purpose
Cc:	Jones, Laura - NWP; Mueller, Terry - NWP; Simmons, Craig - LANL; Groover, Terri-Anne - LANL; Kantrowitz, Rich - NWP; Pearcy, Mark - NWP
Subject:	[ncr] NCR-LANL-0587-13 Notification
Attachments:	NCR-LANL-0587-13.pdf

The attached NCR is submitted as required by CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control,* Attachment 3.

-Site NCR #: NCR-LANL-0587-13

-Responsible Organization: CCP

-Date Initiated: June 11, 2013

-Individual who identified NCR: Veronica Waldram

-Deficiency: Containers were characterized without completing a defense determination

-Requirement violated: CCP-TP-005, Revision 24, *CCP Acceptable Knowledge Documentation,* Section 4.4.2 states "Evaluate the waste stream to verify that the waste materials meet the definition of defense waste defined in CCP-PO-002."
Section 4.4.4 states "Document the defense determination, high-level waste and spent nuclear fuel assessments in the AK Summary Report."

-Actions:

1. Remove containers from WDS.
2. Remove containers from AKTSS.
3. AKE evaluate status of defense determination for containers.

-Date closed, if applicable: Not closed

Veronica Waldram
Site Project Manager
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
(575) 234-7187

Jones, Laura - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Wednesday, June 12, 2013 10:59 AM
To: Jones, Laura - NWP
Subject: RE: New NCR-LANL-0587-13

Laura:

The tags for the NCR listed below have been applied.

Please let me know if you have any questions.

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Tuesday, June 11, 2013 1:02 PM
To: Hoffer, Ashley - Stoller; Chavarria, Antonio - NWP; Fitzgerald, Randy; Groover, Terri-Anne - NWP; Kantrowitz, Rich - NWP; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig E; Groover, Terri-Anne; Waldram, Veronica - NWP
Cc: Jones, Laura - NWP; Walker, Mak (Maryann) - NWP; Mueller, Terry - NWP
Subject: New NCR-LANL-0587-13

Antonio/Veronica/Terri-Anne/Craig – Please ensure that hold tags are applied and notify.
Mark – Please review for notification purposes.
Ashley – Please post this open NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR – LANL-0587-13 Rev. 0
Attachment 3 Page 1 of 1

TRANSURANIC WASTE
DEFENSE DETERMINATION APPROVAL FORM

Date: 05/03/2013 TRU Waste Site: LANL

Waste Stream ID: LA-OS-NA-06

Waste Stream Name: Plutonium-238 Sealed Sources

Waste Stream Description: Plutonium-238 from France of U.S. DOE neptunium-237 origin contained in sources manufactured by Medtronics recovered from a foreign country.

Justification that this waste stream is defense: Radioactive materials in the sealed sources are decay products of defense materials production, resulting from materials separations during defense nuclear material byproduct management, and are now managed for defense nuclear materials securities and safeguards.

Defense Source (see 42 USC § 10101(3)): (D) Defense nuclear materials production; (E) defense nuclear waste and materials by-products management; (F) defense nuclear materials security and safeguards and security investigations.

TRU Waste Site

Prepared by: 6/4/13
Signature Date
Cristy L. Abeyta
Print Name
Phone # 505-667-4711

DOE Technical Recommendation: 6/17/2013
Signature Date
George Rael
Print Name
Approve: ✓ Disapprove: ____

Chief Counsel Recommendation: 6-17-13
Signature Date
Lisa Cummings
Print Name
Approve: ✓ Disapprove: ____
Date: 6-17-13

DOE TRU Waste Manager Approval:
Signature Date
David Nicklas
Print Name
Phone # 665-6448

Carlsbad Field Office

Principal Point of Contact: 6/24/13
Signature Date
Thomas Morgan
Print Name
Phone # 575 234 7462

DOE Technical Recommendation: 6-25-13
Signature Date
J.R. STROBLE
Print Name
Approve: ✓ Disapprove: ____

Chief Counsel Recommendation: 6/27/13
Signature Date
Grace Hellstrom
Print Name
Approve: X Disapprove: ____

CBFO Manager: 7/8/13
Signature Date
Jose R Franco
Print Name
☑ Approve ☐ Disapprove

Approval Required: GC-51, ~~EM-10~~ EM-30 Review 6/28/13
☐ Yes ☐ No
8/2/13
Signature Date
FRANK MARCINOWSKI
Print Name

☒ Approve ☐ Disapprove

NCR- LANL-0587-13, Rev 0

Attachment 4 Page 1 of 1

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0908-13 Revision 0

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-RTR2-13-0135
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 69022
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
CCP-TP-053, Rev. 14 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
Section 4.4.2 [D] Ensure the following data is recorded in Section 2, Waste Container Data, of Attachment 2: [D4] Waste Stream I.D

7c. Actual Condition:

The waste Stream I.D for this container does not match the AK Tracking Spreadsheet.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:
1/14/2014 LRS

8. NCR Originator:

Veronica Waldram (printed name) Veronica Waldram (signature) 12/23/13 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: A

11. Responsible Manager: Terri-Anne Groover

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Laura R. Jones (printed name) Laura Rae Jones (signature) 12/23/2013 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 01/20/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0908-13 Revision 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0908-13 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☐ Reject ☒ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
1. Operator correct waste stream ID.
2. ITR review changes.
3. SPM review changes.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

Veronica Waldram	Veronica Waldram	12/23/13
printed name	signature	date

21. QA Engineer or QA Designee:

Laura R. Jones	Laura Ramos Jones	12-23-2013
printed name	signature	date

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Carolina Soatema	Carolina Soatema	1/13/14
printed name	signature	date

23. Attachments 1.- 2.Email Documenting Reportability. 3.- Basis for NCR closure. 4.- Hold tag application notification. 5.- Hold tag removal notification.

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒

24b. If HOLD TAG is not applicable, check: ☐ and explain:

See Attachment. 5.

25. Final Disposition Verified – NCR Closed QA Engineer:

Laura R. Jones	Laura Ramos Jones	1/17/2014
printed name	signature	date

Jones, Laura - NWP

From: Pearcy, Mark - NWP
Sent: Thursday, December 26, 2013 8:09 AM
To: Jones, Laura - NWP; Waldram, Veronica - NWP
Cc: Sensibaugh, Mike - NWP
Subject: FW: New NCR-LANL-0908-13
Attachments: NCR-LANL-0908-13.pdf

This NCR is reportable.

Veronica,
Please make the notification to WIPP Notify.

Mark Pearcy
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
575-234-7394 (W)
575-499-7339 (C)

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

From: Jones, Laura - NWP
Sent: Monday, December 23, 2013 3:43 PM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Henry, Paulette; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; Terri-Anne Groover; Waldram, Veronica - NWP; Soaterna, Carolina - NWP
Cc: Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Jones, Laura - NWP
Subject: New NCR-LANL-0908-13

Antonio/Veronica/Groover/Craig – Please apply hold tag and notify
Mark – Please review for notification purposes
Leon – Please post this open NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NWP

NCR LANL-0908-13 Rev.0

Attachment 1 Page 1 of 2

Jones, Laura - NWP

From:	IDC [SQLMaster@wipp.ws]
Sent:	Thursday, December 26, 2013 8:10 AM
To:	Jones, Laura - NWP; Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Morrison, Jim - NWP
Subject:	Project Office NCR [NCR-LANL0908130] was just reviewed.

Certification Manager/Designee has just reviewed the project office NCR NCR-LANL0908130 and has indicated that it [should] be reported to CBFO. IDC has already updated the NCR for you.

NCR - LANL-0908-13 Rev. 0

Attachment 1 Page 2 of 2

Jones, Laura - NWP

From:	Waldram, Veronica - NWP
Sent:	Thursday, December 26, 2013 9:18 AM
To:	WIPP Notify - Special Purpose
Cc:	Jones, Laura - NWP; Simmons, Craig - LANL; Groover, Terri-Anne - LANL; Pearcy, Mark - NWP; Ramirez, Mike - NWP; Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Soaterna, Carolina - NWP
Subject:	[ncr] NCR-LANL-0908-13, Revision 0
Attachments:	NCR-LANL-0908-13.pdf

The attached NCR is submitted as required by CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*, Section 4.4.1 [D.3] and Attachment 4.

Site NCR #:	NCR-LANL-0908-13
Responsible Organization:	CCP
Date Initiated:	December 23, 2013
Individual who identified the NCR:	Veronica Waldram
Deficiency:	The waste Stream I.D for this container does not match the AK Tracking Spreadsheet.
Requirement violated:	CCP-TP-053, Rev. 14 CCP Standard Real-Time Radiography (RTR) Inspection Procedure, Section 4.4.2 [D] Ensure the following data is recorded in Section 2, Waste Container Data, of Attachment 2: [D4] Waste Stream I.D
Actions:	1. Operator correct waste stream ID. 2. ITR review changes. 3. SPM review changes.
Date closed, if applicable:	Not closed.

Veronica Waldram
Central Characterization Project
Nuclear Waste Partnership, LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7187
Cell: (575) 706-2321

NCR LANL-0908-13 Rev.0
Attachment 2 Page 1 of 1

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-RTR2-13-0135				Examination Date(s): 12/12/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 69033 69034 68660 68686 68661 93967 93973 94227 65207 68396 ~~69022~~ 68408 94230 69022 VW 12/26/13 JH 1-3-14
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**	X VW 12/26/13		VW 12/26/13 X	NCR-LANL-0908-13 Rework 69022 VW 12/26/13
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NCR LANL-0908-13 RO Attachment 3 Page 1 of 9

NTPC RECORDS ORIGINAL
DATE REC'D 12-18-13 GL

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-13-0135				Examination Date(s): 12/12/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			~~Except to 9003~~ DU 12/26/13 JH 1-3-14
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

NCR (ADL-0908-13 e0 Page 2 of 9
Attachment 3

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-13-0135	Examination Date(s): 12/12/2013			
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used VW 12/26/13
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**	CJ 1/9/14		X	Not used VW 12/26/13
Comments: ~~None~~ See SPM-3 CJ 1/9/14				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna — SPM Printed Name	Carolina Soaterna — Signature			12/18/2013 — Date

Checklist is to be re-signed only when a re-review is performed.

Veronica Waldram — SPM Printed Name	Veronica Waldram — Signature	Add NCR, add comment — Reason to 24+25	12/26/13 — Date
Joshua Houghton — SPM Printed Name	— Signature	Add corrections for 69002 — Reason	1-3-14 — Date
Carolina Soaterna	Carolina Soaterna	Corrections Container 69002	1/9/14

NCR LANL-0905-13 R0 Page 3 of 9
Attachment 3
Carolina Soaterna Carolina Soaterna memo correction 1/13/14

Attachment 5--CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-RTR2-13-0135 ☑ CH ☐ RH Date: 12-12-13

Waste Container ID Numbers	
Replicate Scan:	94230
Independent Observation:	68396
1	69033
2	69034
3	68660
4	68686
5	68661
6	93967
7	93973
8	94227
9	65207
10	68396
11	69022
12	68408
13	94230
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:
Thad Hasselstrom — Printed Name
Thad Hasselstrom — Signature
12-12-13 — Date

Independent Technical Reviewer:
Aaron Ellett — Printed Name
Signature
1/7/14
12/17/13
1/9/14 — Date

01

NTPC RECORDS ORIGINAL
DATE REC'D 12/17/13

NCR LANL-0908-13 R0 Page 4 of 9 Attachment 3

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

NCR LANL-0908-13 R0 Page 5 of 9
Attachment 3

[X] RTR Examination	[ ] RTR Replicate Scan [ ] RTR Independent Observation
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	69022
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	~~[X]~~ No [X] Yes TJH 1-9-14 TJH 1-9-14 NCR No.: ~~N/A~~ NCR-LANL-0908-13 TJH 1-9-14 NCR No.: N/A

Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	~~LA-MHB01.001~~ LA-MHD03.001 TJH 1-2-14
Waste Container Weights:	Gross Wt.: 100.5 kg Tare Wt.: 33.4 kg Net Wt.: 67.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	90 %

BEST AVAILABLE COPY

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 69022

IM:	Metal cans with material, scrap metal, hand tools
AM:	
OM:	Mercury
OI:	Glass containers, glass labware, ceramic blocks
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Best Available Copy

Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	50.7
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	0.3
Other Inorganic Materials (OI)	10.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	0.1
Soils (S):	
Total WMP Weight:	67.1

RTR Data Sheet.xls SCO# 1189 Ver. 2
Microsoft Excel 2003 Windows XP

NCR LANL-0808-13 KS Page 6 of 9 Attachment 3

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 69022

Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code(s))?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No

Comments: This drum contains metal cans with material, which may require additional Project Office review.
NCR-LANL-0908-13 TJH 1-9-14

RTR Operator:	Thad Hesselstrom 1-9-14 Thad Hesselstrom 1-2-14	
Thad Hesselstrom	Thad Hesselstrom	12/12/2013
Print Name	Signature	Date

Best Available Copy

NCR LANL-0908-13 RD Page 7 of 9 Attachment 3

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-RTR2-13-0135

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☑ YES 1/2/14	☐ N/A 1/2/14
12.	Was justification made for changing the original data?	☑ NO 1/2/14	☐ YES	☑ N/A 1/2/14
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☑ YES 1/2/14	☐ N/A 1/2/14
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

NCR LANL-0908-13 E0 Page 8 of 9 Attachment 3

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-RTR2-13-0135

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☑ YES	~~N/A~~ JOE 1/9/14
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:
~~N/A~~ I HAVE REVIEWED AND AGREE WITH ALL CHANGES.
JOE 1/2/14
Joe 1/9/14

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Printed Name	Signature	Date
AARON Elliott		1/2/14
		12/17/13
		1/9/14

LANL-0908-13 RD Page 9 of 9 Attachment 3

Jones, Laura - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Thursday, January 09, 2014 2:16 PM
To: Jones, Laura - NWP
Subject: RE: New NCR-LANL-0908-13

Laura:

The tag for the NCR listed below has been applied.

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Monday, December 23, 2013 3:43 PM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy; Groover, Terri-Anne - NWP; Henry, Paulette; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig E; Groover, Terri-Anne; Waldram, Veronica - NWP; Soaterna, Carolina - NWP
Cc: Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Jones, Laura - NWP
Subject: New NCR-LANL-0908-13

Antonio/Veronica/Groover/Craig – Please apply hold tag and notify
Mark – Please review for notification purposes
Leon – Please post this open NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR - LANL-0908-13 Rev.0
Attachment 4 Page 1 of 1

Jones, Laura - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Tuesday, January 14, 2014 11:41 AM
To: Jones, Laura - NWP
Subject: RE: Hold tag to be pulled 69022 NCR-LANL-0908-13

Laura:

The tag for the container listed below has been removed.

Please let me know if you have any questions.

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Tuesday, January 14, 2014 8:20 AM
To: Chavarria, Antonio - NWP
Cc: Walker, Mak (Maryann) - NWP; Mueller, Terry - NWP; Waldram, Veronica - NWP; Soaterna, Carolina - NWP; Groover, Terri-Anne - NWP
Subject: Hold tag to be pulled 69022 NCR-LANL-0908-13

Antonio – Container 69022 has been resolved at the project office please remove hold tag and notify to proceed with closure.

BDR ID	Container ID	Release Code	Reason	NCR
LA-RTR2-13-0135	69022	Resolved	Waste Stream ID corrected ITR and SPM re-reviewed changes.	NCR-LANL-0908-13

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR – LANL-0908-13 Rev. 0
Attachment 5 Page 1 of 1

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0115-14 Revision 0

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-HERTR-13-0124
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 54206, 54213, 53892, 53878
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
CCP-TP-053, Revision 14, Section 4.3, **Note** "Video/audio recording of the RTR examination **MUST** be produced for all waste containers. The Image Test is performed once per day."

7c. Actual Condition:

Image test was completed on 12/13/2013 and RTR examinations, replicate scan and independent observation were completed on 12/20/13.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:
02/19/14 LRT

8. NCR Originator:
Jerry Jess Fisher Jr (printed name) [signature] 2/12/14 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: A

11. Responsible Manager: **Terri-Anne Groover**

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:
Laura Jones (printed name) [signature] 02/13/2014 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 2/24/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- NCR-LANL-0115-14 Revision 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☐ N/A (See Final Disposition) ☒ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:
RTR Operator review video/audio recorded media to determine and provide verification to SPM that an image test was performed on 12/20/13.

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name	signature	date
Carolina Soaterna	Carolina Soaterna	2/13/14

16b. QA Engineer or QA Designee:

printed name	signature	date
Laura R. Jones	Laura Rauen Jones	2/13/2014

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name	signature	date
Carolina Soaterna	Carolina Soaterna	2/18/14

18. Interim Disposition Verified – QA Engineer:

printed name	signature	date
Laura R. Jones	Laura Rauen Jones	2/18/2014

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- NCR-LANL-0115-14 Revision 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☐ Reject ☒ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
1). Operator to correct examination date on Attachment 1 of BDR # LA-HERTR-13-0124 per email.
2). ITR re-review BDR correction.
3). SPM re-review.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Carolina Soaterna	Carolina Soaterna	2/18/14

21. QA Engineer or QA Designee:

printed name	signature	date
Laura Jones	Laura Ramon Jones	2/18/2014

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date
JERRY JESS FISHER JR		2-19-14

23. Attachments: 1 and 2 Email Documenting Reportability. 3.- Email dated Feb. 18, 2014 documenting correct date on the video. 4.- Hold tag application 5.- Basis for NCR Closure. 6.- Hold tag removal notification

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☑

24b. If HOLD TAG is not applicable, check: ☐ and explain:

See Attachment. 6.

25. Final Disposition Verified – NCR Closed QA Engineer:

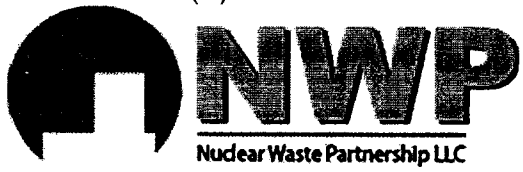
printed name	signature	date
Laura R. Jones	Laura Ramon Jones	02/25/2014

Jones, Laura - NWP

From: Pearcy, Mark - NWP
Sent: Thursday, February 13, 2014 2:33 PM
To: Jones, Laura - NWP
Cc: Groover, Terri-Anne - LANL; Simmons, Craig - LANL
Subject: RE: New NCR-LANL-0115-14

This is reportable.
V,
Please make the report to WIPP Notify. Include Carolina for instructional purposes.

Mark Pearcy
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
575-234-7394 (W)
575-499-7339 (C)



A URS-led partnership with B&W and AREVA

From: Jones, Laura - NWP
Sent: Thursday, February 13, 2014 1:31 PM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Henry, Paulette; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; Terri-Anne Groover; Soaterna, Carolina - NWP; Fisher, Jerry - NWP
Cc: Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Jones, Laura - NWP
Subject: New NCR-LANL-0115-14

Antonio / Groover / Carolina / Craig – Please apply hold tags and notify
Mark – Please review for notification purposes.
Leon – Please post this open NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

Jones, Laura - NWP

From: IDC [SQLMaster@wipp.ws]
Sent: Thursday, February 13, 2014 2:33 PM
To: Jones, Laura - NWP; Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Morrison, Jim - NWP
Subject: Project Office NCR [NCR-LANL0115140] was just reviewed.

Certification Manager/Designee has just reviewed the project office NCR NCR-LANL0115140 and has indicated that it [should] be reported to CBFO. IDC has already updated the NCR for you.

NCR - LANL-0115-14 Rev.0

Attachment 1 Page 2 of 2

Jones, Laura - NWP

From:	Soaterna, Carolina - NWP
Sent:	Thursday, February 13, 2014 3:00 PM
To:	WIPP Notify - Special Purpose
Cc:	Pearcy, Mark - NWP; Groover, Terri-Anne - LANL; Jones, Laura - NWP; Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Ramirez, Mike - NWP; Fisher, Jerry - NWP; Simmons, Craig - LANL
Subject:	[ncr] NCR-LANL-0115-14

The attached NCR is submitted as required by CCP-QP-005, CCP TRU Nonconforming Item Reporting and Control, Attachment 4.

-Site NCR : NCR-LANL-0115-14

-Responsible Organi ation: CCP

-Date Initiated: February 13, 2014

-Individual who identified NCR: Jerry Jess Fisher Jr.

-Deficiency: Image test was completed on 12/13/2013 and RTR examinations, replicate scan and independent observation were completed on 12/20/13.

-Requirement violated: CCP-TP-053, Revision 14, CCP Standard Real-Time Radiography (RTR) Inspection Procedure, Section 4.3, Note "Video/audio recording of the RTR examination MUST be produced for all waste containers. The image Test is performed once per day."

-Actions:
1. RTR Operator review video/audio recorded media to determine and provide verification to SPM that an image test was performed on 12/20/13.

-Date closed, if applicable: Not closed

NCR-LANL-0115-14.pdf

Carolina Soaterna
Central Characterization Project
Nuclear Waste Partnership, LLC
Contractor for the U.S. Department of Energy
carolina.soaterna@wipp.ws
(575) 234-7445

NCR-LANL-0115-14 Rev.0
Attachment 2 Page 1 of 1

Soaterna, Carolina - NWP

From: Groover, Terri-Anne <tgroover@lanl.gov>
Sent: Tuesday, February 18, 2014 8:53 AM
To: Soaterna, Carolina - NWP
Cc: Elliott, J Aaron
Subject: NCR-LANL-0115-14

Carolina
I viewed the image test video with Thad and the date on the video is 12/20/13. Interim disposition can be closed and determine steps for final disposition. Thanks! tg

Terri-Anne Groover
Site Project Manager, LANL
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for U.S. Department of Energy
office phone: 505-606-2344
cell phone: 208-569-9803
email: tgroover@lanl.gov

"Be kind to people whether they deserve your kindness or not. If your kindness reaches the deserving good for you, if your kindness reaches the undeserving take joy in your compassion."
— James Fadiman

NCR – LANL-0115-14 Rev.0
Attachment #3 Page 1 of 1
2/18/14
LRT

Jones, Laura - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Wednesday, February 19, 2014 3:22 PM
To: Jones, Laura - NWP
Subject: RE: New NCR-LANL-0115-14

Laura:

The tags for NCR listed below have been applied.

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Thursday, February 13, 2014 1:31 PM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy; Groover, Terri-Anne - NWP; Henry, Paulette; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig E; Groover, Terri-Anne; Soaterna, Carolina - NWP; Fisher, Jerry - NWP
Cc: Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Jones, Laura - NWP
Subject: New NCR-LANL-0115-14

Antonio / Groover / Carolina / Craig – Please apply hold tags and notify
Mark – Please review for notification purposes.
Leon – Please post this open NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
N ar a t Part r LLC
Co tra tor or t S artm to E r
O 7244
Email: laura.jones wipp.ws
Fax: (575) 234-7071

NCR – LANL-0115-14 Rev. 0
Attachment 4 Page 1 of 1

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-13-0124 **Examination Date(s):** 12/20/2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 54206 53892 54213
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**	X			NCR-LANL-0860-13: Rejects 53878
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NCR – LANL-0115-14 Rev.0

Attachment 5 Page 1 of 6

NTPC RECORDS ORIGINAL
DATE REC'D 01/08/14

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0124 **Examination Date(s):** 12/20/2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			Except: 53878 – Pressurized aerosol container
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	No Discrepancies
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0124 **Examination Date(s):** 12/20/2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Weight obtained independent of RTR.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Weight obtained independent of RTR.

Comments: ~~None~~ JH 2-19-14 ADDed NCR-LANL-0115-14 attached to checklist JH 2-19-14

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Joshua Houghton		1/7/2014
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Joshua Houghton		NCR-LANL-0115-14	2-19-2014
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

NCR-LANL-0115-14 Rev. 0

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-13-0124		
Examination Date: 12/~~13~~/2013		
20 TJH 2-18-14 Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 11 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator: Thad Hasselstrom	Thad Hasselstrom	2-18-14
Printed Name	Signature	Date: 20 TJH 2-18-14 12/~~13~~/2013 2-18-14

NCR -LANL-0115-1H Rev. 0

Attachment 5 Page 4 of 6

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-13-0124

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☑ YES	~~N/A~~
12.	Was justification made for changing the original data?	☑ NO	☐ YES	~~N/A~~
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☑ YES	~~N/A~~
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

NCR – LANL-0115-14 Rev. 0

Attachment 5 Page 5 of 6

~~22~~ 7JH 12-23-13

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-13-0124

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☑ YES	☐ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:

~~N/A~~ I HAVE REVIEWED AND AGREE TO ALL CHANGES TO THIS BDR.
JCE 9/18/14

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

AARON ELLIOTT
Printed Name

Signature

1/6/14
Date
9/18/14

NCR – LANL-0115-14/Rev. 0

Attachment 5 Page 6 of 6

Jones, Laura - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Thursday, February 20, 2014 3:04 PM
To: Jones, Laura - NWP
Subject: RE: Hold tags to be pulled NCR-LANL-0115-14

Laura:

The tags for the containers listed below have been removed.

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Wednesday, February 19, 2014 3:26 PM
To: Chavarria, Antonio - NWP
Cc: Soaterna, Carolina - NWP; Waldram, Veronica - NWP; Fisher, Jerry - NWP; Walker, Mak (Maryann) - NWP; Mueller, Terry - NWP
Subject: Hold tags to be pulled NCR-LANL-0115-14

Antonio – Containers below have been resolved at the project office please remove hold tags and notify to close NCR.

LA-HERTR-13-0124 54206	Resolved	Date on Attachment 1 corrected, ITR and SPM re-reviewed BDR. NCR-LANL-0115-14
LA-HERTR-13-0124 54213	Resolved	Date on Attachment 1 corrected, ITR and SPM re-reviewed BDR. NCR-LANL-0115-14
LA-HERTR-13-0124 53892	Resolved	Date on Attachment 1 corrected, ITR and SPM re-reviewed BDR. NCR-LANL-0115-14
LA-HERTR-13-0124 53878	Resolved	Date on Attachment 1 corrected, ITR and SPM re-reviewed BDR. NCR-LANL-0115-14

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones wipp.ws
Fax: (575) 234-7071

LANL DGL Level NCRs 08/19/2014

GEN7

NCR ID	NCR Originator	Init Date	Used?
NCR-LANL0101140	Richard Jagielski	1/2/2014 0:00	Checked
NCR-LANL0123140	Richard Baumann	1/9/2014 0:00	Checked
NCR-LANL0124140	Richard Baumann	1/9/2014 0:00	Checked
NCR-LANL0125140	Richard Baumann	1/14/2014 0:00	Checked
NCR-LANL0126140	Richard Baumann	1/14/2014 0:00	Checked
NCR-LANL0127140	Tim Barton	1/16/2014 0:00	Checked
NCR-LANL0128140	Bret Templeton	1/20/2014 0:00	Checked
NCR-LANL0129140	Dominic R. Archuleta	1/20/2014 0:00	Checked
NCR-LANL0130140	Bret Templeton	1/20/2014 0:00	Checked
NCR-LANL0131140	Bret Templeton	1/20/2014 0:00	Checked
NCR-LANL0132140	Pete Lucchini	1/21/2014 0:00	Checked
NCR-LANL0133140	Maria Escarcega	1/21/2014 0:00	Checked
NCR-LANL0134140	Pete Lucchini	1/21/2014 0:00	Checked
NCR-LANL0135140	Pete Lucchini	1/22/2014 0:00	Checked
NCR-LANL0136140	Maria Escarcega	1/23/2014 0:00	Checked
NCR-LANL0137140	Tim Barton	1/23/2014 0:00	Checked
NCR-LANL0138140	Tim Barton	1/23/2014 0:00	Checked
NCR-LANL0139140	Dominic R. Archuleta	1/24/2014 0:00	Checked
NCR-LANL0140140	Tim Barton	1/27/2014 0:00	Checked
NCR-LANL0141140	Pete Lucchini	1/28/2014 0:00	Checked
NCR-LANL0142140	Tim Barton	1/29/2014 0:00	Checked
NCR-LANL0143140	Tim Barton	1/29/2014 0:00	Checked
NCR-LANL0195140	Benito Maestas	2/11/2014 0:00	Checked
NCR-LANL0196140	Thad Hasselstrom	2/28/2014 0:00	Checked
NCR-LANL0205140	Michael Simmons	1/9/2014 0:00	Checked
NCR-LANL0206140	Thad Hasselstrom	1/10/2014 0:00	Checked
NCR-LANL0207140	Thad Hasselstrom	1/31/2014 0:00	Checked
NCR-LANL0208140	Michael Simmons	1/31/2014 0:00	Checked
NCR-LANL0209140	Aaron Elliott	1/31/2014 0:00	Checked
NCR-LANL0210140	Benito Maestas	2/5/2014 0:00	Checked
NCR-LANL0211140	Benito Maestas	2/5/2014 0:00	Checked
NCR-LANL0212140	Michael Simmons	2/14/2014 0:00	Checked
NCR-LANL0213140	Eddie Rios	2/19/2014 0:00	Checked
NCR-LANL0214140	Thad Hasselstrom	2/27/2014 0:00	Checked
NCR-LANL0292140	Antonio D. Chavarria	1/15/2014 0:00	Checked
NCR-LANL0316140	Richard Jagielski	1/23/2014 0:00	Checked
NCR-LANL0327140	Tim Barton	1/29/2014 0:00	Checked
NCR-LANL0328140	David Sager	1/29/2014 0:00	Checked
NCR-LANL0329140	Bret Templeton	1/31/2014 0:00	Checked
NCR-LANL0330140	Bret Templeton	1/31/2014 0:00	Checked
NCR-LANL0331140	Bret Templeton	2/4/2014 0:00	Checked
NCR-LANL0332140	Bret Templeton	2/4/2014 0:00	Checked
NCR-LANL0333140	Israel Aragon	2/5/2014 0:00	Checked
NCR-LANL0334140	Ryan Hammon	2/7/2014 0:00	Checked
NCR-LANL0335140	Pete Lucchini	2/11/2014 0:00	Checked

COPY

NCR-LANL0336140	Tim Barton	2/12/2014 0:00	Checked
NCR-LANL0337140	Dominic R. Archuleta	2/12/2014 0:00	Checked
NCR-LANL0338140	Tim Barton	2/13/2014 0:00	Checked
NCR-LANL0339140	Tim Barton	2/13/2014 0:00	Checked
NCR-LANL0340140	Maria Escarcega	2/18/2014 0:00	Checked
NCR-LANL0341140	Israel Aragon	2/20/2014 0:00	Checked
NCR-LANL0342140	Dominic R. Archuleta	2/20/2014 0:00	Checked
NCR-LANL0343140	Pete Lucchini	2/21/2014 0:00	Checked
NCR-LANL0344140	Pete Lucchini	2/21/2014 0:00	Checked
NCR-LANL0345140	Israel Aragon	2/24/2014 0:00	Checked
NCR-LANL0346140	Dominic R. Archuleta	2/24/2014 0:00	Checked
NCR-LANL0347140	Bret Templeton	2/25/2014 0:00	Checked
NCR-LANL0348140	Israel Aragon	2/27/2014 0:00	Checked
NCR-LANL0349140	Tim Barton	2/27/2014 0:00	Checked
NCR-LANL0350140	Pete Lucchini	3/4/2014 0:00	Checked
NCR-LANL0351140	Dominic R. Archuleta	3/4/2014 0:00	Checked
NCR-LANL0417130	Michael Simmons	9/3/2013 0:00	Checked
NCR-LANL0418130	Aaron Elliott	9/26/2013 0:00	Checked
NCR-LANL0419130	Aaron Elliott	11/7/2013 0:00	Checked
NCR-LANL0420130	Thad Hasselstrom	11/8/2013 0:00	Checked
NCR-LANL0421130	Thad Hasselstrom	11/8/2013 0:00	Checked
NCR-LANL0422130	Michael Simmons	11/14/2013 0:00	Checked
NCR-LANL0423130	Thad Hasselstrom	11/15/2013 0:00	Checked
NCR-LANL0460140	Richard Jagielski	2/20/2014 0:00	Checked
NCR-LANL0485140	Richard Jagielski	2/25/2014 0:00	Checked
NCR-LANL0486140	Richard Jagielski	3/3/2014 0:00	Checked
NCR-LANL0487140	Richard Jagielski	3/11/2014 0:00	Checked
NCR-LANL0506140	Dominic R. Archuleta	3/4/2014 0:00	Checked
NCR-LANL0507140	Israel Aragon	3/6/2014 0:00	Checked
NCR-LANL0508140	Israel Aragon	3/6/2014 0:00	Checked
NCR-LANL0509140	David Sager	3/11/2014 0:00	Checked
NCR-LANL0510140	Pete Lucchini	3/11/2014 0:00	Checked
NCR-LANL0511140	David Sager	3/11/2014 0:00	Checked
NCR-LANL0512140	Dominic R. Archuleta	3/12/2014 0:00	Checked
NCR-LANL0513140	Israel Aragon	3/13/2014 0:00	Checked
NCR-LANL0514140	Adam Gallegos	3/14/2014 0:00	Checked
NCR-LANL0515140	Ryan Hammon	3/14/2014 0:00	Checked
NCR-LANL0516140	Bret Templeton	3/19/2014 0:00	Checked
NCR-LANL0517140	Dominic R. Archuleta	3/19/2014 0:00	Checked
NCR-LANL0518140	Bret Templeton	3/20/2014 0:00	Checked
NCR-LANL0519140	Bret Templeton	3/24/2014 0:00	Checked
NCR-LANL0520140	Ryan Hammon	3/24/2014 0:00	Checked
NCR-LANL0521140	Dominic R. Archuleta	3/25/2014 0:00	Checked
NCR-LANL0522140	Dominic R. Archuleta	3/26/2014 0:00	Checked
NCR-LANL0523140	Dominic R. Archuleta	3/26/2014 0:00	Checked
NCR-LANL0524140	Pete Lucchini	3/26/2014 0:00	Checked

NCR-LANL0525140	Maria Escarcega	4/1/2014 0:00	Checked
NCR-LANL0526140	Pete Lucchini	4/2/2014 0:00	Checked
NCR-LANL0527140	Richard Baumann	4/4/2014 0:00	Checked
NCR-LANL0528140	Richard Baumann	4/9/2014 0:00	Checked
NCR-LANL0529140	David Sager	4/9/2014 0:00	Checked
NCR-LANL0530140	Dominic R. Archuleta	4/14/2014 0:00	Checked
NCR-LANL0531140	Pete Lucchini	4/14/2014 0:00	Checked
NCR-LANL0532140	Richard Baumann	4/17/2014 0:00	Checked
NCR-LANL0533140	Ryan Hammon	4/23/2014 0:00	Checked
NCR-LANL0534140	Bret Templeton	5/19/2014 0:00	Checked
NCR-LANL0535140	Israel Aragon	5/28/2014 0:00	Checked
NCR-LANL0536140	Tim Barton	6/17/2014 0:00	Checked
NCR-LANL0537140	Tim Barton	7/23/2014 0:00	Checked
NCR-LANL0538140	Tim Barton	7/23/2014 0:00	Checked
NCR-LANL0546140	Michael Simmons	2/28/2014 0:00	Checked
NCR-LANL0547140	Aaron Elliott	3/5/2014 0:00	Checked
NCR-LANL0548140	Michael Simmons	3/6/2014 0:00	Checked
NCR-LANL0549140	Michael Simmons	3/12/2014 0:00	Checked
NCR-LANL0550140	Michael Simmons	3/14/2014 0:00	Checked
NCR-LANL0551140	Michael Simmons	3/14/2014 0:00	Checked
NCR-LANL0552140	Thad Hasselstrom	3/18/2014 0:00	Checked
NCR-LANL0553140	Michael Simmons	3/18/2014 0:00	Checked
NCR-LANL0555130	Michael Simmons	8/2/2013 0:00	Checked
NCR-LANL0556130	Michael Simmons	8/2/2013 0:00	Checked
NCR-LANL0557130	Michael Simmons	8/13/2013 0:00	Checked
NCR-LANL0558130	Michael Simmons	8/19/2013 0:00	Checked
NCR-LANL0559130	Thad Hasselstrom	8/21/2013 0:00	Checked
NCR-LANL0560130	Michael Simmons	9/3/2013 0:00	Checked
NCR-LANL0676130	Tim Barton	8/1/2013 0:00	Checked
NCR-LANL0677130	Maria Escarcega	8/2/2013 0:00	Checked
NCR-LANL0678130	Adam Gallegos	8/5/2013 0:00	Checked
NCR-LANL0679130	Dominic R. Archuleta	8/13/2013 0:00	Checked
NCR-LANL0680130	Dominic R. Archuleta	9/11/2013 0:00	Checked
NCR-LANL0681130	Tim Barton	9/17/2013 0:00	Checked
NCR-LANL0682130	Tim Barton	9/18/2013 0:00	Checked
NCR-LANL0696140	Antonio D. Chavarria	5/6/2014 0:00	Checked
NCR-LANL0713130	Antonio D. Chavarria	8/7/2013 0:00	Checked
NCR-LANL0737130	Antonio D. Chavarria	8/13/2013 0:00	Checked
NCR-LANL0792130	Antonio D. Chavarria	9/17/2013 0:00	Checked
NCR-LANL0793130	Bret Templeton	10/21/2013 0:00	Checked
NCR-LANL0794130	Adam Gallegos	10/25/2013 0:00	Checked
NCR-LANL0795130	Adam Gallegos	10/25/2013 0:00	Checked
NCR-LANL0796130	Tim Barton	10/29/2013 0:00	Checked
NCR-LANL0797130	Tim Barton	11/18/2013 0:00	Checked
NCR-LANL0798130	Alan Shumaker	11/19/2013 0:00	Checked
NCR-LANL0799130	Alan Shumaker	11/21/2013 0:00	Checked

NCR-LANL0800130	Israel Aragon	11/26/2013 0:00	Checked
NCR-LANL0801130	Dominic R. Archuleta	11/27/2013 0:00	Checked
NCR-LANL0802130	Adam Gallegos	12/10/2013 0:00	Checked
NCR-LANL0803130	Dominic R. Archuleta	12/12/2013 0:00	Checked
NCR-LANL0804130	Bret Templeton	12/11/2013 0:00	Checked
NCR-LANL0805130	Pete Lucchini	12/11/2013 0:00	Checked
NCR-LANL0806130	Tim Barton	12/12/2013 0:00	Checked
NCR-LANL0807130	Bret Templeton	12/18/2013 0:00	Checked
NCR-LANL0808130	Alan Shumaker	12/16/2013 0:00	Checked
NCR-LANL0809130	Jared Francis	12/20/2013 0:00	Checked
NCR-LANL0824130	Antonio D. Chavarria	9/24/2013 0:00	Checked
NCR-LANL0825130	Sara Aragon	9/25/2013 0:00	Checked
NCR-LANL0827130	Antonio D. Chavarria	10/31/2013 0:00	Checked
NCR-LANL0858130	Antonio D. Chavarria	11/7/2013 0:00	Checked
NCR-LANL0859130	Michael Simmons	12/12/2013 0:00	Checked
NCR-LANL0860130	Thad Hasselstrom	12/20/2013 0:00	Checked
NCR-LANL0895130	Antonio D. Chavarria	11/21/2013 0:00	Checked

DIVIDER PAGE

LANL Project Level NCRs 08/19/2014

NCR ID	NCR Originator	Init Date	Used?
NCR-LANL0102140	Joshua Houghton	1/8/2014 0:00	Checked
NCR-LANL0103140	Carolina Soaterna	1/23/2014 0:00	Checked
NCR-LANL0104140	Veronica Waldram	1/13/2014 0:00	Checked
NCR-LANL0105140	Veronica Waldram	1/14/2014 0:00	Checked
NCR-LANL0106140	Shelly Martinez	1/21/2014 0:00	Checked
NCR-LANL0107140	Shelly Martinez	1/21/2014 0:00	Checked
NCR-LANL0108140	Daniel Wade	1/22/2014 0:00	Checked
NCR-LANL0109140	Ryan Martin	1/27/2014 0:00	Checked
NCR-LANL0110140	Ryan Martin	1/30/2014 0:00	Checked
NCR-LANL0111140	Ryan Martin	2/3/2014 0:00	Checked
NCR-LANL0112140	Ryan Martin	2/10/2014 0:00	Checked
NCR-LANL0113140	Creta Kirkes	3/10/2014 0:00	Checked
NCR-LANL0114140	Creta Kirkes	2/19/2014 0:00	Checked
NCR-LANL0115140	Jerry Jess Fisher	2/12/2014 0:00	Checked
NCR-LANL0116140	Carolina Soaterna	2/14/2014 0:00	Checked
NCR-LANL0117140	Carolina Soaterna	2/14/2014 0:00	Checked
NCR-LANL0118140	Connie Hernandez	3/5/2014 0:00	Checked
NCR-LANL0119140	Carolina Soaterna	7/15/2014 0:00	Checked
NCR-LANL0120140	Shelly Martinez	2/28/2014 0:00	Checked
NCR-LANL0121140	Ryan Martin	3/3/2014 0:00	Checked
NCR-LANL0122140	Carolina Soaterna	3/5/2014 0:00	Checked
NCR-LANL0593130	Mike Ramirez	8/27/2013 0:00	Checked
NCR-LANL0594130	Terri Anne Groover	8/12/2013 0:00	Checked
NCR-LANL0595130	Veronica Waldram	9/6/2013 0:00	Checked
NCR-LANL0596140	Creta Kirkes	3/10/2014 0:00	Checked
NCR-LANL0597140	Ryan Martin	3/18/2014 0:00	Checked
NCR-LANL0598140	Ryan Martin	3/19/2014 0:00	Checked
NCR-LANL0599140	Ryan Martin	3/25/2014 0:00	Checked
NCR-LANL0600140	Carolina Soaterna	7/17/2014 0:00	Checked
NCR-LANL0601140	Terri Anne Groover	3/27/2014 0:00	Checked
NCR-LANL0602140	Terri Anne Groover	4/7/2014 0:00	Checked
NCR-LANL0603140	Carolina Soaterna	4/10/2014 0:00	Checked
NCR-LANL0604140	Carolina Soaterna	4/10/2014 0:00	Checked
NCR-LANL0605140	Jake Knox	5/1/2014 0:00	Checked
NCR-LANL0606140	Terri Anne Groover	5/22/2014 0:00	Checked
NCR-LANL0716130	Veronica Waldram	9/16/2013 0:00	Checked
NCR-LANL0717130	Veronica Waldram	9/16/2013 0:00	Checked
NCR-LANL0718130	Lorraine Hensley	9/25/2013 0:00	Checked
NCR-LANL0719130	Brandye Pyeatt	9/18/2013 0:00	Checked
NCR-LANL0720130	Erik Loechell	9/23/2013 0:00	Checked
NCR-LANL0721130	Carolina Soaterna	9/24/2013 0:00	Checked
NCR-LANL0722130	Veronica Waldram	9/25/2013 0:00	Checked
NCR-LANL0723130	Veronica Waldram	9/25/2013 0:00	Checked
NCR-LANL0724130	Lorraine Hensley	10/8/2013 0:00	Checked
NCR-LANL0725130	Lorraine Hensley	10/9/2013 0:00	Checked

COPY

NCR-LANL0726130	Barbara Broomfield	10/28/2013 0:00	Checked
NCR-LANL0727130	Veronica Waldram	10/22/2013 0:00	Checked
NCR-LANL0728130	Mike Ramirez	10/30/2013 0:00	Checked
NCR-LANL0729130	Mike Ramirez	10/31/2013 0:00	Checked
NCR-LANL0730130	Veronica Waldram	11/11/2013 0:00	Checked
NCR-LANL0731130	Shelly Martinez	11/13/2013 0:00	Checked
NCR-LANL0732130	Creta Kirkes	11/13/2013 0:00	Checked
NCR-LANL0733130	Veronica Waldram	11/15/2013 0:00	Checked
NCR-LANL0734130	Terri Anne Groover	11/20/2013 0:00	Checked
NCR-LANL0735130	Terri Anne Groover	11/20/2013 0:00	Checked
NCR-LANL0736130	Carolina Soaterna	12/4/2013 0:00	Checked
NCR-LANL0889130	Creta Kirkes	12/5/2013 0:00	Checked
NCR-LANL0890130	Carolina Soaterna	12/12/2013 0:00	Checked
NCR-LANL0891130	Veronica Waldram	12/12/2013 0:00	Checked
NCR-LANL0892130	Veronica Waldram	12/12/2013 0:00	Checked
NCR-LANL0894130	Veronica Waldram	12/26/2013 0:00	Checked
NCR-LANL0908130	Veronica Waldram	12/23/2013 0:00	Checked

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0417-13 **Revision** 0

1. Lot No., Heat No., or Serial No. (if applicable):	2. Process (e.g., NDA, NDE, VE, Other):	3. Batch Data Report #(s):
N/A	NDE	LA-HERTR-13-0095
4. Order/Work Order/Job Control Number (if applicable):	5. PO # (if applicable):	Container #(s):
N/A	N/A	SB10133
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Receipt Inspection ☑ Prohibited Item ☐ Transportation ☐ E-Flag ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 13, Section 4.4.2 [H] states, in part, "Using Table 1, Prohibited Items, as a reference…confirm there are NO prohibited items in the waste container."
Table 1, Prohibited Items lists, in part, "Sealed containers greater than 4 liters"

7c. Actual Condition:

Unvented 30 gal drum present in waste.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Michael Simmons (printed name) — signature — 09/03/2013 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: K

11. Responsible Manager: Terri-Anne Groover

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Antonio D. Chavarria (printed name) — signature — 9/4/13 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 4/2/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0417-13 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0417-13 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair
19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap
19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
Return to LANL

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover		9/4/13

21. QA Engineer or QA Designee:

printed name	signature	date
Antonio D. Chavarria		9/4/13

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover		4/1/14

23. Attachments:
#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒ A.C. 4/1/14
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date
Antonio D. Chavarria		4/1/14

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0417-13	Revision 0	Attachment # 1	Page 1 of 1

Continuation from Section Number: N/A

Inner Container (S833344) was denested from SB10133 on 012714 Rpkgd into 69293, 69294.

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0417-13	CLOSED NCR WITH ATTACHMENT 1	04-01-14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	4/8/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

```
**********************************
***        Send Results        ***
**********************************

   Sending is complete.

Job No.                    2853
Address                    915056291658
Name                       LANL
Start Time                 04/08 02:26 PM
Call Length                00'18
Sheets                     1
Result                     OK
```

Controlled Copy

CCP-QP-008, Rev. 22 **Effective Date: 03/24/2014**
CCP Records Management **Page 34 of 34**

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220
Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095
Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0417-13	CLOSED NCR WITH ATTACHMENT 1	04-01-14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	4/8/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0422-13 **Revision** 0

1. Lot No., Heat No., or Serial No. (if applicable):	2. Process (e.g., NDA, NDE, VE, Other):	3. Batch Data Report #(s):
N/A	NDE	LA-HERTR-13-0114
4. Order/Work Order/Job Control Number (if applicable):	5. PO # (if applicable):	Container #(s):
N/A	N/A	68223
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☑ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 14, Section 4.4.2 [H] states, in part, "Using Table 1, Prohibited Items, as a reference...confirm there are NO prohibited items in the waste container."
Table 1, Prohibited Items lists, in part, "Liquid waste- Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited," and, "sealed Containers greater than four liters."

7c. Actual Condition:

- A sealed 5 gallon plastic bucket at the bottom of the SWB with approximately 1.5 gallons of liquid, also constituting a sealed container greater than 4 liters.
- A 1 gallon plastic container with approximately 0.5 gallons of liquid, also at the bottom of the SWB.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Michael Simmons — signature — 11/14/2013
printed name — signature — date

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☑ NO ☐ INDETERMINATE

10. Trend Code: K

11. Responsible Manager: Terri-Anne Groover

12. Significant Condition? ☐ YES ☑ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☑ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Kenneth Simpson — signature — 11-18-13
printed name — signature — date

NTPC RECORDS ORIGINAL
DATE REC'D 12/9/13

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0422-13 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):
☑ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use
☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0422-13 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☑ N/A for Reject, Rework, or Scrap]

☑ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

Return Container(s) to LANL.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☑ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover		11-20-13

21. QA Engineer or QA Designee:

printed name	signature	date
Kenneth Simpson		11-19-13

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover		12.4.13

23. Attachments:
#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒ A.C 12/5/13
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date
Antonio P. Chavarria		12/5/13

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0422-13 Revision 0	Attachment # 1	Page 1	of 1
Continuation from Section Number: n/a 68223 was remediated on 11/15/13 then recharacterized in LA-HERTR-13-0117.			

DIVIDER PAGE ONLY

Not part of page count

****
*** Send Results ***
****

Sending is complete.

Job No.	0152
Address	915056627800
Name	LANL
Start Time	12/19 07:38 AM
Call Length	00'19
Sheets	1
Result	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-09-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0422-13	CLOSED NCR WITH ATTACHED CONTINUATION SHEET	12-05-13	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	12/18/13 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-09-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0422-13	CLOSED NCR WITH ATTACHED CONTINUATION SHEET	12-05-13	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	12/18/13 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0678-13 Revision 0

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): 1LANDA1820
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): S832302
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
(Ref. CCP-TP-103 Rev. 11, Page 8, Section 3.3, Step 3.3.2

3.3 NDA Expert Analyst (EA)

3.3.2 Resolves any problem assay results of containers.

7c. Actual Condition:

No neutron results available and gamma results are incomplete.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Adan Gallegos (printed name) _____ (signature) 8-5-13 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: K	11. Responsible Manager: **Terri-Anne Groover**
12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):	13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Israel Aragon (printed name) _____ (signature) 8-5-13 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 11/25/13

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0678-13 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

N/A

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0678-13 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
Return to HENC for re-assay.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

Terri-Anne Groover	T. A Groover	08\06\13
printed name	signature	date

21. QA Engineer or QA Designee:

Ismael Amador		8-6-13
printed name	signature	date

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Terri-Anne Groover	T. A Groover	11-21-13
printed name	signature	date

23. Attachments:
#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒
24b. If HOLD TAG is not applicable, check: ☐ and explain:
A.C. 11/21/13

25. Final Disposition Verified – NCR Closed QA Engineer:

Antonio D. Chavarria		11/21/13
printed name	signature	date

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0678-13 Revision 0	Attachment # 1	Page 1	of 1
Continuation from Section Number: N/A S832302 was recharacterized in 2LANDA1221			

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record
[ ] Fax Record
[ ] Electronic Record

[ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	11/25/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0678-13	CLOSURE PAPERWORK FOR NCR-LANL-0678-13	11/21/13	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	12/06/13 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	0387
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	12/06 14:26
TIME USE	00'16
PAGES SENT	1
RESULT	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	11/25/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0678-13	CLOSURE PAPERWORK FOR NCR-LANL-0678-13	11/21/13	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓] Leon Navarrete 12/06/13

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0680-13 **Revision 0**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): ~~N/A~~ NDA 9-11-13	3. Batch Data Report #(s): 3LANDA0200
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 94241
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☒ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

[Ref. DOE/WIPP-02-3122 (Transuranic Waste Acceptance Criteria For The Waste Isolation Pilot Plant) Rev.7.4, Page 30, Section 3.3.3]

Acceptance Criterion: TRU waste payload containers shall contain more than 100 nCi/g of alpha-emitting TRU isotopes with half-lives greater than 20 years.

7c. Actual Condition:

TRU Activity concentration < 100 nCi/g.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Dominic R. Archuleta (printed name) — signature — 9-11-13 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: **K**

11. Responsible Manager: **Terri-Anne Groover**

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Israel Aragon (printed name) — signature — 9-11-13 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 12/18/13

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0680-13 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0680-13 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
Return to LANL for LLW evaluation.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:
For Terri Anne Groover per letter
Richard C. Baymani (printed name) _____ (signature) 9-11-13 (date)

21. QA Engineer or QA Designee:
Israel Aragon (printed name) _____ (signature) 9-11-13 (date)

Additional Approval:
_____ (printed name) _____ (signature) _____ (date)

Additional Approval:
_____ (printed name) _____ (signature) _____ (date)

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:
Terri-Anne Groover (printed name) _____ (signature) 12-2-13 (date)

23. Attachments:
#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒
24b. If HOLD TAG is not applicable, check: ☐ and explain:
A.C. 12/17/13

25. Final Disposition Verified – NCR Closed QA Engineer:
Antonio D. Chavarria (printed name) _____ (signature) 12/17/13 (date)

Groover, Terri-Anne

From: Amin, Tamer
Sent: Monday, September 23, 2013 10:29 AM
To: Dawn Ramirez
Cc: Groover, Terri-Anne; jhardin@portageinc.com; Trujillo, Barbara Andrea; Martinez, Colleen M; Amin, Tamer
Subject: RE: Reclassified Containers

Here is what we've reclassed since aucgust 21st
Starting this week, I will send out weekly based on Dawn's request

TRU#	LLW#	reclass date
94241	W94241	9/17/2013
S805330	L13226981	8/19/2013
S794074	L13226988	9/3/2013
S803634	L13226989	9/3/2013
S794126	L13226975	9/11/2013
S803220	W796933	9/11/2013
S794028	W796932	9/16/2013
53887	W53887	9/11/2013

From: Dawn Ramirez [mailto:dramirez@portageinc.com]
Sent: Monday, September 23, 2013 10:24 AM
To: Amin, Tamer
Subject: RE: Reclassified Containers

It would if we were just doing monthlies, but Davis also sends out weeklies (DOE LTC report) that require the reclassification data through every Sunday. ☹ Would you be able to send me data through this Sunday?

From: Amin, Tamer [mailto:tamer@lanl.gov]
Sent: Monday, September 23, 2013 10:22 AM
To: Dawn Ramirez
Cc: Frederici, Dave; Romero, Mike J
Subject: RE: Reclassified Containers

Yes, it was reclassed on 09/11. I do send out a list of reclassed containers at the end of each month. Does that work for you?

From: Dawn Ramirez [mailto:dramirez@portageinc.com]
Sent: Monday, September 23, 2013 10:18 AM
To: Amin, Tamer
Cc: Frederici, Dave; Romero, Mike J
Subject: Reclassified Containers

Hi Tamer,

I noticed that container 53887 is now on Scott Miller's list as a potential reclassified container to ship this week. Were you able to reclassify this containers? We still do not have a crosswalk from WCATS to SWOON, so I do not have access to the container history and cannot verify reclassification. If container 53887 or any other container was reclassified after 8/21/2013, I do not have a record of it. I will need such records to apply reclassification credit in Earned Value/PSR for Dave and Mike.

NCR-LANL-0680-13 R0
Attachment 1 Page 1 of 2

If you have reclassified any containers after 8/21/2013, please send me the following information for each container:

- Old TRU ID
- New LLW ID
- Reclassification Date

I appreciate your help.

Dave/Mike, if you know of other containers that were or will be reclassified in September, please let me know the TRU IDs so I can keep an eye out for them.

Thanks,
Dawn

Dawn Ramirez
Junior Engineer
Portage, Inc.
200 DP Road, Suite 200
Los Alamos, NM 87544
Direct: 505.412.7549
Office: 505.662.7600
Fax: 505.662.7340
dramirez@portageinc.com

Please consider the environment before printing this e-mail.

NON-DISCLOSURE NOTICE--This e-mail message and any attachments may contain confidential and privileged information intended for the sole use of the named recipient. If you receive this email in error, or if you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. Delivery of this message to any person other than the intended recipient is not intended to waive any right or privilege. If you have received this message in error, please delete it from your computer and contact the sender immediately.

Please consider the environment before printing this e-mail.

NON-DISCLOSURE NOTICE--This e-mail message and any attachments may contain confidential and privileged information intended for the sole use of the named recipient. If you receive this email in error, or if you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. Delivery of this message to any person other than the intended recipient is not intended to waive any right or privilege. If you have received this message in error, please delete it from your computer and contact the sender immediately.

NCR - LANL-0680-13 R0

Attachment 1 Page 2 of 2

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-18-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0680-13	CLOSED NCR WITH ATTACHMENT 1	12-17-13	5
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete Printed Name	01/02/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	0262
Address	915056627800
Name	LANL
Start Time	01/02 03:51 PM
Call Length	00'17
Sheets	1
Result	OK

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-18-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0680-13	CLOSED NCR WITH ATTACHMENT 1	12-17-13	5
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [ ]	Signature	Leon Navarrete (Printed Name)	01/02/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0681-13 Revision 0

1. Lot No., Heat No., or Serial No. (if applicable):	2. Process (e.g., NDA, NDE, VE, Other):	3. Batch Data Report #(s):
N/A	NDA	1LANDA1836
4. Order/Work Order/Job Control Number (if applicable):	5. PO # (if applicable):	Container #(s):
N/A	N/A	56537
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

NDA Memorandum, LA-MSG04.001 AK/NDA Memo, Rev. 2, Table 3 and Section 5.0.

'If the EA determines the measurement to be viable without the use of AK, then an NCR will be prepared only if the measured values fall outside of the AK waste stream radionuclide ranges for individual containers presented in Table 3'.

Am-241: Nuclide Weight % Range for Individual Drums = 0% - 16.3%
Am-241: Nuclide Curie % Range for Individual Drums = 0% - 91.5%

7c. Actual Condition:

Am-241 nuclide weight % was measured to be 100%.
Am-241 nuclide Curie % was measured to be 100%.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Tim Barton (printed name) Tim Barton (signature) 9/17/13 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☒ YES ☐ NO ☐ INDETERMINATE

10. Trend Code: L

11. Responsible Manager: Terri-Anne Groover

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Antonio D. Chavarria (printed name) (signature) 9/18/13 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 11/27/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0681-13 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☐ N/A (See Final Disposition) ☒ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

1. Responsible Manager to send NCR to AK Expert for re-evaluation in accordance with CCP-TP-005.

2. AK Expert to perform the AK re-evaluation and include a copy of documented results as an attachment to NCR.

3. SPM to determine Final Disposition (block 19) based on the results of the AK Expert for re-evaluation.

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover	Terri-Anne Groover	9-19-13

16b. QA Engineer or QA Designee:

printed name	signature	date
Antonio D. Chavarria	Antonio D. Chavarria	9/19/13

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover	Terri-Anne Groover	01/16/14

18. Interim Disposition Verified – QA Engineer:

printed name	signature	date
Antonio D. Chavarria	Antonio D. Chavarria	1/16/2014

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0681-13 Revision 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☒ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☐ N/A for Reject, Rework, or Scrap]
Updated NDA memo change Am-241 wt & Curie % to reflect 0-100 %.

☐ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
NA

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☐ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]
NA

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:
Terri-Anne Groover — signature — 1/16/14
printed name / signature / date

21. QA Engineer or QA Designee:
Antonio D. Chavarria — signature — 1/16/14
printed name / signature / date

Additional Approval:
printed name / signature / date

Additional Approval:
printed name / signature / date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:
Terri-Anne Groover — signature — 1/17/14
printed name / signature / date

23. Attachments:
#1; 2; 3; 4

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒ A.C. 1/23/14
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:
Antonio D. Chavarria — signature — 1/23/14
printed name / signature / date

NDA 2000 Assay Report

Item Information

Item ID:	56537		Count Sequence Number:	23538	
Operator:	D3PW2DK1\operator				
Assay Start:	9/5/2013 1:17:36 PM				
Description 1:	1LANDA1836				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-10, SOILS				
Matrix Type:	Soil/gravel S4000				
Container Type:	55 gallon drum				
Weight:	Net:	122.0 kg	Net:	122.0 kg	
Container:	Volume:	208.0 l	Full:	50.0 %	
Density:		1.170 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

NCR-LANL-0681-13, R.0
ATTACHMENT #1, PAGE 1 OF 4

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23538	Batch Number:	1LANDA1836
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	56537	Analysis Date:	9/5/2013

Net Weight	122000.0 g		
Pu mass	<LLD	g	
TRU Alpha Activity	1.76E-002	+- 6.55E-003	Ci
TRU Activity Concentration	1.44E+002	+- 5.37E+001	nCi/g
Pu-239 Equivalent Activity	1.76E-002	+- 6.55E-003	Ci
Pu-239 FGE	9.57E-005	+- 2.04E-002	g
Decay heat	5.84E-004	+- 2.17E-004	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	8.71E-008
U233	<LLD	<LLD	0.00E+000	7.53E-004
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.11E-007
NP237	0.00E+000	0.00E+000	0.00E+000	2.18E-007
PU238	<LLD	<LLD	0.00E+000	1.58E-002
U238	<LLD	<LLD	0.00E+000	4.78E-006
PU239	<LLD	<LLD	0.00E+000	3.92E-003
PU240	<LLD	<LLD	0.00E+000	6.74E-003
AM241	5.12E-003	1.76E-002	6.42E-003	1.40E-002
PU241	0.00E+000	0.00E+000	0.00E+000	9.66E-002
PU242	<LLD	<LLD	0.00E+000	0.00E+000

Errors quoted at 1.000 sigma

Operator: _____ Date: 9-9-13

ITR: _____ Date: _____

NCR-LANL-0681-13, R.0
ATTACHMENT #1, PAGE 2 OF 4

Automated Independent Technical Review

Count Sequence Number: 23538 Batch Number: 1LANDA1836
Counter ID: MCS HENC #1
Container ID: 56537
Waste Matrix Code: Soil/gravel S4000 Count Type:
Sequence Type: Assay Date: 9/5/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor was set to one.	Ok
Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
No Warnings Reported.	
Section 3 - Data Combiner Analysis	
Override enabled; Gamma data specified as input.	Results taken from quantitative gamma data.
Results taken from Quantitative Gamma data.	
Fiducial nuclide not identified.	No Pu239 peaks identified.
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. Incomplete AK isotopics, direct gamma results reported.
Results are marked as invalid.	
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok

NCR-LANL-0681-13, R.0
ATTACHMENT #1, PAGE 3 OF 4

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Measured value falls outside of the AK waste stream radionuclide range for individual containers. NCR.

Expert Review by: Sherri Chambers Date: 9-9-13

LA-MSG04.001 AK/NDA Memo, Rev. 2

To: CCP Central Records

From: James M. Schoen, CCP AKE

Date: May 12, 2012

RE: Evaluation of the Radiological Characterization of LANL Waste Stream LA-MSG04.001

The purpose of this memorandum is to satisfy the requirements of CCP AK Documentation procedure (CCP-TP-005). The procedure requires an AK Expert to evaluate the radionuclide characterization of a waste stream and prepare a memorandum or letter to CCP Central Records. "The letter must include a section for an assessment written with the NDA SME determining how the AK will be applied during the assay. This assessment should include a discussion of the limitations of the radiological characterization in the AK document and a description of the required confirmation methods. Any NDA issues for both measured and calculated radionuclides should be discussed and resolved." This memo serves as an aid to understanding NDA issues associated with AK information available for this waste stream and is maintained as part of Attachment 7 to the AK Summary Report. This memo should be updated as new AK information is found or developments in NDA measurement related to AK information occur.

1.0 Facilities and Waste Streams

Waste Stream LA-MSG04.001 was generated from TA-21 at LANL. The TA-21 DP West Facility was established in 1945 as LANL's main plutonium facility, and became the first industrial plutonium processing facility in the U.S. and the world. Through its years of operation, DP West provided the capability to:

- Produce metal and alloys of plutonium and other transuranic elements from nitrate solution feedstock
- Fabricate these metals and alloys into precision shapes for defense applications
- Measure the chemical and physical properties of plutonium metals and alloys
- Recover and recycle plutonium scrap or materials used in experiments

Plutonium operations were transferred to the TA-55 Plutonium Facility, and the TA-21 DP West Facility was decommissioned in 1978-1981. The current TA-55 plutonium operations are similar to those originally carried out at TA-21.

CCP RECORDS ORIGINAL
DATE REC'D 11-7-2012
NCA-LANL-0681-13, R.0
ATTACHMENT # 2, PAGE 1 OF 9 10
B 9/18/13

2.0 Distributions for Generic Isotopic Distributions

LANL employs MT designations to describe the relative isotopic composition of radioactive contamination. The designated MT is used to describe the isotopic composition of common blends of radioactive materials used within the DOE complex. Tables 1 and 2 list material types and the weight percents of the expected isotopes for several MTs used in the plutonium recovery process that may be present in individual containers in this waste stream. The primary MT fed into the processes producing this waste stream is weapons grade Pu (MT 52), however, other material types were also introduced as feed material.

Waste Generator records indicate the MT used in the waste-generating operation. It should be noted that items of different material types are frequently packaged into the same waste container.

U-233 and U-238 are not normally components of weapons grade plutonium. U-235 would be present from Pu-239 decay at only 0.1% by weight of the total plutonium content. However, U-233, U-235 and U-238 have been introduced as special materials. Overall, uranium isotopes are expected to be present in trace amounts, if at all, in the plutonium material types, and are reported only if detected. Cs-137 is expected to be present in trace amounts, if at all, in these MTs, and the Cs-137/Pu ratio is consistent and not dependent on the material type, as shown in Table 1.

Table 1
Isotopic Content of Plutonium Material Types

Material Type (MT)	Plutonium Isotope Weight %						Estimated Weight % Relative to Total Pu			
	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	U-234	U-235	Am-241[1]	Cs-137
MT 51	0.006	96.77	3.13	0.076	0.018		1E-03	1.00E-01	0.06	4.E-7
MT 52	0.01	93.78	6	0.2	0.02		2E-03	1.00E-01	0.2	4.E-7
MT 53	0.03	91.08	8.45	0.366	0.071		7E-03	9.00E-02	0.3	4.E-7
MT 54	0.046	87.42	11.5	0.81	0.22		0.01	9.00E-02	0.7	4.E-7
MT 55	0.06	83.88	14.73	1.03	0.304		0.02	9.00E-02	0.9	4.E-7
MT 56	0.061	81.9	16.51	1.18	0.355		0.02	9.00E-02	1.0	4.E-7
MT 57	0.433	74.63	20.7	2.55	1.69		0.1	8.00E-02	2.0	4.E-7
MT 42	0.73	1.06	6.40	1.97	89.83		0.3	8.67E-04	3.0	4.E-7
MT 83	78.9	18.4	2.5	0.055	0.15		33.1	0.02	0.42	4.E-7

1. Data reported on May 2, 1997
2. The uncertainties associated with the mass fractions in the above table have been estimated at 10%, assigned primarily for use in Total Measurement Uncertainty calculations. These estimates will be superseded if AK data become available.
3. Am-241 values are based on decay of Pu-241 and may vary in waste due to Pu recovery processes that enrich or deplete Am-241.

The uranium present in this waste stream represents a variety of enrichments. Depleted uranium up to highly enriched uranium is present. Table 2 below lists

NCR-LANL-0681-13, R.0
ATTACHMENT # 2, PAGE 2 OF 9/10
B 9/18/13

material types and the weight percents of the primary LANL uranium material type inputs.

Table 2
Isotopic Content of Uranium Material Types and Enrichments

Material Type	Uranium Isotope Weight %			
	U-234	U-235	U-236	U-238
(MT)	Wt%	Wt%	Wt%	Wt%
MT 12	0.0015	0.23	0.0080	99.77
MT 35	0.36	37.60	0.14	61.90
MT 36	0.63	62.44	0.18	36.75
MT 38	1.03	93.04	0.41	5.53
MT 39	1.32	97.52	0.17	0.99

3.0 AK Radionuclide Information

The radiological distribution for this waste stream is listed in Table 3, Waste Stream LA-MSG04.001 Radiological Distribution. The distribution represents existing generator-reported radionuclide data for each container in the waste stream. However, some of the containers list "zero" assay values. It is not known why the zero assay values are listed. This could indicate that assay was not performed on these containers although they were managed as TRU waste. It could also indicate low assay containers that did not contain activity levels above the lower limit of detection. Finally, it could indicate measured or estimated plutonium mass values below 0.5 grams. The "Total Nuclide Weight%" values in Table 3 are the gram value for each radionuclide over the entire waste stream divided by the total radiological mass in the waste stream. The same calculation produced the values for the "Total Nuclide Curie%" using the sum of activity values for each radionuclide over the entire waste stream. The columns "Nuclide Weight% Range for Individual Containers" and "Nuclide Curie% Range for Individual Containers" illustrate the reported ranges of radionuclides in individual containers by identifying the maximum and minimum values for each radionuclide on a container-by-container basis over the entire waste stream.

NCR-LANL-0681-13, R.0
ATTACHMENT #2, PAGE 3 OF 9/10
B 9/18/13

Table 3
Waste Stream LA-MSG04.001 Radiological Distribution

Radio-nuclide	Number of Drums with Reported Nuclide[1]	Total Nuclide Weight%[2]	Total Nuclide Curie%[2]	Nuclide Weight% Range for Individual Drums[3]	Nuclide Curie% Range for Individual Drums[4]	Expected Present
WIPP Required Radionuclides						
Am-241[6]	57	Trace	0.54%	0 - 16.3%	0 - 91.5%	Yes
Pu-238	57	Trace	0.12%	0 - Trace	0 - 0.71%	Yes
Pu-239	75	8.38%	99.00%	0 - 100.00%	0 - 100.00%	Yes
Pu-240	1	Trace	0.05%	0 - 0.43%	0 - 38.07%	Yes
Pu-242	1	Trace	Trace	0 - 0.05%	0 - 0.08%	Yes
U-233	1	Trace	Trace	0 - Trace	0 - 0.01%	Yes
U-234	19	0.01%	0.01%	0 - 0.39%	0 - 0.15%	Yes
U-238	19	87.71%	0.01%	0 - 98.77%	0 - 0.12%	Yes
Sr-90	19	Trace	0.04%	0 - Trace	0 - 0.26%	Yes
Cs-137	18	Trace	0.21%	0 - Trace	0 - 1.33%	Yes
Additional Radionuclides						
H-3	19	Trace	Trace	0 - Trace	0 - Trace	Yes
I-125	1	Trace	Trace	0 - Trace	0 - 0.02%	Yes
I-129	1	Trace	Trace	0 - 0.05%	0 - Trace	Yes
Np-237	1	Trace	Trace	0 - 0.13%	0 - 0.04%	Yes
Pb-210	1	Trace	Trace	0 - Trace	0 - 0.48%	Yes
Pu-244	1	0.20%	Trace	0 - 69.36%	0 - 0.48%	Yes
Ra-226	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Th-234	1	Trace	0.01%	0 - Trace	0 - 4.62%	Yes
U-235	56	3.70%	Trace	0 - 75.93%	0 - 0.14%	Yes

1. This listing indicates the total weight percent of each radionuclide over the entire waste stream.
2. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
3. This listing is the weight percent range of each radionuclide on a container-by-container basis.
4. This listing is the curie percent range of each radionuclide on a container-by-container basis.
5. "Trace" indicates <0.01 weight or activity percent for that radionuclide.
6. Maximum weight % and curie % ranges based upon preliminary CCP NDA analyses, not generator reported data.

From the data presented in Table 3, the two predominant radionuclides by mass are Pu-239 and U-238, while 95 percent of the activity over the entire waste stream is from Pu-239. While U-238 is the most predominant radionuclide in the waste stream, it was only detected in 19 containers.

Best Available Copy

NCR-LANL-0691-13, RD
ATTACHMENT #2, PAGE 4 OF 9/10
8/9/13

4.0 Limitations of Radiological Characterization in AK Document

Radiological data was available for all of the waste in this waste stream. However, some of the containers list "zero" assay values. It is not known why the zero assay values are listed. This could indicate that assay was not performed on these containers although they were managed as TRU waste. It could also indicate low assay containers that did not contain activity levels above the LLD. Finally, it could indicate measured or estimated plutonium mass values below 0.5 grams.

Another limitation is that some of the assay data supplied by the waste generator does not match specific material type values listed on Tables 1 and 2. This could be due to the fact that material types were not segregated and different material types were sometimes packaged in the same container or that different isotopic distributions were assumed for the identified material types.

A third limitation is that a large gram value of Pu-244 was reported in one container. This resulted in Pu-244 becoming the second most predominant radionuclide in the waste stream. Pu-244 is not a common radioisotope in weapons grade plutonium; therefore, it is not known why Pu-244 is present in this container, or if the reported concentration is in error.

5.0 How AK Will Be Applied During Assay

Radioassay performed for this waste stream will consist of gamma analysis and neutron counting. The gamma analysis will be performed using the gamma component of the High Efficiency Neutron Counters (HENC #1, HENC #2, and SuperHENC).

The HENC acquires both a neutron and a gamma assay and selects the optimum method for reporting. The isotopic measurement may use either MGA or FRAM. "Count-to-precision" analysis may also be used for this waste stream, where appropriate (e.g. for MT 83 drums with low count rates).

The HENC is a passive neutron and gamma assay instrument. The neutron measurement estimates the mass of Pu by combining the passive neutron signal with an isotopic determination from a high-resolution gamma detector. Typically, Multi-Group Analysis (MGA) is used with the HENC to provide isotopic determinations though FRAM analyses may also be used to derive isotopics. In cases where the gamma isotopic measurement fails, then AK isotopic information may be used in lieu of the isotopic measurement to estimate the Pu mass. The gamma detector provides both quantitative measurements of the mass of each detected isotope (and hence total Pu mass) as well as the isotopic measurement for use by the neutron system.

NCR - LANL-0681-13, R.0
ATTACHMENT #2, PAGE 5 OF 9/10
9/18/13

In cases where the gamma isotopic measurement fails, the quantified gamma measurement is unsuccessful or suspect, and the neutron or gamma measurement indicates that plutonium is present, then AK information may be used to determine the plutonium isotopic distribution. The use of default isotopics from AK will be dependent on the EAs review and assessment of collected data (i.e., gamma spectra or measured neutron signal) to determine the representativeness of the AK isotopics for each particular measurement. Consideration of representativeness may include an evaluation of the measured majority isotope against AK values, spectrum validity, the potential for different material types to be packaged in the same container, and the possibility of generator error in material type declarations. Since this waste stream may not have AK information on all plutonium isotopes, only the directly measured values may be reported. If the EA determines that the default AK isotopics are not appropriate for the measurement, then the AK data will not be used for the measurement. If the EA determines the measurement to be viable without the use of AK, then an NCR will be prepared only if the measured values fall outside of the AK waste stream radionuclide ranges for individual containers presented in Table 3. An NCR will also be generated by the EA when the measurement is invalid for technical reason and is not usable. The final determination of whether the measurement results confirm AK will be made by the SPM during lot evaluation and preparation of the AK Confirmation Checklist.

Since no single isotopic distribution is applicable to the entire waste stream, container-specific information must be used to supplement certifiable measurements. Container-specific information will be provided by the CCP AKE based upon generator-reported material type(s) and/or isotopic ratios. The information provided by the CCP AKE will be included with the batch data reports, where it is used.

5.1 Pu-242

Except for containers enriched in Pu-242, the Pu-242 value is calculated based on the abundances of the other plutonium isotopes in a container for both FRAM and MGA.

Some containers in this waste stream contain plutonium enriched in Pu-242. These containers are identified as material type 42 on Table 1. For these containers, plutonium mass can be determined from the known isotopic composition (provided by AK) and the analysis from the assay instrument of record. In cases where AK shows that a specific container contains a mixture of MT 42 and other MTs, or when AK indicates that the MT is unknown, it is not possible to determine the quantity of Pu-242 based on measurement alone. In those cases, additional efforts will be made on a container-by-container basis to determine the appropriate isotopic mix based on AK.

5.2 U-234

NCR-LANL-0681-13, R 0
ATTACHMENT #2, PAGE 6 OF 9/10
B 9/18/13

Another radionuclide that must be quantified through calculations rather than assay is U-234. The U-234 content can be determined utilizing the fact that U-234 is a daughter of Pu-238 and is also a component of uranium material types.

5.3 Cs-137/Sr-90

Since Cs-137 is easily detected during gamma spectroscopy, there are no issues with Cs-137 detection. When Cs-137 is detected in the waste measurements, an equal activity of Sr-90 is also assumed to be present.

5.4 Activity/Mass Calculations for Pu-242, Sr-90, and U-234

NOTE
The following calculations are applicable to all WIPP Certified NDA systems at LANL. The mass and activity relationships below are presented for information only. The equation used by NDA for reporting radionuclide values are contained in the applicable NDA procedure for the system used.

5.4.1 Sr-90 Calculations

$$Ac(Sr\text{-}90) = Ac(Cs\text{-}137) * SCF(Sr\text{-}90).$$

For all LANL waste streams, a 1:1 activity ratio is used; therefore, the activity scaling factor (SCF) for Sr-90 is 1 and Ac(Sr-90) = Ac(Cs-137).

5.4.2 Pu-242 Calculations for Pu-239 Material Types

For MGA measurements, the Pu-242 weight fraction is calculated as $f(Pu\text{-}242) = a + b\,[Pu\text{-}239] + c[Pu\text{-}240] + d[Pu\text{-}241] + e\,[Pu\text{-}239]^2 + f[Pu\text{-}240]^2 + g[Pu\text{-}241]^2$; where the bracketed quantities are the fractional abundances of the indicated isotopes. However, for MT 42 the mass percent of Pu-242 and other plutonium mass percents are derived from AK.

The MGA Pu-242 algorithm coefficients (a through g) are calculated during the actual execution of the MGA code. This is due to the fact that the coefficients are dependent on the measured isotopic weight fractions for the particular item being assayed and therefore need to be dynamically calculated.

For FRAM, measurements, the Pu 242 fraction is calculated as
$f(Pu\text{-}242) = A \times [[Pu\text{-}238]^B \times [Pu\text{-}239]^C \times [Pu\text{-}240]^D \times [Pu\text{-}241 + Am\text{-}241]^E]$
where the bracketed quantities are again the fractional abundances of the indicated isotopes and A, B, C, D, and E are fixed constants.

5.4.3 U-234 Calculations where U-235 is Above LLD

For the MCS HENC, if U-235 is reported above the lower limit of detection (LLD), then the U-234 activity is derived from the SCF. The SCF is derived from the U-

NCR-LANL-0681-13, R0
ATTACHMENT #2, PAGE 7 OF 9/10
B 9/18/13

234 mass scaling factor and the specific activities of U-234 and U-235. The following equation defines the SCF for U-234.

$$SCF = 0.014 * \frac{U-234_{\text{Specific Activity}}}{U-235_{\text{Specific Activity}}} \qquad \text{Equation A.1}$$

Using Equation A.1, the U-234 SCF is 40.4.

If U-238 is reported above the LLD and U-235 is not detected, or is reported below the detection limit LLD, then the U-234 SCF is zero.

5.4.4 U-234 Calculations for MT 83

For the MCS HENC for U-234, the determination of activity is accomplished by assuming a 45-year in-growth from the decay of Pu-238. This will provide a conservative estimate. The mass scaling factor is 0.427. This mass scaling factor is applied to derive a SCF similar to the function shown in Equation A.1. The SCF applied to Pu-238 to estimate U-234 is 1.56×10^{-4}.

6.0 Interferences

6.1 Neutron Counting Interferences

When combined with certain low-Z numbered elements, the alpha particles emitted from TRU radionuclides cause a reaction that has the potential to interfere with neutron counting during NDA measurements. These interferences are caused from an alpha-n reaction within the light element that generates additional neutrons. During routine assays, the use of neutron coincidence counters distinguish between the neutrons from spontaneous fission of certain TRU radionuclides and the neutrons generated from alpha-n reactions.

Of particular importance is the presence of the following materials in the waste:

- Beryllium (<1%)
- Fluorine

To a lesser extent:

- Sodium
- Magnesium
- Lithium
- Aluminum

6.2 Gamma Spectroscopy Interferences

Spectral interferences may arise from the presence of large amounts of Np-237, Am-241, or other radionuclides. Interferences will be reviewed by the Expert Analyst for the HENCs to determine whether they contribute to bias in the measurements.

NCR-LANL-0681-13, R0
ATTACHMENT #2, PAGE 8 OF 9/10
B 9/18/13

It is intended that this memo will be updated to reflect relevant changes in AK information or to discuss specific NDA issues, as needed.

Curt Baumann, NDA SME	8-8-12 Date
Neil Dickes, CCP Project Office	8-8-12 Date
James M. Schoen, CCP AKE	Date

NCR-LANL-0681.13, R.0
ATTACHMENT # 2 PAGE 9 OF 10
B 9/18/13

It is intended that this memo will be updated to reflect relevant changes in AK information or to discuss specific NDA issues, as needed.

Curt Baumann, NDA SME Date

Neil Dickes, CCP Project Office Date

James M. Schoen, CCP AKE 5/9/12 Date

NCR-LANL-0681-13, R0
ATTACHMENT #2, PAGE 10 OF 10

Groover, Terri-Anne

From: Mike Papp [mj_papp@msn.com]
Sent: Wednesday, January 15, 2014 3:00 PM
To: Groover, Terri-Anne
Subject: NCR-LANL-0681-13
Attachments: NCR-LANL-0681-13.pdf; NDA-Memo-MSG04-for-LANL-Records-1-13-14.pdf

Hi Terri-Annie,

The attached NCR-LANL-0681-13 was written because of the following statement included in the waste stream LA-MSG04.001 AK/NDA Memo, Rev. 2.

"If the EA determines the measurement to be viable without the use of AK, then an NCR will be prepared only if the measured values fall outside of the AK waste stream radionuclide ranges for individual containers presented in Table 3."

The basis for this statement/requirement was removed from CCP-TP-005 in Rev. 26. Therefore, the LA-MSG04.001 NDA Memo has been updated to also remove the statement (see attached). An NCR is only required now if the EA has determined the NDA measurement is invalid for technical reasons and is not usable. The NDA measurement identifying Am-241 at 100% weight and curie percent in container 56537 is valid. Therefore, NCR-LANL-0681-13 can be closed now that the waste stream LA-MSG04.001 AK/NDA Memo, Rev. 3 has been submitted to records. Please let me know if you have any questions. Thank you.

Michael J. Papp, CCP AKE
Technical Specialists
Nuclear Waste Partnership, LLC Subcontractor
Work #: 720-872-8184
Cell #: 303-994-6067

NCR-LANL-0681-13 R0
All X3 pg 1 of 1 A.C.
E 1/16/14 1/20/14

LA-MSG04.001 AK/NDA Memo, Rev. 3

To: CCP Central Records

From: James M. Schoen, CCP AKE

Date: December 20, 2013

RE: Evaluation of the Radiological Characterization of LANL Waste Stream LA-MSG04.001

The purpose of this memorandum is to satisfy the requirements of CCP AK Documentation procedure (CCP-TP-005). The procedure requires an AK Expert to evaluate the radionuclide characterization of a waste stream and prepare a memorandum or letter to CCP Central Records. "The letter must include a section for an assessment written with the NDA SME determining how the AK will be applied during the assay. This assessment should include a discussion of the limitations of the radiological characterization in the AK document and a description of the required confirmation methods. Any NDA issues for both measured and calculated radionuclides should be discussed and resolved." This memo serves as an aid to understanding NDA issues associated with AK information available for this waste stream and is maintained as part of Attachment 7 to the AK Summary Report. This memo should be updated as new AK information is found or developments in NDA measurement related to AK information occur.

1.0 Facilities and Waste Streams

Waste Stream LA-MSG04.001 was generated from TA-21 at LANL. The TA-21 DP West Facility was established in 1945 as LANL's main plutonium facility, and became the first industrial plutonium processing facility in the U.S. and the world. Through its years of operation, DP West provided the capability to:

- Produce metal and alloys of plutonium and other transuranic elements from nitrate solution feedstock
- Fabricate these metals and alloys into precision shapes for defense applications
- Measure the chemical and physical properties of plutonium metals and alloys
- Recover and recycle plutonium scrap or materials used in experiments

Plutonium operations were transferred to the TA-55 Plutonium Facility, and the TA-21 DP West Facility was decommissioned in 1978-1981. The current TA-55 plutonium operations are similar to those originally carried out at TA-21.

NCR - LANL-0681-13 R0
Attachment 4 Page 1 of 10

2.0 Distributions for Generic Isotopic Distributions

LANL employs MT designations to describe the relative isotopic composition of radioactive contamination. The designated MT is used to describe the isotopic composition of common blends of radioactive materials used within the DOE complex. Tables 1 and 2 list material types and the weight percents of the expected isotopes for several MTs used in the plutonium recovery process that may be present in individual containers in this waste stream. The primary MT fed into the processes producing this waste stream is weapons grade Pu (MT 52), however, other material types were also introduced as feed material.

Waste Generator records indicate the MT used in the waste-generating operation. It should be noted that items of different material types are frequently packaged into the same waste container.

U-233 and U-238 are not normally components of weapons grade plutonium. U-235 would be present from Pu-239 decay at only 0.1% by weight of the total plutonium content. However, U-233, U-235 and U-238 have been introduced as special materials. Overall, uranium isotopes are expected to be present in trace amounts, if at all, in the plutonium material types, and are reported only if detected. Cs-137 is expected to be present in trace amounts, if at all, in these MTs, and the Cs-137/Pu ratio is consistent and not dependent on the material type, as shown in Table 1.

Table 1
Isotopic Content of Plutonium Material Types

Material Type (MT)	Plutonium Isotope Weight %						Estimated Weight % Relative to Total Pu			
	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	U-234	U-235	Am-241[1]	Cs-137
MT 51	0.006	96.77	3.13	0.076	0.018		1E-03	1.00E-01	0.06	4.E-7
MT 52	0.01	93.78	6	0.2	0.02		2E-03	1.00E-01	0.2	4.E-7
MT 53	0.03	91.08	8.45	0.366	0.071		7E-03	9.00E-02	0.3	4.E-7
MT 54	0.046	87.42	11.5	0.81	0.22		0.01	9.00E-02	0.7	4.E-7
MT 55	0.06	83.88	14.73	1.03	0.304		0.02	9.00E-02	0.9	4.E-7
MT 56	0.061	81.9	16.51	1.18	0.355		0.02	9.00E-02	1.0	4.E-7
MT 57	0.433	74.63	20.7	2.55	1.69		0.1	8.00E-02	2.0	4.E-7
MT 42	0.73	1.06	6.40	1.97	89.83		0.3	8.67E-04	3.0	4.E-7
MT 83	78.9	18.4	2.5	0.055	0.15		33.1	0.02	0.42	4.E-7

1. Data reported on May 2, 1997
2. The uncertainties associated with the mass fractions in the above table have been estimated at 10%, assigned primarily for use in Total Measurement Uncertainty calculations. These estimates will be superseded if AK data become available.
3. Am-241 values are based on decay of Pu-241 and may vary in waste due to Pu recovery processes that enrich or deplete Am-241.

The uranium present in this waste stream represents a variety of enrichments. Depleted uranium up to highly enriched uranium is present. Table 2 below lists

NCR-LANL-0681-13 R0
Attachment 4 Page 2 of 10

material types and the weight percents of the primary LANL uranium material type inputs.

Table 2
Isotopic Content of Uranium Material Types and Enrichments

Material Type	Uranium Isotope Weight %			
	U-234	U-235	U-236	U-238
(MT)	Wt%	Wt%	Wt%	Wt%
MT 12	0.0015	0.23	0.0080	99.77
MT 35	0.36	37.60	0.14	61.90
MT 36	0.63	62.44	0.18	36.75
MT 38	1.03	93.04	0.41	5.53
MT 39	1.32	97.52	0.17	0.99

3.0 AK Radionuclide Information

The radiological distribution for this waste stream is listed in Table 3, Waste Stream LA-MSG04.001 Radiological Distribution. The distribution represents existing generator-reported radionuclide data for each container in the waste stream. However, some of the containers list "zero" assay values. It is not known why the zero assay values are listed. This could indicate that assay was not performed on these containers although they were managed as TRU waste. It could also indicate low assay containers that did not contain activity levels above the lower limit of detection. Finally, it could indicate measured or estimated plutonium mass values below 0.5 grams. The "Total Nuclide Weight%" values in Table 3 are the gram value for each radionuclide over the entire waste stream divided by the total radiological mass in the waste stream. The same calculation produced the values for the "Total Nuclide Curie%" using the sum of activity values for each radionuclide over the entire waste stream. The columns "Nuclide Weight% Range for Individual Containers" and "Nuclide Curie% Range for Individual Containers" illustrate the reported ranges of radionuclides in individual containers by identifying the maximum and minimum values for each radionuclide on a container-by-container basis over the entire waste stream.

NCR -LANL-0681-13 R0
Attachment 4 Page 3 of 10

Table 3
Waste Stream LA-MSG04.001 Radiological Distribution

Radionuclide	Number of Drums with Reported Nuclide	Total Nuclide Weight%	Total Nuclide Curie%	Nuclide Weight% Range for Individual Drums	Nuclide Curie % Range for Individual Drums	Expected to be Present
WIPP Required Radionuclides						
Am-241[6]	57	Trace	0.54%	0 - 100.00%	0 - 100.00%	Yes
Pu-238	57	Trace	0.12%	0 - Trace	0 - 0.71%	Yes
Pu-239	75	8.38%	99.00%	0 - 100.00%	0 - 100.00%	Yes
Pu-240	1	Trace	0.05%	0 - 0.43%	0 - 38.07%	Yes
Pu-242	1	Trace	Trace	0 - 0.05%	0 - 0.08%	Yes
U-233	1	Trace	Trace	0 - Trace	0 - 0.01%	Yes
U-234	19	0.01%	0.01%	0 - 0.39%	0 - 0.15%	Yes
U-238	19	87.71%	0.01%	0 - 98.77%	0 - 0.12%	Yes
Sr-90	19	Trace	0.04%	0 - Trace	0 - 0.26%	Yes
Cs-137	18	Trace	0.21%	0 - Trace	0 - 1.33%	Yes
Additional Radionuclides						
H-3	19	Trace	Trace	0 - Trace	0 - Trace	Yes
I-125	1	Trace	Trace	0 - Trace	0 - 0.02%	Yes
I-129	1	Trace	Trace	0 - 0.05%	0 - Trace	Yes
Np-237	1	Trace	Trace	0 - 0.13%	0 - 0.04%	Yes
Pb-210	1	Trace	Trace	0 - Trace	0 - 0.48%	Yes
Pu-244	1	0.20%	Trace	0 - 69.36%	0 - 0.48%	Yes
Ra-226	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Th-234	1	Trace	0.01%	0 - Trace	0 - 4.62%	Yes
U-235	56	3.70%	Trace	0 - 75.93%	0 - 0.14%	Yes

1. This listing indicates the total weight percent of each radionuclide over the entire waste stream.
2. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
3. This listing is the weight percent range of each radionuclide on a container-by-container basis.
4. This listing is the curie percent range of each radionuclide on a container-by-container basis.
5. "Trace" indicates <0.01 weight or activity percent for that radionuclide.
6. Maximum weight % and curie % ranges based upon preliminary CCP NDA analyses, not generator reported data.

From the data presented in Table 3, the two predominant radionuclides by mass are Pu-239 and U-238, while 95 percent of the activity over the entire waste stream is from Pu-239. While U-238 is the most predominant radionuclide in the waste stream, it was only detected in 19 containers.

Best Available Copy

NCR - LANL-0681-13 R0
Attachment 4 Page 4 of 10

4.0 Limitations of Radiological Characterization in AK Document

Radiological data was available for all of the waste in this waste stream. However, some of the containers list "zero" assay values. It is not known why the zero assay values are listed. This could indicate that assay was not performed on these containers although they were managed as TRU waste. It could also indicate low assay containers that did not contain activity levels above the LLD. Finally, it could indicate measured or estimated plutonium mass values below 0.5 grams.

Another limitation is that some of the assay data supplied by the waste generator does not match specific material type values listed on Tables 1 and 2. This could be due to the fact that material types were not segregated and different material types were sometimes packaged in the same container or that different isotopic distributions were assumed for the identified material types.

A third limitation is that a large gram value of Pu-244 was reported in one container. This resulted in Pu-244 becoming the second most predominant radionuclide in the waste stream. Pu-244 is not a common radioisotope in weapons grade plutonium; therefore, it is not known why Pu-244 is present in this container, or if the reported concentration is in error.

5.0 How AK Will Be Applied During Assay

Radioassay performed for this waste stream will consist of gamma analysis and neutron counting. The gamma analysis will be performed using the gamma component of the High Efficiency Neutron Counters (HENC #1, HENC #2, and SuperHENC).

The HENC acquires both a neutron and a gamma assay and selects the optimum method for reporting. The isotopic measurement may use either MGA or FRAM. "Count-to-precision" analysis may also be used for this waste stream, where appropriate (e.g. for MT 83 drums with low count rates).

The HENC is a passive neutron and gamma assay instrument. The neutron measurement estimates the mass of Pu by combining the passive neutron signal with an isotopic determination from a high-resolution gamma detector. Typically, Multi-Group Analysis (MGA) is used with the HENC to provide isotopic determinations though FRAM analyses may also be used to derive isotopics. In cases where the gamma isotopic measurement fails, then AK isotopic information may be used in lieu of the isotopic measurement to estimate the Pu mass. The gamma detector provides both quantitative measurements of the mass of each detected isotope (and hence total Pu mass) as well as the isotopic measurement for use by the neutron system.

In cases where the gamma isotopic measurement fails, the quantified gamma measurement is unsuccessful or suspect, and the neutron or gamma

E 1/16/14
NCR N LANL-CC81-13 R0
Attachment 4 Page 5 of 10

measurement indicates that plutonium is present, then AK information may be used to determine the plutonium isotopic distribution. The use of default isotopics from AK will be dependent on the EAs review and assessment of collected data (i.e., gamma spectra or measured neutron signal) to determine the representativeness of the AK isotopics for each particular measurement. Consideration of representativeness may include an evaluation of the measured majority isotope against AK values, spectrum validity, the potential for different material types to be packaged in the same container, and the possibility of generator error in material type declarations. Since this waste stream may not have AK information on all plutonium isotopes, only the directly measured values may be reported. If the EA determines that the default AK isotopics are not appropriate for the measurement, then the AK data will not be used for the measurement. An NCR will be generated by the EA when the measurement is invalid for technical reasons and is not usable. The final determination of whether the measurement results confirm AK will be made by the SPM during lot evaluation and preparation of the AK Confirmation Checklist.

Since no single isotopic distribution is applicable to the entire waste stream, container-specific information must be used to supplement certifiable measurements. Container-specific information will be provided by the CCP AKE based upon generator-reported material type(s) and/or isotopic ratios. The information provided by the CCP AKE will be included with the batch data reports, where it is used.

5.1 Pu-242

Except for containers enriched in Pu-242, the Pu-242 value is calculated based on the abundances of the other plutonium isotopes in a container for both FRAM and MGA.

Some containers in this waste stream contain plutonium enriched in Pu-242. These containers are identified as material type 42 on Table 1. For these containers, plutonium mass can be determined from the known isotopic composition (provided by AK) and the analysis from the assay instrument of record. In cases where AK shows that a specific container contains a mixture of MT 42 and other MTs, or when AK indicates that the MT is unknown, it is not possible to determine the quantity of Pu-242 based on measurement alone. In those cases, additional efforts will be made on a container-by-container basis to determine the appropriate isotopic mix based on AK.

5.2 U-234

Another radionuclide that must be quantified through calculations rather than assay is U-234. The U-234 content can be determined utilizing the fact that U-234 is a daughter of Pu-238 and is also a component of uranium material types.

5.3 Cs-137/Sr-90

NCR - LANL-0681-13 R0

Attachment 4 Page 6 of 10

Since Cs-137 is easily detected during gamma spectroscopy, there are no issues with Cs-137 detection. When Cs-137 is detected in the waste measurements, an equal activity of Sr-90 is also assumed to be present.

5.4 Activity/Mass Calculations for Pu-242, Sr-90, and U-234

NOTE
The following calculations are applicable to all WIPP Certified NDA systems at LANL. The mass and activity relationships below are presented for information only. The equation used by NDA for reporting radionuclide values are contained in the applicable NDA procedure for the system used.

5.4.1 Sr-90 Calculations

Ac(Sr-90) = Ac(Cs-137) * SCF(Sr-90).

For all LANL waste streams, a 1:1 activity ratio is used; therefore, the activity scaling factor (SCF) for Sr-90 is 1 and Ac(Sr-90) = Ac(Cs-137).

5.4.2 Pu-242 Calculations for Pu-239 Material Types

For MGA measurements, the Pu-242 weight fraction is calculated as f(Pu-242) = a + b [Pu-239] + c[Pu-240] + d[Pu-241]+ e $[Pu\text{-}239]^2$ + f$[Pu\text{-}240]^2$ + g$[Pu\text{-}241]^2$; where the bracketed quantities are the fractional abundances of the indicated isotopes. However, for MT 42 the mass percent of Pu-242 and other plutonium mass percents are derived from AK.

The MGA Pu-242 algorithm coefficients (a through g) are calculated during the actual execution of the MGA code. This is due to the fact that the coefficients are dependent on the measured isotopic weight fractions for the particular item being assayed and therefore need to be dynamically calculated.

For FRAM, measurements, the Pu 242 fraction is calculated as f(Pu-242) = A x $[[Pu\text{-}238]^B$ x $[Pu\text{-}239]^C$ x $[Pu\text{-}240]^D$ x $[Pu\text{-}241 + Am\text{-}241]^E]$ where the bracketed quantities are again the fractional abundances of the indicated isotopes and A, B, C, D, and E are fixed constants.

5.4.3 U-234 Calculations where U-235 is Above LLD

For the MCS HENC, if U-235 is reported above the lower limit of detection (LLD), then the U-234 activity is derived from the SCF. The SCF is derived from the U-234 mass scaling factor and the specific activities of U-234 and U-235. The following equation defines the SCF for U-234.

$$SCF = 0.014 * \frac{U-234_{\text{Specific Activity}}}{U-235_{\text{Specific Activity}}} \qquad \text{Equation A.1}$$

NCR -LANL-0681-13 R0
Attachment 4 Page 7 of 10

Using Equation A.1, the U-234 SCF is 40.3.

If U-238 is reported above the LLD and U-235 is not detected, or is reported below the detection limit LLD, then the U-234 SCF is zero.

5.4.4 U-234 Calculations for MT 83

For the MCS HENC for U-234, the determination of activity is accomplished by assuming a 45-year in-growth from the decay of Pu-238. This will provide a conservative estimate. The mass scaling factor is 0.427. This mass scaling factor is applied to derive a SCF similar to the function shown in Equation A.1. The SCF applied to Pu-238 to estimate U-234 is 1.55×10^{-4}.

6.0 Interferences

6.1 Neutron Counting Interferences

When combined with certain low-Z numbered elements, the alpha particles emitted from TRU radionuclides cause a reaction that has the potential to interfere with neutron counting during NDA measurements. These interferences are caused from an alpha-n reaction within the light element that generates additional neutrons. During routine assays, the use of neutron coincidence counters distinguish between the neutrons from spontaneous fission of certain TRU radionuclides and the neutrons generated from alpha-n reactions.

Of particular importance is the presence of the following materials in the waste:

- Beryllium (<1%)
- Fluorine

To a lesser extent:

- Sodium
- Magnesium
- Lithium
- Aluminum

6.2 Gamma Spectroscopy Interferences

Spectral interferences may arise from the presence of large amounts of Np-237, Am-241, or other radionuclides. Interferences will be reviewed by the Expert Analyst for the HENCs to determine whether they contribute to bias in the measurements.

NCR-LANL-0681-13 R0

Attachment 4 Page 8 of 10

It is intended that this memo will be updated to reflect relevant changes in AK information or to discuss specific NDA issues, as needed.

Curt Baumann, NDA SME	1-7-14 Date
Neil Dickes, CCP Project Office	1-8-14 Date
James M. Schoen, CCP AKE	Date

NCR - LANL-0681-13 20

Attachment 4 Page 9 of 10

It is intended that this memo will be updated to reflect relevant changes in AK information or to discuss specific NDA issues, as needed.

Curt Baumann, NDA SME Date

Neil Dickes, CCP Project Office Date

James M. Schoen, CCP AKE 1/6/2014 Date

NCR - LANL-0681-13 R0

Attachment 4 Page 10 of 10

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	01-28-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0681-13	CLOSED NCR WITH ATTACHMENTS 1, 2, 3 AND 4	01-23-14	28
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	02/03/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	1494
Address	915056656753
Name	
Start Time	02/03 02:41 PM
Call Length	00'31
Sheets	1
Result	OK

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013
Page 35 of 35

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	01-28-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0681-13	CLOSED NCR WITH ATTACHMENTS 1, 2, 3 AND 4	01-23-14	28
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	02/03/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0803-13 **Revision 0**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): 4LANDA0024 Container #(s): 86964
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
(Ref. MILCC Calibration Report Rev. 0, Calibration Qualification Summary Section)

Operating Range: LLD to 325 g of Total Pu limited by dead time.

Acceptable density range for gamma is approximately 0.00 – 2.50 g/cc.

7c. Actual Condition:
Gamma dead-time too high for TRU analysis.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Dominic R. Archuleta (printed name) — signature — 12-12-13 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: **K**	11. Responsible Manager: **Terri-Anne Groover**
12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):	13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

TIM BARTON (printed name) — signature — 12/17/13 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 2/11/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0803-13 Revision 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name signature date

16b. QA Engineer or QA Designee:

printed name signature date

Additional Approval:

printed name signature date

Additional Approval:

printed name signature date

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name signature date

18. Interim Disposition Verified – QA Engineer:

printed name signature date

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0803-13 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
Re-Assay drum on MILCC for 4 hrs. using "Far" detector positioning.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual: For Terri-Anne Groover per 12/Cm

printed name	signature	date
Richard C. Baumann Terri-Anne Groover	R C Baumann	12-17-13

21. QA Engineer or QA Designee:

printed name	signature	date
TIM BARTON	Tim Bartos	12/17/13

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover	T. A. Groover	2-6-14

23. Attachments:
#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒ A.C. 2/10/14
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date
Antonio D. Chavarria		2/10/14

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0803-13 Revision 0	Attachment # 1	Page 1	of 1
Continuation from Section Number: n/a 86964 was recharacterized in 4LANDA0042.			

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	02/11/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0803-13	CLOSURE PAPERWORK FOR NCR-LANL-0803-13	02/10/14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted	[x]	Greta Leos (Signature)	Greta Leos (Printed Name)	2-18-14 (Date)
Records Rejected	[ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	1900
Address	915056291658
Name	LANL
Start Time	02/18 08:17 AM
Call Length	00'19
Sheets	1
Result	OK

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	02/11/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0803-13	CLOSURE PAPERWORK FOR NCR-LANL-0803-13	02/10/14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted	[☑]	Signature	Greta Leos (Printed Name)	2-18-14 (Date)
Records Rejected	[ ]	Signature	Printed Name	Date

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0804-13 **Revision 0**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): 4LANDA0022 Container #(s): 84453
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
(Ref. MILCC Calibration Report Rev. 0, Calibration Qualification Summary Section)

Operating Range: LLD to 325 g of Total Pu limited by dead time.

Acceptable density range for gamma is approximately 0.00 – 2.50 g/cc.

7c. Actual Condition:
Gamma dead-time too high for TRU analysis.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:

8. NCR Originator:
Bret Templeton (printed name) Bret Templeton (signature) 12-11-13 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: K	11. Responsible Manager: Terri-Anne Groover
12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):	13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:
Marina Escarcega (printed name) Marina Escarcega (signature) 12-11-13 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 1/13/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0804-13 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0804-13 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
Re-Assay drum on MILCC for 4 hrs. using "Far" detector positioning.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual: For Terri-Anne Groover per telcon

Terri-Anne Groover	R. C. Baumann	12-11-13
printed name	signature	date

21. QA Engineer or QA Designee:

MARIA ESCAREGA	Maria Esc	12-11-13
printed name	signature	date

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Terri-Anne Groover	T. A. Groover	1/8/14
printed name	signature	date

23. Attachments:
#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒
24b. If HOLD TAG is not applicable, check: ☐ and explain: A.C. 1/9/14

25. Final Disposition Verified – NCR Closed QA Engineer:

Antonio D. Chavarria		1/9/14
printed name	signature	date

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0804-13	Revision 0	Attachment # 1	Page 1 of 1
Continuation from Section Number: NA Container 84453 has been characterized in 4LANDA0023.			

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	01-13-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0804-13	CLOSED NCR WITH ATTACHED CONTINUATION SHEET	01-09-14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [x]	Signature	Leon Navarrete (Printed Name)	01/17/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	0680
Address	915056627800
Name	LANL
Start Time	01/17 10:23 AM
Call Length	00'17
Sheets	1
Result	OK

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	01-13-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0804-13	CLOSED NCR WITH ATTACHED CONTINUATION SHEET	01-09-14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	01/17/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER
PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0894-13 **Revision 1**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): See Attachment 1
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): See Attachment 1
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* Revision 7.4, Section 3.3.3 states "*Acceptance Criterion.* TRU waste payload containers shall contain more than 100 nCi/g of alpha-emitting TRU isotopes with half-lives greater than 20 years."

7c. Actual Condition:
The containers identified on Attachment 1 were on a closed NCR for containing less than 100 nCi/g of alpha-emitting TRU isotopes. The previous NCR is also identified on Attachment 1. These NCRs were originally closed with a final disposition of "Reject" with a release code of "Returned". In order to get these containers back into the system a new NCR had to be created. This NCR accomplishes this and establishes a new final disposition.

Reason for Revision 1: Add container and remove containers that have been characterized in Revision 0 in Attachment 1.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:
1/23/14 LRS ☒ YES ☐ NO
1/27/14 1/23/14 LRS
TAGS Applied 1/27/13 14 LRS

8. NCR Originator:
Veronica Waldram (printed name) Veronica Waldram (signature) 1/23/14 (date)

9. Does the identified condition have the potential to impact AK? ☐ YES ☒ NO ☐ INDETERMINATE
If YES or INDETERMINATE, enter Trend Code L in Block 10.

10. Trend Code: K	11. Responsible Manager: Terri-Anne Groover
12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):	13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:
Laura R. Jones (printed name) Laura Raven Jones (signature) 1/23/2014 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 3/26/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0894-13 Revision 1

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name signature date

16b. QA Engineer or QA Designee:

printed name signature date

Additional Approval:

printed name signature date

Additional Approval:

printed name signature date

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name signature date

18. Interim Disposition Verified – QA Engineer:

printed name signature date

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0894-13 Revision 1

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

Re-assay using extended count time.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

Veronica Waldram	Veronica Waldram	1/23/14
printed name	signature	date

21. QA Engineer or QA Designee:

Laura R. Toms	Laura Ramos Toms	1/23/2014
printed name	signature	date

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Carolina Soatelma	Carolina Soatelma	2/27/14
printed name	signature	date

23. Attachments: 1- BDR Container combination. 2- Email Documenting Reportability. 3- Hold tag email for Containers 63466; 4, Resolution for Containers 64936. TM 3-3-14 63466, 66018, & 66019; 5- Resolution for Container 86899; 6- Resolution for Containers 63375 & 84455; *

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒

24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

Mak Walker	Mak Walker	03/21/14
printed name	signature	date

*Bk. 23 cont.: 7.- Resolution for Container 64936; 8.- Hold Tag Email; 9.- Hold Tag Email
8- Hold tag removal email
MW 03-21-14 9- "
10- Hold tag documentation + additional closure justification

NCR-LANL-0894-13, Revision 1
Attachment 1

Container ID	NDA BDR	NCR Number
63375	2LANDA0539	NCR-LANL-1206-10
63466	2LANDA0899	NCR-LANL-3648-11
64936	1LANDA1155	NCR-LANL-1298-09
66018	1LANDA1396	NCR-LANL-2592-11
66019	1LANDA1422	NCR-LANL-2612-11
84455	2LANDA0557	NCR-LANL-1211-10
86899	1LANDA1292	NCR-LANL-1278-10

Jones, Laura - NWP

From: Pearcy, Mark - NWP
Sent: Friday, January 24, 2014 12:52 PM
To: Jones, Laura - NWP
Subject: RE: Revised NCR-LANL-0894-13-1

Not reortable

Mark Pearcy
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
575-234-7394 (W)
575-499-7339 (C)

Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

From: Jones, Laura - NWP
Sent: Thursday, January 23, 2014 3:49 PM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Henry, Paulette; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; Terri-Anne Groover; Waldram, Veronica - NWP
Cc: Walker, Mak (Maryann) - NWP; Mueller, Terry - NWP; Jones, Laura - NWP
Subject: Revised NCR-LANL-0894-13-1

All – For your information
Antonio – Please apply hold tag on Container 63466 since it was added to this NCR.
Mark – Please review for notification purposes
Leon – Please post this open revised NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR – LANL-0894-13 Rev. 1
Attachment 2 Page 1 of 2

Jones, Laura - NWP

From: IDC [SQLMaster@wipp.ws]
Sent: Friday, January 24, 2014 12:52 PM
To: Jones, Laura - NWP; Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Morrison, Jim - NWP
Subject: Project Office NCR [NCR-LANL0894131] was just reviewed.

Certification Manager/Designee has just reviewed the project office NCR NCR-LANL0894131 and has indicated that it [should NOT] be reported to CBFO. IDC has already updated the NCR for you.

NCR -LANL-0894-13 Rev. 1
Attachment 2 Page 2 of 2

Jones, Laura - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Monday, January 27, 2014 3:13 PM
To: Jones, Laura - NWP
Subject: RE: Revised NCR-LANL-0894-13-1

Laura:

The tag for the requested container has been applied.

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Thursday, January 23, 2014 3:49 PM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy; Groover, Terri-Anne - NWP; Henry, Paulette; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig E; Groover, Terri-Anne; Waldram, Veronica - NWP
Cc: Walker, Mak (Maryann) - NWP; Mueller, Terry - NWP; Jones, Laura - NWP
Subject: Revised NCR-LANL-0894-13-1

All – For your information
Antonio – Please apply hold tag on Container 63466 since it was added to this NCR.
Mark – Please review for notification purposes
Leon – Please post this open revised NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR – LANL-0894-13 Rev. 1
Attachment 3 Page 1 of 1

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0894-13 Revision 1 Attachment # 4 Page 1 of 1
Continuation from Section Number: N/A Container 63466 has been characterized in BDR 4LANDA0040. Container 66018 has been characterized in BDR 1LANDA1901. Container 66019 has been characterized in BDR 2LANDA1260.

NCR-LANL-0894-13 R1

Attachment 4 Page 1 of 1

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0894-13 Revision 1 Attachment # 5 Page 1 of 1
Continuation from Section Number: N/A Container 86899 was re-assayed in BDR 4LANDA0042

NCR -LANL-0894-13 R1
Attachment 5 Page 1 of 1

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0894-13 Revision 1 Attachment # 6 Page 1 of 1
Continuation from Section Number: N/A Container 63375 has been characterized in BDR 4LANDA0049. Container 84455 has been characterized in BDR 4LANDA0049.

-LANL-0894-13 R1

Attachment 6 Page 1 of 1

Attachment 3_– CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0894-13 Revision 1 Attachment # 7 Page 1 of 1
Continuation from Section Number: N/A Container 64936 was re-assayed in BDR 4LANDA0057

NCR-LANL-0894-13 R1

Attachment 7 Page 1 of 1

~~NCR-LANL-0894-13 R1~~

~~Attachment 4~~ Page 1 of 1 TM 3·3·14

Jones, Laura - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Thursday, February 20, 2014 3:30 PM
To: Jones, Laura - NWP
Subject: RE: Containers resolved NCR-LANL-0894-13-1.

Laura:

The tags for the containers listed below have been removed.

NCR -LANL-0894-13 Rev. 1
Attachment 8 Page 1 of 2

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Monday, February 03, 2014 1:08 PM
To: Chavarria, Antonio - NWP
Cc: Waldram, Veronica - NWP; Soaterna, Carolina - NWP; Groover, Terri-Anne - NWP; Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP
Subject: Containers resolved NCR-LANL-0894-13-1.

Antonio – Containers below have been resolved, NCR cannot be close yet since it includes other containers not resolved. Please remove hold tags for resolved containers. Thank you.

BDR ID	Container ID	Release Code	Reason	NCR
2LANDA0899	55952	Resolved	Container was characterized in BDR 1LANDA1879.	NCR-LANL-0894-13-1
1LANDA1486	56370	Resolved	Container was characterized in BDR 1LANDA1882.	NCR-LANL-0894-13-1
1LANDA1489	56920	Resolved	Container was characterized in BDR 1LANDA1878.	NCR-LANL-0894-13-1
1LANDA1488	58161	Resolved	Container was characterized in BDR 1LANDA1877.	NCR-LANL-0894-13-1
1LANDA1396	66018	Resolved	Container 66018 has been characterized in BDR 1LANDA1901.	NCR-LANL-0894-13-1
1LANDA1422	66019	Resolved	Container 66019 has been characterized in BDR 2LANDA1260.	NCR-LANL-0894-13-1
1LANDA1188	84453	Resolved	Container was characterized in BDR 4LANDA0023.	NCR-LANL-0894-13-1
1LANDA1223	85072	Resolved	Container was characterized in BDR 4LANDA0025.	NCR-LANL-0894-13-1
2LANDA0591	85273	Resolved	Container was characterized in BDR 4LANDA0021.	NCR-LANL-0894-13-1
2LANDA0619	85894	Resolved	Container Number 85894 has been characterized in BDR 1LANDA1883.	NCR-LANL-0894-13-1
1LANDA1297	86964	Resolved	Container was characterized in BDR 4LANDA0024.	NCR-LANL-0894-13-1
1LANDA1368	87746	Resolved	Container was characterized in BDR 4LANDA0025.	NCR-LANL-0894-13-1
2LANDA0775	87907	Resolved	Container was characterized in BDR 4LANDA0026.	NCR-LANL-0894-13-1

→	1LANDA1371 88053	Resolved	Container was characterized in BDR 4LANDA0025.	NCR-LANL-0894-13-1
	2LANDA0899 63466	Resolved	Container 63466 has been characterized in BDR 4LANDA0040.	NCR-LANL-0894-13-1

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

Jones, Laura - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Thursday, February 27, 2014 4:17 PM
To: Mueller, Terry - NWP
Cc: Walker, Mak (Maryann) - NWP; Jones, Laura - NWP
Subject: RE: NCR-LANL-0894-13 r1

Terry:

The tags for the container listed below have been removed.

Thank you,
Antonio
Chavarria

From: Mueller, Terry - NWP [mailto:terry.mueller@wipp.ws]
Sent: Thursday, February 27, 2014 12:56 PM
To: Chavarria, Antonio D; Chavarria, Antonio - NWP
Cc: Soaterna, Carolina - NWP; Groover, Terri-Anne; Walker, Mak (Maryann) - NWP; Jones, Laura - NWP; Waldram, Veronica - NWP
Subject: NCR-LANL-0894-13 r1

Antonio – please remove hold tags & confirm.

ctnr.	new BDR	
64936	4LANDA0057	resolved
86899	4LANDA0042	resolved

Thanks!

TERRY L. MUELLER
Assurance Programs
MS GS-103
work (575)-234-7016
fax (575)-234-7071

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA
Contractor to the Department of Energy

NCR -LANL-0894-13 Rev. 1

Attachment 9 Page 1 of 1

Mueller, Terry - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Thursday, March 06, 2014 5:07 PM
To: Mueller, Terry - NWP
Subject: RE: NCR-LANL-0894-13 r1

Terry:

NCR-LANL-0894131 appears to have 19 containers and all have been resolved and all tags removed.

I am not sure what the disconnect is.

Thank you,
Antonio
Chavarria

From: Mueller, Terry - NWP [mailto:terry.mueller@wipp.ws]
Sent: Wednesday, March 05, 2014 7:29 AM
To: Chavarria, Antonio D; Chavarria, Antonio - NWP
Cc: Walker, Mak (Maryann) - NWP
Subject: NCR-LANL-0894-13 r1

Hi, Antonio,
I'm looking at subj. NCR to close it. There are 7 drums on rev. 1 and I can find hold tag removal emails for all but 2 of 'em. I b'lieve you keep records like this – do you have anything showing removal for:

- 63375
- 84455

All 7 drums show "Resolved" in IDC. The two emails from you to Laura and me are dated 2/20/14 and 2/27/14.

Thanks!

TERRY L. MUELLER
Assurance Programs
MS GS-103
work (575)-234-7016
fax (575)-234-7071

Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA
Contractor to the Department of Energy

NCR LANL-0894-13 Rev 1

Attachment 10 Page 1 of 1

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0108-14 **Revision 0**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): 4LANDA0030, container #(s): 53892, 54206, 54213, 68658 BDR 1/22/14 LRS 1LANDA1891, container#(s): 59537, 59538, 68540, 69075, 69157, 69160, S818617, S818631
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
CCP-TP-103, Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000, Rev. 12, Section 4.3.1[B.3], instructs the ITR to "Complete and print as necessary, sign, and date Attachment 4, NDA Independent Technical Reviewer Checklist."

7c. Actual Condition:
The question "Were QC criteria that were not met documented with an NCR?" on CCP-TP-103, was answered "N/A". There is in fact a documented NCR (NCR-LANL-0124-14) that addresses QC criteria that were not met.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain: 1/27/14 LRS

8. NCR Originator:
Daniel Wade (printed name) Daniel Wade (signature) 01/22/2014 (date)

9. Does the identified condition have the potential to impact AK? ☐ YES ☒ NO ☐ INDETERMINATE
If YES or INDETERMINATE, enter Trend Code L in Block 10.

10. Trend Code: A

11. Responsible Manager: Veronica Waldram

12. Significant Condition? ☐ YES ☒ NO
(If Yes, enter CAR No.):

13. Recurring Condition?
☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:
Laura R Jones (printed name) Laura Lawson Jones (signature) 1/22/2014 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 02/05/14 (L)

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0108-14 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0108-14 Revision 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair
19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☐ Reject ☒ Rework ☐ Scrap
19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
1.) NDA-ITR, make needed corrections to BDRs.
2.) SPM Review.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

Veronica Waldram	Veronica Waldram	1/22/14
printed name	signature	date

21. QA Engineer or QA Designee:

Laura R. Jones	Laura Raven Jones	1/22/2014
printed name	signature	date

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Daniel Wade	Daniel Wade	1/29/2014
printed name	signature	date

23. Attachments: 1:- Email Documenting Reportability. 2: Hold tag application notification 3:- Evidence for NCR closure. 4:- Hold tags removal notification

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☑
24b. If HOLD TAG is not applicable, check: ☐ and explain:
See Attachment 4.

25. Final Disposition Verified – NCR Closed QA Engineer:

Laura R. Jones	Laura Raven Jones	02/03/2014
printed name	signature	date

Jones, Laura - NWP

From: Pearcy, Mark - NWP
Sent: Friday, January 24, 2014 12:54 PM
To: Jones, Laura - NWP
Subject: RE: New NCR-LANL-0108-14

Not reportable

Mark Pearcy
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
575-234-7394 (W)
575-499-7339 (C)

Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

From: Jones, Laura - NWP
Sent: Thursday, January 23, 2014 4:12 PM
To: Pearcy, Mark - NWP
Subject: FW: New NCR-LANL-0108-14

Mark - Please review for notification purposes.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR – LANL-0108-14 Rev. 0
Attachment 1 Page 1 of 2

From: Jones, Laura - NWP
Sent: Wednesday, January 22, 2014 3:48 PM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Henry, Paulette; Kantrowitz, Rich - NWP; 'Leon Navarrete'; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; 'Terri-Anne Groover'; Waldram, Veronica - NWP; Soaterna, Carolina - NWP; 'daniel.wade@wipp.ws'
Cc: Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Jones, Laura - NWP
Subject: New NCR-LANL-0108-14

Antonio/Veronica/Groover/Craig – Please apply hold tags and notify
Mark – Please review for notification purposes
Leon – Please post this open NCR.

Thanks and Best Regards

Leon – Please post these open NCRs.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR – LHNL-D108-14 Rev. 0

Attachment 1 Page 2 of 2

Jones, Laura - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Monday, January 27, 2014 3:12 PM
To: Jones, Laura - NWP
Subject: RE: New NCR-LANL-0108-14

Laura:

The tags for the NCR listed below have been applied.

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Wednesday, January 22, 2014 3:48 PM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy; Groover, Terri-Anne - NWP; Henry, Paulette; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig E; Groover, Terri-Anne; Waldram, Veronica - NWP; Soaterna, Carolina - NWP; Wade, Daniel NWP
Cc: Mueller, Terry - NWP; Walker, Mak (Maryann) - NWP; Jones, Laura - NWP
Subject: New NCR-LANL-0108-14

Antonio/Veronica/Groover/Craig – Please apply hold tags and notify
Mark – Please review for notification purposes
Leon – Please post this open NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR - LANL-0108-14 Rev. 0
Attachment 2 Page 1 of 1

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1891
NDA Counter ID: HENC 1	NDA Batch Date: 1/15/14
Waste Containers:	
69160 59538	
69157 59537	
69075 68540	
S818617	
S818631	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Pete Lucchini	
Approval Signature and Date: 1·21·14	

Richard C. Baumann 1-22-14
1-28-14

NCR- LANL-0108-Rev. 0

Attachment 3 Page 1 of 8

NTPC RECORDS ORIGINAL
DATE REC'D 1/22/14 001

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1891

Date: 1/15/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 1/15/14.
The Weekly Interfering Matrix Measurement for this batch was run on 1/13/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

NCR-LANL-0127-14
NCR-LANL-0129-14
NCR-LANL-0108-14 RAB 1-28-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
Inclusion of final NCR-LANL-0127-14 verified. RAB 1-22-14

NDA ITR: _____ Date: 1/21/14
Pete Lucchini

Richard C. Baumann RCBaumann 1-22-14
NCR-LANL-0108-14 added to BDR
RAB 1-28-14 RCBaumann 1-28-14

NCR LANL-0108-14 Rev. 0

Attachment 3 Page 2 of 8

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	NDA Batch Number: 1LANDA1891
Procedure/Rev Number: CCP-TP-063, Rev. 15	NDA Counter ID: HENC 1

Description of Criteria Reviewed	Criteria Met Yes/No/NA
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

NCR LANL-0108-14 Rev.0

Attachment 3 Page 3 of 8

012

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR? RLB 1-28-14	☑ Yes ☐ No ☑ N/A RLB 1-28-14
Weekly Interfering Matrix Container Measurements were properly performed and completed on 1/13/14 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Pete Lucchini	
Approval Signature and Date: [signature] 1-21-14	

Richard C. Baumann [signature] 1-22-14
[signature] 1-28-14

NCR LANL-0108-14 Rev 0
Attachment 3 Page 4 of 8

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 4LANDA0030
NDA Counter ID: MILCC	NDA Batch Date: 1/8/14
Waste Containers:	
54213	
53892	
54206	
68658	
N/A	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Tim Barton	
Approval Signature and Date: Tim Barton 1/16/14 B 1/16/14	

Tim Barton 1/28/14 B 1/28/14

NCR- LANL-0108-14 Rev. 0

Attachment 3 Page 5 of 8

NTPC RECORDS ORIGINAL
DATE REC'D 1/21/14 001

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 4LANDA0030

Date: 1/8/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 1/08/14.
The Weekly Interfering Matrix Measurement for this batch was run on 1/06/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

NCR-LANL-0124-14
NCR-LANL-0108-14 B 1/28/14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified Operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.

NDA ITR: Tim Barton Date: 1/16/14

Tim Barton

1/28/14

NCR- LANL-0108-14 Rev. 0

Attachment 3 Page 6 of 8

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	NDA Batch Number: 4LANDA0030
Procedure/Rev Number: CCP-TP-076, Rev. 0	NDA Counter ID: MILCC

Description of Criteria Reviewed	Criteria Met Yes/No/NA
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s) Data are reported in the proper units.	☑ Yes ☐ No ☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☐ Yes ☐ No ☑ N/A ☐ Yes ☐ No ☑ N/A

NCR LANL-0108-14 Rev 0

Attachment 3 Page 7 of 6

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	TB 1/28/14 ☑ Yes ☐ No TB 1/28/14 ☒ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 1/06/14 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Tim Barton	
Approval Signature and Date: Tim Barton 1/16/14	

Tim Barton 1/28/14

NCR LANL-0108-14 Rev. 0

Attachment 3 Page 8 of 8

Jones, Laura - NWP

From: Chavarria, Antonio D [antonio_chavarria@lanl.gov]
Sent: Monday, February 03, 2014 1:16 PM
To: Jones, Laura - NWP
Subject: RE: Hold tags to be pulled NCR-LANL-0108-14

Laura:

The tags for the containers listed below have been removed.

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Wednesday, January 29, 2014 10:00 AM
To: Chavarria, Antonio - NWP
Cc: Groover, Terri-Anne - NWP; Waldram, Veronica - NWP; Wade, Daniel NWP; Soaterna, Carolina - NWP; Walker, Mak (Maryann) - NWP
Subject: Hold tags to be pulled NCR-LANL-0108-14

Antonio – Containers below have been resolved at the project office please remove hold tags and notify to close NCR.

4LANDA0030	53892	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14
4LANDA0030	54206	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14
4LANDA0030	54213	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14
4LANDA0030	68658	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14
1LANDA1891	59537	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14
1LANDA1891	59538	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14
1LANDA1891	68540	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14
1LANDA1891	69075	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14
1LANDA1891	69157	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14
1LANDA1891	69160	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14
1LANDA1891	S818617	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14
1LANDA1891	S818631	Resolved	BDRs corrected, SPM reviewed.	NCR-LANL-0108-14

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

NCR – LANL-0108-14 Rev. 0
Attachment 4 Page 1 of 1

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0122-14 **Revision 0**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDE 03/5/14	3. Batch Data Report #(s): LA-HERTR-14-0026
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 68141
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
CCP-TP-053, Rev. 14, CCP Standard Real-Time Radiography (RTR) Inspection Procedure
Section 4.9.3 Assemble the following data for the BDR:
[A] Attachment 5, CCP Radiography Batch Data Report Cover Sheet

7c. Actual Condition:
Attachment 5 –CCP Radiography Batch Data Report Cover Sheet
The Independent Observation container number listed is incorrect.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☐ YES ☑ NO If no is checked, explain:
Please refer to attachment 4.
MW 03/12/14

8. NCR Originator:

Carolina Soaterna	Carolina Soaterna	3/5/14
printed name	signature	date

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: A	11. Responsible Manager: **Terri-Anne Groover**
12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):	13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Mak Walker	Mak Walker	03/05/14
printed name	signature	date

CCP RECORDS ORIGINAL
DATE REC'D 3/12/14 SP

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0122-14 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0122-14 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair
19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☐ Reject ☒ Rework ☐ Scrap
19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
1. DGL to correct container data.
2. ITR re-review; submit corrections and copy of NCR to records.
3. SPM to re-review corrected data.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

Carolina Soaterna	Carolina Soaterna	3/5/14
printed name	signature	date

21. QA Engineer or QA Designee:

Mak Walker	Mak Walker	3/5/14
printed name	signature	date

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Carolina Soaterna	Carolina Soaterna	3/6/14
printed name	signature	date

23. Attachments: 1) Basis for closure 2) M. Pearey email
3) misc email 4) Hold tag documentation
MW 03-12-14

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☑ and explain:

Please refer to attachment 4. MW 03/12/14

25. Final Disposition Verified – NCR Closed QA Engineer:

Mak Walker	Mak Walker	03/12/14
printed name	signature	date

Attachment 5--CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-14-0026 ☑ CH ☐ RH Date: 2-27-14

Waste Container ID Numbers	
Replicate Scan:	68143
Independent Observation:	TJH 3-6-14 68141
1	68141
2	68143
3	N/A
4	N/A
5	N/A
6	N/A
7	N/A
8	N/A
9	N/A
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Thad Hasselstrom
Printed Name

Thad Hasselstrom 3-6-14
Signature

2-27-14
Date

Independent Technical Reviewer:

Dartagnan Jackson
Printed Name
Aaron Elliott

Dartagnan Jackson
Signature
JAElliott

2-27-14
Date
3/6/14

NCR- LANL-0122-14 E0

Page 1 of 3

Attachment 1

NTPC RECORDS ORIGINAL
DATE REC'D 3/4/14

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-14-0026

Description				
1	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☒ YES	
3.	Are the WMPs entered correctly?	☐ NO	☒ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☒ YES	
5	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☒ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☒ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☒ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☒ YES	
9	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	
11	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	JCE 3/6/14 ☒ YES	JCE 3/6/14 ☒ N/A
12.	Was justification made for changing the original data?	JCE 3/6/14 ☒ NO	☐ YES	JCE 3/6/14 ☒ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	JCE 3/6/14 ☒ YES	JCE 3/6/14 ☒ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☒ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☒ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☒ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☒ YES	

NCR- LANL-0122-14 R0

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-14-0026

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☒ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☒ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☒ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☒ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☒ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☒ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☒ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☒ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☒ YES	☐ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☒ YES	

Comments: ~~N/A~~ I HAVE REVIEWED AND AGREE WITH ALL CHANGES. JAE 3/6/14

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Printed Name	Signature	Date
Dirtagnan Jackson AARON ELLIOTT	Dirtagnan Jackson JAE	2-27-14 3/6/14

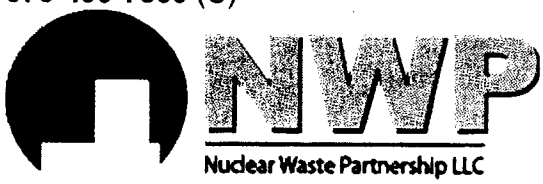
NCR LAN-0122-14 KO Page 1 of 3

Walker, Mak (Maryann) - NWP

From: Pearcy, Mark - NWP
Sent: Wednesday, March 05, 2014 1:20 PM
To: Walker, Mak (Maryann) - NWP
Subject: RE: New NCR-LANL-0122-14-0

Not reportable

Mark Pearcy
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
575-234-7394 (W)
575-499-7339 (C)



A URS-led partnership with B&W and AREVA

From: Walker, Mak (Maryann) - NWP
Sent: Wednesday, March 05, 2014 10:55 AM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; Terri-Anne Groover; Waldram, Veronica - NWP; Kirkes, Creta - NWP
Cc: Mueller, Terry - NWP; Ledford, Wayne - NWP
Subject: RE: New NCR-LANL-0122-14-0

Antonio / Groover / Carolina / Craig – Please apply hold tags and notify
Mark – Please review for notification purposes.
Leon – Please post this open NCR.

Mak Walker
Assurance Programs
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Phone: 575-234-7265
Mail Stop: GSA-103
Email: mak.walker@wipp.ws

GOOD JUDGMENT COMES FROM EXPERIENCE, AND A LOT OF THAT COMES FROM BAD JUDGMENT.
WILL ROGERS

NCR LANL-0122-14 Rev 0
Attachment 2 Page 1 of 1

Walker, Mak (Maryann) - NWP

From: Walker, Mak (Maryann) - NWP
Sent: Wednesday, March 05, 2014 10:55 AM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Mark - NWP; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; Terri-Anne Groover; Waldram, Veronica - NWP; Kirkes, Creta - NWP
Cc: Mueller, Terry - NWP; Ledford, Wayne - NWP
Subject: RE: New NCR-LANL-0122-14-0
Attachments: NCR-LANL-0122-14-0.pdf

Tracking:

Recipient	Read
Chavarria, Antonio - NWP	
Fitzgerald, Randy - LANL	
Groover, Terri-Anne - NWP	
Kantrowitz, Rich - NWP	
Navarrete, Leon - Stoller	
Pearcy, Mark - NWP	
Pearcy, Sheila - Stoller	
Simmons, Craig - LANL	
Terri-Anne Groover	
Waldram, Veronica - NWP	
Kirkes, Creta - NWP	Read: 3/6/2014 6:37 AM
Mueller, Terry - NWP	
Ledford, Wayne - NWP	

Antonio / Groover / Carolina / Craig – Please apply hold tags and notify
Mark – Please review for notification purposes.
Leon – Please post this open NCR.

Mak Walker
Assurance Programs
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Phone: 575-234-7265
Mail Stop: GSA-103
Email: mak.walker@wipp.ws

GOOD JUDGMENT COMES FROM EXPERIENCE, AND A LOT OF THAT COMES FROM BAD JUDGMENT.
WILL ROGERS

NCR LANL-0122-14 Rev 0
Attachment 3 Page 1 of 1

Walker, Mak (Maryann) - NWP

From: Chavarria, Antonio D <antonio_chavarria@lanl.gov>
Sent: Wednesday, March 12, 2014 2:02 PM
To: Walker, Mak (Maryann) - NWP
Subject: RE: question on NCR-LANL-0122-14

Mak:

The tag was not hung.

Thank you,
Antonio
Chavarria

From: Walker, Mak (Maryann) - NWP [mailto:Mak.Walker@wipp.ws]
Sent: Monday, March 10, 2014 7:45 AM
To: Chavarria, Antonio - NWP; Groover, Terri-Anne - NWP
Cc: Soaterna, Carolina - NWP; Mueller, Terry - NWP; Ledford, Wayne - NWP
Subject: question on NCR-LANL-0122-14

Antonio,
I sent a new NCR to you last week to hang tags on Container 68141. Carolina has already resolved the container but I need to know if the tags got hung. If not, let me know so I can save you a tip to remove the tag. Thanks,

Mak Walker
Assurance Programs
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Phone: 575-234-7265
Mail Stop: GSA-103
Email: mak.walker@wipp.ws

GOOD JUDGMENT COMES FROM EXPERIENCE, AND A LOT OF THAT COMES FROM BAD JUDGMENT.
WILL ROGERS

NCR LANL-0122-14-Rev 0
Attachment 4 Page 1 of 1

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0127-14 Revision: 0

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): 1LANDA1891
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 69160, 69157, 69075, S818617, S818631, 59538, 59537, 68540
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

(Ref. DOE/WIPP-02-3122, TRANSURANIC WASTE ACCEPTANCE CRITERIA FOR THE WASTE ISOLATION PILOT PLANT, Rev.7.4, Page 71, Appendix A, Table A-3).

If daily performance checks result in data that are outside the acceptable range, the required responses in table A-3 shall be followed:

Work shall stop and the occurrence shall be documented and appropriately dispositioned (e.g., initiating a non-conformance report). The radioassay system shall be removed from service pending successful resolution of all necessary actions, and all assays performed since the last acceptable performance check are suspect, pending satisfactory resolution. Recalibration or calibration verification is required prior to returning the system back to service.

7c. Actual Condition:

On 1/16/14, at HENC 1, the "Eu-152 wtd mean act. #1 parameter on the Gamma Instrument Check displayed an "Ac" flag.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Tim Barton (printed name) — Tim Barton (signature) — 1/16/14 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: K	11. Responsible Manager: Terri-Anne Groover
12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):	13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation: Dominic R. Archuleta (printed name) — DAI 1.20.14 (signature) — 1.20.14 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 1/28/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0127-14 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☐ N/A (See Final Disposition) ☒ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

HENC #1 was removed from service. Evaluate the results of the calibration verification required by DOE/WIPP-02-3122 and implemented in CCP-TP-063. All data run on 1/15/14 are suspect pending satisfactory resolution of the Calibration Verification.

the calibration verification is evaluated as satisfactory. Drums are "use-as-is" RLB 1-20-14

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual: For Terri. Anne Grover per telcon

Richard C. Baumann (printed name) | RCBaumann (signature) | 1-20-14 (date)

16b. QA Engineer or QA Designee:

Dominic R. Archuleta (printed name) | DRA (signature) | 1-20-14 (date)

Additional Approval:

printed name | signature | date

Additional Approval:

printed name | signature | date

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

Terri Anne Grover (printed name) | for A Baumann (signature) | 1-21-14 (date)

18. Interim Disposition Verified – QA Engineer:

Antonio D. Chavarria (printed name) | (signature) | 1/21/14 (date)

A.C. 1/21/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0127-14 Revision 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☒ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☐ N/A for Reject, Rework, or Scrap]

Acceptable CAL. VER

☐ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

NA

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☐ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

NA

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

Terri-Anne Groover	T. A Groover	1-21-14
printed name	signature	date

21. QA Engineer or QA Designee:

Antonio D. Chavarria		1/21/14
printed name	signature	date

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Terri-Anne Groover	T. A Groover	1-21-14
printed name	signature	date

23. Attachments:

#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒
24b. If HOLD TAG is not applicable, check: ☐ and explain:

A.C.
1/27/14

25. Final Disposition Verified – NCR Closed QA Engineer:

Antonio D. Chavarria		1/27/14
printed name	signature	date

NCR-LANL-0127-14 Rev. 0
Attachment #1, p. 1 of 2

HENC #1 Calibration Verification

1/16/2014

Submitted by RL Baumann **Date** 1-17-14
Curt Baumann

Introduction

Mobile Characterization Services (MCS) operates two High Efficiency Neutron Counters (HENCs) at Los Alamos National Laboratory (LANL) for the Central Characterization Project (CCP). The HENC#1 is located in building number 54-506 at TA-54 in area G at LANL. On January 16, 2014, the HENC#1 showed an Action flag on the gamma instrument QA/QC check for the Eu-152 weighted mean activity parameter, indicating that the measurement was above the 3-sigma upper limit. The instrument was taken out of service and an investigation of the system was performed. The investigation showed that the software evaluated the 1150 keV pulser peak region as a multiplet, with a very small variation in the spectral background continuum evaluated as the second spectral peak. This resulted in a reduction in the integrated area evaluation of the actual pulser peak and a subsequent increase in the pulser peak correction factor across the spectrum. A passing gamma instrument QA/QC check would have been reported had the pulser peak been correctly evaluated for this measurement. Subsequent QA/QC checks were run and the values passed. There are no obvious issues with the electronics at the present time. Three calibration verification measurements were then performed using a 25 gram Pu source in a zero-matrix drum. The results verified that the calibration is satisfactory.

1.0 Calibration Verification Data

To verify the calibration and operation of the instrument, three verification assays were performed using the Empty PDP drum PDP-001 and the RANT25-1 source in tube position 2, height 15. The results for the verification are presented in the attachment and summarized below in Table 1.

Run #	Sequence #	Date of Assay	Total Pu known mass	Total Pu Measured Mass (N)	%R (N)	Total Pu Measured Mass (G)	% R (G)
1	24128	1/16/2014	26.921	24.9	92.49	25.8	95.84
2	24129	1/16/2014	26.921	26.0	96.58	26.0	96.58
3	24130	1/16/2014	26.921	25.0	92.86	25.4	94.35
Average				**25.30**	**93.98**	**25.73**	**95.59**
StDev				**0.61**		**0.31**	
%RSD				**2.26**		**1.13**	

Table 1: Results for calibration verification for the RANT25-1 standard from measurements taken on 1/16/14 in the PDP-001 drum.

2.0 Conclusions

The calibration verification data are within the required 6.6% RSD value for 3 replicate measurements. The verifications are also within the ±30% accuracy limits. The limits used for the calibration verification are taken from Table A-2 of document CCP-PO-002 *CCP Transuranic Waste Certification Plan* and implemented in document CCP-TP-064 *Calibrating the HENC Using NDA 2000*. The system is within acceptable limits.

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	01-28-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0127-14	CLOSURE PAPERWORK FOR NCR-LANL-0127-14	01/27/14	5
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted	[✓]	Signature	Leon Navarrete (Printed Name)	02/03/14 (Date)
Records Rejected	[ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	1503
Address	915056656753
Name	
Start Time	02/03 03:26 PM
Call Length	00'31
Sheets	1
Result	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	01-28-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0127-14	CLOSURE PAPERWORK FOR NCR-LANL-0127-14	01/27/14	5
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	02/03/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0341-14 Revision 0

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): 1LANDA1911 Container #(s): 69372
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
(Ref. MCS HENC #1 Calibration Report Rev. 6, Calibration Qualification Summary Section)

Gamma: LLD to 217g of Total Pu limited by dead time. Acceptable

density range for gamma is 0.018 - 2.1 g/cc.

7c. Actual Condition:
Gamma dead-time too high for TRU analysis.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Israel Aragon (printed name) _____ (signature) 2/20/14 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: K	11. Responsible Manager: Terri-Anne Groover
12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):	13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation

MARIA ESCARCEGA (printed name) _____ (signature) 2-20-14 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 3/24/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0341-14 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0341-14 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
Return to MILCC for minimum 4 hour count at far position.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual: For Terri Anne Groover per Le/Ca

Richard C Baumann (printed name) — signature — 2-2014 (date)

21. QA Engineer or QA Designee:

MARIA ESCAREÑA (printed name) — signature — 2/20/14 (date)

Additional Approval:

printed name — signature — date

Additional Approval:

printed name — signature — date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Terri Anne Groover (printed name) — signature — 3/4/14 (date)

23. Attachments:

#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒

24b. If HOLD TAG is not applicable, check: ☐ and explain: A.C. 3/20/14

25. Final Disposition Verified – NCR Closed QA Engineer:

Antonio D. Chavarria (printed name) — signature — 3/20/14 (date)

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0341-14 Revision 0	Attachment # ~~0~~ 1	Page 1 of 1
Continuation from Section Number: n/a 69372 was recharacterized in 4LANDA0058.	A.C. 3/20/14	

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-24-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0341-14	CLOSED NCR WITH ATTACHMENT 1	03-20-14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Printed Name	Date: 4/8/2014
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	2837
Address	915056291658
Name	LANL
Start Time	04/08 02:05 PM
Call Length	00'18
Sheets	1
Result	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-24-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0341-14	CLOSED NCR WITH ATTACHMENT 1	03-20-14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

		Signature	Printed Name	Date
Records Accepted	[X]	Jenna C. Ranada	Jenna C. Ranada	4/8/2014
Records Rejected	[ ]			

Reason for Rejection:

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0348-14 Revision 0

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): 3LANDA0247 Container #(s): 67126
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☒ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
[Ref. DOE/WIPP-02-3122 (Transuranic Waste Acceptance Criteria For The Waste Isolation Pilot Plant) Rev.7.4, Page 30, Section 3.3.3]

Acceptance Criterion: TRU waste payload containers shall contain more than 100 nCi/g of alpha-emitting TRU isotopes with half-lives greater than 20 years.

7c. Actual Condition:
SWB measures < 100nCi/g TRU Alpha Activity Concentration.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Israel Aragon (printed name) — signature — 2/27/14 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: K

11. Responsible Manager: **Terri-Anne Groover**

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

TIM BARTON (printed name) — signature — 2/27/14 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 4/2/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0348-14 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0348-14 Revision 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
Return to MILCC for a minimum 6 hour count in the Near position.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual: For Terri-Anne Groover per telcon.

printed name	signature	date
Richard C. Iguanna		2-27-14

21. QA Engineer or QA Designee:

printed name	signature	date
TIM BARTON		2/27/14

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover		4/1/14

23. Attachments:
#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒ A.C. 4/1/14
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date
Antonio D. Chavarria		4/1/14

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0348-14 Revision 0	Attachment # 1	Page 1	of 1
Continuation from Section Number: n/a 67126 was recharacterized in 4LANDA0060.			

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record
[ ] Fax Record
[ ] Electronic Record
[ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0348-14	CLOSED NCR WITH ATTACHMENT 1	04-01-14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	4/8/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

```
**********************************
***        Send Results        ***
**********************************

   Sending is complete.

Job No.                    2856
Address                    915056291658
Name                       LANL
Start Time                 04/08 02:29 PM
Call Length                00'21
Sheets                     1
Result                     OK
```


Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0348-14	CLOSED NCR WITH ATTACHMENT 1	04-01-14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete Printed Name	4/8/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0507-14 **Revision 0**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): 4LANDA0060 Container #(s): 68285
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
[Ref. DOE/WIPP-02-3122 (Transuranic Waste Acceptance Criteria For The Waste Isolation Pilot Plant) Rev.7.4, Page 30, Section 3.3.3]

Acceptance Criterion: TRU waste payload containers shall contain more than 100 nCi/g of alpha-emitting TRU isotopes with half-lives greater than 20 years.

7c. Actual Condition:
Assay is indeterminate. Cannot verify that container meets WIPP TRU waste criteria.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☒ YES ☐ NO If no is checked, explain:

8. NCR Originator:
Israel Aragon (printed name) — signature — 3/6/14 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: K	11. Responsible Manager: **Terri-Anne Groover**
12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):	13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:
TIM BARTON (printed name) — signature — 3/6/14 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 4/1/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0507-14 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0507-14 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
Return to LANL for LLW analysis.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual: For Terri-Anne Groover per tel/con

Richard C. Bowman (printed name) R Bowman (signature) 3-6-14 (date)

21. QA Engineer or QA Designee:

DM BARTON (printed name) Dm Barton (signature) 3/6/14 (date)

Additional Approval:

(printed name) (signature) (date)

Additional Approval:

(printed name) (signature) (date)

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Terri-Anne Groover (printed name) T-A Groover (signature) 3-31-14 (date)

23. Attachments: #1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒ A.C. 3/31/14
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

Antonio D. Chavarria (printed name) (signature) 3/31/14 (date)

Groover, Terri-Anne

From:	JRFESQ2@aol.com
Sent:	Thursday, March 27, 2014 7:04 PM
To:	Bena, Clare E; Christensen, Davis V; Fitzgerald, Randy; jhardin@portageinc.com; dramirez@portageinc.com; Groover, Terri-Anne; Mojica, Tommy; Miller, Scott; Amin, Tamer; Martinez, Colleen M
Cc:	Gruetzmacher, Kathleen; rlucero@pscnda.com; Lucero, Randy P; Sloan, Tim; French, Sean B; vvalencia@portageinc.com
Subject:	Container 68285 Reclassified and Moved to LLW TAB (from AKTSS)

Container 68285 has been moved to the LLW TAB (from the AKTSS)....

Thanks,

Randy Fitzgerald, CCP AKE
Technical Specialists
Nuclear Waste Partnership, LLC - Subcontractor
LTP-SSS: SHIPPING AND SAFE STORAGE PROJECT
TA-54, Bldg. 533, Room 1017
Mail Stop - J962
505-231-7582 (LANL Cell)
214-460-7060 (Cell)
randy_fitz@lanl.gov jrfesq2@aol.com

In a message dated 3/27/2014 5:43:14 PM Central Daylight Time, cbena@lanl.gov writes:

> All –
>
> The above container was reclassified to LLW – W792852.
>
> Please call if any questions.
>
> Thanks,
>
> Clare
>
> 7-6777

NCR-LANL-0507.14 R0
Att 1 p1-f1

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GAS-212	Telephone Number:	(505) 412-4821
	N/A	Date Sent:	04/01/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0507-14	CLOSURE PAPERWORK FOR NCR-LANL-0507-14	03/31/14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	4/9/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

```
**********************************
***        Send Results        ***
**********************************

   Sending is complete.

Job No.                    2917
Address                    915056291658
Name                       LANL
Start Time                 04/10 02:25 PM
Call Length                00'20
Sheets                     1
Result                     OK
```


Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GAS-212	Telephone Number:	(505) 412-4821
	N/A	Date Sent:	04/01/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0507-14	CLOSURE PAPERWORK FOR NCR-LANL-0507-14	03/31/14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted	[✓]	Signature	Leon Navarrete (Printed Name)	4/9/14 (Date)
Records Rejected	[ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0532-14 **Revision 0**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): 4LANDA0028 Container #(s): 53889
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

(Ref. CCP-TP-103, Rev.12, Page 8, Section 3.3)

3.3 NDA Expert Analyst (EA)
3.3.2 Resolves any problem assay results of containers.

7c. Actual Condition:

CMB requires further EA review at CCP request prior to shipment.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☐ YES ☒ NO If no is checked, explain:
CMB is not accessible.

8. NCR Originator:

Richard C. (Curt) Baumann (printed name) — signature — 4-17-14 (date)

9. Does the identified condition have the potential to impact AK? ☐ YES ☒ NO ☐ INDETERMINATE
If YES or INDETERMINATE, enter Trend Code L in Block 10.

10. Trend Code: K	11. Responsible Manager: **Terri-Anne Groover**
12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):	13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Dominic R. Archuleta (printed name) — signature — 4.17.14 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 4/22/14

☐ ORIGINAL

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0532-14 Revision 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

ORIGINAL

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0532-14 Revision 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair
19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☐ Reject ☒ Rework ☐ Scrap
19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
Review NDA spectral peak fitting analysis and reanalyze without self-absorption correction (SAC).
DGL and SPM re-review required.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual: For Terri-Anne Grauer per tel/con

printed name	signature	date
Richard C. Bakhtiar	R C Bakhtiar	4-17-14

21. QA Engineer or QA Designee:

printed name	signature	date
Dominic R. Archuleta	D R A	4-17-14

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Grauer	Ter-A Grauer	4/21/14

23. Attachments:
Attachment 1: Applicable pages from BDR 4LANDA0028

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☑ and explain:
See 7d. Hold tags were not applied

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date
Wayne Hedford	[signature]	4/22/2014

☐ ORIGINAL

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 4LANDA0028				Examination Date(s): 12/19/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: ~~None~~ See SPM1-3 CS 4/21/14				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna		1/09/2014	
SPM Printed Name	Signature		Date	

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
Carolina Soaterna	Carolina Soaterna	NCR-LANL-0532-14	4/21/14

NCR-LANL-0532.14-R0
Att 1 p1 of 5

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 12/16/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Dominic R. Archuleta	
Approval Signature and Date: D=R A 1/7/14	

D=R A 4.17.14

NCR-LANL-0532-14 RO
Att 1 pg 2 of 5 005

NDA 2000 Assay Report

Item Information

Item ID:	53889		Count Sequence Number:	1077	
Operator:	CLREMO67292\User				
Assay Start:	12/19/2013 2:44:14 PM				
Description 1:	4LANDA0028				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-4, CMB, MT-83				
Matrix Type:	S5000				
Container Type:	SWB				
Weight:	Net:	622.0 kg	Net:	622.0 kg	
Container:	Volume:	2380.0 l	Full:	85.0 %	
Density:		0.310 kg /l			

System Configuration

Counter:	MILCC
Efficiency Description:	SWB near with pallet 2_07_13
Segments:	Number: 2 Offset: 0
Count Type:	Item Assay
Collimator/Geometry Setting:	Near - 1

Errors quoted at 1.000 sigma

NCR-LANL-0532.14 RO
Att 1 p 3 of 5
006
CS 4/21/14

********** Radioassay Data Sheet **********

Engine Version: TMU Gamma 1.4

Count Sequence Number: 1077
Assay Instrument: MILCC
Analysis Method: CCP-TP-076 v 1
Item ID: 53889

Batch Number: 4LANDA0028
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 12/19/2013

Net Weight	622000.0		g
Pu mass	8.46E-001	+- 2.81E-001	g
TRU Alpha Activity	9.13E-002	+- 1.95E-002	Ci
TRU Activity Concentration	1.47E+002	+- 3.14E+001	nCi/g
Pu-239 Equivalent Activity	9.13E-002	+- 2.29E-002	Ci
Pu-239 FGE	8.01E-001	+- 2.80E-001	g
Decay heat	2.91E-003	+- 6.15E-004	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	3.64E-009	5.02E-007	1.78E-007	0.00E+000
CS137	5.78E-009	5.02E-007	1.78E-007	1.47E-007
AC228	1.63E-013	3.62E-007	1.36E-007	2.79E-007
U233	<LLD	<LLD	0.00E+000	1.26E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.79E-007
NP237	4.87E-003	3.43E-006	1.21E-006	5.05E-007
PU238	7.81E-004	1.34E-002	4.85E-003	1.66E-003
U238	<LLD	<LLD	0.00E+000	1.01E-005
PU239	7.98E-001	4.95E-002	1.74E-002	6.15E-003
PU240	4.65E-002	1.06E-002	3.87E-003	1.31E-003
AM241	5.22E-003	1.79E-002	6.42E-003	1.16E-002
PU241	5.86E-004	6.03E-002	2.40E-002	7.50E-003
PU242	2.50E-004	9.89E-007	3.78E-007	0.00E+000

Errors quoted at 1.000 sigma

Operator: _____ Date: 4-17-14

ITR: _____ Date: 4.17.14

NCR-LANL-0532-14 R0
Att 1 p 4 of 5 007
CS 4/21/14

Automated Independent Technical Review

Count Sequence Number: 1077
Counter ID: MILCC
Container ID: 53889
Waste Matrix Code: S5000
Sequence Type:

Batch Number: 4LANDA0028
Count Type:
Assay Date: 12/19/2013

Comments	Disposition
Data Combiner Analysis No Multi-Modal Results Combination TMU results available for reporting purposes.	OK
MGA Analysis Note: The measured and declared isotopics are inconsistent.	OK
Gamma Analysis Analysis Status: No errors.	OK
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: RC Bowman Date: 4-17-14

NCR-LANL-0532.14 R0
Att 1 p 5 of 5
008
CS 4/21/14

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0553-14 **Revision** 0

1. Lot No., Heat No., or Serial No. (if applicable):	2. Process (e.g., NDA, NDE, VE, Other):	3. Batch Data Report #(s):
N/A	NDE	LA-HERTR-14-0036
4. Order/Work Order/Job Control Number (if applicable):	5. PO # (if applicable):	Container #(s):
N/A	N/A	66140
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☑ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

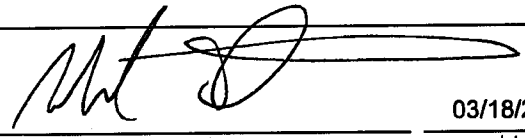
CCP-TP-120, CCP Container Management Rev. ~~14~~ 16 30 3:18:14, section 4.1.2 [B] requires verification that each container meets the structural integrity criteria specified on Attachment 4, Structural Integrity and Distortion Criteria. Attachment 4 lists, in part, "Payload containers with obvious leaks, holes, or openings, cracks, deep crevices, creases, tears, broken welds, sharp edges or pits, are either breached or on the verge of being breached.."

7c. Actual Condition:

Container has liquid in the channel indicating that a leak has occurred, and therefore the container integrity is insufficient.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Michael Simmons (printed name)  (signature) 03/18/2014 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

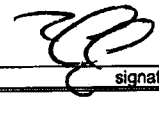
10. Trend Code: K

11. Responsible Manager: Terri-Anne Groover

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Antonio D. Chavarria (printed name)  (signature) 3/19/14 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 6/26/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0553-14 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0553-14 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair
19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap
19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
Return to LANL

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover		3.19.14

21. QA Engineer or QA Designee:

printed name	signature	date
Antonio D. Chavarria		3/19/14

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover		6-17-14

23. Attachments:
#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒ A.C. 6/25/14
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date
Antonio D. Chavarria		6/25/14

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0553-14	Revision 0	Attachment # 1	Page 1	of 1
Continuation from Section Number: N/A Container was remediated on 04/27/14 then recharacterized in LA-HERTR-14-0054.				

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GAS-212	Telephone Number:	(505) 412-4821
	N/A	Date Sent:	06/26/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0553-14	CLOSURE PAPERWORK FOR NCR-LANL-0553-14	06/25/14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Printed Name: Jewell Hurtado	Date: 6.30.14
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

```
**********************************
***        Send Results        ***
**********************************

   Sending is complete.

Job No.                    3944
Address                    915056678321
Name                       LANL
Start Time                 07/01 09:49 AM
Call Length                00'20
Sheets                     1
Result                     OK
```

Controlled Copy

CCP-QP-008, Rev. 22
CCP Records Management

Effective Date: 03/24/2014

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record
[ ] Fax Record
[ ] Electronic Record
[ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GAS-212	Telephone Number:	(505) 412-4821
	N/A	Date Sent:	06/26/14
Telephone Number:	(575) 234-7523		

Document Number	Title/Description	Record Date	Total Pages
NCR-LANL-0553-14	CLOSURE PAPERWORK FOR NCR-LANL-0553-14	06/25/14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Printed Name: Russell Hurrade	Date: 6.30.14
Records Rejected [ ]	Signature	Printed Name	Date

DIVIDER PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0600-14 **Revision 0**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): 4LANDA0014
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 53881
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-103, Rev. 12, CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000.
Section 4.2.1[C] Resolve any problem(s) flagged on the Automated Independent Technical Review.

7c. Actual Condition:

Under the Automated Independent Technical Review
Gamma Analysis Box
EA disposition does not address the U-235 comment correctly.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☐ YES ☒ NO If no is checked, explain:

Container is emplaced in WIPP. See Attachment 1 Wne 7/17/2014

8. NCR Originator:

Carolina Soaterna (printed name) Carolina Soaterna (signature) 7/17/14 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: A

11. Responsible Manager: **Terri-Anne Groover**

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter WIPP Form No.):

13. Recurring Condition? ☐ YES ☒ NO (If Yes, list NCRs and WIPP Forms):

14. QA Engineer or QA Designee validation:

Wayne Ledford (printed name) (signature) 7/17/2014 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 8/6/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0600-14 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0600-14 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair
19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☐ Reject ☒ Rework ☐ Scrap
19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
1. EA to make necessary corrections.
2. ITR to re-review, submit copy of NCR and corrections to records.
3. SPM to re-review corrected data.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

Carolina Soaterna	Carolina Soaterna	7/17/14
printed name	signature	date

21. QA Engineer or QA Designee:

Wayne Ledford		7/17/2014
printed name	signature	date

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Carolina Soaterna	Carolina Soaterna	8/1/14 8/1/14
printed name	signature	date

23. Attachments: 1.- Email Documenting Hold tag information 2.- Email Documenting Reportability. 3.- Evidence for NCR Closure.

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☑ and explain:

See Section 7d.

25. Final Disposition Verified – NCR Closed QA Engineer:

Laura R. Jones	Laura Lawson Jones	08/01/2014
printed name	signature	date

Ledford, Wayne - NWP

From: Chavarria, Antonio De Jesus <antonio_chavarria@lanl.gov>
Sent: Thursday, July 17, 2014 8:50 AM
To: Ledford, Wayne - NWP
Subject: RE: NCR-LANL-0600-14

Wayne:

Per the AKTSS the container for the listed NCR has been emplaced at WIPP. No tag can be applied at this point.

Thank you,
Antonio
Chavarria

From: Ledford, Wayne - NWP [mailto:Wayne.Ledford@wipp.ws]
Sent: Thursday, July 17, 2014 8:10 AM
To: Chavarria, Antonio De Jesus; Groover, Terri-Anne; Soaterna, Carolina - NWP; Ramirez, Mike - NWP; Navarrete, Leon - TFE; Yturralde, Jewell - TFE; Pearcy, Sheila - Stoller
Cc: Walker, Mak (Maryann) - NWP; Jones, Laura - NWP
Subject: NCR-LANL-0600-14

Hi All:

Antonio – please hang hold tag and notify
Mike – please review for reportability
Leon/Jewell – please post this open NCR on DIXON
Others - FYI

Wayne Ledford
Nuclear Waste Partnership, LLC
575-234-7563 (office)
575-302-9510 (cell)
Contractor for the Department of Energy

NCR LANL-0600-14 RO

Attachment 1 Page 1 of 1

7/17/2014

Ledford, Wayne - NWP

From: IDC <SQLMaster@wipp.ws>
Sent: Thursday, July 17, 2014 8:33 AM
To: DL CCP QA CBFO Notify
Subject: Project Office NCR [NCR-LANL0600140] was just reviewed.

Certification Manager/Designee has just reviewed the project office NCR NCR-LANL0600140 and has indicated that it [should **NOT**] be reported to CBFO. IDC has already updated the NCR for you.

NCR – LANL-0600-14 Rev.0
Attachment 2 Page 1 of 1

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 4LANDA0014 **Examination Date(s):** 7/17/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 52306 53880 53881 53890 53899 54200 54209 54210
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	X			NCR-LANL-0670-13 NCR-LANL-0600-14 BS 7/21/14

NCR LANL-0600-14 R0 Page 1 of 9 Attachment 3

NTPC RECORDS ORIGINAL
DATE REC'D 8.15.13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 4LANDA0014 **Examination Date(s):** 7/17/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

NCR- LANL-0600-14 R0
Attachment 3
Page 2 of 9

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 4LANDA0014				Examination Date(s): 7/17/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

NCR CAN-0000-14-20 Attachment 3 Page 3 of 9

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 4LANDA0014 **Examination Date(s):** 7/17/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: Closed NCR attached as SPM 1-5.				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				

Veronica Waldram	Veronica Waldram	August 15, 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
Carolina Soatema	Carolina Soatema	NCR-LANL-0600-14	7/21/14

NCR LANL-0600-14 R0 Attachment 3 Page 4 of 9

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 4LANDA0014
NDA Counter ID: MILCC	NDA Batch Date: 7/17/13
Waste Containers:	
53899 54209	
54200 54210	
53890 52306	
53881	
53880	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Tim Barton	
Approval Signature and Date: Tim Barton 8/7/13	

7-17-14

NCR- LANL-0660-H eD Page 5 of 9
Attachment 3

NTPC RECORDS ORIGINAL 001
DATE REC'D 8/12/13

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 4LANDA0014

Date: 7/17/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 7/17/13.
The Gamma Instrument QA/QC Check received an 'In' flag on the Eu-152 wtd mean act #M2 parameter. A passing QC measurement was then obtained. Environmental Background checks were run for both SWB Near and SWB Far geometries. On 07/18/13, the Gamma Instrument QA/QC Check received an 'Ac' flag on the Eu-152 wtd mean act #M2 parameter. A passing QC measurement was then obtained. A satisfactory calibration verification was performed on 7/18/13. The Weekly Interfering Matrix Drum Measurement for this batch was run on 7/15/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

NCR-LANL-0670-13
NCR-LANL-0600-14
IA 7-17-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
Re-Review QA corrections made per NCR-LANL-0600-14, IA 7-17-14

NDA ITR: Tim Barton Date: 8/7/13
7-17-14

NCR- LANL-0600 14 R0 Attachment 3 Page 9 of 9

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	NDA Batch Number: 4LANDA0014
Procedure/Rev Number: CCP-TP-076, Rev. 0	NDA Counter ID: MILCC

Description of Criteria Reviewed	Criteria Met Yes/No/NA
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	☑ Yes ☐ No ☑ Yes ☐ No ☐ Yes ☐ No ☑ N/A ☐ Yes ☐ No ☑ N/A

NCR LANL-0600-14 R0
Attachment 3 Page 7 of 9

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☑ Yes ☐ No ☐ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 7/15/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Tim Barton	
Approval Signature and Date: Tim Barton 8/7/13	
7-17-14	

NCR LANL-0600 14 R0 Attachment 3 Page 8 of 9

Automated Independent Technical Review

Count Sequence Number: 869
Counter ID: MILCC
Container ID: 53881
Waste Matrix Code: S5000
Sequence Type:

Batch Number: 4LANDA0014
Count Type:
Assay Date: 7/17/2013

Comments	Disposition
Data Combiner Analysis No Multi-Modal Results Combination TMU results available for reporting purposes.	OK
MGA Analysis Expert review is recommended; the following validity tests failed: Uncertainty in Pu240 effective (178.3%) is greater than allowed (20.0%). Pu239 weight percent is outside limits [60.0, 98.0].	Isotopic analysis failed. AK Isotopics applied. The AK information utilized was provided by Steve, AKE, and consists of data from CCP-AK-LANL-010, AK Source Document M237. MT-83.
Gamma Analysis Analysis Status: No errors. U-235 mass is greater than the upper limit of 10.0 g. Pu-239 mass is outside the acceptable range of 0.1 to 275.0 g.	U235 F 7/17/14 OK ~~U230~~ verified by EA on gamma spectrum. Results valid. Total Pu mass is > 0.1 grams.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: _____ Date: 7-26-13

Jared F 7-17-14

NCR LANL-0600-H KO
Attachment 3 Page 9 of 9

DIVIDER

PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0606-14 Revision 4

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDA	3. Batch Data Report #(s): See Attachment 1
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): See Attachment 1
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-103, CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000, Rev. 12, Section 4.2 NDA EA Review, Step 4.2.1 Perform the following, Sub-step [C] Resolve any problems(s) flagged on the Automated Independent Technical Review.

7c. Actual Condition:
Section 3 Data Combiner Analysis, Section 4, MGA Analysis, and Section 5, Gamma Analysis of Automated Independent Technical Review indicated a combination of gamma and neutron results were acceptable. Default isotopic were mistakenly applied to quantify Am-241 rather than using direct gamma measurement.

Revision 1: Interim disposition was completed in Revision 0. Include additional containers identified for the condition stated above, See Attachment 1.
Revision 2: Correct container number from 68034 to 69034. Include additional containers identified for the condition stated above, See Attachment 1.
Revision 3: Correct Trend Code on Revision 2 from K to A to match Rev. 0 and Rev. 1. Removed container 92665 since it does not meet the scope of the NCR and include additional containers identified for the condition stated above (See Revision 3, Attachment 1).
Revision 4: Removed container 69093 since it does not meet the scope of the NCR and included container 69258 (See Revision 4, Attachment 1).

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☐ YES ☒ NO If no is checked, explain: Please refer to Attachment 3 07/09/14 LES

8. NCR Originator:
Carolina Soaterna (printed name) Carolina Soaterna (signature) 6/11/14 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: **A**

11. Responsible Manager: **Neil Dickes**

12. Significant Condition? ☒ YES ☐ NO (If Yes, enter WIPP Form No.): WF14-133

13. Recurring Condition? ☐ YES ☒ NO (If Yes, list NCRs and WIPP Forms):

14. QA Engineer or QA Designee validation:
Laura Jones (printed name) Laura Ramos Jones (signature) 06/11/2014 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 7/10/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0606-14 Revision 4

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0606-14 Revision 4

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair
19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☐ Reject ☒ Rework ☐ Scrap
19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
1. EA to reanalyze data.
2. ITR re-review; submit corrections and copy of NCR to records.
3. SPM to re-review corrected data.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

Neil Dickes	[signature]	6/11/14
printed name	signature	date

21. QA Engineer or QA Designee:

Laura Jones	Laura Ramos Jones	6/11/2014
printed name	signature	date

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

Carolina Sosterna	Carolina Sosterna	7/1/14
printed name	signature	date

23. Attachments: 1.- BDR/Container Combination 2.- Email Documenting Reportability. 3.- Hold tag information 4.- Basis for NCR Closure

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☑ and explain:

See Attachment 3.

25. Final Disposition Verified – NCR Closed QA Engineer:

Laura R. Jones	Laura Ramos Jones	07/09/2014
printed name	signature	date

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0606-14 Revision 4 Attachment # 1 Page 1 of 2
Continuation from Section Number: continuation from section 3

Container	BDR #
68379	2LANDA1226
92902	1LANDA1716
68332	2LANDA1226
68315	2LANDA1226
93598	1LANDA1767
93594	1LANDA1766
68380	2LANDA1227
92152	2LANDA1117
69033	1LANDA1885
93572	2LANDA1156
69034	1LANDA1885
68382	1LANDA1847
68482	1LANDA1857
68404	1LANDA1847
68413	1LANDA1850
68372	1LANDA1845
93597	1LANDA1767
69191	1LANDA1896
93601	1LANDA1767
68462	1LANDA1855
68416	1LANDA1850
92171	1LANDA1693
68501	1LANDA1856
68455	1LANDA1852
69182	4LANDA0037
92357	1LANDA1836
92294	1LANDA1836
92345	1LANDA1836
92292	1LANDA1837
68660	1LANDA1885
92470	2LANDA1077
68317	1LANDA1846
68493	1LANDA1855
68638	1LANDA1889
68540	1LANDA1891
93814	1LANDA1867

NCR No. NCR-LANL-0606-14 Revision 4 Attachment # 1 Page 2 of 2

Container	BDR#
69075	1LANDA1891
69157	1LANDA1891
69160	1LANDA1891
69252	1LANDA1904
69364	1LANDA1915
69433	1LANDA1917
69272	1LANDA1925
69230	2LANDA1256
69258	2LANDA1258

Jones, Laura - NWP

From: IDC <SQLMaster@wipp.ws>
Sent: Wednesday, June 11, 2014 10:47 AM
To: DL CCP QA CBFO Notify
Subject: Project Office NCR [NCR-LANL0606144] was just reviewed.

Certification Manager/Designee has just reviewed the project office NCR NCR-LANL0606144 and has indicated that it [should **NOT**] be reported to CBFO. IDC has already updated the NCR for you.

NCR - LANL-0606-14 Rev. 4

Attachment 2 Page 1 of 1

Jones, Laura - NWP

From: Chavarria, Antonio D <antonio_chavarria@lanl.gov>
Sent: Wednesday, July 09, 2014 7:47 AM
To: Jones, Laura - NWP
Subject: Hold tags for NCR-LANL-0606-14-4

Laura:

The tags for the containers listed below for NCR-LANL-0606-14 have not been applied due to the fact that the majority of the containers are emplaced at WIPP, some have been shipped to WCS in Texas, and the containers located at LANL are segregated in dome 375 as a safety measure. Thus, tags were not applied to the containers. Those containers located at LANL were placed on an exclusion list to preclude shipment.

CONTAINER ID	WCATS LOCATION	OVERPACK	NEW LOCATION
68315	049-PACK	LASB02204	WCS
69033	049-PACK	LASB50063	WCS
69034	049-PACK	LASB50027	WCS
69182	049-PACK	LASB50037	WCS
69191	049-PACK	LASB50002	WCS
68638	375 021 01 04		
68540	375 011 01 03		
92665	WIPP		
92345	WIPP		
92357	WIPP		
92292	WIPP		
68660	WIPP		
68501	WIPP		
92152	WIPP		
92470	WIPP		
68372	WIPP		
68317	WIPP		
68382	WIPP		
68404	WIPP		
68416	WIPP		
68413	WIPP		
68455	WIPP		
68493	WIPP		
68462	WIPP		
68482	WIPP		
68332	WIPP		
68379	WIPP		
68380	WIPP		
92171	WIPP		

NCR - LANL-0606-14 Rev. 4
Attachment 3 Page 1 of 10

92902	WIPP		
93594	WIPP		
93597	WIPP		
93598	WIPP		
93601	WIPP		
92294	WIPP		
93572	WIPP		
69075	049-PACK	LASB50097	WCS
69157	049-PACK	LASB50014	WCS
69160	049-PACK	LASB50072	WCS
69252	049-PACK	LASB50029	WCS
69364	049-PACK	LASB50107	WCS
69433	049-PACK	LASB50098	WCS
69272	049-PACK	LASB50045	WCS
69230	049-PACK	LASB50072	WCS
69093	049-PACK	LASB50044	WCS
69258	049-PACK	LASB50009	WCS

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Tuesday, July 01, 2014 2:38 PM
To: Chavarria, Antonio - NWP
Subject: Hold tags for NCR-LANL-0606-14-4

Antonio,
I talked to Carolina concerning the exclusion list; if I understood correctly, this list was created in IDC to hold containers. My understanding is that the containers are going to be remediated.
2 of these containers are at LANL as you stated in one of your emails. The majority of containers are underground, and some are located at WCS.
To updated this section 7d I will make a note. 07/09/14 LRJ And to close NCR, please send me a note stating that some containers are underground and some in a different location and inaccessible, and no tags were applied.
I will send a different email with the containers resolved. If you agree, we can close the NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

Jones, Laura - NWP

From: Chavarria, Antonio D <antonio_chavarria@lanl.gov>
Sent: Tuesday, June 24, 2014 9:46 AM
To: Jones, Laura - NWP
Subject: RE: Revised NCR-LANL-0606-14-4
Attachments: RE: Corrected NCR-LANL-0606-14-3; RE: Corrected NCR-LANL-0606-14-3

Laura:

I have attached the emails I have sent thus far for the hold tags on the NCR. Craig has not responded to me yet.

Thank you,
Antonio
chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Tuesday, June 24, 2014 9:37 AM
To: Chavarria, Antonio - NWP
Subject: FW: Revised NCR-LANL-0606-14-4

Good morning Antonio,

Please updated me on the hold tag status for the Containers added in Revision 4 of this NCR.

Thanks and Best Regards

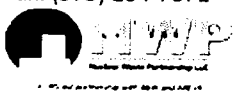
Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

From: Jones, Laura - NWP
Sent: Wednesday, June 11, 2014 1:50 PM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Sheila - Stoller; Ramirez, Mike - NWP; Simmons, Craig - LANL; Soaterna, Carolina - NWP; Terri-Anne Groover; Waldram, Veronica - NWP; Yturralde, Jewell - Stoller; Groover, Terri-Anne - NWP; Groover, Terri-Anne - LANL; Dickes, Neil - NWP; Cannon, Val - NWP
Cc: Waldram, Veronica - NWP; Walker, Mak (Maryann) - NWP; Jones, Laura - NWP
Subject: Revised NCR-LANL-0606-14-4

All – For your information
Antonio – Container 69258 was added
Jewell – Please post this open revised NCR.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071



Jones, Laura - NWP

From: Chavarria, Antonio D <antonio_chavarria@lanl.gov>
Sent: Wednesday, June 11, 2014 11:38 AM
To: Jones, Laura - NWP; Simmons, Craig - LANL
Subject: RE: Corrected NCR-LANL-0606-14-3

All:

It appears container 69258 is located at WCS. It has been overpacked into LASB50009. Please add to exclusion list and verify by email.

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Wednesday, June 11, 2014 9:57 AM
To: Chavarria, Antonio - NWP
Subject: FW: Corrected NCR-LANL-0606-14-3
Importance: High

Good morning Antonio,

Could you please updated me on the status of hold tags for containers added in Revision 3? Revision 4 has been created to remove Container Number 69093 and we will add 69258. I will process the new Revision 4 shortly...

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

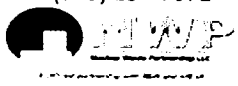
From: Jones, Laura - NWP
Sent: Monday, June 09, 2014 9:36 AM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; Soaterna, Carolina - NWP; Yturralde, Jewell - Stoller; Groover, Terri-Anne - LANL; Groover, Terri-Anne - LANL; Ramirez, Mike - NWP
Cc: Jones, Laura - NWP
Subject: Corrected NCR-LANL-0606-14-3

All – Please disregard previous copy. Use this corrected one.

Jewell – Please replace the previous copy and post to Dixon.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071



Jones, Laura - NWP

From: Chavarria, Antonio D <antonio_chavarria@lanl.gov>
Sent: Wednesday, June 11, 2014 10:22 AM
To: Jones, Laura - NWP; Simmons, Craig - LANL
Subject: RE: Corrected NCR-LANL-0606-14-3
Attachments: RE: Revised NCR-LANL-0606-14-3

Laura:

All of the containers added on Rev. 3 were located in WCS in Texas and I had sent you and Craig an email denoting this, so that the containers could be added to an exclusion list. Please see attached email.

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Wednesday, June 11, 2014 9:57 AM
To: Chavarria, Antonio - NWP
Subject: FW: Corrected NCR-LANL-0606-14-3
Importance: High

Good morning Antonio,

Could you please updated me on the status of hold tags for containers added in Revision 3? Revision 4 has been created to remove Container Number 69093 and we will add 69258. I will process the new Revision 4 shortly...

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071

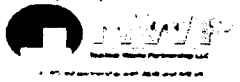
From: Jones, Laura - NWP
Sent: Monday, June 09, 2014 9:36 AM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy - LANL; Groover, Terri-Anne - NWP; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Pearcy, Sheila - Stoller; Simmons, Craig - LANL; Soaterna, Carolina - NWP; Yturralde, Jewell - Stoller; Groover, Terri-Anne - LANL; Groover, Terri-Anne - LANL; Ramirez, Mike - NWP
Cc: Jones, Laura - NWP
Subject: Corrected NCR-LANL-0606-14-3

All – Please disregard previous copy. Use this corrected one.

Jewell – Please replace the previous copy and post to Dixon.

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071



Jones, Laura - NWP

From: Chavarria, Antonio D <antonio_chavarria@lanl.gov>
Sent: Monday, June 09, 2014 9:01 AM
To: Jones, Laura - NWP; Simmons, Craig - LANL
Subject: RE: Revised NCR-LANL-0606-14-3

All:

Please see the locations for the containers added to the mentioned NCR revision. Containers are at WCS.

Drum	WCATS location	Overpack ID	Overpack Location in WCATS
69075	049-PACK	LASB50097	WCS
69157	049-PACK	LASB50014	WCS
69160	049-PACK	LASB50072	WCS
69252	049-PACK	LASB50029	WCS
69364	049-PACK	LASB50107	WCS
69433	049-PACK	LASB50098	WCS
69272	049-PACK	LASB50045	WCS
69230	049-PACK	LASB50072	WCS
69093	049-PACK	LASB50044	WCS

Thank you,
Antonio
Chavarria

From: Jones, Laura - NWP [mailto:laura.jones@wipp.ws]
Sent: Monday, June 09, 2014 7:36 AM
To: Chavarria, Antonio - NWP; Fitzgerald, Randy; Groover, Terri-Anne - NWP; Kantrowitz, Rich - NWP; Navarrete, Leon - Stoller; Ramirez, Mike - NWP; Pearcy, Sheila - Stoller; Simmons, Craig E; Soaterna, Carolina - NWP; Yturralde, Jewell - Stoller; Groover, Terri-Anne
Cc: Waldram, Veronica - NWP; Walker, Mak (Maryann) - NWP; Dickes, Neil - NWP; Jones, Laura - NWP
Subject: Revised NCR-LANL-0606-14-3

All – For your information

Antonio – The following Containers Number were added:
69075, 69157, 69160, 69252, 69364, 69433, 69272, 69230, and 69093.

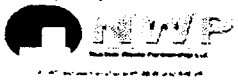
Mike – Please review for notification purposes.

Jewell – Please post this open revised NCR

Thanks and Best Regards

Laura R. Jones
Quality Assurance NCR Coordinator
Nuclear Waste Partnership LLC

Contractor for the U.S. Department of Energy
Office: (575) 234-7244
Email: laura.jones@wipp.ws
Fax: (575) 234-7071



Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1885	Examination Date(s): 01/02/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 57066 59788 68660 69028 69033 69034 69037 93917 94064
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	X		-X-	NCE-LANL-0606.14 CJ 4/9/14

NTPC RECORDS ORIGINAL
DATE REC'D 01/14/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1885	Examination Date(s): 01/02/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1885	Examination Date(s): 01/02/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1885	Examination Date(s): 01/02/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: ~~None~~ See NCR-LANL-0606-14 CS 6/9/14				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna		1/14/2014	
SPM Printed Name	Signature		Date	

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/9/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1885
NDA Counter ID: HENC 1	NDA Batch Date: 1/2/14
Waste Containers:	
69037 57066	
69028 69034	
93917 69033	
94064 68660	
59788	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Dominic R. Archuleta RYAN HAMMON 6-6-14	
Approval Signature and Date: D=R On 1.8.14	
B Hamm 6-6-14	

NTPC RECORDS ORIGINAL 901
DATE REC'D 11/13/14

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1885

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	N/A
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	42
Weekly Interfering Matrix Container Measurement Control Chart	57

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1885

Date: 1/2/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 1/2/14.
The Weekly Interfering Matrix Measurement for this batch was run on 1/06/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ RH 6-6-14
NCR-LANL-0606-14 RH 6-6-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
The overall quality of data in this Batch Data Report is acceptable.
DRums: 69034, 69033, 68660. REANALYZED PER NCR-LANL-0606-14
RH 6-6-14

NDA ITR: [signature] Date: 1.8.14
Dominic R. Archuleta RYAN HAMMON 6-6-14
[signature] 6-6-14

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1885
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 1/06/14 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Dominic R. Archuleta Ryan Hammon 6-6-14	
Approval Signature and Date: D R A 1·8·14	

B Hammon 6-6-14

005

NDA 2000 Assay Report

Item Information

Item ID:	69034		Count Sequence Number:	24044	
Operator:	D3PW2DK1\operator				
Assay Start:	1/2/2014 2:43:50 PM				
Description 1:	1LANDA1885				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	104.0 kg	Net:	104.0 kg	
Container:	Volume:	208.0 l	Full:	75.0 %	
Density:		0.670 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

030
6/9/14

NDA 2000 Assay Report

Item Information

Item ID:	69034	Count Sequence Number:	24044
Operator:	D3PW2DK1\operator		
Assay Start:	1/2/2014 2:43:50 PM		
Description 1:	1LANDA1885		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gallon drum		
Weight:	Net: 104.0 kg	Net:	104.0 kg
Container:	Volume: 208.0 l	Full:	75.0 %
Density:	0.670 kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERCEDED CJ 4/9/14 CJ 4/9/14

D3UA CJ 4/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24044	Batch Number:	1LANDA1885
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69034	Analysis Date:	1/2/2014

Net Weight	104000.0 g	
Pu mass	4.60E+001 +-	9.07E+000 g
TRU Alpha Activity	1.11E+001 +-	4.24E+000 Ci
TRU Activity Concentration	1.07E+005 +-	4.07E+004 nCi/g
Pu-239 Equivalent Activity	1.12E+001 +-	4.24E+000 Ci
Pu-239 FGE	4.34E+001 +-	9.04E+000 g
Decay heat	3.63E-001 +-	1.41E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.35E-006
U233	<LLD	<LLD	0.00E+000	1.35E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	4.11E-006
NP237	1.49E-001	1.05E-004	1.91E-005	6.12E-006
PU238	4.20E-003	7.18E-002	1.76E-002	1.83E-003
U238	<LLD	<LLD	0.00E+000	2.86E-005
PU239	4.32E+001	2.68E+000	5.61E-001	6.82E-002
PU240	2.76E+000	6.26E-001	1.58E-001	1.60E-002
AM241	2.26E+000	7.75E+000	4.19E+000	1.63E-001
PU241	5.24E-002	5.39E+000	1.36E+000	1.38E-001
PU242	9.21E-003	3.64E-005	9.19E-006	0.00E+000
AM243	5.83E-003	1.17E-003	2.13E-004	2.00E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.6.14

ITR: _____ Date: 6-6-14

031
PB 6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24044	Batch Number:	1LANDA1885
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69034	Analysis Date:	1/2/2014

Net Weight	104000.0 g	
Pu mass	4.60E+001 +-	9.07E+000 g
TRU Alpha Activity	3.82E+000 +-	5.93E-001 Ci
TRU Activity Concentration	3.67E+004 +-	5.70E+003 nCi/g
Pu-239 Equivalent Activity	3.92E+000 +-	5.93E-001 Ci
Pu-239 FGE	4.33E+001 +-	9.04E+000 g
Decay heat	1.20E-001 +-	1.85E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.35E-006
U233	<LLD	<LLD	0.00E+000	1.35E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	4.11E-006
NP237	1.49E-001	1.05E-004	1.91E-005	6.12E-006
PU238	4.20E-003	7.18E-002	1.76E-002	1.83E-003
U238	<LLD	<LLD	0.00E+000	2.86E-005
PU239	4.32E+001	2.68E+000	5.61E-001	6.82E-002
PU240	2.76E+000	6.26E-001	1.58E-001	1.60E-002
AM241	1.30E-001	4.45E-001	1.09E-001	1.13E-002
PU241	5.24E-002	5.39E+000	1.36E+000	1.38E-001
PU242	9.21E-003	3.64E-005	9.19E-006	0.00E+000
AM243	5.83E-003	1.17E-003	2.13E-004	2.00E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.7.14

ITR: _____ Date: 1.8.14

SUPERSEDED 6/9/14

031A
OS 6/9/14

Automated Independent Technical Review

Count Sequence Number: 24044 Batch Number: 1LANDA1885
Counter ID: MCS HENC #1
Container ID: 69034
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/2/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	OK Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Analysis Status: Override enabled; data marked not available but were used. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	OK No spectral distortion observed. After EA review, spectrum valid.

032
CB 6/9/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marah Date: 6/3/14

033 6/9/14

Automated Independent Technical Review

Count Sequence Number: 24044
Counter ID: MCS HENC #1
Container ID: 69034
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1885
Count Type:
Assay Date: 1/2/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	OK Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Analysis Status: Override enabled; data marked not available but were used. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.

SUPERSEDED CS 6/9/14

033A
~~032~~
CS 6/9/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors.	OK
MCA Deadtime greater than the upper limit of 50.0%.	No spectral distortion observed.
Spectrum Validity Check engine has suggested data review.	After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: _____ Date: 1/7/14

SUPERSEDED 03 6/9/14

033B
CS 6/9/14

NDA 2000 Assay Report

Item Information

Item ID:	69033	Count Sequence Number:	24045		
Operator:	D3PW2DK1\operator				
Assay Start:	1/2/2014 3:25:52 PM				
Description 1:	1LANDA1885				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	85.6	kg	Net:	85.6 kg
Container:	Volume:	208.0	l	Full:	65.0 %
Density:		0.630 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

034
05/9/14

NDA 2000 Assay Report

Item Information

Item ID:	69033		Count Sequence Number:	24045	
Operator:	D3PW2DK1\operator				
Assay Start:	1/2/2014 3:25:52 PM				
Description 1:	1LANDA1885				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	85.6 kg	Net:	85.6 kg	
Container:	Volume:	208.0 l	Full:	65.0 %	
Density:		0.630 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

034A
6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24045	Batch Number:	1LANDA1885
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69033	Analysis Date:	1/2/2014

Net Weight	85600.0 g		
Pu mass	3.23E+001 +-	6.21E+000	g
TRU Alpha Activity	1.31E+001 +-	5.79E+000	Ci
TRU Activity Concentration	1.53E+005 +-	6.77E+004	nCi/g
Pu-239 Equivalent Activity	1.32E+001 +-	5.79E+000	Ci
Pu-239 FGE	3.05E+001 +-	6.19E+000	g
Decay heat	4.30E-001 +-	1.92E-001	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.28E-006
U233	<LLD	<LLD	0.00E+000	1.18E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.34E-006
NP237	1.76E-001	1.24E-004	2.16E-005	5.19E-006
PU238	2.95E-003	5.05E-002	1.22E-002	1.37E-003
U238	<LLD	<LLD	0.00E+000	2.80E-005
PU239	3.03E+001	1.88E+000	3.84E-001	5.11E-002
PU240	1.94E+000	4.40E-001	1.09E-001	1.20E-002
AM241	3.12E+000	1.07E+001	5.78E+000	1.22E-001
PU241	3.68E-002	3.79E+000	9.41E-001	1.03E-001
PU242	6.47E-003	2.56E-005	6.35E-006	0.00E+000
AM243	6.85E-003	1.37E-003	2.41E-004	1.68E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.6.14

ITR: _____ Date: 6-6-14

035
es6a1f

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24045	Batch Number:	1LANDA1885
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69033	Analysis Date:	1/2/2014

Net Weight	85600.0 g		
Pu mass	3.23E+001	+- 6.21E+000	g
TRU Alpha Activity	2.69E+000	+- 4.06E-001	Ci
TRU Activity Concentration	3.14E+004	+- 4.75E+003	nCi/g
Pu-239 Equivalent Activity	2.76E+000	+- 4.07E-001	Ci
Pu-239 FGE	3.05E+001	+- 6.19E+000	g
Decay heat	8.45E-002	+- 1.27E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.28E-006
U233	<LLD	<LLD	0.00E+000	1.18E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.34E-006
NP237	1.76E-001	1.24E-004	2.16E-005	5.19E-006
PU238	2.95E-003	5.05E-002	1.22E-002	1.37E-003
U238	<LLD	<LLD	0.00E+000	2.80E-005
PU239	3.03E+001	1.86E+000	3.84E-001	5.11E-002
PU240	1.94E+000	4.40E-001	1.09E-001	1.20E-002
AM241	9.12E-002	3.13E-001	7.49E-002	8.49E-003
PU241	3.68E-002	3.79E+000	9.41E-001	1.03E-001
PU242	6.47E-003	2.56E-005	6.35E-006	0.00E+000
AM243	6.85E-003	1.37E-003	2.41E-004	1.68E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.7.14

ITR: _____ Date: 1.8.14

035A
CS 6/9/14

Automated Independent Technical Review

Count Sequence Number: 24045 Batch Number: 1LANDA1885
Counter ID: MCS HENC #1
Container ID: 69033
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/2/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor was set to one.	OK
Add-a-Source correction factor is less than n-sigma * the correction factor error.	OK
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	OK
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Gamma data specified as input.	Results taken from quantitative gamma data.
Results taken from Quantitative Gamma data.	
Results comparison test failed.	
Section 4 - MGA Analysis	Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Results are marked as invalid.	

036
08/18/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	 OK After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marak Date: 6/3/14

037
6/4/14

Automated Independent Technical Review

Count Sequence Number: 24045
Counter ID: MCS HENC #1
Container ID: 69033
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1885
Count Type:
Assay Date: 1/2/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor was set to one.	OK
Add-a-Source correction factor is less than n-sigma * the correction factor error.	OK
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	OK
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Gamma data specified as input.	Results taken from quantitative gamma data.
Results taken from Quantitative Gamma data.	
Results comparison test failed.	
Section 4 - MGA Analysis	Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Results are marked as invalid.	

SUPERSEDED CS 6/9/14

037A
~~036~~
CS 6/9/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	 OK After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: _____ Date: 1/7/14

CS 6/9/14

0373
CS 6/9/14

NDA 2000 Assay Report

Item Information

Item ID:	68660		Count Sequence Number:	24046	
Operator:	D3PW2DK1\operator				
Assay Start:	1/2/2014 4:07:48 PM				
Description 1:	1LANDA1885				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	82.6 kg	Net:	82.6 kg	
Container:	Volume:	208.0 l	Full:	65.0 %	
Density:		0.610 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

038
Dc 6/9/14

NDA 2000 Assay Report

Item Information

Item ID:	68660		Count Sequence Number:	24046	
Operator:	D3PW2DK1\operator				
Assay Start:	1/2/2014 4:07:48 PM				
Description 1:	1LANDA1885				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	82.2 kg	Net:	82.6 kg	
Container:	Volume:	208.0 l	Full:	65.0 %	
Density:		0.610 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 6/9/14

DGBA
CS 6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24046	Batch Number:	1LANDA1885
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68660	Analysis Date:	1/2/2014

Net Weight	82600.0 g	
Pu mass	8.01E+000 +-	1.24E+000 g
TRU Alpha Activity	2.80E+000 +-	3.48E-001 Ci
TRU Activity Concentration	3.39E+004 +-	4.21E+003 nCi/g
Pu-239 Equivalent Activity	2.84E+000 +-	3.48E-001 Ci
Pu-239 FGE	7.87E+000 +-	1.16E+000 g
Decay heat	9.20E-002 +-	1.15E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	3.66E-002	2.58E-005	4.45E-006	2.00E-006
PU238	1.22E-003	2.08E-002	3.22E-003	4.96E-005
PU239	7.46E+000	4.63E-001	7.14E-002	1.10E-003
PU240	5.31E-001	1.21E-001	1.86E-002	2.87E-004
AM241	6.41E-001	2.20E+000	3.40E-001	5.23E-003
PU241	1.95E-002	2.00E+000	3.10E-001	4.77E-003
PU242	2.65E-003	1.05E-005	1.62E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	4.75E-007
U233	<LLD	<LLD	0.00E+000	4.42E-003
U234	7.45E-003	4.63E-005	1.29E-005	0.00E+000
U235	5.31E-001	1.15E-006	3.20E-007	1.08E-006
U238	<LLD	<LLD	0.00E+000	1.10E-005
AM243	1.71E-003	3.41E-004	5.91E-005	5.93E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.6.14

ITR: _____ Date: 6-6-14

039
CS 6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24046	Batch Number:	1LANDA1885
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68660	Analysis Date:	1/2/2014

Net Weight	82600.0 g		
Pu mass	8.01E+000	+-	1.24E+000 g
TRU Alpha Activity	7.09E-001	+-	7.56E-002 Ci
TRU Activity Concentration	8.58E+003	+-	9.20E+002 nCi/g
Pu-239 Equivalent Activity	7.46E-001	+-	7.59E-002 Ci
Pu-239 FGE	7.86E+000	+-	1.16E+000 g
Decay heat	2.24E-002	+-	2.36E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	3.66E-002	2.58E-005	4.45E-006	2.00E-006
PU238	1.22E-003	2.08E-002	3.22E-003	4.96E-005
PU239	7.46E+000	4.63E-001	7.14E-002	1.10E-003
PU240	5.31E-001	1.21E-001	1.86E-002	2.87E-004
AM241	3.04E-002	1.04E-001	1.61E-002	2.48E-004
PU241	1.95E-002	2.00E+000	3.10E-001	4.77E-003
PU242	2.65E-003	1.05E-005	1.62E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	4.75E-007
U233	<LLD	<LLD	0.00E+000	4.42E-003
U234	7.45E-003	4.63E-005	1.29E-005	0.00E+000
U235	5.31E-001	1.15E-006	3.20E-007	1.08E-006
U238	<LLD	<LLD	0.00E+000	1.10E-005
AM243	1.71E-003	3.41E-004	5.91E-005	5.93E-006

Errors quoted at 1.000 sigma

Operator: RL Bauman Date: 1-8-14

ITR: DF Roa Date: 1-8-14

CS 1/9/14

039A
~~003~~ 1-8-14
CS 1/9/14

Automated Independent Technical Review

Count Sequence Number: 24046 Batch Number: 1LANDA1885
Counter ID: MCS HENC #1
Container ID: 68660
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/2/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors.	OK
Cosmic Ray Rejection Analysis complete with warnings. - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	OK
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Pu results taken from Passive Neutron data, U from Quantitative Gamma data.

040
CS 6/3/14

Comments	Disposition
Section 4 - MGA Analysis Expert review is recommended; the following validity tests failed: Normalized fit value (38.46) is greater than allowed (1.15). Fit value (476.0) is greater than allowed (2.50). Uncertainty in Pu240 effective (26.7%) is greater than allowed (20.0%). Pu239 weight percent is outside limits [92.5, 95.0]. Note: The measured and declared isotopics are inconsistent.	Isotopic analysis failed. AK Isotopics applied. The AK information utilized was provided by Steve, AKE, and conists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Section 5 - Gamma Analysis Analysis Status: No errors.	OK
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marsh Date: 6/3/14

04e36/9/64

Automated Independent Technical Review

Count Sequence Number: 24046 Batch Number: 1LANDA1885
Counter ID: MCS HENC #1
Container ID: 68660
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/2/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors.	OK
Cosmic Ray Rejection Analysis complete with warnings. - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	OK
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Pu results taken from Passive Neutron data, U from Quantitative Gamma data.
Section 4 - MGA Analysis Expert review is recommended; the following validity tests failed: Normalized fit value (38.46) is greater than allowed (1.15). Fit value (476.0) is greater than allowed (2.50). Uncertainty in Pu240 effective (26.7%) is greater than allowed (20.0%). Pu239 weight percent is outside limits [92.5, 95.0]. Note: The measured and declared isotopics are inconsistent.	Isotopic analysis failed. AK Isotopics applied. The AK information utilized was provided by Steve, AKE, and conists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.

CS 1/9/14

OAIA
CS 1/9/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors.	OK
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: _____ Date: 1/7/14

CONTROLLED @ 6/9/14

NJB 1/8/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1767 **Examination Date:** 5/8/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 93588 93589 93593 93595 93597 93598 93599 93601 93602 93603
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	CP 6/9/14 X		X	~~No NCRs associated with BDR.~~ NCR-LANL-0606-14 YC 6/9/14

NTPC RECORDS ORIGINAL
DATE REC'D 5/21/13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1767	**Examination Date: 5/8/13**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1767	Examination Date: 5/8/13			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1767 **Examination Date:** 5/8/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: ~~None~~ See NCR-LANL-0606-14 CS 6/9/14

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Veronica Waldram	Veronica Waldram	May 20, 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soterni	Carolina Soterni	NCR-LANL-0606-14	6/9/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1767
NDA Counter ID: HENC 1	NDA Batch Date: 5/8/13
Waste Containers:	
93589	93599
93603	93595
93597	93601
93602	93598
93588	93593
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Adam Gallegos Pete Lucchini per 6.6.14	
Approval Signature and Date: 5-15-13 6.6.14	

NTPC RECORDS ORIGINAL
DATE REC'D 5/20/13

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1767

Date: 5/8/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 5/08/13.
The Weekly Interfering Matrix Drum Measurement for this batch was run on 5/06/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ PL 6.6.14
NCR-LANL-0606-14 PL 6.6.14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
The overall quality of data in this Batch Data Report is acceptable.
DRUMS: 93597, 93601 and 93598 REANALYZED PER NCR-LANL-0606-14 PL 6.6.14

NDA ITR: _____ Date: 5-15-13

Adam Gallegos

PETE Lucchini PL 6.6.14

6.6.14 PL 6.6.14

013

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1767
Procedure/Rev Number: CCP-TP-063, Rev. 14	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Drum Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review List	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background 4. Daily Neutron QC Check	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No

304

Attachment 4 –NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Drum Measurements were properly performed and completed on 5/06/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Adam Gallegos PETE Cucchiara 6.6.14	
Approval Signature and Date: 5-15-13 6.6.14	

005

NDA 2000 Assay Report

Item Information

Item ID:	93597		Count Sequence Number:	22742	
Operator:	D3PW2DK1\operator				
Assay Start:	5/8/2013 10:31:05 AM				
Description 1:	1LANDA1767				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	125.0 kg	Net:	125.0 kg	
Container:	Volume:	208.0 l	Full:	85.0 %	
Density:		0.710 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

613

NDA 2000 Assay Report

Item Information

Item ID:	93597	Count Sequence Number:	22742
Operator:	D3PW2DK1\operator		
Assay Start:	5/8/2013 10:31:05 AM		
Description 1:	1LANDA1767		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gallon drum		
Weight:	Net: 125.0 kg	Net:	125.0 kg
Container:	Volume: 208.0 l	Full:	85.0 %
Density:	0.710 kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERSEDED 6/9/14

J13A 6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22742	Batch Number:	1LANDA1767
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	93597	Analysis Date:	5/8/2013

Net Weight	125000.0 g	
Pu mass	3.73E+001 +-	7.39E+000 g
TRU Alpha Activity	9.02E+000 +-	1.30E+000 Ci
TRU Activity Concentration	7.22E+004 +-	1.04E+004 nCi/g
Pu-239 Equivalent Activity	9.13E+000 +-	1.30E+000 Ci
Pu-239 FGE	3.48E+001 +-	6.86E+000 g
Decay heat	2.94E-001 +-	4.30E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.44E-001	1.03E-004	1.92E-005	4.03E-006
PU238	6.16E-003	1.05E-001	2.09E-002	5.17E-005
PU239	3.46E+001	2.14E+000	4.25E-001	1.05E-003
PU240	2.62E+000	5.95E-001	1.18E-001	2.92E-004
AM241	1.80E+000	6.18E+000	1.22E+000	3.03E-003
PU241	5.92E-002	6.10E+000	1.21E+000	2.99E-003
PU242	1.53E-002	6.05E-005	1.20E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	9.73E-007
U233	<LLD	<LLD	0.00E+000	8.73E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.61E-006
U238	<LLD	<LLD	0.00E+000	2.19E-005
AM243	2.30E-003	4.60E-004	8.69E-005	1.20E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.5.14

ITR: _____ Date: 6.6.14

014
PS 6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22742	Batch Number:	1LANDA1767
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	93597	Analysis Date:	5/8/2013

Net Weight	125000.0 g	
Pu mass	3.73E+001 +-	7.39E+000 g
TRU Alpha Activity	3.33E+000 +-	4.57E-001 Ci
TRU Activity Concentration	2.67E+004 +-	3.65E+003 nCi/g
Pu-239 Equivalent Activity	3.44E+000 +-	4.57E-001 Ci
Pu-239 FGE	3.48E+001 +-	6.86E+000 g
Decay heat	1.05E-001 +-	1.42E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.44E-001	1.03E-004	1.92E-005	4.03E-006
PU238	6.16E-003	1.07E-001	2.11E-002	5.23E-005
PU239	3.46E+001	2.18E+000	4.31E-001	1.07E-003
PU240	2.62E+000	6.03E-001	1.20E-001	2.96E-004
AM241	1.29E-001	4.49E-001	8.90E-002	2.20E-004
PU241	5.92E-002	6.15E+000	1.22E+000	3.02E-003
PU242	1.53E-002	6.08E-005	1.20E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	9.73E-007
U233	<LLD	<LLD	0.00E+000	8.73E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.61E-006
U238	<LLD	<LLD	0.00E+000	2.19E-005
AM243	2.27E-003	4.60E-004	8.69E-005	1.20E-005

Errors quoted at 1.000 sigma

Operator: D R. [signature] Date: 5-15-13

ITR: [signature] Date: 5-15-13

SUPERCEDED 06/9/14

J14A

Automated Independent Technical Review

Count Sequence Number: 22742 Batch Number: 1LANDA1767
Counter ID: MCS HENC #1
Container ID: 93597
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/8/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

015
RJ 6/9/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marek Date: 6/3/14

015A
C8 6/9/14

Automated Independent Technical Review

Count Sequence Number: 22742 Batch Number: 1LANDA1767
Counter ID: MCS HENC #1
Container ID: 93597
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/8/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 5-9-13

015B ~~016A~~ CS 6/9/14
~~J15~~
CS 6/9/14

NDA 2000 Assay Report

Item Information

Item ID:	93601	Count Sequence Number:	22747		
Operator:	D3PW2DK1\operator				
Assay Start:	5/8/2013 2:01:23 PM				
Description 1:	1LANDA1767				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, MT-42 MIX				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	82.6	kg	Net:	82.6 kg
Container:	Volume:	208.0	l	Full:	70.0 %
Density:		0.570 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

029
05/9/14

NDA 2000 Assay Report

Item Information

Item ID:	93601	Count Sequence Number:	22747
Operator:	D3PW2DK1\operator		
Assay Start:	5/8/2013 2:01:23 PM		
Description 1:	1LANDA1767		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6, MT-42 MIX		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gallon drum		
Weight:	Net: 82.6 kg	Net:	82.6 kg
Container:	Volume: 208.0 l	Full:	70.0 %
Density:	0.570 kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERCEDED 05/9/14

029A
05-9-14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22747	Batch Number:	1LANDA1767
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	93601	Analysis Date:	5/8/2013

Net Weight	82600.0 g	
Pu mass	1.15E+001 +-	2.11E+000 g
TRU Alpha Activity	6.38E+000 +-	1.01E+000 Ci
TRU Activity Concentration	7.72E+004 +-	1.23E+004 nCi/g
Pu-239 Equivalent Activity	6.45E+000 +-	1.01E+000 Ci
Pu-239 FGE	1.15E+001 +-	1.94E+000 g
Decay heat	2.10E-001 +-	3.37E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.13E-001	8.07E-005	1.33E-005	3.75E-006
PU238	3.33E-003	5.69E-002	1.05E-002	6.52E-005
PU239	1.04E+001	6.47E-001	1.19E-001	7.41E-004
PU240	8.83E-001	2.00E-001	3.68E-002	2.30E-004
AM241	1.60E+000	5.48E+000	1.01E+000	6.27E-003
PU241	3.57E-002	3.67E+000	6.75E-001	4.21E-003
PU242	1.49E-001	5.87E-004	1.08E-004	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	9.07E-007
U233	<LLD	<LLD	0.00E+000	8.71E-003
U234	2.00E-002	1.24E-004	4.45E-005	0.00E+000
U235	1.43E+000	3.08E-006	1.10E-006	2.68E-006
U238	<LLD	<LLD	0.00E+000	2.72E-005
AM243	3.61E-003	7.23E-004	1.20E-004	1.21E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6·5·14

ITR: _____ Date: 6·6·14

030
C8619/11

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22747	Batch Number:	1LANDA1767
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	93601	Analysis Date:	5/8/2013

Net Weight	82600.0 g	
Pu mass	1.15E+001 +-	2.11E+000 g
TRU Alpha Activity	1.05E+000 +-	1.29E-001 Ci
TRU Activity Concentration	1.27E+004 +-	1.56E+003 nCi/g
Pu-239 Equivalent Activity	1.12E+000 +-	1.30E-001 Ci
Pu-239 FGE	1.14E+001 +-	1.94E+000 g
Decay heat	3.31E-002 +-	4.01E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.13E-001	8.07E-005	1.33E-005	3.75E-006
PU238	3.33E-003	5.75E-002	1.06E-002	6.59E-005
PU239	1.04E+001	6.56E-001	1.21E-001	7.52E-004
PU240	8.83E-001	2.03E-001	3.73E-002	2.32E-004
AM241	3.77E-002	1.31E-001	2.41E-002	1.50E-004
PU241	3.57E-002	3.71E+000	6.82E-001	4.25E-003
PU242	1.49E-001	5.89E-004	1.08E-004	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	9.07E-007
U233	<LLD	<LLD	0.00E+000	8.71E-003
U234	1.97E-002	1.25E-004	4.46E-005	0.00E+000
U235	1.41E+000	3.08E-006	1.10E-006	2.68E-006
U238	<LLD	<LLD	0.00E+000	2.72E-005
AM243	3.58E-003	7.23E-004	1.20E-004	1.21E-005

Errors quoted at 1.000 sigma

Operator: R. [illegible] Date: 5-15-13

ITR: [illegible] Date: 5-15-13

SUPERSEDED CS 6/9/14

U30A CS 6/9/14

Automated Independent Technical Review

Count Sequence Number: 22747 Batch Number: 1LANDA1767
Counter ID: MCS HENC #1
Container ID: 93601
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/8/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings.	
- The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings.	
- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	

031 CS 6/9/12

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,54, 53,42.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Manak Date: 6/3/14

032
CB 6/9/12

Automated Independent Technical Review

Count Sequence Number: 22747 Batch Number: 1LANDA1767
Counter ID: MCS HENC #1
Container ID: 93601
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/8/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings. - The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings. - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.

SUPERSEDED

CS 6/9/14

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,54, 53,42.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 5-9-13

CHECKED 05/9/14

0326
05/9/14

NDA 2000 Assay Report

********** Item Information **********

Item ID:	93598		Count Sequence Number:	22748	
Operator:	D3PW2DK1\operator				
Assay Start:	5/8/2013 2:43:26 PM				
Description 1:	1LANDA1767				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	135.0 kg	Net:	135.0 kg	
Container:	Volume:	208.0 l	Full:	85.0 %	
Density:		0.760 kg /l			

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

033
CS 9/14

NDA 2000 Assay Report

********** Item Information **********

Item ID:	93598		Count Sequence Number:	22748	
Operator:	D3PW2DK1\operator				
Assay Start:	5/8/2013 2:43:26 PM				
Description 1:	1LANDA1767				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	135.0 kg	Net:	135.0 kg	
Container:	Volume:	208.0 l	Full:	85.0 %	
Density:		0.760 kg /l			

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 6/9/14

033A
CS 6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22748	Batch Number:	1LANDA1767
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	93598	Analysis Date:	5/8/2013

Net Weight	135000.0 g	
Pu mass	1.23E+002 +-	2.83E+001 g
TRU Alpha Activity	2.08E+001 +-	3.11E+000 Ci
TRU Activity Concentration	1.54E+005 +-	2.31E+004 nCi/g
Pu-239 Equivalent Activity	2.11E+001 +-	3.12E+000 Ci
Pu-239 FGE	1.15E+002 +-	2.63E+001 g
Decay heat	6.72E-001 +-	1.02E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.66E-001	1.18E-004	2.31E-005	5.70E-006
PU238	2.04E-002	3.48E-001	8.00E-002	5.17E-005
PU239	1.14E+002	7.08E+000	1.63E+000	1.05E-003
PU240	8.66E+000	1.97E+000	4.52E-001	2.92E-004
AM241	3.31E+000	1.14E+001	2.61E+000	1.69E-003
PU241	1.96E-001	2.01E+001	4.63E+000	2.99E-003
PU242	5.06E-002	2.00E-004	4.59E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.40E-006
U233	<LLD	<LLD	0.00E+000	1.23E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.48E-006
U238	<LLD	<LLD	0.00E+000	3.81E-005
AM243	3.68E-003	7.36E-004	1.45E-004	1.69E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.5.14

ITR: _____ Date: 6.6.14

034
CS 6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22748	Batch Number:	1LANDA1767
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	93598	Analysis Date:	5/8/2013

Net Weight	135000.0 g	
Pu mass	1.23E+002 +-	2.83E+001 g
TRU Alpha Activity	1.10E+001 +-	1.75E+000 Ci
TRU Activity Concentration	8.16E+004 +-	1.30E+004 nCi/g
Pu-239 Equivalent Activity	1.14E+001 +-	1.75E+000 Ci
Pu-239 FGE	1.15E+002 +-	2.63E+001 g
Decay heat	3.47E-001 +-	5.45E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.66E-001	1.18E-004	2.31E-005	5.70E-006
PU238	2.04E-002	3.52E-001	8.10E-002	5.23E-005
PU239	1.14E+002	7.19E+000	1.65E+000	1.07E-003
PU240	8.66E+000	1.99E+000	4.58E-001	2.96E-004
AM241	4.27E-001	1.48E+000	3.41E-001	2.20E-004
PU241	1.96E-001	2.03E+001	4.67E+000	3.02E-003
PU242	5.06E-002	2.01E-004	4.62E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.40E-006
U233	<LLD	<LLD	0.00E+000	1.23E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.48E-006
U238	<LLD	<LLD	0.00E+000	3.81E-005
AM243	3.64E-003	7.36E-004	1.45E-004	1.69E-005

Errors quoted at 1.000 sigma

Operator: D E R. Date: 5-15-13

ITR: Date: 5-15-13

CS 6/9/14

J34A
CS 6/9/14

Automated Independent Technical Review

Count Sequence Number: 22748 Batch Number: 1LANDA1767
Counter ID: MCS HENC #1
Container ID: 93598
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/8/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

035
CS 6/9/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marsh Date: 6/3/14

035A
CSG 9/19

Automated Independent Technical Review

Count Sequence Number: 22748 Batch Number: 1LANDA1767
Counter ID: MCS HENC #1
Container ID: 93598
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/8/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 5-9-13

CS 6/9/14

J35B
CS 6/9/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1766 **Examination Date:** 5/7/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 54291 56361 56420 56455 57312 93594 S816414
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	X			NCR-LANL-0051-13 rejects 91503 NCR-LANL-0606-14 CJ 6/9/14

NTPC RECORDS ORIGINAL
DATE REC'D 5/21/13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1766 **Examination Date:** 5/7/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	235U is not present
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1766	Examination Date: 5/7/13			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1766 **Examination Date:** 5/7/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: ~~None~~ See NCR-LANL-0606-14 CS 6/9/14

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Veronica Waldram	Veronica Waldram	May 20, 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soatyuna	Carolina Soatyuna	NCR-LANL-0606-14	6/9/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	**NDA Batch #:** 1LANDA1766
NDA Counter ID: HENC 1	**NDA Batch Date:** 5/7/13
Waste Containers:	
91503	56420
S816414	56455
56361	93594
54291	
57312	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Dominic R. Archuleta	
Approval Signature and Date: D=R. [signature]	5-15-13

Dominic R. Archuleta
D=R.C 6-5-14

NTPC RECORDS ORIGINAL
DATE RECD 5/20/13

001

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1766

Date: 5/7/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 5/7/13.
The background and neutron checks were ran for both normal and lead-lined drums.
The Weekly Interfering Matrix Drum Measurement for this batch was run on 5/6/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

NCR-LANL-0051-13
NCR-LANL-0606-14 DA 6.5.14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable. DA 6.5.14
D2MM 93594 REANALYZED PER NCR-LANL-0606-14

NDA ITR: D R A Date: 5-15-13
Dominic R. Archuleta

Dominic R. Archuleta
D R A 6.5.14

303

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1766
Procedure/Rev Number: CCP-TP-063, Rev. 14	**NDA Counter ID:** HENC 1.

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Drum Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review List Data are reported in the proper units.	☑ Yes ☐ No ☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background 4. Daily Neutron QC Check	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No

007

Attachment 4 –NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Drum Measurements were properly performed and completed on 5/6/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Dominic R. Archuleta	
Approval Signature and Date: D=R~ 5-15-13	

Dominic R. Archuleta 6-5-14
D=R~

908

DA 5-15-13

NDA 2000 Assay Report

Item Information

Item ID:	93594	Count Sequence Number:	22736
Operator:	D3PW2DK1\operator		
Assay Start:	5/7/2013 3:46:28 PM		
Description 1:	1LANDA1766		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6, Not Precision		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gallon drum		
Weight:	Net: 135.0 kg	Net:	135.0 kg
Container:	Volume: 208.0 l	Full:	90.0 %
Density:	0.720 kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

032
CS 6/9/14

NDA 2000 Assay Report

Item Information

Item ID:	93594	Count Sequence Number:	22736
Operator:	D3PW2DK1\operator		
Assay Start:	5/7/2013 3:46:28 PM		
Description 1:	1LANDA1766		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6, Not Precision		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gallon drum		
Weight:	Net: 135.0 kg	Net:	135.0 kg
Container:	Volume: 208.0 l	Full:	90.0 %
Density:	0.720 kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERCEDED CS 6/9/14

732A
CS 6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22736	Batch Number:	1LANDA1766
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	93594	Analysis Date:	5/7/2013

Net Weight	135000.0 g	
Pu mass	1.38E+002 +-	2.12E+001 g
TRU Alpha Activity	2.13E+001 +-	2.13E+000 Ci
TRU Activity Concentration	1.58E+005 +-	1.58E+004 nCi/g
Pu-239 Equivalent Activity	2.18E+001 +-	2.13E+000 Ci
Pu-239 FGE	1.30E+002 +-	1.99E+001 g
Decay heat	6.88E-001 +-	6.93E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.04E-001	1.45E-004	2.74E-005	6.55E-006
PU238	1.65E-002	2.82E-001	4.36E-002	4.37E-005
PU239	1.29E+002	7.98E+000	1.23E+000	1.24E-003
PU240	8.52E+000	1.93E+000	2.98E-001	2.99E-004
AM241	3.23E+000	1.11E+001	1.71E+000	1.72E-003
PU241	2.89E-001	2.98E+001	4.59E+000	4.61E-003
PU242	3.30E-002	1.30E-004	2.01E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.45E-006
U233	<LLD	<LLD	0.00E+000	1.31E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.76E-006
U238	<LLD	<LLD	0.00E+000	3.35E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-5-14

ITR: _____ Date: 6-5-14

033
CS 6/6/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22736	Batch Number:	1LANDA1766
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 v.4.0
Item ID:	93594	Analysis Date:	5/7/2013

Net Weight	135000.0 g	
Pu mass	1.38E+002 +-	2.12E+001 g
TRU Alpha Activity	1.13E+001 +-	1.30E+000 Ci
TRU Activity Concentration	8.40E+004 +-	9.60E+003 nCi/g
Pu-239 Equivalent Activity	1.19E+001 +-	1.30E+000 Ci
Pu-239 FGE	1.30E+002 +-	1.99E+001 g
Decay heat	3.56E-001 +-	4.02E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.04E-001	1.45E-004	2.74E-005	6.55E-006
PU238	1.65E-002	2.86E-001	4.41E-002	4.42E-005
PU239	1.29E+002	8.10E+000	1.25E+000	1.25E-003
PU240	8.52E+000	1.96E+000	3.02E-001	3.03E-004
AM241	2.89E-001	1.00E+000	1.55E-001	1.55E-004
PU241	2.89E-001	3.00E+001	4.64E+000	4.65E-003
PU242	3.30E-002	1.31E-004	2.02E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.45E-006
U233	<LLD	<LLD	0.00E+000	1.31E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.76E-006
U238	<LLD	<LLD	0.00E+000	3.35E-005

Errors quoted at 1.000 sigma

Operator: Brett Patterson Date: 5-10-13

ITR: D. R. Date: 5-15-13

SUPERSEDED CJ 6/9/14

333A CJ 6/9/14

Automated Independent Technical Review

Count Sequence Number: 22736 Batch Number: 1LANDA1766
Counter ID: MCS HENC #1
Container ID: 93594
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/7/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor was set to one.	Ok
Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Cnes Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Analysis Status: Override enabled; data marked not available but were used.	
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Results are marked as invalid.	

034
CS 6/9/14

Comments	Disposition
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
MCA Deadtime greater than the upper limit of 50.0%.	MCA deadtime = 54.38%
Spectrum Validity Check engine has suggested data review.	After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marak Date: 6/3/14

035
CS 6/9/14

Automated Independent Technical Review

Count Sequence Number: 22736
Counter ID: MCS HENC #1
Container ID: 93594
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1766
Count Type:
Assay Date: 5/7/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor was set to one.	Ok
Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Analysis Status: Override enabled; data marked not available but were used.	
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Results are marked as invalid.	

SUPERSEDED CS 6/9/14

035A
~~73~~ 1
CS 6/9/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors.	 Ok
MCA Deadtime greater than the upper limit of 50.0%.	MCA deadtime = 54.38%
Spectrum Validity Check engine has suggested data review.	After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chandler Date: 5-8-13

SUPERSEDED 6/9/14

735B
es 6/9/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1716 **Examination Date:** 2/19/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 92863 92870 92902
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	6/9/14 X		X	~~No NCRs associated with BDR.~~ NCR-LANL-0606-14 6/9/14

NTPC RECORDS ORIGINAL
DATE REC'D 3/5/13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1716	Examination Date: 2/19/13			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	235U is not present.
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1716	Examination Date: 2/19/13			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			Except 92863
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1716 **Examination Date:** 2/19/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: ~~None~~ See NCR-LANL-0606-14 CS 6/9/14

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Veronica Waldram	Veronica Waldram	March 4, 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Caroline Jostens	Caroline Jostens	NCR-LANL-0606-14	6/9/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1716
NDA Counter ID: HENC 1	NDA Batch Date: 2/19/13
Waste Containers:	
92870	
92902	
92863	
N/A	
N/A	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Jeremy Heath	
Approval Signature and Date: [signature] 2-26-2013	

Dominic R. Archuleta 6.5.14
D=AC

NTPC RECORDS Complete 01
DATE RECD 2/28/13

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1716

Date: 2/19/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 2/19/2013.
The Gamma Instrument QA/QC Check received an 'in' flag on the Eu-152 Wtd. Mean Act. #1 parameter.
A satisfactory QA/QC measurement for all parameters was then obtained.
The Weekly Interfering Matrix Drum Measurement for this batch was run on 2/19/2013.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ QA 6.5.14
NCR-LANL-0606-14 QA 6.5.14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable. QA 6.5.14
Drum 92902 reanalyzed per NCR-LANL-0606-14

NDA ITR: _____ Date: 2-26-2013

Jeremy Heath

Dominic R. Archuleta 6.5.14
D=RC

03

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1716
Procedure/Rev Number: CCP-TP-063, Rev. 14	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Drum Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review List Data are reported in the proper units.	☑ Yes ☐ No ☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background 4. Daily Neutron QC Check	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No

04

Attachment 4 –NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist			
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes	☐ No	
Were QC criteria that were not met documented with an NCR?	☐ Yes	☐ No	☑ N/A
Weekly Interfering Matrix Drum Measurements were properly performed and completed on 2/19/2013 (Date).	☑ Yes	☐ No	
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes	☐ No	
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes	☑ No	
If YES, are they reported?	☐ Yes	☐ No	☑ N/A
Was U-235 detected in any waste container?	☐ Yes	☑ No	
If YES, is it reported?	☐ Yes	☐ No	☑ N/A
NDA Independent Technical Reviewer Approval			
NDA Independent Technical Reviewer Printed Name: Jeremy Heath Approval Signature and Date: [signature] 2-26-2013			

Dominic R. Archuleta 6·5·14
D = AC

05

NDA 2000 Assay Report

Item Information

Item ID:	92902	Count Sequence Number:	22095		
Operator:	D3PW2DK1\operator				
Assay Start:	2/19/2013 3:23:33 PM				
Description 1:	1LANDA1716				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	99.6	kg	Net:	99.6 kg
Container:	Volume:	208.0	l	Full:	80.0 %
Density:		0.600	kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

010
CS 6/9/14

NDA 2000 Assay Report

********** Item Information **********

Item ID:	92902		Count Sequence Number:	22095	
Operator:	D3PW2DK1\operator				
Assay Start:	2/19/2013 3:23:33 PM				
Description 1:	1LANDA1716				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	99.6 kg	Net:	99.6 kg	
Container:	Volume:	208.0 l	Full:	80.0 %	
Density:		0.600 kg /l			

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERCEDED CS 6/9/14

10A
CS 6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22095	Batch Number:	1LANDA1716
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	92902	Analysis Date:	2/19/2013

Net Weight	99600.0 g	
Pu mass	8.23E+001 +-	1.31E+001 g
TRU Alpha Activity	2.09E+001 +-	2.49E+000 Ci
TRU Activity Concentration	2.10E+005 +-	2.49E+004 nCi/g
Pu-239 Equivalent Activity	2.11E+001 +-	2.49E+000 Ci
Pu-239 FGE	7.77E+001 +-	1.23E+001 g
Decay heat	6.82E-001 +-	8.21E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.71E-001	1.94E-004	3.28E-005	2.54E-006
PU238	7.56E-003	1.29E-001	2.05E-002	3.55E-005
PU239	7.72E+001	4.79E+000	7.61E-001	1.31E-003
PU240	4.94E+000	1.12E+000	1.78E-001	3.08E-004
AM241	4.33E+000	1.48E+001	2.36E+000	4.07E-003
PU241	9.77E-002	1.01E+001	1.60E+000	2.76E-003
PU242	1.65E-002	6.51E-005	1.03E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	6.75E-007
U233	<LLD	<LLD	0.00E+000	6.05E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.62E-006
U238	<LLD	<LLD	0.00E-000	1.26E-005
AM243	8.69E-003	1.74E-003	2.98E-004	7.81E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-5-14

ITR: _____ Date: 6-5-14

DII
C8/4/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22095	Batch Number:	1LANDA1716
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	92902	Analysis Date:	2/19/2013

Net Weight	99600.0 g	
Pu mass	8.23E+001 +-	1.31E+001 g
TRU Alpha Activity	6.92E+000 +-	8.03E-001 Ci
TRU Activity Concentration	6.95E+004 +-	8.06E+003 nCi/g
Pu-239 Equivalent Activity	7.11E+000 +-	8.03E-001 Ci
Pu-239 FGE	7.76E+001 +-	1.23E+001 g
Decay heat	2.17E-001 +-	2.49E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.71E-001	1.94E-004	3.28E-005	2.54E-006
PU238	7.56E-003	1.31E-001	2.08E-002	3.59E-005
PU239	7.72E+001	4.86E+000	7.72E-001	1.33E-003
PU240	4.94E+000	1.14E+000	1.80E-001	3.11E-004
AM241	2.28E-001	7.93E-001	1.26E-001	2.18E-004
PU241	9.77E-002	1.02E+001	1.61E+000	2.79E-003
PU242	1.65E-002	6.54E-005	1.04E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	6.75E-007
U233	<LLD	<LLD	0.00E+000	6.05E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.62E-006
U238	<LLD	<LLD	0.00E+000	1.26E-005
AM243	8.60E-003	1.74E-003	2.98E-004	7.81E-006

Errors quoted at 3.000 sigma

Operator: _____ Date: 2-21-13

ITR: _____ Date: 2-26-2013

SUPERCEDED CJ 6/9/14

11A CJ 6/9/14

Automated Independent Technical Review

Count Sequence Number: 22095
Counter ID: MCS HENC #1
Container ID: 92902
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1716
Count Type:
Assay Date: 2/19/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

012
CS 6/9/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Mamt Date: 6/3/14

012A
6/9/14

Automated Independent Technical Review

Count Sequence Number: 22095 Batch Number: 1LANDA1716
Counter ID: MCS HENC #1
Container ID: 92902
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 2/19/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chambers Date: 2-21-13

12 CS 6/9/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 2LANDA1226 Examination Date(s): 24 September 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				**Container(s):** 68332, 68379, 68315, 94223, 91564
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	CJ 6/24/14		X	NCR-LANL-0606-14 CJ 6/24/14

NTPC RECORDS ORIGINAL
DATE REC'D 10-3-13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1226 **Examination Date(s):** 24 September 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1226 **Examination Date(s):** 24 September 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			**Except:** 68315
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1226 **Examination Date(s):** 24 September 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	*NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: None

The container QC checks were properly performed and meett the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and aanalysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.

David W. Moody	David W Moody	2 October 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
Carlina Scatena	Carlina Scatena	NCR-LANL-0606-14	6/24/14

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 2LANDA1226
NDA Counter ID: HENC 2	NDA Batch Date: 9/24/13
Waste Containers:	
68332	
68379	
68315	
94223	
91564	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Bret Templeton Approval Signature and Date: Bret Templeton 9-26-13	

Bret Templeton 6-5-14

NMFC RECORDS ORIGINAL
DATE REC'D 9/26/13

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 2LANDA1226

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 30 (3 of 29)
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	25
Weekly Interfering Matrix Container Measurement Control Chart	40

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 2LANDA1226

Date: 9/24/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 9/24/13.
The Weekly Interfering Matrix Measurement for this batch was run on 9/23/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ 6-5-14
NCR-LANL-0606-14 6-5-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
DRUMS; 68332, 68379, AND 68315 REANALYZED PER NCR-LANL-0606-14 6-5-14

NDA ITR: Bret Templeton Date: 9-26-13

Bret Templeton

Bret Templeton 6-5-14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 2LANDA1226
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 2

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 9/23/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Bret Templeton	
Approval Signature and Date: Bret Templeton 9-26-13	

Bret Templeton 6-5-14

005

NDA 2000 Assay Report

Item Information

Item ID:	68332		Count Sequence Number:	16556	
Operator:	DCLTD231\Operator				
Assay Start:	9/24/2013 12:29:24 PM				
Description 1:	2LANDA1226				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	115.0 kg	Net:	115.0 kg	
Container:	Volume:	208.0 l	Full:	80.0 %	
Density:		0.690 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

CCle
CJ 6/24/14

NDA 2000 Assay Report

Item Information

Item ID:	68332		Count Sequence Number:	16556	
Operator:	DCLTD231\Operator				
Assay Start:	9/24/2013 12:29:24 PM				
Description 1:	2LANDA1226				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	115.0 kg	Net:	115.0 kg	
Container:	Volume:	208.0 l	Full:	80.0 %	
Density:		0.690 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

SUPERSEDED
6/24/14

006A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	16556	Batch Number:	2LANDA1226
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68332	Analysis Date:	9/24/2013

Net Weight	115000.0 g	
Pu mass	3.56E+001 +-	7.76E+000 g
TRU Alpha Activity	1.59E+001 +-	2.93E+000 Ci
TRU Activity Concentration	1.38E+005 +-	2.55E+004 nCi/g
Pu-239 Equivalent Activity	1.60E+001 +-	2.93E+000 Ci
Pu-239 FGE	3.36E+001 +-	7.28E+000 g
Decay heat	5.24E-001 +-	9.74E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.23E-001	1.57E-004	2.88E-005	6.75E-006
PU238	3.26E-003	5.57E-002	1.21E-002	3.54E-005
PU239	3.34E+001	2.07E+000	4.51E-001	1.32E-003
PU240	2.14E+000	4.85E-001	1.06E-001	3.08E-004
AM241	3.88E+000	1.33E+001	2.90E+000	8.44E-003
PU241	4.11E-002	4.23E+000	9.22E-001	2.69E-003
PU242	7.13E-003	2.82E-005	6.14E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.26E-006
U233	<LLD	<LLD	0.00E+000	1.25E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	4.17E-006
U238	<LLD	<LLD	0.00E+000	2.77E-005
AM243	2.90E-004	5.79E-005	1.17E-005	1.81E-005

Errors quoted at 1.000 sigma

Operator: D=1 Date: 6.4.14

ITR: Brett Tupholm Date: 6-5-14

CC7
6/24/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 16556
Assay Instrument: HENC #2
Analysis Method: CCP-TP-063 v 15
Item ID: 68332

Batch Number: 2LANDA1226
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 9/24/2013

Net Weight	115000.0 g
Pu mass	3.56E+001 +- 7.76E+000 g
TRU Alpha Activity	2.96E+000 +- 4.70E-001 Ci
TRU Activity Concentration	2.57E+004 +- 4.08E+003 nCi/g
Pu-239 Equivalent Activity	3.03E+000 +- 4.70E-001 Ci
Pu-239 FGE	3.36E+001 +- 7.28E+000 g
Decay heat	9.30E-002 +- 1.46E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.23E-001	1.57E-004	2.88E-005	6.75E-006
PU238	3.26E-003	5.57E-002	1.21E-002	3.54E-005
PU239	3.34E+001	2.07E+000	4.51E-001	1.32E-003
PU240	2.14E+000	4.85E-001	1.06E-001	3.08E-004
AM241	9.99E-002	3.43E-001	7.47E-002	2.18E-004
PU241	4.11E-002	4.23E+000	9.22E-001	2.69E-003
PU242	7.13E-003	2.82E-005	6.14E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.26E-006
U233	<LLD	<LLD	0.00E+000	1.25E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	4.17E-006
U238	<LLD	<LLD	0.00E+000	2.77E-005
AM243	2.90E-004	5.79E-005	1.17E-005	1.81E-005

Errors quoted at 1.000 sigma

Operator: [signature] Date: 9-25-13

ITR: [signature] Date: 9-26-13

9/26/24/14

9/26/24/14 007A

Automated Independent Technical Review

Count Sequence Number: 16556
Counter ID: HENC #2
Container ID: 68332
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 2LANDA1226
Count Type:
Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.

OCS
CS 6/24/14

Comments	Disposition
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
MCA Deadtime greater than the upper limit of 50.0%.	No spectral distortion observed. Gamma spectrum valid. MCA deadtime = 58.87%
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marsh Date: 6/3/14

009
CJ 6/24/14.

Automated Independent Technical Review

Count Sequence Number: 16556
Counter ID: HENC #2
Container ID: 68332
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 2LANDA1226
Count Type:
Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.

(2) 6/24/14

QA
(3) 6/24/14 008

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%.	Ok No spectral distortion observed. Gamma spectrum valid. MCA deadtime = 58.87%
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chamberlain Date: 9-25-13

SUPERSEDED

CJ 6/24/14

CJ 6/24/14 0096

NDA 2000 Assay Report

Item Information

Item ID:	68379	Count Sequence Number:	16557		
Operator:	DCLTD231\Operator				
Assay Start:	9/24/2013 1:13:24 PM				
Description 1:	2LANDA1226				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	185.0	kg	Net:	185.0 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.940 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

810
6/24/14

NDA 2000 Assay Report

Item Information

Item ID:	68379		Count Sequence Number:	16557	
Operator:	DCLTD231\Operator				
Assay Start:	9/24/2013 1:13:24 PM				
Description 1:	2LANDA1226				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	185.0 kg	Net:	185.0 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.940 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

SUPERSEDED

(P) 6/24/14

(P) 6/24/14 010A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 16557
Assay Instrument: HENC #2
Analysis Method: CCP-TP-063 v 15
Item ID: 68379

Batch Number: 2LANDA1226
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 9/24/2013

Net Weight	185000.0 g	
Pu mass	1.35E+002 +-	3.76E+001 g
TRU Alpha Activity	4.00E+001 +-	8.73E+000 Ci
TRU Activity Concentration	2.16E+005 +-	4.72E+004 nCi/g
Pu-239 Equivalent Activity	4.03E+001 +-	8.73E+000 Ci
Pu-239 FGE	1.27E+002 +-	3.53E+001 g
Decay heat	1.31E+000 +-	2.89E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	4.73E-001	3.33E-004	7.35E-005	1.20E-005
PU238	1.23E-002	2.11E-001	5.89E-002	3.57E-005
PU239	1.26E+002	7.83E+000	2.19E+000	1.33E-003
PU240	8.08E+000	1.83E+000	5.12E-001	3.11E-004
AM241	8.79E+000	3.02E+001	8.43E+000	5.11E-003
PU241	1.55E-001	1.60E+001	4.47E+000	2.71E-003
PU242	2.70E-002	1.06E-004	2.98E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.21E-006
U233	<LLD	<LLD	0.00E+000	2.19E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	7.16E-006
U238	<LLD	<LLD	0.00E+000	5.19E-005
AM243	1.76E-004	3.52E-005	1.19E-005	2.69E-005

Errors quoted at 1.000 sigma

Operator: [signature] Date: 6.4.14

ITR: [signature] Date: 6-5-14

DII
CS 6/24/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	16557	Batch Number:	2LANDA1226
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68379	Analysis Date:	9/24/2013

Net Weight	185000.0 g	
Pu mass	1.35E+002 +-	3.76E+001 g
TRU Alpha Activity	1.12E+001 +-	2.28E+000 Ci
TRU Activity Concentration	6.04E+004 +-	1.23E+004 nCi/g
Pu-239 Equivalent Activity	1.15E+001 +-	2.28E+000 Ci
Pu-239 FGE	1.27E+002 +-	3.53E+001 g
Decay heat	3.52E-001 +-	7.11E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	4.73E-001	3.33E-004	7.35E-005	1.20E-005
PU238	1.23E-002	2.11E-001	5.89E-002	3.57E-005
PU239	1.26E+002	7.83E+000	2.19E+000	1.33E-003
PU240	8.08E+000	1.83E+000	5.12E-001	3.11E-004
AM241	3.78E-001	1.30E+000	3.62E-001	2.19E-004
PU241	1.55E-001	1.60E+001	4.47E+000	2.71E-003
PU242	2.70E-002	1.06E-004	2.98E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.21E-006
U233	<LLD	<LLD	0.00E+000	2.19E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	7.16E-006
U238	<LLD	<LLD	0.00E+000	5.19E-005
AM243	1.76E-004	3.52E-005	1.19E-005	2.69E-005

Errors quoted at 1.000 sigma

Operator: [signature] Date: 9-25-13

ITR: [signature] Date: 9-26-13

CJ 6/24/14

CJ 6/24/14 011A

Automated Independent Technical Review

Count Sequence Number: 16557
Counter ID: HENC #2
Container ID: 68379
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 2LANDA1226
Count Type:
Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA. Curium/Californium Neutron Analysis complete with warnings. - The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok Not data affecting. Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.

CJ2
CJ 6/24/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%.	 Ok MCA deadtime = 61.84%. Spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Mercer Date: 6/3/14

C13
CJ 6/24/14

Automated Independent Technical Review

Count Sequence Number: 16557 Batch Number: 2LANDA1226
Counter ID: HENC #2
Container ID: 68379
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings. - The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.

CS 6/24/14

CS 6/24/14 013A ~~012~~

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%.	Ok MCA deadtime = 61.84%. Spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chamberlain Date: 9-25-13

CS 6/24/14

CS 6/24/14 0136

NDA 2000 Assay Report

Item Information

Item ID:	68315		Count Sequence Number:	16558	
Operator:	DCLTD231\Operator				
Assay Start:	9/24/2013 1:56:38 PM				
Description 1:	2LANDA1226				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	130.0 kg	Net:	130.0 kg	
Container:	Volume:	208.0 l	Full:	75.0 %	
Density:		0.830 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

014
CJ 6/24/14

NDA 2000 Assay Report

Item Information

Item ID:	68315		Count Sequence Number:	16558	
Operator:	DCLTD231\Operator				
Assay Start:	9/24/2013 1:56:38 PM				
Description 1:	2LANDA1226				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	130.0 kg	Net:	130.0 kg	
Container:	Volume:	208.0 l	Full:	75.0 %	
Density:		0.830 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

CJ 6/24/14

CJ 6/24/14 014A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 16558
Assay Instrument: HENC #2
Analysis Method: CCP-TP-063 v 15
Item ID: 68315

Batch Number: 2LANDA1226
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 9/24/2013

Net Weight	130000.0 g	
Pu mass	1.96E+002 +-	5.73E+001 g
TRU Alpha Activity	2.67E+001 +-	4.49E+000 Ci
TRU Activity Concentration	2.05E+005 +-	3.45E+004 nCi/g
Pu-239 Equivalent Activity	2.75E+001 +-	4.49E+000 Ci
Pu-239 FGE	1.87E+002 +-	5.71E+001 g
Decay heat	8.80E-001 +-	1.43E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.31E-007
U233	<LLD	<LLD	0.00E+000	1.65E-002
U234	6.57E-002	4.09E-004	9.54E-005	0.00E+000
U235	4.68E+000	1.01E-005	2.36E-006	6.78E-006
NP237	2.95E-001	2.08E-004	4.29E-005	2.54E-005
PU238	1.79E-002	3.06E-001	1.05E-001	1.98E-003
U238	<LLD	<LLD	0.00E+000	3.46E-005
PU239	1.83E+002	1.13E+001	3.54E+000	7.33E-002
PU240	1.27E+001	2.87E+000	9.84E-001	1.86E-002
AM241	3.55E+000	1.22E+001	2.57E+000	1.26E-001
PU241	2.60E-001	2.68E+001	9.18E+000	1.73E-001
PU242	5.69E-002	2.25E-004	7.70E-005	0.00E+000
CM243	1.05E-005	5.16E-004	1.06E-004	2.49E-005
CM244	7.42E-003	6.04E-001	1.31E-001	3.40E-001

Errors quoted at 1.000 sigma

Operator: D=RC Date: 6.4.14

ITR: Brett Tupler Date: 6-5-14

015
CS 6/24/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	16558	Batch Number:	2LANDA1226
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V 4.0
Item ID:	68315	Analysis Date:	9/24/2013

Net Weight	130000.0 g	
Pu mass	1.96E+002 +-	5.73E+001 g
TRU Alpha Activity	1.66E+001 +-	3.74E+000 Ci
TRU Activity Concentration	1.28E+005 +-	2.88E+004 nCi/g
Pu-239 Equivalent Activity	1.74E+001 +-	3.75E+000 Ci
Pu-239 FGE	1.87E+002 +-	5.71E+001 g
Decay heat	5.45E-001 +-	1.17E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.31E-007
U233	<LLD	<LLD	0.00E+000	1.65E-002
U234	6.57E-002	4.09E-004	9.54E-005	0.00E+000
U235	4.68E+000	1.01E-005	2.36E-006	6.78E-006
NP237	2.95E-001	2.08E-004	4.29E-005	2.54E-005
PU238	1.79E-002	3.06E-001	1.05E-001	1.98E-003
U238	<LLD	<LLD	0.00E+000	3.46E-005
PU239	1.83E+002	1.13E+001	3.54E+000	7.33E-002
PU240	1.27E+001	2.87E+000	9.84E-001	1.86E-002
AM241	6.13E-001	2.10E+000	7.07E-001	1.36E-002
PU241	2.60E-001	2.68E+001	9.18E+000	1.73E-001
PU242	5.69E-002	2.25E-004	7.70E-005	0.00E+000
CM243	1.05E-005	5.16E-004	1.06E-004	2.49E-005
CM244	7.42E-003	6.04E-001	1.31E-001	3.40E-001

Errors quoted at 1.000 sigma

Operator: [signature] Date: 9-25-13

ITR: [signature] Date: 9-26-13

CJ6/24/14

CJ6/24/14 015A

Automated Independent Technical Review

Count Sequence Number: 16558
Counter ID: HENC #2
Container ID: 68315
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 2LANDA1226
Count Type:
Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. NCC Pu mass was above calibration range. FGE is greater than the upper limit of 200.00 The Standard NCC Pu effective mass exceeds the Upper Calibration Limit. No roots found within the limits while determining the Standard NCC Pu Mass, Chose largest positive root. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Cm244 in drum. Neutron results rejected. Gamma results applied. Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.

016
CJ 6/24/14

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Pu239 FGE >200g with 2*TMU but <325g. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marak Date: 6/3/14

017
CJ 6/24/14

Automated Independent Technical Review

Count Sequence Number: 16558 Batch Number: 2LANDA1226
Counter ID: HENC #2
Container ID: 68315
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
NCC Pu mass was above calibration range.	Cm244 in drum. Neutron results rejected. Gamma results applied.
FGE is greater than the upper limit of 200.00	
The Standard NCC Pu effective mass exceeds the Upper Calibration Limit.	
No roots found within the limits while determining the Standard NCC Pu Mass, Chose largest positive root.	
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Gamma data specified as input.	Results taken from quantitative gamma data.
Results taken from Quantitative Gamma data.	
Results comparison test passed.	

CJ 6/24/14

017A
CJ 6/24/14 ~~016~~

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237, MT-52,53.
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Pu239 FGE >200g with 2*TMU but <325g.

Expert Review by: Sherri Chamberlain Date: 9-25-13

CJ 6/24/14

CJ6/24/14 017B

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 2LANDA1227				**Examination Date(s): 9/25/2013**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 68380 68384
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	X		-X-	NCR-LANL-0606-14 CD6/17/14

NTPC RECORDS ORIGINAL
DATE REC'D 10/7/13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1227	**Examination Date(s): 9/25/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1227	**Examination Date(s): 9/25/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1227	**Examination Date(s): 9/25/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna		10/3/13	
SPM Printed Name	Signature		Date	

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
Carolina Soaterna	Carolina Soaterna	Correction to Tit	6/18/14
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 2LANDA1227
NDA Counter ID: HENC 2	NDA Batch Date: 09/25/13
Waste Containers:	
68380	
68384	
None	
None	
None	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Bret Templeton	
Approval Signature and Date: Bret Templeton 9-26-13	
Israel Aragon 6-9-14	

NTPC RECORDS ORIGINAL
DATE RECD. 9/26/13

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 2LANDA1227

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ TA 6-1-14 39
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	14
Weekly Interfering Matrix Container Measurement Control Chart	29

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 2LANDA1227

Date: 09/25/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 09/25/13.
The Weekly Interfering Matrix Measurement for this batch was run on 09/25/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ IA 6-9-14
NCR-LANL-0606-14
IA 6-9-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
The overall quality of data in this Batch Data Report is acceptable.
DRun 68380 Reanalyzed Per NCR-LANL-0606-14 IA 6-9-14

NDA ITR: Bret Templeton Date: 9-26-13

Israel Aragon 6-9-14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 2LANDA1227
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 2

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 09/25/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Bret Templeton	
Approval Signature and Date: Bret Templeton 9-26-13	

Ismael Armijo 6-9-14

005

NDA 2000 Assay Report

********** Item Information **********

Item ID:	68380		Count Sequence Number:	16564	
Operator:	DCLTD231\Operator				
Assay Start:	9/25/2013 11:31:21 AM				
Description 1:	2LANDA1227				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	153.0 kg	Net:	153.0 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.770 kg /l			

********** System Configuration **********

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

006
CJ 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	68380		Count Sequence Number:	16564	
Operator:	DCLTD231\Operator				
Assay Start:	9/25/2013 11:31:21 AM				
Description 1:	2LANDA1227				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	153.0 kg	Net:	153.0 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.770 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

SUPERCEDED CR 6/12/14

CR 6/12/14 006A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	16564	Batch Number:	2LANDA1227
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68380	Analysis Date:	9/25/2013

Net Weight	153000.0 g	
Pu mass	9.86E+001 +-	2.89E+001 g
TRU Alpha Activity	1.84E+001 +-	2.92E+000 Ci
TRU Activity Concentration	1.21E+005 +-	1.91E+004 nCi/g
Pu-239 Equivalent Activity	1.88E+001 +-	2.92E+000 Ci
Pu-239 FGE	9.27E+001 +-	2.88E+001 g
Decay heat	6.08E-001 +-	9.46E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.01E-006
U233	<LLD	<LLD	0.00E+000	1.14E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.70E-006
NP237	2.31E-001	1.63E-004	3.22E-005	1.86E-005
PU238	9.02E-003	1.54E-001	5.29E-002	1.38E-003
U238	<LLD	<LLD	0.00E+000	2.81E-005
PU239	9.22E+001	5.72E+000	1.79E+000	5.11E-002
PU240	6.28E+000	1.43E+000	4.89E-001	1.27E-002
AM241	3.25E+000	1.11E+001	2.26E+000	9.57E-002
PU241	1.31E-001	1.35E+001	4.63E+000	1.20E-001
PU242	1.98E-002	7.80E-005	2.68E-005	0.00E+000
CM243	3.42E-006	1.67E-004	3.32E-005	1.68E-005
CM244	3.48E-003	2.83E-001	7.07E-002	2.25E-001

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-5-14

ITR: _____ Date: 6-9-14

067
CS 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 16564
Assay Instrument: HENC #2
Analysis Method: CCP-TP-063 v 15
Item ID: 68380

Batch Number: 2LANDA1227
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 9/25/2013

Net Weight	153000.0 g		
Pu mass	9.86E+001	+- 2.89E+001	g
TRU Alpha Activity	8.36E+000	+- 1.89E+000	Ci
TRU Activity Concentration	5.46E+004	+- 1.23E+004	nCi/g
Pu-239 Equivalent Activity	8.76E+000	+- 1.89E+000	Ci
Pu-239 FGE	9.26E+001	+- 2.88E+001	g
Decay heat	2.73E-001	+- 5.89E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.01E-006
U233	<LLD	<LLD	0.00E+000	1.14E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.70E-006
NP237	2.31E-001	1.63E-004	3.22E-005	1.86E-005
PU238	9.02E-003	1.54E-001	5.29E-002	1.38E-003
U238	<LLD	<LLD	0.00E+000	2.81E-005
PU239	9.22E+001	5.72E+000	1.79E+000	5.11E-002
PU240	6.28E+000	1.43E+000	4.89E-001	1.27E-002
AM241	3.09E-001	1.06E+000	3.56E-001	9.46E-003
PU241	1.31E-001	1.35E+001	4.63E+000	1.20E-001
PU242	1.98E-002	7.80E-005	2.68E-005	0.00E+000
CM243	3.42E-006	1.67E-004	3.32E-005	1.68E-005
CM244	3.48E-003	2.83E-001	7.07E-002	2.25E-001

Errors quoted at 1.000 sigma

Operator: [redacted] Date: 7.26.13

ITR: [redacted] Date: 9-26-13

SUPERCEDED

Exhibit 007A

Automated Independent Technical Review

Count Sequence Number: 16564 Batch Number: 2LANDA1227
Counter ID: HENC #2
Container ID: 68380
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/25/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
NCC Pu mass was above calibration range.	Cm244 in drum. Neutron results rejected. Gamma results applied.
FGE is greater than the upper limit of 200.00	
The Standard NCC Pu effective mass exceeds the Upper Calibration Limit.	
No roots found within the limits while determining the Standard NCC Pu Mass, Chose largest positive root.	
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings.	
- The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok

008 CD 6/12/14

Comments	Disposition
Cosmic Ray Rejection Analysis complete with warnings. - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B Mauck Date: 6/3/14

009
CS 6/17/14

Automated Independent Technical Review

Count Sequence Number: 16564 Batch Number: 2LANDA1227
Counter ID: HENC #2
Container ID: 68380
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/25/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
NCC Pu mass was above calibration range.	Cm244 in drum. Neutron results rejected. Gamma results applied.
FGE is greater than the upper limit of 200.00	
The Standard NCC Pu effective mass exceeds the Upper Calibration Limit.	
No roots found within the limits while determining the Standard NCC Pu Mass, Chose largest positive root.	
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings.	
- The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok

CJ 6/12/14 SUPERSEDED

CJ 6/12/14 00891A

Comments	Disposition
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Cosmic Ray Rejection Analysis complete with warnings. - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok Ok
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 9-25-13

SUPERSEDED CJ 6/17/14

CJ 6/17/14 0093

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 2LANDA1117 **Examination Date:** 3/13/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 67072 92152 92235 93095 93111 93142 93146 93154
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	6/17/14 X		*	~~No NCRs associated with BDR.~~ NCR-LANL-0606-14 6/17/14

NTPC RECORDS ORIGINAL
DATE REC'D 3/25/13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1117 **Examination Date:** 3/13/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1117 **Examination Date:** 3/13/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1117 **Examination Date:** 3/13/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: None

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Veronica Waldram	Veronica Waldram	March 21, 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soatelma	Carolina Soatelma	NCR-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	**NDA Batch #:** 2LANDA1117
NDA Counter ID: HENC 2	**NDA Batch Date:** 3/13/13
Waste Containers:	
93154	93146
92235	93095
92152	93142
67072	
93111	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Tim Barton	
Approval Signature and Date: Tim Barton	3/18/13

TIM BARTON
Tim Barton 6/9/14

NTPC RECORDS ORIGINAL
DATE REC'D 3/19/13 01

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 2LANDA1117

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~NIA~~ 3A 6/9/14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review List(s)	6
QA Control Sheets (Background and Daily QC Checks)	33
Weekly Interfering Matrix Drum Measurement Control Chart	48

02

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 2LANDA1117

Date: 3/13/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 3/13/13.
The Weekly Interfering Matrix Drum Measurement for this batch was run on 3/11/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ B 6/9/14
NCR-LANL-0606-14 B 6/9/14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
The overall quality of data in this Batch Data Report is acceptable.
Drum 92152 REANALYZED PER NCR-LANL-0606-14 B 6/9/14

NDA ITR: Tim Barton Date: 3/18/13

Tim Barton

6/9/14

03

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 2LANDA1117
Procedure/Rev Number: CCP-TP-063, Rev. 14	**NDA Counter ID:** HENC 2

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Drum Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review List	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background 4. Daily Neutron QC Check	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No

Attachment 4 –NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Drum Measurements were properly performed and completed on 3/11/13 (Date)	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Tim Barton	
Approval Signature and Date: Tim Barton 3/18/13	

TIM BARTON
Tim Barton 6/9/14

05

NDA 2000 Assay Report

Item Information

Item ID:	92152	Count Sequence Number:	15265		
Operator:	DCLTD231\Operator				
Assay Start:	3/13/2013 11:30:04 AM				
Description 1:	2LANDA1117				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	88.6	kg	Net:	88.6 kg
Container:	Volume:	208.0	l	Full:	75.0 %
Density:		0.570	kg /l		

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

012

NDA 2000 Assay Report

********** Item Information **********

Item ID:	92152		Count Sequence Number:	15265	
Operator:	DCLTD231\Operator				
Assay Start:	3/13/2013 11:30:04 AM				
Description 1:	2LANDA1117				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	88.6 kg	Net:	88.6 kg	
Container:	Volume:	208.0 l	Full:	75.0 %	
Density:		0.570 kg /l			

********** System Configuration **********

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

SUPERCEDED 8 6/12/14

8 6/12/14 12A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	15265	Batch Number:	2LANDA1117
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	92152	Analysis Date:	3/13/2013

Net Weight	88600.0 g		
Pu mass	1.08E+002	+- 2.12E+001	g
TRU Alpha Activity	1.87E+001	+- 2.48E+000	Ci
TRU Activity Concentration	2.11E+005	+- 2.80E+004	nCi/g
Pu-239 Equivalent Activity	1.90E+001	+- 2.48E+000	Ci
Pu-239 FGE	1.01E+002	+- 1.99E+001	g
Decay heat	6.06E-001	+- 8.11E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.64E-001	1.17E-004	1.91E-005	2.99E-006
PU238	9.88E-003	1.69E-001	3.33E-002	3.48E-005
PU239	1.01E+002	6.26E+000	1.23E+000	1.29E-003
PU240	6.46E+000	1.47E+000	2.89E-001	3.02E-004
AM241	3.15E+000	1.08E+001	2.13E+000	2.23E-003
PU241	1.27E-001	1.31E+001	2.59E+000	2.70E-003
PU242	2.15E-002	8.51E-005	1.68E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.33E-006
U233	<LLD	<LLD	0.00E+000	1.30E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	4.01E-006
U238	<LLD	<LLD	0.00E+000	2.57E-005
AM243	5.15E-003	1.03E-003	1.69E-004	1.87E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-5-14

ITR: _____ Date: 6/9/14

013
CS 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	15265	Batch Number:	2LANDA1117
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	92152	Analysis Date:	3/13/2013

Net Weight	88600.0 g	
Pu mass	1.08E+002 +- 2.12E+001	g
TRU Alpha Activity	9.05E+000 +- 1.30E+000	Ci
TRU Activity Concentration	1.02E+005 +- 1.47E+004	nCi/g
Pu-239 Equivalent Activity	9.29E+000 +- 1.30E+000	Ci
Pu-239 FGE	1.01E+002 +- 1.99E+001	g
Decay heat	2.84E-001 +- 4.05E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.64E-001	1.17E-004	1.91E-005	2.99E-006
PU238	9.88E-003	1.71E-001	3.37E-002	3.52E-005
PU239	1.01E+002	6.35E+000	1.25E+000	1.31E-003
PU240	6.46E+000	1.48E+000	2.93E-001	3.06E-004
AM241	2.99E-001	1.04E+000	2.05E-001	2.14E-004
PU241	1.27E-001	1.32E+001	2.61E+000	2.73E-003
PU242	2.15E-002	8.55E-005	1.69E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.33E-006
U233	<LLD	<LLD	0.00E+000	1.30E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	4.01E-006
U238	<LLD	<LLD	0.00E+000	2.57E-005
AM243	5.10E-003	1.03E-003	1.69E-004	1.87E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 3-15-13

ITR: _____ Date: 3/18/13

SUPERCEDED CS 6/13/14

CS 6/13/14 13A

Automated Independent Technical Review

Count Sequence Number: 15265
Counter ID: HENC #2
Container ID: 92152
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 2LANDA1117
Count Type:
Assay Date: 3/13/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings.	
- The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings.	
- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok

14
PS 6/27/14

Comments	Disposition
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%.	Ok No spectral distortion observed. Spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marsh Date: 6/3/14

015
CD 6/17/14

Automated Independent Technical Review

Count Sequence Number: 15265
Counter ID: HENC #2
Container ID: 92152
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 2LANDA1117
Count Type:
Assay Date: 3/13/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings. - The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings. - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok

SUPERCEDED CS 6/12/14

15A
CS 6/12/14 ~~14~~

Comments	Disposition
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%.	Ok No spectral distortion observed. Spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 3-14-13

SUPERSEDED

CS 6/17/14

CS 6/17/14

CS 6/17/14 15B

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 2LANDA1156 **Examination Date:** 10 May 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				**Container(s):** 93572, 92129, 90835, 93573, 90752, 90872, 90704, 67196
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	CS 6/7/14 X		~~X~~	~~No NCRs associated with this BDR~~ NCR-LANL-0606 14 CS 6/7/14

NTPC RECORDS ORIGINAL
DATE REC'D 5/21/13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1156 **Examination Date:** 10 May 2013

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1156 **Examination Date:** 10 May 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1156 **Examination Date:** 10 May 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: **None**

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

David W Moody		21 May 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soatema	Carolina Soatema	NCR-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 2LANDA1156
NDA Counter ID: HENC 2	NDA Batch Date: 5/10/13
Waste Containers:	
93572	90872
92129	90704
90835	67196
93573	
90752	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Bret Templeton	
Approval Signature and Date: Bret Templeton 5-15-13	
Bret Templeton 6-10-14	

NTPC RECORDS ORIGINAL
DATE REC'D. 5/20/13

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 2LANDA1156

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 3A 06-10-14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review List(s)	6
QA Control Sheets (Background and Daily QC Checks)	37
Weekly Interfering Matrix Drum Measurement Control Chart	52

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 2LANDA1156

Date: 5/10/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 5/10/13.
The Weekly Interfering Matrix Drum Measurement for this batch was run on 5/06/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ BT 6-10-14
NCR-LANL-0606-14 BT 6-10-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
Drum 93512 reanalyzed per NCR-LANL-0606-14 BT 6-10-14

NDA ITR: Bret Templeton Date: 5-15-13
Bret Templeton

Bret Templeton 6-10-14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 2LANDA1156
Procedure/Rev Number: CCP-TP-063, Rev. 14	**NDA Counter ID:** HENC 2

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Drum Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review List	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background 4. Daily Neutron QC Check	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No

004

Attachment 4 –NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Drum Measurements were properly performed and completed on 5/06/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. *Note:* Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Bret Templeton	
Approval Signature and Date: Bret Templeton 5-15-13	
Bret Templeton 6-10-14	

005

NDA 2000 Assay Report

********** Item Information **********

Item ID:	93572	Count Sequence Number:	15746		
Operator:	DCLTD231\Operator				
Assay Start:	5/10/2013 9:05:50 AM				
Description 1:	2LANDA1156				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	62.1	kg	Net:	62.1 kg
Container:	Volume:	208.0	l	Full:	50.0 %
Density:		0.600	kg /l		

********** System Configuration **********

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

006
CS 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	93572	Count Sequence Number:	15746
Operator:	DCLTD231\Operator		
Assay Start:	5/10/2013 9:05:50 AM		
Description 1:	2LANDA1156		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gal Drum		
Weight:	Net: 62.1 kg	Net:	62.1 kg
Container:	Volume: 208.0 l	Full:	50.0 %
Density:	0.600 kg /l		

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

SUPERCEDED PS 6/13/14

906A
PS 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	15746	Batch Number:	2LANDA1156
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	93572	Analysis Date:	5/10/2013

Net Weight	62100.0 g	
Pu mass	9.15E+000 +-	2.68E+000 g
TRU Alpha Activity	8.57E+000 +-	2.32E+000 Ci
TRU Activity Concentration	1.38E+005 +-	3.73E+004 nCi/g
Pu-239 Equivalent Activity	8.59E+000 +-	2.32E+000 Ci
Pu-239 FGE	8.67E+000 +-	2.52E+000 g
Decay heat	2.83E-001 +-	7.70E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.37E-001	9.68E-005	1.64E-005	4.44E-006
PU238	8.40E-004	1.44E-002	4.21E-003	3.56E-005
PU239	8.59E+000	5.33E-001	1.56E-001	1.32E-003
PU240	5.49E-001	1.25E-001	3.65E-002	3.09E-004
AM241	2.30E+000	7.90E+000	2.31E+000	1.96E-002
PU241	1.08E-002	1.11E+000	3.25E-001	2.75E-003
PU242	1.83E-003	7.24E-006	2.12E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	8.04E-007
U233	<LLD	<LLD	0.00E+000	7.76E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.62E-006
U238	<LLD	<LLD	0.00E+000	1.81E-005
AM243	1.81E-003	3.62E-004	6.22E-005	5.76E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-5-14

ITR: _____ Date: 6-10-14

007
CJ 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	15746	Batch Number:	2LANDA1156
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	93572	Analysis Date:	5/10/2013

Net Weight	62100.0 g	
Pu mass	9.15E+000 +-	2.68E+000 g
TRU Alpha Activity	7.70E-001 +-	1.65E-001 Ci
TRU Activity Concentration	1.24E+004 +-	2.65E+003 nCi/g
Pu-239 Equivalent Activity	7.91E-001 +-	1.65E-001 Ci
Pu-239 FGE	8.63E+000 +-	2.52E+000 g
Decay heat	2.42E-002 +-	5.12E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.36E-001	9.68E-005	1.64E-005	4.44E-006
PU238	8.40E-004	1.45E-002	4.26E-003	3.60E-005
PU239	8.59E+000	5.40E-001	1.58E-001	1.34E-003
PU240	5.49E-001	1.26E-001	3.70E-002	3.13E-004
AM241	2.55E-002	8.86E-002	2.59E-002	2.20E-004
PU241	1.08E-002	1.12E+000	3.28E-001	2.77E-003
PU242	1.83E-003	7.27E-006	2.13E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	8.04E-007
U233	<LLD	<LLD	0.00E+000	7.76E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.62E-006
U238	<LLD	<LLD	0.00E+000	1.81E-005
AM243	1.79E-003	3.62E-004	6.22E-005	5.76E-006

Errors quoted at 1.000 sigma

Operator: [signature] Date: 5-15-13

ITR: [signature] Date: 5-15-13

CJ 6/12/14 SUPERCEDED

007A
CJ 6/12/14

Automated Independent Technical Review

Count Sequence Number: 15746 Batch Number: 2LANDA1156
Counter ID: HENC #2
Container ID: 93572
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/10/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.

DOB
CS 6/17/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%.	Ok MCA deadtime =50.52%
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Mamah Date: 6/3/14

009
CS 6/17/14

Automated Independent Technical Review

Count Sequence Number: 15746 Batch Number: 2LANDA1156
Counter ID: HENC #2
Container ID: 93572
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/10/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.

CS 6/17/14 SUPERSEDED

008-9A
CS 6/17/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%.	 Ok MCA deadtime =50.52%
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 5-14-13

SUPERSEDED CD 6/12/14

009B
CD 6/12/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1847	**Examination Date(s): 09/24/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 68377 68382 68385 68390 68392 68404
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	CJS 9/27/14 X		-X-	NCR-LANL-0606-14 CJS 9/27/14

NTPC RECORDS ORIGINAL
DATE REC'D 10-3-13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1847	Examination Date(s): 09/24/2013			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1847	Examination Date(s): 09/24/2013			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1847	**Examination Date(s): 09/24/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna (SPM Printed Name)	Carolina Soaterna (Signature)			10/1/13 (Date)

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/12/14

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1847
NDA Counter ID: HENC 1	NDA Batch Date: 9/24/2013
Waste Containers:	
68377 68385	
68404	
68392	
68382	
68390	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Dominic R. Archuleta	
Approval Signature and Date: D R A 9.25.13	

Dominic R. Archuleta 6.9.14
D R A

NTPC RECORDS ORIGINAL 001
DATE REC'D 9/20/13

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1847

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	QA 6-9-14 ~~N/A~~ 3A
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	27
Weekly Interfering Matrix Container Measurement Control Chart	44

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1847

Date: 9/24/2013

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 9/24/13 .
The Environmental Background Gamma QC Background #1 parameter received a 'Be' flag. A satisfactory background measurement for all parameters was then obtained.
The Weekly Interfering Matrix Drum Measurement for this batch was run on 9/23/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ DA 6.9.14
NCR-LANL-0606-14. DA 6.9.14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst. DA 6.9.14
The overall quality of data in this Batch Data Report is acceptable.
DRUMS 68404 AND 68382 REANALYZED PER NCR-LANL-0606-14

NDA ITR: D = R. C Date: 9.25.13

Dominic R. Archuleta

Dominic R. Archuleta

D = RC 6.9.14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1847
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

004

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 09/23/2013 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. Note: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Dominic R. Archuleta	
Approval Signature and Date: D = R. C — 9.25.13	

Dominic R. Archuleta
D = RC — 6.9.14

005

NDA 2000 Assay Report

********** Item Information **********

Item ID:	68404		Count Sequence Number:	23642	
Operator:	D3PW2DK1\operator				
Assay Start:	9/24/2013 11:49:19 AM				
Description 1:	1LANDA1847				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	70.6	kg	Net:	70.6 kg
Container:	Volume:	208.0	l	Full:	65.0 %
Density:		0.520	kg /l		

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

010
CS 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	68404		Count Sequence Number:	23642	
Operator:	D3PW2DK1\operator				
Assay Start:	9/24/2013 11:49:19 AM				
Description 1:	1LANDA1847				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	70.6	kg	Net:	70.6 kg
Container:	Volume:	208.0	l	Full:	65.0 %
Density:		0.520	kg /l		

SUPERCEDED CS 6/13/14

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 6/13/14 010A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23642	Batch Number:	1LANDA1847
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68404	Analysis Date:	9/24/2013

Net Weight	70600.0 g	
Pu mass	3.98E+001 +-	6.53E+000 g
TRU Alpha Activity	9.74E+000 +-	1.18E+000 Ci
TRU Activity Concentration	1.38E+005 +-	1.67E+004 nCi/g
Pu-239 Equivalent Activity	9.83E+000 +-	1.18E+000 Ci
Pu-239 FGE	3.75E+001 +-	6.11E+000 g
Decay heat	3.18E-001 +-	3.90E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.82E-001	1.28E-004	2.00E-005	5.43E-006
PU238	4.00E-003	6.85E-002	1.12E-002	3.46E-005
PU239	3.72E+001	2.31E+000	3.79E-001	1.17E-003
PU240	2.48E+000	5.63E-001	9.23E-002	2.84E-004
AM241	1.98E+000	6.80E+000	1.12E+000	3.43E-003
PU241	5.05E-002	5.20E+000	8.54E-001	2.63E-003
PU242	1.08E-002	4.25E-005	6.97E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.16E-006
U233	<LLD	<LLD	0.00E+000	1.15E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.34E-006
U238	<LLD	<LLD	0.00E+000	2.06E-005
AM243	3.78E-003	7.56E-004	1.20E-004	1.65E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-9-14

ITR: _____ Date: 6.9.14

011
CJ 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23642	Batch Number:	1LANDA1847
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68404	Analysis Date:	9/24/2013

Net Weight	70600.0 g	
Pu mass	3.98E+001 +-	6.53E+000 g
TRU Alpha Activity	3.36E+000 +-	3.96E-001 Ci
TRU Activity Concentration	4.76E+004 +-	5.61E+003 nCi/g
Pu-239 Equivalent Activity	3.46E+000 +-	3.97E-001 Ci
Pu-239 FGE	3.74E+001 +-	6.11E+000 g
Decay heat	1.06E-001 +-	1.24E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.82E-001	1.28E-004	2.00E-005	5.43E-006
PU238	4.00E-003	6.85E-002	1.12E-002	3.46E-005
PU239	3.72E+001	2.31E+000	3.79E-001	1.17E-003
PU240	2.48E+000	5.63E-001	9.23E-002	2.84E-004
AM241	1.23E-001	4.21E-001	6.91E-002	2.13E-004
PU241	5.05E-002	5.20E+000	8.54E-001	2.63E-003
PU242	1.08E-002	4.25E-005	6.97E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.16E-006
U233	<LLD	<LLD	0.00E+000	1.15E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.34E-006
U238	<LLD	<LLD	0.00E+000	2.06E-005
AM243	3.78E-003	7.56E-004	1.20E-004	1.65E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 9/25/13

ITR: _____ Date: 9.25.13

SUPERSEDED 6/3/14

6/3/14 011A

Automated Independent Technical Review

Count Sequence Number: 23642 Batch Number: 1LANDA1847
Counter ID: MCS HENC #1
Container ID: 68404
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54

012
ES 6/17/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	No spectral distortion observed. Gamma spectrum valid. MCA deadtime = 64.97%
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma analysis.

Expert Review by: Bert B. Marsh Date: 6/3/14

013
CS 6/17/14

Automated Independent Technical Review

Count Sequence Number: 23642 Batch Number: 1LANDA1847
Counter ID: MCS HENC #1
Container ID: 68404
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54

SUPERCEDED CS 6/17/14

CS 6/13/14 013A 012

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	No spectral distortion observed. Gamma spectrum valid. MCA deadtime = 64.97%
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chandler Date: 9-25-13

CS 6/17/14

CS 6/17/14 0136

NDA 2000 Assay Report

Item Information

Item ID:	68382	Count Sequence Number:	23644		
Operator:	D3PW2DK1\operator				
Assay Start:	9/24/2013 1:25:58 PM				
Description 1:	1LANDA1847				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	79.6	kg	Net:	79.6 kg
Container:	Volume:	208.0	l	Full:	65.0 %
Density:		0.590 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

017
CS 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	68382		Count Sequence Number:	23644	
Operator:	D3PW2DK1\operator				
Assay Start:	9/24/2013 1:25:58 PM				
Description 1:	1LANDA1847				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	79.6	kg	Net:	79.6 kg
Container:	Volume:	208.0	l	Full:	65.0 %
Density:		0.590	kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 6/13/14 017A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23644	Batch Number:	1LANDA1847
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68382	Analysis Date:	9/24/2013

Net Weight	79600.0 g	
Pu mass	1.20E+001 +-	2.80E+000 g
TRU Alpha Activity	8.27E+000 +-	1.73E+000 Ci
TRU Activity Concentration	1.04E+005 +-	2.17E+004 nCi/g
Pu-239 Equivalent Activity	8.30E+000 +-	1.73E+000 Ci
Pu-239 FGE	1.14E+001 +-	2.63E+000 g
Decay heat	2.73E-001 +-	5.74E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.10E-001	7.72E-005	1.30E-005	4.04E-006
PU238	1.10E-003	1.88E-002	4.38E-003	3.30E-005
PU239	1.13E+001	7.00E-001	1.63E-001	1.23E-003
PU240	7.22E-001	1.64E-001	3.82E-002	2.87E-004
AM241	2.15E+000	7.39E+000	1.72E+000	1.29E-002
PU241	1.39E-002	1.43E+000	3.33E-001	2.51E-003
PU242	2.41E-003	9.51E-006	2.22E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.07E-006
U233	<LLD	<LLD	0.00E+000	7.77E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.28E-006
U238	<LLD	<LLD	0.00E+000	1.65E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-9-14

ITR: _____ Date: 6.9.14

018
es clialit

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23644	Batch Number:	1LANDA1847
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68382	Analysis Date:	9/24/2013

Net Weight	79600.0 g		
Pu mass	1.20E+001	+- 2.80E+000	g
TRU Alpha Activity	9.98E-001	+- 1.70E-001	Ci
TRU Activity Concentration	1.25E+004	+- 2.13E+003	nCi/g
Pu-239 Equivalent Activity	1.02E+000	+- 1.70E-001	Ci
Pu-239 FGE	1.13E+001	+- 2.63E+000	g
Decay heat	3.14E-002	+- 5.29E-003	W

Nuclide	Mass g	Activity Ci	Activity Uncert Ci	MDA Ci
NP237	1.10E-001	7.72E-005	1.30E-005	4.04E-006
PU238	1.10E-003	1.88E-002	4.38E-003	3.30E-005
PU239	1.13E+001	7.00E-001	1.63E-001	1.23E-003
PU240	7.22E-001	1.64E-001	3.82E-002	2.87E-004
AM241	3.38E-002	1.16E-001	2.70E-002	2.03E-004
PU241	1.39E-002	1.43E+000	3.33E-001	2.51E-003
PU242	2.41E-003	9.51E-006	2.22E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.07E-006
U233	<LLD	<LLD	0.00E+000	7.77E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.28E-006
U238	<LLD	<LLD	0.00E+000	1.65E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 9/25/13

ITR: _____ Date: 9.25.13

SUPERSEDED ES 6/13/14

018

Automated Independent Technical Review

Count Sequence Number: 23644 Batch Number: 1LANDA1847
Counter ID: MCS HENC #1
Container ID: 68382
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	No spectral distortion observed. Gamma spectrum valid. MCA deadtime = 53.15%

019
CS 6/13/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Manak Date: 6/9/14

020
CS 6/17/14

Automated Independent Technical Review

Count Sequence Number: 23644
Counter ID: MCS HENC #1
Container ID: 68382
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1847
Count Type:
Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52

CS 6/12/14

CS 6/12/14 020A ~~019~~

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	No spectral distortion observed. Gamma spectrum valid. MCA deadtime = 53.15%
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chandler Date: 9-25-13

SC 6/17/14

@ 6/17/14 0203

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1857				Examination Date(s): 10/31/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 68456 68482 68497 68543
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	4/17/14 X		X	NCR-LANL-0606-14 06/17/14

NTPC RECORDS ORIGINAL
DATE REC'D 11/06/13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1857	Examination Date(s): 10/31/2013			
Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1857	Examination Date(s): 10/31/2013			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1857	**Examination Date(s): 10/31/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna		11/05/2013	
SPM Printed Name	Signature		Date	

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6-17-14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1857
NDA Counter ID: HENC 1	NDA Batch Date: 10/31/13
Waste Containers:	
68497	
68482	
68456	
68543	
N/A	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Israel Aragon	
Approval Signature and Date: MARIA ESCARCEGA 11-4-13	

Maria Escarcega 6.6.14

NTPC RECORDS ORIGINAL
DATE REC'D 11/5/13

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1857

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 3a 6.14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	18
Weekly Interfering Matrix Container Measurement Control Chart	33

002

Attachment 3 - NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1857

Date 10/31/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 10/31/13.
The Weekly Interfering Matrix Measurement for this batch was run on 10/28/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ 6.6.14
NCR-LANL-0606-14 6.6.14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified
operator reviewed and signed this Batch Data Report
The overall quality of data in this Batch Data Report is acceptable.
Drum 68482 Reanalyzed Per NCR-LANL-0606-14 6.6.14

NDA ITR: _____ Date: 11-4-13

Israel Aragon

Maria Eg 6.6.14

MARIA ESPARCEGA

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	NDA Batch Number: 1LANDA1857
Procedure/Rev Number: CCP-TP-063, Rev. 15	NDA Counter ID: HENC 1

Description of Criteria Reviewed	Criteria Met Yes/No/NA
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s) Data are reported in the proper units.	☑ Yes ☐ No ☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

004

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002)	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 10/28/13 (Date)	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235 **Note** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Israel Aragon Approval Signature and Date: MARIA ESCARCEGA 11-4-13	

Maria Escarcega 6.6.14

005

NDA 2000 Assay Report

Item Information

Item ID:	68482	Count Sequence Number:	23764		
Operator:	D3PW2DK1\operator				
Assay Start:	10/31/2013 1:22:29 PM				
Description 1:	1LANDA1857				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	109.0	kg	Net:	109.0 kg
Container:	Volume:	208.0	l	Full:	75.0 %
Density:		0.700 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 6/17/14 009

NDA 2000 Assay Report

SUPERCEDED 5/17/14

Item Information

Item ID:	68482		Count Sequence Number:	23764	
Operator:	D3PW2DK1\operator				
Assay Start:	10/31/2013 1:22:29 PM				
Description 1:	1LANDA1857				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	109.0 kg	Net:	109.0 kg	
Container:	Volume:	208.0 l	Full:	75.0 %	
Density:		0.700 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

@5/17/14 003A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23764	Batch Number:	1LANDA1857
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68482	Analysis Date:	10/31/2013

Net Weight	109000.0 g	
Pu mass	6.81E+001 +-	1.24E+001 g
TRU Alpha Activity	1.21E+001 +-	1.49E+000 Ci
TRU Activity Concentration	1.11E+005 +-	1.37E+004 nCi/g
Pu-239 Equivalent Activity	1.22E+001 +-	1.49E+000 Ci
Pu-239 FGE	6.42E+001 +-	1.17E+001 g
Decay heat	3.91E-001 +-	4.88E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.49E-001	1.05E-004	1.95E-005	4.57E-006
PU238	6.22E-003	1.06E-001	1.94E-002	3.39E-005
PU239	6.39E+001	3.96E+000	7.24E-001	1.26E-003
PU240	4.08E+000	9.27E-001	1.70E-001	2.96E-004
AM241	2.06E+000	7.07E+000	1.29E+000	2.26E-003
PU241	7.82E-002	8.05E+000	1.47E+000	2.57E-003
PU242	1.36E-002	5.38E-005	9.84E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.06E-006
U233	<LLD	<LLD	0.00E+000	1.03E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.96E-006
U238	<LLD	<LLD	0.00E+000	2.54E-005
AM243	4.95E-003	9.90E-004	1.85E-004	1.41E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.5.14

ITR: _____ Date: 6.6.14

DIO
CJ 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23764	Batch Number:	1LANDA185
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68482	Analysis Date:	10/31/2013

Net Weight	109000.0 g	
Pu mass	6.81E+001 +-	1.24E+001 g
TRU Alpha Activity	5.65E+000 +-	7.54E-001 Ci
TRU Activity Concentration	5.19E+004 +-	6.91E+003 nCi/g
Pu-239 Equivalent Activity	5.80E+000 +-	7.54E-001 Ci
Pu-239 FGE	6.42E+001 +-	1.17E+001 g
Decay heat	1.78E-001 +-	2.35E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.49E-001	1.05E-004	1.95E-005	4.57E-006
PU238	6.22E-003	1.06E-001	1.94E-002	3.39E-005
PU239	6.39E+001	3.96E+000	7.24E-001	1.26E-003
PU240	4.08E+000	9.27E-001	1.70E-001	2.96E-004
AM241	1.91E-001	6.56E-001	1.20E-001	2.09E-004
PU241	7.82E-002	8.05E+000	1.47E+000	2.57E-003
PU242	1.36E-002	5.38E-005	9.84E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.06E-006
U233	<LLD	<LLD	0.00E+000	1.03E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.96E-006
U238	<LLD	<LLD	0.00E+000	2.54E-005
AM243	4.95E-003	9.90E-004	1.85E-004	1.41E-005

Errors quoted at 1.000 sigma

Operator: D F R. C Date: 11/4/13

ITR: [signature] Date: 11-4-13

CD 6/17/14 010A

Automated Independent Technical Review

Count Sequence Number: 23764 Batch Number: 1LANDA1857
Counter ID: MCS HENC #1
Container ID: 68482
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/31/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

011
CS6/17/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marah Date: 6/3/14

OIA
CS 6/17/14

Automated Independent Technical Review

Count Sequence Number: 23764 Batch Number: 1LANDA1857
Counter ID: MCS HENC #1
Container ID: 68482
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/31/2013

SUPERSEDED Attach 5

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chambers Date: 11-4-13

Attach 011B

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1850	**Examination Date(s): 10/02/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 68393 68399 68410 68413 68416 68447 68453
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	X		X JH 11-21-13	NCR-LANL-0735-13 NCR-LANL-0606-14 ☐ 4/14/14

NTPC RECORDS ORIGINAL
DATE REC'D 10/09/13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1850				Examination Date(s): 10/02/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1850	Examination Date(s): 10/02/2013			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1850	**Examination Date(s): 10/02/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna			10/7/13
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

Joshua Houghton		NCR-LANL-0735-13	11-21-13
SPM Printed Name	Signature	Reason	Date
Carolina Soaterna	Carolina Soaterna	NCR.LANL.0606.14	6/17/14
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	**NDA Batch #:** 1LANDA1850
NDA Counter ID: HENC 1	**NDA Batch Date:** 10/02/2013
Waste Containers:	
68399 68416	
68410 68453	
68393	
68447	
68413	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Dominic R. Archuleta	
Approval Signature and Date: [signature] 10.3.13	

Dominic R. Archuleta [signature] 6.9.14

NTPC RECORDS ORIGINAL
DATE REC'D 10/7/13

001
~~002~~ PA 10.3.13

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1850

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 3a QA 6.9.14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	29
Weekly Interfering Matrix Container Measurement Control Chart	44

002 QA 10.3.13
~~001~~

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1850

Date: 10/02/2013

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 10/02/2013.
The Weekly Interfering Matrix Drum Measurement for this batch was run on 10/03/2013.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ NCR-LANL-0735-13 DA 11/21/13
NCR-LANL-0606-14 DA 6.9.14 DA 6.9.14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
The overall quality of data in this Batch Data Report is acceptable.

Corrected NDA ITR checklist item "QC measurement results..." on p.5 to indicate "Yes" instead of "No". DA 11/21/13 DA 6.9.14

Drums 68413 and 68416 re-analyzed per NCR-LANL-0606-14.

NDA ITR: D R C Date: 10.3.13

Dominic R. Archuleta

D R C 11/21/13

Dominic R. Archuleta

D R C 6.9.14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	NDA Batch Number: 1LANDA1850
Procedure/Rev Number: CCP-TP-063, Rev. 15	NDA Counter ID: HENC 1

Description of Criteria Reviewed	Criteria Met Yes/No/NA
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

004

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	DR 11/21/13
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002)	☑ Yes ☑ ~~No~~
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 10/03/2013 (Date)	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. Note: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Dominic R. Archuleta	
Approval Signature and Date: D=R. [signature] 10.3.13	

D=R [signature] 11/21/13

Dominic R. Archuleta

D=R [signature] 6.9.14

005

NDA 2000 Assay Report

Item Information

Item ID:	68413		Count Sequence Number:	23675	
Operator:	D3PW2DK1\operator				
Assay Start:	10/2/2013 1:53:14 PM				
Description 1:	1LANDA1850				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	118.0	kg	Net:	118.0 kg
Container:	Volume:	208.0	l	Full:	80.0 %
Density:		0.710	kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

015
a 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	68413	Count Sequence Number:	23675		
Operator:	D3PW2DK1\operator				
Assay Start:	10/2/2013 1:53:14 PM				
Description 1:	1LANDA1850				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	118.0	kg	Net:	118.0 kg
Container:	Volume:	208.0	l	Full:	80.0 %
Density:		0.710 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERCEDED CS 4/13/14

018A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23675	Batch Number:	1LANDA1850
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68413	Analysis Date:	10/2/2013

Net Weight	118000.0 g	
Pu mass	1.02E+002 +-	1.92E+001 g
TRU Alpha Activity	1.43E+001 +-	1.72E+000 Ci
TRU Activity Concentration	1.21E+005 +-	1.46E+004 nCi/g
Pu-239 Equivalent Activity	1.45E+001 +-	1.72E+000 Ci
Pu-239 FGE	9.58E+001 +-	1.80E+001 g
Decay heat	4.59E-001 +-	5.57E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.82E-001	1.29E-004	2.40E-005	5.37E-006
PU238	9.29E-003	1.59E-001	3.00E-002	3.31E-005
PU239	9.53E+001	5.91E+000	1.12E+000	1.23E-003
PU240	6.09E+000	1.38E+000	2.61E-001	2.88E-004
AM241	1.98E+000	6.80E+000	1.29E+000	1.42E-003
PU241	1.17E-001	1.21E+001	2.28E+000	2.51E-003
PU242	2.03E-002	8.03E-005	1.52E-005	0.00E+000
CO60	3.87E-010	4.37E-007	9.51E-008	1.53E-007
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.09E-006
U233	<LLD	<LLD	0.00E+000	1.12E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.34E-006
U238	<LLD	<LLD	0.00E+000	2.99E-005
AM243	2.71E-003	5.43E-004	1.03E-004	1.55E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-6-14

ITR: _____ Date: 6.9.14

019
CS 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23675	Batch Number:	1LANDA1850
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68413	Analysis Date:	10/2/2013

Net Weight	118000.0 g	
Pu mass	1.02E+002 +-	1.92E+001 g
TRU Alpha Activity	8.43E+000 +-	1.16E+000 Ci
TRU Activity Concentration	7.14E+004 +-	9.85E+003 nCi/g
Pu-239 Equivalent Activity	8.65E+000 +-	1.16E+000 Ci
Pu-239 FGE	9.57E+001 +-	1.80E+001 g
Decay heat	2.65E-001 +-	3.63E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.82E-001	1.29E-004	2.40E-005	5.37E-006
PU238	9.29E-003	1.59E-001	3.00E-002	3.31E-005
PU239	9.53E+001	5.91E+000	1.12E+000	1.23E-003
PU240	6.09E+000	1.38E+000	2.61E-001	2.88E-004
AM241	2.85E-001	9.78E-001	1.85E-001	2.04E-004
PU241	1.17E-001	1.21E+001	2.28E+000	2.51E-003
PU242	2.03E-002	8.03E-005	1.52E-005	0.00E+000
CO60	3.87E-010	4.37E-007	9.51E-008	1.53E-007
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.09E-006
U233	<LLD	<LLD	0.00E+000	1.12E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.34E-006
U238	<LLD	<LLD	0.00E+000	2.99E-005
AM243	2.71E-003	5.43E-004	1.03E-004	1.55E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/3/13

ITR: DERC Date: 10-3-13

SUPERCEDED 03/17/14

04/17/14 019A

Automated Independent Technical Review

Count Sequence Number: 23675 Batch Number: 1LANDA1850
Counter ID: MCS HENC #1
Container ID: 68413
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/2/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

DZD
CS 6/17/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marah Date: 6/3/14

DOA
6/17/14

Automated Independent Technical Review

Count Sequence Number: 23675 Batch Number: 1LANDA1850
Counter ID: MCS HENC #1
Container ID: 68413
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/2/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

SUBJECT

Expert Review by: Sheri Chamberlain Date: 10-3-13

020B
04/17/14

NDA 2000 Assay Report

Item Information

Item ID:	68416		Count Sequence Number:	23676	
Operator:	D3PW2DK1\operator				
Assay Start:	10/2/2013 2:40:15 PM				
Description 1:	1LANDA1850				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	79.6	kg	Net:	79.6 kg
Container:	Volume:	208.0	l	Full:	50.0 %
Density:		0.770 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

021
06/11/14

NDA 2000 Assay Report

Item Information

Item ID:	68416		Count Sequence Number:	23676	
Operator:	D3PW2DK1\operator				
Assay Start:	10/2/2013 2:40:15 PM				
Description 1:	1LANDA1850				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	79.6 kg	Net:	79.6 kg	
Container:	Volume:	208.0 l	Full:	50.0 %	
Density:		0.770 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CONTROLLED CJ 6/19/14

06/17/14 021A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23676	Batch Number:	1LANDA1850
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68416	Analysis Date:	10/2/2013

Net Weight	79600.0 g
Pu mass	1.01E+002 +- 1.60E+001 g
TRU Alpha Activity	1.29E+001 +- 1.29E+000 Ci
TRU Activity Concentration	1.62E+005 +- 1.62E+004 nCi/g
Pu-239 Equivalent Activity	1.31E+001 +- 1.29E+000 Ci
Pu-239 FGE	9.53E+001 +- 1.50E+001 g
Decay heat	4.13E-001 +- 4.13E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.33E-001	9.39E-005	1.84E-005	5.10E-006
PU238	9.24E-003	1.58E-001	2.50E-002	3.28E-005
PU239	9.48E+001	5.88E+000	9.30E-001	1.22E-003
PU240	6.06E+000	1.38E+000	2.18E-001	2.86E-004
AM241	1.59E+000	5.46E+000	8.63E-001	1.13E-003
PU241	1.16E-001	1.20E+001	1.90E+000	2.49E-003
PU242	2.02E-002	7.99E-005	1.26E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	9.36E-007
U233	<LLD	<LLD	0.00E+000	9.96E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.00E-006
U238	<LLD	<LLD	0.00E+000	1.92E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-6-14

ITR: D=RC Date: 6.9.14

022
CD 6/7/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23676	Batch Number:	1LANDA1850
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68416	Analysis Date:	10/2/2013

Net Weight	79600.0 g	
Pu mass	1.01E+002 +-	1.60E+001 g
TRU Alpha Activity	8.39E+000 +-	9.68E-001 Ci
TRU Activity Concentration	1.05E+005 +-	1.22E+004 nCi/g
Pu-239 Equivalent Activity	8.61E+000 +-	9.69E-001 Ci
Pu-239 FGE	9.52E+001 +-	1.50E+001 g
Decay heat	2.64E-001 +-	3.02E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.33E-001	9.39E-005	1.84E-005	5.10E-006
PU238	9.24E-003	1.58E-001	2.50E-002	3.28E-005
PU239	9.48E+001	5.88E+000	9.30E-001	1.22E-003
PU240	6.06E+000	1.38E+000	2.18E-001	2.86E-004
AM241	2.84E-001	9.73E-001	1.54E-001	2.02E-004
PU241	1.16E-001	1.20E+001	1.90E+000	2.49E-003
PU242	2.02E-002	7.99E-005	1.26E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	9.36E-007
U233	<LLD	<LLD	0.00E+000	9.96E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.00E-006
U238	<LLD	<LLD	0.00E+000	1.92E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/3/13

ITR: D E R a Date: 10-3-13

SUPERCEDED CJ 6/17/14

CJ 6/17/14 022A

Automated Independent Technical Review

Count Sequence Number: 23676 Batch Number: 1LANDA1850
Counter ID: MCS HENC #1
Container ID: 68416
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/2/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

023
CJ 6/17/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marak Date: 6/3/14

023A
CD 6/17/14

OVERRIDDEN

Automated Independent Technical Review

Count Sequence Number: 23676
Counter ID: MCS HENC #1
Container ID: 68416
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1850
Count Type:
Assay Date: 10/2/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chamberlain Date: 10-3-13

ES 6/17/14 023B

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1845	**Examination Date(s): 09/20/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 68333 68334 68336 68348 68350 68372 68373 68389
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	CS 6/12/14 X		-X-	NCR-LANL-0606-14

CS 6/12/14

NTPC RECORDS ORIGINAL
DATE REC'D 9-26-13 Rej

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1845	Examination Date(s): 09/20/2013			
Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1845	Examination Date(s): 09/20/2013			
Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1845				**Examination Date(s): 09/20/2013**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna		9/25/13	
SPM Printed Name	Signature		Date	

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/12/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1845
NDA Counter ID: HENC 1	NDA Batch Date: 9/20/13
Waste Containers:	
68372 68348	
68334 68350	
68333 68389	
68373	
68336	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Tim Barton	
Approval Signature and Date: Tim Barton TIM BARTON 9/24/13	
Tim Barton 6/9/14	

NTPC RECORDS ORIGINAL
DATE REC'D 9/25/13

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1845

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~NA~~ 3A BG 6/9/14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	33
Weekly Interfering Matrix Container Measurement Control Chart	48

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1845

Date: 9/20/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 9/20/13.
The Weekly Interfering Matrix Measurement for this batch was run on 9/18/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ B 6/9/14
NCR-LANL-0606-14 B 6/9/14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
DRUM 68372 REANALYZED PER NCR-LANL-0606-14 B 6/9/14

NDA ITR: Tim Barton Date: 9/24/13

Tim Barton

Tim Barton 6/9/14
TIM BARTON

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1845
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 9/18/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Tim Barton	
Approval Signature and Date: Tim Barton 9/24/13	

Tim Barton 6/9/14

005

NDA 2000 Assay Report

Item Information

Item ID:	68372	Count Sequence Number:	23616		
Operator:	D3PW2DK1\operator				
Assay Start:	9/20/2013 8:49:42 AM				
Description 1:	1LANDA1845				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	99.1	kg	Net:	99.1 kg
Container:	Volume:	208.0	l	Full:	65.0 %
Density:		0.730	kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

006
DS 6/12/14

NDA 2000 Assay Report

********** Item Information **********

Item ID:	68372		Count Sequence Number:	23616	
Operator:	D3PW2DK1\operator				
Assay Start:	9/20/2013 8:49:42 AM				
Description 1:	1LANDA1845				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	99.1	kg	Net:	99.1 kg
Container:	Volume:	208.0	l	Full:	65.0 %
Density:		0.730	kg /l		

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CJ 6/12/14

CS6/12/14 006A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23616	Batch Number:	1LANDA1845
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68372	Analysis Date:	9/20/2013

Net Weight	99100.0 g		
Pu mass	1.05E+002 +-	1.79E+001	g
TRU Alpha Activity	1.44E+001 +-	1.55E+000	Ci
TRU Activity Concentration	1.45E+005 +-	1.56E+004	nCi/g
Pu-239 Equivalent Activity	1.47E+001 +-	1.55E+000	Ci
Pu-239 FGE	9.90E+001 +-	1.67E+001	g
Decay heat	4.63E-001 +-	5.00E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.14E-001	1.51E-004	2.86E-005	6.27E-006
PU238	1.16E-002	1.98E-001	3.36E-002	3.86E-005
PU239	9.85E+001	6.11E+000	1.04E+000	1.19E-003
PU240	6.60E+000	1.50E+000	2.55E-001	2.93E-004
AM241	1.92E+000	6.60E+000	1.12E+000	1.29E-003
PU241	1.28E-001	1.32E+001	2.24E+000	2.57E-003
PU242	2.64E-002	1.04E-004	1.77E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.00E-006
U233	<LLD	<LLD	0.00E+000	1.54E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	4.48E-006
U238	<LLD	<LLD	0.00E+000	3.19E-005
AM243	1.14E-002	2.28E-003	4.38E-004	2.17E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-5-14

ITR: _____ Date: 6/9/14

007
CS 6/12/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23616	Batch Number:	1LANDA1845
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68372	Analysis Date:	9/20/2013

Net Weight	99100.0 g
Pu mass	1.05E+002 +- 1.79E+001 g
TRU Alpha Activity	8.87E+000 +- 1.08E+000 Ci
TRU Activity Concentration	8.95E+004 +- 1.09E+004 nCi/g
Pu-239 Equivalent Activity	9.11E+000 +- 1.09E+000 Ci
Pu-239 FGE	9.90E+001 +- 1.67E+001 g
Decay heat	2.79E-001 +- 3.38E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.14E-001	1.51E-004	2.86E-005	6.27E-006
PU238	1.16E-002	1.98E-001	3.36E-002	3.86E-005
PU239	9.85E+001	6.11E+000	1.04E+000	1.19E-003
PU240	6.60E+000	1.50E+000	2.55E-001	2.93E-004
AM241	3.10E-001	1.06E+000	1.81E-001	2.08E-004
PU241	1.28E-001	1.32E+001	2.24E+000	2.57E-003
PU242	2.64E-002	1.04E-004	1.77E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.00E-006
U233	<LLD	<LLD	0.00E+000	1.54E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	4.48E-006
U238	<LLD	<LLD	0.00E+000	3.19E-005
AM243	1.14E-002	2.28E-003	4.38E-004	2.17E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 9.24.13

ITR: _____ Date: 9/24/13

CP6/12/14

CP6/12/14 007A

Automated Independent Technical Review

Count Sequence Number: 23616 Batch Number: 1LANDA1845
Counter ID: MCS HENC #1
Container ID: 68372
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/20/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

008
CS 6/12/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am241 from direct gamma reported.

Expert Review by: Bart B. Manah Date: 6/3/14

008A
CS 6/12/14

Automated Independent Technical Review

Count Sequence Number: 23616
Counter ID: MCS HENC #1
Container ID: 68372
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1845
Count Type:
Assay Date: 9/20/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Clarke Date: 9-23-13

CS 6/12/14 008B

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1896	Examination Date(s): 1/23/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 68311 68314 69191 69197 69207 69215 69217
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	X			NCR-LANL-0140-14 Reject (68710) NCR-LANL-0140-14 cs 2/17/14

NTPC RECORDS ORIGINAL
DATE REC'D 01/31/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1896				Examination Date(s): 1/23/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1896	Examination Date(s): 1/23/2014			
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			Except for 68710
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1896				Examination Date(s): 1/23/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna (SPM Printed Name)	Carolina Soaterna (Signature)			1/31/2014 (Date)

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/17/14

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	**NDA Batch #:** 1LANDA1896
NDA Counter ID: HENC 1	**NDA Batch Date:** 1/23/14
Waste Containers:	
69191	68710
69197	68314
69215	68311
69217	
69207	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Israel Aragon	
Approval Signature and Date: [signature] 1-28-14	
[signature] 6-10-14	

NTPC RECORDS ORIGINAL 001
DATE REC'D 1/29/14

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1896

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	4
Attachment 4, NDA Independent Technical Reviewer Checklist	7
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	9
QA Control Sheets (Background and Daily QC Checks)	38
Weekly Interfering Matrix Container Measurement Control Chart	53

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1896

Date: 1/23/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 1/23/14.
The Weekly Interfering Matrix Measurement for this batch was run on 1/23/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

NCR-LANL-0140-14
NCR-LANL-0606-14 IA 6-10-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified
operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
Drum 69191 Reanalyzed Per NCR-LANL-0606-14 IA 6-10-14

NDA ITR: _____ Date: 1-28-14

Israel Aragon

_____ 6-10-14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1896
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 1/23/14 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Israel Aragon	
Approval Signature and Date: [signature] 1-28-14	

[signature] 6-10-14

003

NDA 2000 Assay Report

********** Item Information **********

Item ID:	69191		Count Sequence Number:	24180	
Operator:	D3PW2DK1\operator				
Assay Start:	1/23/2014 10:31:29 AM				
Description 1:	1LANDA1896				
Description 2:	POC 178.0				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	32.9	kg	Net:	32.9 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.761	kg /l		

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 6/13/14 009

NDA 2000 Assay Report

Item Information

Item ID:	69191		Count Sequence Number:	24180	
Operator:	D3PW2DK1\operator				
Assay Start:	1/23/2014 10:31:29 AM				
Description 1:	1LANDA1896				
Description 2:	POC 178.0				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	32.9	kg	Net:	32.9 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.761	kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 6/17/14

CS 6/17/14 - 003A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24180	Batch Number:	1LANDA1896
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69191	Analysis Date:	1/23/2014

Net Weight	32900.0 g	
Pu mass	9.26E+000 +-	1.95E+000 g
TRU Alpha Activity	6.27E+000 +-	3.06E+000 Ci
TRU Activity Concentration	1.91E+005 +-	9.30E+004 nCi/g
Pu-239 Equivalent Activity	6.29E+000 +-	3.06E+000 Ci
Pu-239 FGE	8.76E+000 +-	1.95E+000 g
Decay heat	2.07E-001 +-	1.02E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.29E-007
U233	<LLD	<LLD	0.00E+000	5.71E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.74E-006
NP237	7.91E-002	5.58E-005	1.09E-005	2.94E-006
PU238	8.45E-004	1.44E-002	3.73E-003	7.14E-004
U238	<LLD	<LLD	0.00E+000	1.63E-005
PU239	8.69E+000	5.39E-001	1.21E-001	2.66E-002
PU240	5.56E-001	1.26E-001	3.34E-002	6.23E-003
AM241	1.63E+000	5.59E+000	3.06E+000	6.20E-002
PU241	1.05E-002	1.08E+000	2.87E-001	5.36E-002
PU242	1.85E-003	7.33E-006	1.94E-006	0.00E+000

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.6.14

ITR: _____ Date: 6-10-14

DO
CS 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24180	Batch Number:	1LANDA1896
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69191	Analysis Date:	1/23/2014

Net Weight	32900.0 g	
Pu mass	9.26E+000 +-	1.95E+000 g
TRU Alpha Activity	7.69E-001 +-	1.27E-001 Ci
TRU Activity Concentration	2.34E+004 +-	3.87E+003 nCi/g
Pu-239 Equivalent Activity	7.89E-001 +-	1.28E-001 Ci
Pu-239 FGE	8.73E+000 +-	1.95E+000 g
Decay heat	2.42E-002 +-	3.98E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.29E-007
U233	<LLD	<LLD	0.00E+000	5.71E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.74E-006
NP237	7.91E-002	5.58E-005	1.09E-005	2.94E-006
PU238	8.45E-004	1.44E-002	3.73E-003	7.14E-004
U238	<LLD	<LLD	0.00E+000	1.63E-005
PU239	8.69E+000	5.39E-001	1.21E-001	2.66E-002
PU240	5.56E-001	1.26E-001	3.34E-002	6.23E-003
AM241	2.61E-002	8.97E-002	2.30E-002	4.43E-003
PU241	1.05E-002	1.08E+000	2.87E-001	5.36E-002
PU242	1.85E-003	7.33E-006	1.94E-006	0.00E+000

Errors quoted at 1.000 sigma

Operator: Jim Dalton Date: 1/28/14

ITR: [signature] Date: 1-28-14

CS 6/12/14

CS 6/11/14 010A

Automated Independent Technical Review

Count Sequence Number: 24180 Batch Number: 1LANDA1896
Counter ID: MCS HENC #1
Container ID: 69191
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/23/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	OK Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test failed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors.	OK
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marah Date: 6/3/14

CJS 6/17/14

Automated Independent Technical Review

Count Sequence Number: 24180 Batch Number: 1LANDA1896
Counter ID: MCS HENC #1
Container ID: 69191
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/23/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	OK Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test failed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors.	OK
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

SUPERSEDED @ 6/17/14

Expert Review by: _____ Date: 1/28/14

@ 6/17/14

011A

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1855 **Examination Date(s):** 10/29/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 68426 68437 68462 68473 68481 68493 68511 68544 68550 68556
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	6/17/14 X		-X-	NCR-LANL-0606-14 6/17/14

NTPC RECORDS ORIGINAL
DATE REC'D 11/04/13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1855	Examination Date(s): 10/29/13			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1855				Examination Date(s): 10/29/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			Except 68426
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1855 **Examination Date(s):** 10/29/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: None

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.

Veronica Waldram	Veronica Waldram	November 4, 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soatena	Carolina Soatena	corrections on 6/12/14 for NCR-LANL-0606-14	6/25/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1855
NDA Counter ID: HENC 1	NDA Batch Date: 10/29/2013
Waste Containers:	
68473	68550
68462	68544
68437	68426
68481	68493
68511	68556
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Bret Templeton	
Approval Signature and Date: Bret Templeton 10-31-13	

Bret Templeton 6-10-14

NTPC RECORDS ORIGINAL
DATE REC'D 11/4/13

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1855

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 3B 6-10-14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	38
Weekly Interfering Matrix Container Measurement Control Chart	53

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1855

Date: 10/29/2013

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 10/29/2013.
The Weekly Interfering Matrix Measurement for this batch was run on 10/28/2013.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ BT 6-10-14
NCR-LANL-0606-14 BT 6-10-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
DRUMS 68462 AND 68493 REANALYZED PER NCR-LANL-0606-14 BT 6-10-14

NDA ITR: Bret Templeton Date: 10-31-13

Bret Templeton

6-10-14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1855
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002). Were QC criteria that were not met documented with an NCR?	☑ Yes ☐ No ☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 10/28/2013 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container? If YES, are they reported?	☐ Yes ☑ No ☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container? If YES, is it reported?	☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Bret Templeton Approval Signature and Date: Bret Templeton 10-31-13	

Bret Templeton 6-10-14

005

NDA 2000 Assay Report

Item Information

Item ID:	68462	Count Sequence Number:	23739		
Operator:	D3PW2DK1\operator				
Assay Start:	10/29/2013 9:50:30 AM				
Description 1:	1LANDA1855				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	58.1	kg	Net:	58.1 kg
Container:	Volume:	208.0	l	Full:	50.0 %
Density:		0.560 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - C

Errors quoted at 1.000 sigma

009
CS 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	68462		Count Sequence Number:	23739	
Operator:	D3PW2DK1\operator				
Assay Start:	10/29/2013 9:50:30 AM				
Description 1:	1LANDA1855				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	58.1 kg	Net:	58.1 kg	
Container:	Volume:	208.0 l	Full:	50.0 %	
Density:		0.560 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERCEDED CS 6/17/14

CS 6/17/14 009A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23739	Batch Number:	1LANDA1855
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68462	Analysis Date:	10/29/2013

Net Weight	58100.0 g	
Pu mass	1.40E+001 +-	2.49E+000 g
TRU Alpha Activity	6.51E+000 +-	9.87E-001 Ci
TRU Activity Concentration	1.12E+005 +-	1.70E+004 nCi/g
Pu-239 Equivalent Activity	6.54E+000 +-	9.87E-001 Ci
Pu-239 FGE	1.32E+001 +-	2.34E+000 g
Decay heat	2.14E-001 +-	3.28E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.11E-001	7.84E-005	1.28E-005	3.30E-006
PU238	1.28E-003	2.19E-002	3.90E-003	3.46E-005
PU239	1.31E+001	8.15E-001	1.45E-001	1.29E-003
PU240	8.40E-001	1.91E-001	3.40E-002	3.02E-004
AM241	1.60E+000	5.48E+000	9.76E-001	8.68E-003
PU241	1.61E-002	1.66E+000	2.95E-001	2.62E-003
PU242	2.80E-003	1.11E-005	1.97E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	9.06E-007
U233	<LLD	<LLD	0.00E+000	6.28E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.88E-006
U238	<LLD	<LLD	0.00E+000	1.58E-005
AM243	4.62E-005	9.25E-006	2.69E-006	7.42E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-6-14

ITR: _____ Date: 6-10-14

010
CS 6/17/14

6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23739	Batch Number:	1LANDA1855
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68462	Analysis Date:	10/29/2013

Net Weight	58100.0 g	
Pu mass	1.40E+001 +-	2.49E+000 g
TRU Alpha Activity	1.16E+000 +-	1.51E-001 Ci
TRU Activity Concentration	2.00E+004 +-	2.60E+003 nCi/g
Pu-239 Equivalent Activity	1.19E+000 +-	1.51E-001 Ci
Pu-239 FGE	1.32E+001 +-	2.34E+000 g
Decay heat	3.66E-002 +-	4.71E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.11E-001	7.84E-005	1.28E-005	3.30E-006
PU238	1.28E-003	2.19E-002	3.90E-003	3.46E-005
PU239	1.31E+001	8.15E-001	1.45E-001	1.29E-003
PU240	8.40E-001	1.91E-001	3.40E-002	3.02E-004
AM241	3.94E-002	1.35E-001	2.40E-002	2.14E-004
PU241	1.61E-002	1.66E+000	2.95E-001	2.62E-003
PU242	2.80E-003	1.11E-005	1.97E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	9.06E-007
U233	<LLD	<LLD	0.00E+000	6.28E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.88E-006
U238	<LLD	<LLD	0.00E+000	1.58E-005
AM243	4.62E-005	9.25E-006	2.69E-006	7.42E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/31/13

ITR: _____ Date: 10-31-13

CS 6/13/14 010 A

Automated Independent Technical Review

Count Sequence Number: 23739 Batch Number: 1LANDA1855
Counter ID: MCS HENC #1
Container ID: 68462
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/29/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings.	
- The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings.	
- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	

OII
06/17/14

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma analysis.

Expert Review by: Bart B. Marah Date: 6/3/14

012
CJS 6/12/14

SUPERCEDED 01 6/17/14

Automated Independent Technical Review

Count Sequence Number: 23739 Batch Number: 1LANDA1855
Counter ID: MCS HENC #1
Container ID: 68462
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/29/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings.	
- The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings.	
- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	

012A
06/17/14 011

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chandler Date: 10-30-13

SUPERSEDED CS 6/17/14

CS 6/17/14 0128

NDA 2000 Assay Report

Item Information

Item ID:	68493		Count Sequence Number:	23746	
Operator:	D3PW2DK1\operator				
Assay Start:	10/29/2013 3:08:31 PM				
Description 1:	iLANDA1855				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	42.6 kg	Net:	42.6 kg	
Container:	Volume:	208.0 l	Full:	40.0 %	
Density:		0.510 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

EJ 6/17/14 032

NDA 2000 Assay Report

Item Information

Item ID:	68493		Count Sequence Number:	23746	
Operator:	D3PW2DK1\operator				
Assay Start:	10/29/2013 3:08:31 PM				
Description 1:	1LANDA1855				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	42.6 kg	Net:	42.6 kg	
Container:	Volume:	208.0 l	Full:	40.0 %	
Density:		0.510 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERSEDED Q 6/17/14

Q 6/17/14 032A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23746	Batch Number:	1LANDA1855
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68493	Analysis Date:	10/29/2013

Net Weight	42600.0 g	
Pu mass	5.75E+000 +-	1.02E+000 g
TRU Alpha Activity	1.60E+000 +-	2.18E-001 Ci
TRU Activity Concentration	3.75E+004 +-	5.12E+003 nCi/g
Pu-239 Equivalent Activity	1.61E+000 +-	2.18E-001 Ci
Pu-239 FGE	5.43E+000 +-	9.60E-001 g
Decay heat	5.23E-002 +-	7.21E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.17E-002	1.53E-005	2.38E-006	1.12E-006
PU238	5.26E-004	8.99E-003	1.60E-003	3.46E-005
PU239	5.40E+000	3.35E-001	5.95E-002	1.29E-003
PU240	3.45E-001	7.84E-002	1.39E-002	3.02E-004
AM241	3.43E-001	1.18E+000	2.09E-001	4.54E-003
PU241	6.61E-003	6.81E-001	1.21E-001	2.62E-003
PU242	1.15E-003	4.55E-006	8.09E-007	0.00E+000
SR90	4.30E-009	5.93E-007	2.90E-007	0.00E+000
CS137	6.83E-009	5.93E-007	2.90E-007	3.15E-007
U233	<LLD	<LLD	0.00E+000	2.12E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	6.02E-007
U238	<LLD	<LLD	0.00E+000	6.46E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-6-14

ITR: _____ Date: 6-10-14

CS 6/19/11

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23746	Batch Number:	1LANDA1055
Assay Instrument:	MCS HENC #1	Location:	LANL TA-55
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V 4.0
Item ID:	68493	Analysis Date:	10/29/2013

Net Weight	42600.0 g	
Pu mass	5.75E+000 +- 1.02E+000	g
TRU Alpha Activity	4.78E-001 +- 6.20E-002	Ci
TRU Activity Concentration	1.12E+004 +- 1.45E+003	nCi/g
Pu-239 Equivalent Activity	4.90E-001 +- 6.20E-002	Ci
Pu-239 FGE	5.42E+000 +- 9.60E-001	g
Decay heat	1.50E-002 +- 1.93E-003	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.17E-002	1.53E-005	2.38E-006	1.12E-006
PU238	5.26E-004	8.99E-003	1.60E-003	3.46E-005
PU239	5.40E+000	3.35E-001	5.95E-002	1.29E-003
PU240	3.45E-001	7.84E-002	1.39E-002	3.02E-004
AM241	1.62E-002	5.55E-002	9.86E-003	2.14E-004
PU241	6.61E-003	6.81E-001	1.21E-001	2.62E-003
PU242	1.15E-003	4.55E-006	8.09E-007	0.00E+000
SR90	4.30E-009	5.93E-007	2.90E-007	0.00E+000
CS137	6.83E-009	5.93E-007	2.90E-007	3.15E-007
U233	<LLD	<LLD	0.00E+000	2.12E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	6.02E-007
U238	<LLD	<LLD	0.00E+000	6.46E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/31/13

ITR: _____ Date: 10-31-13

PROCEEDED 6/17/14

QS 6/17/14 033A

Automated Independent Technical Review

Count Sequence Number: 23746
Batch Number: 1LANDA1855
Counter ID: MCS HENC #1
Container ID: 68493
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 10/29/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma analysis.

Expert Review by: Bart B. Manak Date: 6/3/14

034
CJ 6/17/14 ~~034~~ CJ 6/17/14

SUPERSEDED 08/11/14

Automated Independent Technical Review

Count Sequence Number: 23746 Batch Number: 1LANDA1805
Counter ID: MCS HENC #1
Container ID: 68493
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/29/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlin Date: 10-30-13

08/11/14 0341

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1693 **Examination Date:** 1/8/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 91456 92124 92129 92156 92171 92173
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	1/9/14 X		*	~~No NCRs associated with BDR.~~ NCR-LANL-0606-14 1/9/14

CCP RECORDS ORIGINAL
DATE REC'D 01-03-13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1693			Examination Date: 1/8/13	
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	235U is not present
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1693	Examination Date: 1/8/13			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			Except 91456
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1693 **Examination Date:** 1/8/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: ~~None~~ See NCR-LANL-0606-14 CS 6/9/14

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Veronica Waldram	Veronica Waldram	January 23, 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Sotelma	Carolina Sotelma	NCR-LANL-0606-14	6/9/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	**NDA Batch #:** 1LANDA1693
NDA Counter ID: HENC 1	**NDA Batch Date:** 1/8/13
Waste Containers:	
92129 91456	
92171	
92124	
92156	
92173	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Ryan Hammon	
Approval Signature and Date: By Hammon 1-14-13	

By Hammon 6-6-14

CCP RECORDS ORIGINAL
DATE REC'D 1/22/13

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1693

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	N/A
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review List(s)	6
QA Control Sheets (Background and Daily QC Checks)	29
Weekly Interfering Matrix Drum Measurement Control Chart	44

302

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1693

Date: 1/8/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 1/8/13.
The Weekly Interfering Matrix Drum Measurement for this batch was run on 1/8/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ RH 6-6-14
NCR-LANL-0606-14 RH 6-6-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
The overall quality of data in this Batch Data Report is acceptable.
DRUM: 92171 REANALYZED PER NCR-LANL-0606-14 RH 6-6-14

NDA ITR: [signature] Date: 1-14-13
Ryan Hammon
[signature] 6-6-14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1693
Procedure/Rev Number: CCP-TP-063, Rev. 14	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Drum Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review List	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background 4. Daily Neutron QC Check	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No

Attachment 4 –NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Drum Measurements were properly performed and completed on 1/8/2013 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Ryan Hammon	
Approval Signature and Date: B Hammon 1-14-13	

B Hammon 6-6-14

305

NDA 2000 Assay Report

********** Item Information **********

Item ID:	92171		Count Sequence Number:	21795	
Operator:	D3PW2DK1\operator				
Assay Start:	1/8/2013 11:40:48 AM				
Description 1:	LANDA1693				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	87.1	kg	Net:	87.1 kg
Container:	Volume:	208.0	l	Full:	90.0 %
Density:		0.470	kg /l		

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - C

Errors quoted at 1.000 sigma

DIO CS 6/9/14

NDA 2000 Assay Report

Item Information

Item ID:	92171	Count Sequence Number:	21795		
Operator:	D3PW2DK1\operator				
Assay Start:	1/8/2013 11:40:48 AM				
Description 1:	1LANDA1693				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	87.1	kg	Net:	87.1 kg
Container:	Volume:	208.0	l	Full:	90.0 %
Density:		0.470	kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERCEDED CS 6/9/14

U10A
CS 6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	21795	Batch Number:	1LANDA1693
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	92171	Analysis Date:	1/8/2013

Net Weight	87100.0 g	
Pu mass	1.30E+001 +-	3.44E+000 g
TRU Alpha Activity	6.27E+000 +-	1.42E+000 Ci
TRU Activity Concentration	7.20E+004 +-	1.63E+004 nCi/g
Pu-239 Equivalent Activity	6.30E+000 +-	1.42E+000 Ci
Pu-239 FGE	1.23E+001 +-	3.22E+000 g
Decay heat	2.07E-001 +-	4.71E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	9.18E-002	6.55E-005	9.68E-006	2.85E-006
PU238	1.20E-003	2.04E-002	5.41E-003	3.45E-005
PU239	1.22E+001	7.55E-001	2.00E-001	1.27E-003
PU240	8.01E-001	1.82E-001	4.81E-002	3.06E-004
AM241	1.55E+000	5.31E+000	1.41E+000	8.96E-003
PU241	1.63E-002	1.68E+000	4.44E-001	2.83E-003
PU242	2.60E-003	1.03E-005	2.72E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.87E-007
U233	<LLD	<LLD	0.00E+000	6.06E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.80E-006
U238	<LLD	<LLD	0.00E+000	1.62E-005
AM243	1.44E-003	2.88E-004	4.32E-005	8.31E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.6.14

ITR: _____ Date: 6-6-14

011
CJ 6/9/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	21795	Batch Number:	1LANDA1693
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V 4.0
Item ID:	92171	Analysis Date:	1/8/2013

Net Weight	87100.0 g	
Pu mass	1.30E+001 +- 3.44E+000	g
TRU Alpha Activity	1.10E+000 +- 2.11E-001	Ci
TRU Activity Concentration	1.27E+004 +- 2.42E+003	nCi/g
Pu-239 Equivalent Activity	1.13E+000 +- 2.11E-001	Ci
Pu-239 FGE	1.22E+001 +- 3.22E+000	g
Decay heat	3.46E-002 +- 6.56E-003	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	9.18E-002	6.55E-005	9.68E-006	2.85E-006
PU238	1.20E-003	2.07E-002	5.47E-003	3.49E-005
PU239	1.22E+001	7.66E-001	2.02E-001	1.29E-003
PU240	8.01E-001	1.84E-001	4.87E-002	3.10E-004
AM241	3.78E-002	1.31E-001	3.47E-002	2.21E-004
PU241	1.63E-002	1.69E+000	4.48E-001	2.86E-003
PU242	2.60E-003	1.03E-005	2.73E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.87E-007
U233	<LLD	<LLD	0.00E+000	6.06E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.80E-006
U238	<LLD	<LLD	0.00E+000	1.62E-005
AM243	1.43E-003	2.88E-004	4.32E-005	8.31E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 1-14-13

ITR: _____ Date: 1-14-13

CS 6/9/14

011A
CS 6/9/14

Automated Independent Technical Review

Count Sequence Number: 21795
Counter ID: MCS HENC #1
Container ID: 92171
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1693
Count Type:
Assay Date: 1/8/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA. Curium/Californium Neutron Analysis complete with warnings. - The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok Not data affecting. Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,56.

012
CSd 9/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma analysis.

Expert Review by: Bart B. Marak Date: 6/5/14

013
CJ6/9/14

Automated Independent Technical Review

Count Sequence Number: 21795
Counter ID: MCS HENC #1
Container ID: 92171
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1693
Count Type:
Assay Date: 1/8/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings. - The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,56.

013A
J12 04/9/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	 Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chambers Date: 1-9-13

CS 6/9/14

U13B
CS 6/9/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1856	**Examination Date(s): 10/30/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 68452 68457 68470 68479 68480 68494 68501 68536 68537
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	6/17/14 X		X	NCR-LANL-0606-14 CD/HH

NTPC RECORDS ORIGINAL
DATE REC'D 11/06/13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1856	**Examination Date(s): 10/30/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1856	**Examination Date(s): 10/30/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1856 **Examination Date(s): 10/30/2013**

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: None

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.

Daniel Wade		11/05/2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soakes	Carolina Soakes	NCR-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1856
NDA Counter ID: HENC 1	NDA Batch Date: 10/30/13
Waste Containers:	
68479 68494	
68457 68452	
68480 68537	
68470 68536	
68501	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Israel Aragon	
Approval Signature and Date: 11-4-13	

6-10-14

NTPC RECORDS ORIGINAL
DATE REC'D 11/5/13

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1856

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 3a EA 6-10-14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	36
Weekly Interfering Matrix Container Measurement Control Chart	51

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1856

Date: 10/30/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 10/30/13.
The Weekly Interfering Matrix Measurement for this batch was run on 10/28/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ IA 6-10-14
NCR-LANL-0606-14
IA 6-10-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified
operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
DRUM 68501 REANALYZED PER NCR-LANL-0606-14 IA 6-10-14

NDA ITR: _____ Date: 11-4-13

Israel Aragon

_____ 6-10-14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	NDA Batch Number: 1LANDA1856
Procedure/Rev Number: CCP-TP-063, Rev. 15	NDA Counter ID: HENC 1

Description of Criteria Reviewed	Criteria Met Yes/No/NA
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

004

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 10/28/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Israel Aragon	
Approval Signature and Date: [signature] 11-4-13	
[signature] 6-10-14	

005

NDA 2000 Assay Report

********** Item Information **********

Item ID:	68501		Count Sequence Number:	23755	
Operator:	D3PW2DK1\operator				
Assay Start:	10/30/2013 12:35:13 PM				
Description 1:	1LANDA1856				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	65.6	kg	Net:	65.6 kg
Container:	Volume:	208.0	l	Full:	50.0 %
Density:		0.630 kg /l			

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

DA 6/17/14

NDA 2000 Assay Report

********** Item Information **********

Item ID:	68501		Count Sequence Number:	23755	
Operator:	D3PW2DK1\operator				
Assay Start:	10/30/2013 12:35:13 PM				
Description 1:	1LANDA1856				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	65.6	kg	Net:	65.6 kg
Container:	Volume:	208.0	l	Full:	50.0 %
Density:		0.630	kg /l		

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SCANNED

019A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23755	Batch Number:	1LANDA1856
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68501	Analysis Date:	10/30/2013

Net Weight	65600.0 g		
Pu mass	6.42E+000	+- 1.41E+000	g
TRU Alpha Activity	5.76E+000	+- 1.16E+000	Ci
TRU Activity Concentration	8.78E+004	+- 1.77E+004	nCi/g
Pu-239 Equivalent Activity	5.77E+000	+- 1.16E+000	Ci
Pu-239 FGE	6.08E+000	+- 1.32E+000	g
Decay heat	1.90E-001	+- 3.86E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	6.79E-002	4.79E-005	8.40E-006	3.33E-006
PU238	5.87E-004	1.00E-002	2.20E-003	3.38E-005
PU239	6.02E+000	3.73E-001	8.20E-002	1.26E-003
PU240	3.85E-001	8.74E-002	1.92E-002	2.95E-004
AM241	1.54E+000	5.29E+000	1.16E+000	1.78E-002
PU241	7.37E-003	7.59E-001	1.67E-001	2.56E-003
PU242	1.29E-003	5.08E-006	1.11E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	8.79E-007
U233	<LLD	<LLD	0.00E+000	8.76E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.58E-006
U238	<LLD	<LLD	0.00E+000	1.29E-005
AM243	6.33E-003	1.27E-003	2.23E-004	1.22E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-6-14

ITR: _____ Date: 6-10-14

D20
QS 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23755	Batch Number:	1LANDA1856
Assay Instrument:	MCS HENC #1	Location:	LANL TA-55
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 v.4.0
Item ID:	68501	Analysis Date:	10/30/2013

Net Weight	65600.0 g	
Pu mass	6.42E+000 +-	1.41E+000 g
TRU Alpha Activity	5.34E-001 +-	8.53E-002 Ci
TRU Activity Concentration	8.14E+003 +-	1.30E+003 nCi/g
Pu-239 Equivalent Activity	5.48E-001 +-	8.53E-002 Ci
Pu-239 FGE	6.05E+000 +-	1.32E+000 g
Decay heat	1.68E-002 +-	2.66E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	6.79E-002	4.79E-005	8.40E-006	3.33E-006
PU238	5.87E-004	1.00E-002	2.20E-003	3.38E-005
PU239	6.02E+000	3.73E-001	8.20E-002	1.26E-003
PU240	3.85E-001	8.74E-002	1.92E-002	2.95E-004
AM241	1.80E-002	6.19E-002	1.36E-002	2.09E-004
PU241	7.37E-003	7.59E-001	1.67E-001	2.56E-003
PU242	1.29E-003	5.08E-006	1.11E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	8.79E-007
U233	<LLD	<LLD	0.00E+000	8.76E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.58E-006
U238	<LLD	<LLD	0.00E+000	1.29E-005
AM243	6.33E-003	1.27E-003	2.23E-004	1.22E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/31/13

ITR: _____ Date: 11-4-13

SUPERSEDED CS 6/17/14

6/17/14 020A
CS 6/17/14

Automated Independent Technical Review

Count Sequence Number: 23755 Batch Number: 1LANDA1856
Counter ID: MCS HENC #1
Container ID: 68501
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/30/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test failed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

021
CS 6/11/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma analysis.

Expert Review by: Bart B. Marah Date: 6/5/14

021A
CD 6/17/14

SUPERCEDED 6/17/14

Automated Independent Technical Review

Count Sequence Number: 23755 Batch Number: 1LANDA1856
Counter ID: MCS HENC #1
Container ID: 68501
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/30/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test failed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlin Date: 10-31-13

CBU1HH 0213

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1852	**Examination Date(s): 10/24/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 68397 68412 68451 68455 68458 68459 68464 68465 68466
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	6/17/14 X		X	NCR-LANL-0606-14

06/17/14

NTPC RECORDS ORIGINAL
DATE REC'D 10/31/13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1852	**Examination Date(s): 10/24/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1852	**Examination Date(s): 10/24/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1852	**Examination Date(s): 10/24/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna			10/30/2013
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	**NDA Batch #:** 1LANDA1852
NDA Counter ID: HENC 1	**NDA Batch Date:** 10/24/13
Waste Containers:	
68464 68412	
68455 68465	
68451 68458	
68466 68459	
68397	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Maria Escarcega	
Approval Signature and Date: Maria Escarcega 10.29.13	

Maria Escarcega 6.6.14

NTPC RECORDS ORIGINAL 001
DATE REC'D 10/30/13

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1852

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 3a ✓ 6-9-14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	38
Weekly Interfering Matrix Container Measurement Control Chart	53

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1852

Date: 10/24/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 10/24/13.
The Weekly Interfering Matrix Measurement for this batch was run on ~~10/24/13~~ 10/23/13 & 10.29.13
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ & 6.6.14
NCR-LANL-0606-14 & 6.6.14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
The overall quality of data in this Batch Data Report is acceptable.
DNM 68455 REANALYZED PER NCR-LANL-0606-14 & 6.6.14

NDA ITR: Maria Escarcega Date: 10.29.13

Maria Escarcega

Maria Escarcega 6.6.14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1852
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s) Data are reported in the proper units.	☑ Yes ☐ No ☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

004

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on ~~10/24/13~~ 10/23/13 & 10.29.13 (Date)	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. Note: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A

NDA Independent Technical Reviewer Approval

NDA Independent Technical Reviewer Printed Name: Maria Escarcega

Approval Signature and Date: Maria Escarcega 10.29.13

Maria Escarcega 6.6.14

005

NDA 2000 Assay Report

********** Item Information **********

Item ID:	68455		Count Sequence Number:	23706	
Operator:	D3PW2DK1\operator				
Assay Start:	10/24/2013 10:45:19 AM				
Description 1:	1LANDA1852				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	103.0	kg	Net:	103.0 kg
Container:	Volume:	208.0	l	Full:	70.0 %
Density:		0.710	kg /l		

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

010
CD 6/17/14

NDA 2000 Assay Report

********** Item Information **********

Item ID:	68455		Count Sequence Number:	23706	
Operator:	D3PW2DK1\operator				
Assay Start:	10/24/2013 10:45:19 AM				
Description 1:	1LANDA1852				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	103.0	kg	Net:	103.0 kg
Container:	Volume:	208.0	l	Full:	70.0 %
Density:		0.710	kg /l		

UNLINKED CS 6/13/14

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 6/13/14 010A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23706	Batch Number:	1LANDA1852
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68455	Analysis Date:	10/24/2013

Net Weight	103000.0 g		
Pu mass	1.68E+001	+- 3.05E+000	g
TRU Alpha Activity	5.66E+000	+- 8.25E-001	Ci
TRU Activity Concentration	5.50E+004	+- 8.01E+003	nCi/g
Pu-239 Equivalent Activity	5.70E+000	+- 8.25E-001	Ci
Pu-239 FGE	1.59E+001	+- 2.87E+000	g
Decay heat	1.86E-001	+- 2.73E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.24E-001	8.74E-005	1.63E-005	3.01E-006
PU238	1.54E-003	2.63E-002	4.77E-003	3.33E-005
PU239	1.58E+001	9.78E-001	1.78E-001	1.24E-003
PU240	1.01E+000	2.29E-001	4.16E-002	2.90E-004
AM241	1.29E+000	4.43E+000	8.05E-001	5.61E-003
PU241	1.93E-002	1.99E+000	3.62E-001	2.52E-003
PU242	3.37E-003	1.33E-005	2.42E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.19E-007
U233	<LLD	<LLD	0.00E+000	5.87E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.76E-006
U238	<LLD	<LLD	0.00E+000	1.39E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-6-14

ITR: _____ Date: 6·6·14

6/17/14 011

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23706	Batch Number:	1LANDA1852
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68455	Analysis Date:	10/24/2013

Net Weight	103000.0 g		
Pu mass	1.68E+001	+-	3.05E+000 g
TRU Alpha Activity	1.40E+000	+-	1.85E-001 Ci
TRU Activity Concentration	1.35E+004	+-	1.80E+003 nCi/g
Pu-239 Equivalent Activity	1.43E+000	+-	1.85E-001 Ci
Pu-239 FGE	1.58E+001	+-	2.87E+000 g
Decay heat	4.39E-002	+-	5.77E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.24E-001	8.74E-005	1.63E-005	3.01E-006
PU238	1.54E-003	2.63E-002	4.77E-003	3.33E-005
PU239	1.58E+001	9.78E-001	1.78E-001	1.24E-003
PU240	1.01E+000	2.29E-001	4.16E-002	2.90E-004
AM241	4.72E-002	1.62E-001	2.94E-002	2.05E-004
PU241	1.93E-002	1.99E+000	3.62E-001	2.52E-003
PU242	3.37E-003	1.33E-005	2.42E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.19E-007
U233	<LLD	<LLD	0.00E+000	5.87E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.76E-006
U238	<LLD	<LLD	0.00E+000	1.39E-005

Errors quoted at 1.000 sigma

Operator: D=R. [signature] Date: 10-29-13

ITR: Maria [signature] Date: 10-29-13

011A

Automated Independent Technical Review

Count Sequence Number: 23706 Batch Number: 1LANDA1852
Counter ID: MCS HENC #1
Container ID: 68455
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	OK
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Pu results taken from Passive Neutron data, U from Quantitative Gamma data.
Section 4 - MGA Analysis Expert review is recommended; the following validity tests failed: Normalized fit value (2.82) is greater than allowed (1.15). Fit value (24.16) is greater than allowed (2.50). Pu239 weight percent is outside limits [92.5, 95.0]. Note: The measured and declared isotopics are inconsistent.	Isotopic analysis failed. AK Isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors.	OK

02
06/17/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B Mamat Date: 6/5/14

013 6/17/14

SUPERSEDED 6/17/14

Automated Independent Technical Review

Count Sequence Number: 23706
Counter ID: MCS HENC #1
Container ID: 68455
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1852
Count Type:
Assay Date: 10/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	OK
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Pu results taken from Passive Neutron data, U from Quantitative Gamma data.
Section 4 - MGA Analysis Expert review is recommended; the following validity tests failed: Normalized fit value (2.82) is greater than allowed (1.15). Fit value (24.16) is greater than allowed (2.50). Pu239 weight percent is outside limits [92.5, 95.0]. Note: The measured and declared isotopics are inconsistent.	Isotopic analysis failed. AK Isotopics applied. The AK information utilized was provided by Steve, AKE, and conists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors.	OK

CJG 6/17/14 OIBA ~~1012~~

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: _____ Date: 10/29/13

CD 6/12/14

CD 6/11/14 0133

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 4LANDA0037	Examination Date(s): 1/21/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 69181 69182
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	X 1/25/14		X	NCR-LANL-0606-14

1/25/14

NTPC RECORDS ORIGINAL
DATE REC'D 01/29/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 4LANDA0037	Examination Date(s): 1/21/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 4LANDA0037	Examination Date(s): 1/21/2014			
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 4LANDA0037				Examination Date(s): 1/21/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Jake Knox				1/29/2014
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
Carolina Cotera	Carolina Cotera	NCR-LANL-0606-14	6/25/14

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	**NDA Batch #:** 4LANDA0037
NDA Counter ID: MILCC	**NDA Batch Date:** 1/21/14
Waste Containers:	
69182	
69181	
N/A	
N/A	
N/A	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Israel Aragon	
Approval Signature and Date: [signature] 1-23-14	
[signature] 6-10-14	

NTPC RECORDS ORIGINAL
DATE REC'D 1/27/14 001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 4LANDA0037

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 3a 2A 6-10-14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	12
Weekly Interfering Matrix Container Measurement Control Chart	38

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 4LANDA0037

Date: 1/21/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 1/21/14. The SWB Environmental Background Pulser Rate #M1 parameter received a 'Ab' flag. A satisfactory background measurement for all parameters was then obtained. Both SWB and drum Environmental Background measurements were performed. The Weekly Interfering Matrix Measurement for this batch was run on 1/21/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ IA 6-10-14
NCR-LANL-0606-14
IA 6-10-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
The overall quality of data in this Batch Data Report is acceptable.

Drum 69182 reanalyzed per NCR-LANL-0606-14. IA 6-10-14

NDA ITR: _____ Date: 1-23-14
Israel Aragon
_____ 6-10-14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	NDA Batch Number: 4LANDA0037
Procedure/Rev Number: CCP-TP-076, Rev. 0	NDA Counter ID: MILCC

Description of Criteria Reviewed	Criteria Met Yes/No/NA
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☐ Yes ☐ No ☑ N/A ☐ Yes ☐ No ☑ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 1/21/14 (Date)	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Israel Aragon	
Approval Signature and Date: [signature] 1-23-14	

[signature] 6-10-14

005

NDA 2000 Assay Report

Item Information

Item ID:	69182	Count Sequence Number:	1189		
Operator:	CLREMO67292\User				
Assay Start:	1/21/2014 3:33:13 PM				
Description 1:	4LANDA0037				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, Homo				
Matrix Type:	S3000				
Container Type:	55 Gal Drum				
Weight:	Net:	80.6	kg	Net:	80.6 kg
Container:	Volume:	208.0	l	Full:	60.0 %
Density:		0.650	kg /l		

System Configuration

Counter:	MILCC		
Efficiency Description:	208 Drum Near 1_01_13		
Segments:	Number: 2	Offset:	0
Count Type:	Item Assay		
Collimator/Geometry Setting:	Near - 1		

Errors quoted at 1.000 sigma

006
CJ 6/25/14

NDA 2000 Assay Report

Item Information

Item ID:	69182		Count Sequence Number:	1189	
Operator:	CLREMO67292\User				
Assay Start:	1/21/2014 3:33:13 PM				
Description 1:	4LANDA0037				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, Homo				
Matrix Type:	S3000				
Container Type:	55 Gal Drum				
Weight:	Net:	80.6 kg	Net:	80.6 kg	
Container:	Volume:	208.0 l	Full:	60.0 %	
Density:		0.650 kg /l			

System Configuration

Counter:	MILCC		
Efficiency Description:	208 Drum Near 1_01_13		
Segments:	Number: 2	Offset:	0
Count Type:	Item Assay		
Collimator/Geometry Setting:	Near - 1		

Errors quoted at 1.000 sigma

SUPERCEDED

CJ 6/25/14

CJ 6/25/14 OOGA

********** Radioassay Data Sheet **********

Engine Version: TMU Gamma 1.4

Count Sequence Number:	1189	Batch Number:	4LANDA0037
Assay Instrument:	MILCC	Location:	LANL TA-54
Analysis Method:	CCP-TP-076 v 1	Software Version:	NDA 2000 V.4.0
Item ID:	69182	Analysis Date:	1/21/2014

Net Weight	80600.0 g		
Pu mass	5.58E+001	+- 1.88E+001	g
TRU Alpha Activity	8.21E+000	+- 1.82E+000	Ci
TRU Activity Concentration	1.02E+005	+- 2.26E+004	nCi/g
Pu-239 Equivalent Activity	8.41E+000	+- 1.82E+000	Ci
Pu-239 FGE	5.27E+001	+- 1.88E+001	g
Decay heat	2.65E-001	+- 5.89E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	6.81E-007
U233	<LLD	<LLD	0.00E+000	7.76E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.17E-006
NP237	6.67E-002	4.70E-005	1.39E-005	1.08E-006
PU238	5.54E-003	9.48E-002	3.66E-002	6.42E-004
U238	<LLD	<LLD	0.00E+000	1.94E-005
PU239	5.23E+001	3.24E+000	1.17E+000	2.20E-002
PU240	3.35E+000	7.60E-001	2.93E-001	5.15E-003
AM241	1.20E+000	4.11E+000	1.37E+000	1.88E-002
PU241	1.07E-001	1.10E+001	4.26E+000	7.46E-002
PU242	1.12E-002	4.41E-005	1.70E-005	0.00E+000
AM243	5.91E-003	1.18E-003	3.50E-004	4.90E-006

Errors quoted at 1.000 sigma

Operator: DRC Date: 6-10-14

ITR: [signature] Date: 6-10-14

007
CS 6/25/14

********** Radioassay Data Sheet **********

Engine Version: TMU Gamma 1.4

Count Sequence Number:	1189	Batch Number:	4LANDA0037
Assay Instrument:	MILCC	Location:	LANL TA-54
Analysis Method:	CCP-TP-076 v 0	Software Version:	NDA 2000 V.4.0
Item ID:	69182	Analysis Date:	1/21/2014

Net Weight	80600.0 g	
Pu mass	5.58E+001 +-	1.88E+001 g
TRU Alpha Activity	4.50E+000 +-	1.21E+000 Ci
TRU Activity Concentration	5.58E+004 +-	1.50E+004 nCi/g
Pu-239 Equivalent Activity	4.71E+000 +-	1.22E+000 Ci
Pu-239 FGE	5.26E+001 +-	1.88E+001 g
Decay heat	1.41E-001 +-	3.78E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	6.81E-007
U233	<LLD	<LLD	0.00E+000	7.76E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.17E-006
NP237	6.67E-002	4.70E-005	1.39E-005	1.08E-006
PU238	5.54E-003	9.48E-002	3.66E-002	6.42E-004
U238	<LLD	<LLD	0.00E+000	1.94E-005
PU239	5.23E+001	3.24E+000	1.17E+000	2.20E-002
PU240	3.35E+000	7.60E-001	2.93E-001	5.15E-003
AM241	1.16E-001	3.98E-001	1.53E-001	2.70E-003
PU241	1.07E-001	1.10E+001	4.26E+000	7.46E-002
PU242	1.12E-002	4.41E-005	1.70E-005	0.00E+000
AM243	5.91E-003	1.18E-003	3.50E-004	4.90E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 1/23/14

ITR: _____ Date: 1-23-14

SUPERCEDED CJ 6/25/14

CJ 6/25/14 007A

Automated Independent Technical Review

Count Sequence Number: 1189
Counter ID: MILCC
Container ID: 69182
Waste Matrix Code: S3000
Sequence Type:

Batch Number: 4LANDA0037
Count Type:
Assay Date: 1/21/2014

Comments	Disposition
Data Combiner Analysis No Multi-Modal Results Combination TMU results available for reporting purposes.	OK
MGA Analysis Results are marked as invalid.	Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	OK After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: _____ Date: 6-4-14

008
(2) 6/5/14

Automated Independent Technical Review

Count Sequence Number: 1189
Counter ID: MILCC
Container ID: 69182
Waste Matrix Code: S3000
Sequence Type:

Batch Number: 4LANDA0037
Count Type:
Assay Date: 1/21/2014

Comments	Disposition
Data Combiner Analysis No Multi-Modal Results Combination TMU results available for reporting purposes.	OK
MGA Analysis Results are marked as invalid.	Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	OK After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Reviewed by: _____ Date: 1/23/14

SUPERCEDED

D6/25/14

D6/25/14 003

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1836 **Examination Date(s):** 5 September 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				**Container(s):** 92360, 92459, 92162, 92345, 92294, 92290, 92248, 92357, 56537 RCW 2-3-14
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	X			NCR-LANL-0681-13 ~~has an interim hold disposition for 56537~~ RCW CLOSED NCR 2.3.14 NCR-LANL-0606-14 CS 6/12/14

NTPC RECORDS ORIGINAL
DATE REC'D 9-24-13 rcg

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1836 **Examination Date(s):** 5 September 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1836 **Examination Date(s):** 5 September 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1836 **Examination Date(s):** 5 September 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: **None**

The container QC checks were properly performed and meett the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.

David W. Moody	David W Moody	24 September 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Rick Whiteley	R Whiteley	NCR Closure	02-03-14
SPM Printed Name	Signature	Reason	Date
Caitlin Jaeckma	Caitlin Jaeckma	NCR-LANL-0606-14	6/12/14
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1836
NDA Counter ID: HENC 1	NDA Batch Date: 09/05/2013
Waste Containers:	
92360 56537	
92459 92290	
92162 92248	
92345 92357	
92294	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: David Sager	
Approval Signature and Date: [signature] 9.11.13	

[signature] 6.10.14

NTPC RECORDS ORIGINAL
DATE REC'D 9/23/13 01

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1836

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	4
Attachment 4, NDA Independent Technical Reviewer Checklist	20
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	22
QA Control Sheets (Background and Daily QC Checks)	52
Weekly Interfering Matrix Container Measurement Control Chart	68

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1836

Date: 09/05/2013

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 9/5/13.
The Gamma Instrument QA/QC Check received an 'In' flag on the 964 keV peak FWHM #1 parameter. A satisfactory QA/QC measurement for all parameters was then obtained.
The Weekly Interfering Matrix Drum Measurement for this batch was run on 9/6/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

NCR-LANL-0681-13
NCR-LANL-0606-14 DG 6·10·14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
The overall quality of data in this Batch Data Report is acceptable.
Drums 92345, 92294, AND 92357 REANALYZED PER NCR-LANL-0606-14
DG 6·10·14

NDA ITR: _____ Date: 9/9/13

David Sager

6·10·14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1836
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 09/06/2013 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: David Sager	
Approval Signature and Date: [signature] 7.19.13	

[signature] 6.10.14

NDA 2000 Assay Report

Item Information

Item ID:	92345	Count Sequence Number:	23536		
Operator:	D3PW2DK1\operator				
Assay Start:	9/5/2013 11:48:34 AM				
Description 1:	1LANDA1836				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	88.6	kg	Net:	88.6 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.450 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

32
CS 6/12/14

NDA 2000 Assay Report

********** Item Information **********

Item ID:	92345		Count Sequence Number:	23536	
Operator:	D3PW2DK1\operator				
Assay Start:	9/5/2013 11:48:34 AM				
Description 1:	1LANDA1836				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	88.6	kg	Net:	88.6 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.450	kg /l		

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERCEDED 06/12/14

06/12/14 32A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23536	Batch Number:	1LANDA1836
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	92345	Analysis Date:	9/5/2013

Net Weight	88600.0 g	
Pu mass	1.07E+001 +-	1.92E+000 g
TRU Alpha Activity	4.01E+000 +-	5.80E-001 Ci
TRU Activity Concentration	4.52E+004 +-	6.55E+003 nCi/g
Pu-239 Equivalent Activity	4.04E+000 +-	5.80E-001 Ci
Pu-239 FGE	9.88E+000 +-	1.76E+000 g
Decay heat	1.32E-001 +-	1.92E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	6.20E-002	4.37E-005	6.31E-006	2.17E-006
PU238	2.25E-003	3.84E-002	6.90E-003	5.60E-005
PU239	9.79E+000	6.07E-001	1.09E-001	8.84E-004
PU240	8.46E-001	1.92E-001	3.45E-002	2.80E-004
AM241	9.24E-001	3.17E+000	5.69E-001	4.61E-003
PU241	2.10E-002	2.16E+000	3.88E-001	3.15E-003
PU242	7.16E-003	2.83E-005	5.08E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.56E-007
U233	<LLD	<LLD	0.00E+000	4.41E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.29E-006
U238	<LLD	<LLD	0.00E+000	1.40E-005
AM243	4.58E-004	9.17E-005	1.35E-005	6.02E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-6-14

ITR: _____ Date: 6·10·14

033
CS 6/12/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23536	Batch Number:	1LANDA1836
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	92345	Analysis Date:	9/5/2013

Net Weight	88600.0 g	
Pu mass	1.07E+001 +-	1.92E+000 g
TRU Alpha Activity	9.98E-001 +-	1.18E-001 Ci
TRU Activity Concentration	1.13E+004 +-	1.33E+003 nCi/g
Pu-239 Equivalent Activity	1.04E+000 +-	1.18E-001 Ci
Pu-239 FGE	9.86E+000 +-	1.76E+000 g
Decay heat	3.15E-002 +-	3.69E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	6.20E-002	4.37E-005	6.31E-006	2.17E-006
PU238	2.25E-003	3.84E-002	6.90E-003	5.60E-005
PU239	9.79E+000	6.07E-001	1.09E-001	8.84E-004
PU240	8.46E-001	1.92E-001	3.45E-002	2.80E-004
AM241	4.67E-002	1.60E-001	2.87E-002	2.33E-004
PU241	2.10E-002	2.16E+000	3.88E-001	3.15E-003
PU242	7.16E-003	2.83E-005	5.08E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.56E-007
U233	<LLD	<LLD	0.00E+000	4.41E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.29E-006
U238	<LLD	<LLD	0.00E+000	1.40E-005
AM243	4.58E-004	9.17E-005	1.35E-005	6.02E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 9-9-13

ITR: _____ Date: 9.19.13

SUPERCEDED 08/6/12/14

08/6/12/14 37A

Automated Independent Technical Review

Count Sequence Number: 23536 Batch Number: 1LANDA1836
Counter ID: MCS HENC #1
Container ID: 92345
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/5/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-53,52,56
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

34
CS 6/12/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marah Date: 6/5/14

34A
CS 6/12/14

Automated Independent Technical Review

Count Sequence Number: 23536 Batch Number: 1LANDA1836
Counter ID: MCS HENC #1
Container ID: 92345
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/5/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-53,52,56
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 9-9-13

SUPERSEDED CS 6/12/14

CS 6/12/14 34B

NDA 2000 Assay Report

********** Item Information **********

Item ID:	92294	Count Sequence Number:	23537		
Operator:	D3PW2DK1\operator				
Assay Start:	9/5/2013 12:30:43 PM				
Description 1:	1LANDA1836				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, MT-42 Mix				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	78.1	kg	Net:	78.1 kg
Container:	Volume:	208.0	l	Full:	70.0 %
Density:		0.540	kg /l		

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

08 6/12/14 35

NDA 2000 Assay Report

Item Information

Item ID:	92294		Count Sequence Number:	23537	
Operator:	D3PW2DK1\operator				
Assay Start:	9/5/2013 12:30:43 PM				
Description 1:	1LANDA1836				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, MT-42 Mix				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	78.1 kg	Net:	78.1 kg	
Container:	Volume:	208.0 l	Full:	70.0 %	
Density:		0.540 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERSEDED

CS 6/12/14

CS 6/12/14 35A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23537	Batch Number:	1LANDA1836
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	92294	Analysis Date:	9/5/2013

Net Weight	78100.0 g		
Pu mass	7.09E+000	+-	1.26E+000 g
TRU Alpha Activity	3.73E+000	+-	5.74E-001 Ci
TRU Activity Concentration	4.77E+004	+-	7.34E+003 nCi/g
Pu-239 Equivalent Activity	3.75E+000	+-	5.74E-001 Ci
Pu-239 FGE	6.44E+000	+-	1.14E+000 g
Decay heat	1.23E-001	+-	1.90E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.17E-002	5.06E-005	8.07E-006	2.44E-006
PU238	2.60E-003	4.44E-002	7.92E-003	6.29E-005
PU239	6.38E+000	3.96E-001	7.05E-002	5.61E-004
PU240	4.27E-001	9.70E-002	1.73E-002	1.37E-004
AM241	9.30E-001	3.19E+000	5.69E-001	4.52E-003
PU241	1.11E-002	1.14E+000	2.03E-001	1.62E-003
PU242	2.70E-001	1.07E-003	1.90E-004	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	6.10E-007
U233	<LLD	<LLD	0.00E+000	4.71E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.40E-006
U238	<LLD	<LLD	0.00E+000	1.33E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-6-14

ITR: _____ Date: 6·10·14

36
CS 6/12/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23537	Batch Number:	1LANDA1836
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	92294	Analysis Date:	9/5/2013

Net Weight	78100.0 g			
Pu mass	7.09E+000	+-	1.26E+000	g
TRU Alpha Activity	6.42E-001	+-	7.54E-002	Ci
TRU Activity Concentration	8.22E+003	+-	9.65E+002	nCi/g
Pu-239 Equivalent Activity	6.60E-001	+-	7.54E-002	Ci
Pu-239 FGE	6.42E+000	+-	1.14E+000	g
Decay heat	2.03E-002	+-	2.36E-003	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.17E-002	5.06E-005	8.07E-006	2.44E-006
PU238	2.60E-003	4.44E-002	7.92E-003	6.29E-005
PU239	6.38E+000	3.96E-001	7.05E-002	5.61E-004
PU240	4.27E-001	9.70E-002	1.73E-002	1.37E-004
AM241	3.03E-002	1.04E-001	1.85E-002	1.47E-004
PU241	1.11E-002	1.14E+000	2.03E-001	1.62E-003
PU242	2.70E-001	1.07E-003	1.90E-004	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	6.10E-007
U233	<LLD	<LLD	0.00E+000	4.71E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.40E-006
U238	<LLD	<LLD	0.00E+000	1.33E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 9-9-13

ITR: _____ Date: 9.19.13

CS 6/12/14

CS 6/12/14 36A

Automated Independent Technical Review

Count Sequence Number: 23537 Batch Number: 1LANDA1836
Counter ID: MCS HENC #1
Container ID: 92294
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/5/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings.	
- The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings.	
- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	

PB 37 6/12/14

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,42.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marak Date: 6/5/14

38
CS 6/12/14

Automated Independent Technical Review

Count Sequence Number: 23537 Batch Number: 1LANDA1836
Counter ID: MCS HENC #1
Container ID: 92294
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/5/2013

CS 6/12/14

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings. - The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings. - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.

SUPERSEDED

CS 6/12/14 38A 37

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237, MT-52,42.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: [signature] Date: 9-9-13

SUPERSEDED

CB 6/12/14

CB 6/12/14 385

NDA 2000 Assay Report

Item Information

Item ID:	92357	Count Sequence Number:	23541		
Operator:	D3PW2DK1\operator				
Assay Start:	9/5/2013 3:27:16 PM				
Description 1:	1LANDA1836				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	84.1	kg	Net:	84.1 kg
Container:	Volume:	208.0	l	Full:	60.0 %
Density:		0.670	kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

49

ES 6/12/14

NDA 2000 Assay Report

Item Information

Item ID:	92357	Count Sequence Number:	23541
Operator:	D3PW2DK1\operator		
Assay Start:	9/5/2013 3:27:16 PM		
Description 1:	1LANDA1836		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gallon drum		
Weight:	Net: 84.1 kg	Net:	84.1 kg
Container:	Volume: 208.0 l	Full:	60.0 %
Density:	0.670 kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On IGE - 0

Errors quoted at 1.000 sigma

CS 6/12/14

CS 6/12/14 49A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23541	Batch Number:	1LANDA1836
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	92357	Analysis Date:	9/5/2013

Net Weight	84100.0 g	
Pu mass	2.06E+001 +-	3.16E+000 g
TRU Alpha Activity	5.21E+000 +-	5.99E-001 Ci
TRU Activity Concentration	6.19E+004 +-	7.13E+003 nCi/g
Pu-239 Equivalent Activity	5.25E+000 +-	5.99E-001 Ci
Pu-239 FGE	1.94E+001 +-	2.97E+000 g
Decay heat	1.70E-001 +-	1.98E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.00E-001	7.08E-005	1.28E-005	3.11E-006
PU238	1.88E-003	3.22E-002	4.95E-003	3.28E-005
PU239	1.93E+001	1.20E+000	1.84E-001	1.22E-003
PU240	1.23E+000	2.80E-001	4.31E-002	2.85E-004
AM241	1.08E+000	3.70E+000	5.69E-001	3.76E-003
PU241	2.38E-002	2.45E+000	3.77E-001	2.50E-003
PU242	4.12E-003	1.63E-005	2.50E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.01E-007
U233	<LLD	<LLD	0.00E+000	6.39E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.99E-006
U238	<LLD	<LLD	0.00E+000	1.21E-005
AM243	7.21E-004	1.44E-004	2.65E-005	8.84E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-6-14

ITR: _____ Date: 6·10·14

50
08 6/12/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23541	Batch Number:	1LANDA1836
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V:4.0
Item ID:	92357	Analysis Date:	9/5/2013

Net Weight	84100.0 g		
Pu mass	2.06E+001	+-	3.16E+000 g
TRU Alpha Activity	1.71E+000	+-	1.92E-001 Ci
TRU Activity Concentration	2.03E+004	+-	2.28E+003 nCi/g
Pu-239 Equivalent Activity	1.75E+000	+-	1.92E-001 Ci
Pu-239 FGE	1.94E+001	+-	2.97E+000 g
Decay heat	5.37E-002	+-	5.98E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.00E-001	7.08E-005	1.28E-005	3.11E-006
PU238	1.88E-003	3.22E-002	4.95E-003	3.28E-005
PU239	1.93E+001	1.20E+000	1.84E-001	1.22E-003
PU240	1.23E+000	2.80E-001	4.31E-002	2.85E-004
AM241	5.77E-002	1.98E-001	3.04E-002	2.01E-004
PU241	2.38E-002	2.45E+000	3.77E-001	2.50E-003
PU242	4.12E-003	1.63E-005	2.50E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.01E-007
U233	<LLD	<LLD	0.00E+000	6.39E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.99E-006
U238	<LLD	<LLD	0.00E+000	1.21E-005
AM243	7.21E-004	1.44E-004	2.65E-005	8.84E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 9-9-13

ITR: _____ Date: 9.19.13

CS 6/12/14

CS 6/12/14 50A

Automated Independent Technical Review

Count Sequence Number: 23541 Batch Number: 1LANDA1836
Counter ID: MCS HENC #1
Container ID: 92357
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/5/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

51
@8 6/12 [illegible] 6/12/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Mercer Date: 6/5/14

CS 6/12/14 5 1A

Automated Independent Technical Review

Count Sequence Number: 23541 Batch Number: 1LANDA1836
Counter ID: MCS HENC #1
Container ID: 92357
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/5/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 9-9-13

CS 9/12/14 5 1B

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1837	**Examination Date(s): 9/6/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 92227 92229 92241 92245 92284 92292 92296
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	6/12/14 X		X	NCR-LANL-0606-14 CS 6/12/14

NTPC RECORDS ORIGINAL
DATE REC'D 9.11.13
AH

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1837	Examination Date(s): 9/6/2013			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1837	**Examination Date(s): 9/6/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1837	Examination Date(s): 9/6/2013			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna			9/13/2013
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/12/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1837
NDA Counter ID: HENC 1	NDA Batch Date: 9/06/13
Waste Containers:	
92245 92227	
92241 92292	
92296	
92229	
92284	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Tim Barton	
Approval Signature and Date: Jim Barton 9/10/13	

Jim Barton TIM BARTON 6/9/14

NTPC RECORDS ORIGINAL
DATE REC'D 9/11/13

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1837

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~NA~~ 3A 6/9/14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	29
Weekly Interfering Matrix Container Measurement Control Chart	44

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1837

Date: 9/06/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 9/6/13.
The Weekly Interfering Matrix Measurement for this batch was run on 9/6/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ BG 6/9/14
NCR-LANL-0606-14 BG 6/9/14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
DRUM 92292 REANALYZED PER NCR-LANL-0606-14 BG 6/9/14

NDA ITR: Jim Barton Date: 9/10/13
Tim Barton
Jim Barton 6/9/14
TIM BARTON

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1837
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 9/06/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Tim Barton Approval Signature and Date: Tim Barton 9/10/13	

TIM BARTON Tim Barton 6/9/14

005

NDA 2000 Assay Report

Item Information

Item ID:	92292	Count Sequence Number:	23552		
Operator:	D3PW2DK1\operator				
Assay Start:	9/6/2013 2:29:56 PM				
Description 1:	1LANDA1837				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	79.6	kg	Net:	79.6 kg
Container:	Volume:	208.0	l	Full:	75.0 %
Density:		0.510 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

025
CJ 6/12/14

NDA 2000 Assay Report

Item Information

Item ID:	92292		Count Sequence Number:	23552	
Operator:	D3PW2DK1\operator				
Assay Start:	9/6/2013 2:29:56 PM				
Description 1:	1LANDA1837				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	79.6 kg	Net:	79.6 kg	
Container:	Volume:	208.0 l	Full:	75.0 %	
Density:		0.510 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERSEDED

CS 6/12/14

CS 6/12/14 025A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23552	Batch Number:	1LANDA1837
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	92292	Analysis Date:	9/6/2013

Net Weight	79600.0 g		
Pu mass	2.27E+001	+- 3.76E+000	g
TRU Alpha Activity	4.63E+000	+- 5.23E-001	Ci
TRU Activity Concentration	5.82E+004	+- 6.58E+003	nCi/g
Pu-239 Equivalent Activity	4.72E+000	+- 5.24E-001	Ci
Pu-239 FGE	2.09E+001	+- 3.45E+000	g
Decay heat	1.50E-001	+- 1.72E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.47E-002	5.27E-005	8.15E-006	2.53E-006
PU238	4.78E-003	8.17E-002	1.36E-002	5.48E-005
PU239	2.08E+001	1.29E+000	2.14E-001	8.65E-004
PU240	1.83E+000	4.16E-001	6.90E-002	2.79E-004
AM241	8.30E-001	2.85E+000	4.73E-001	1.91E-003
PU241	4.99E-002	5.14E+000	8.53E-001	3.45E-003
PU242	1.82E-002	7.18E-005	1.19E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.66E-007
U233	<LLD	<LLD	0.00E+000	5.06E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.51E-006
U238	<LLD	<LLD	0.00E+000	1.47E-005
AM243	3.33E-004	6.66E-005	1.06E-005	6.40E-006

Errors quoted at 1.000 sigma

Operator: B Hamm Date: 6-6-14

ITR: Ami Baxter Date: 6/9/14

026
PS 6/12/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23552	Batch Number:	1LANDA1837
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	92292	Analysis Date:	9/6/2013

Net Weight	79600.0 g	
Pu mass	2.27E+001 +-	3.76E+000 g
TRU Alpha Activity	2.06E+000 +-	2.30E-001 Ci
TRU Activity Concentration	2.59E+004 +-	2.89E+003 nCi/g
Pu-239 Equivalent Activity	2.16E+000 +-	2.30E-001 Ci
Pu-239 FGE	2.09E+001 +-	3.45E+000 g
Decay heat	6.51E-002 +-	7.17E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.47E-002	5.27E-005	8.15E-006	2.53E-006
PU238	4.78E-003	8.17E-002	1.36E-002	5.48E-005
PU239	2.08E+001	1.29E+000	2.14E-001	8.65E-004
PU240	1.83E+000	4.16E-001	6.90E-002	2.79E-004
AM241	8.07E-002	2.77E-001	4.60E-002	1.86E-004
PU241	4.99E-002	5.14E+000	8.53E-001	3.45E-003
PU242	1.82E-002	7.18E-005	1.19E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.66E-007
U233	<LLD	<LLD	0.00E+000	5.06E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.51E-006
U238	<LLD	<LLD	0.00E+000	1.47E-005
AM243	3.33E-004	6.66E-005	1.06E-005	6.40E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 9-9-13

ITR: Jim Barton Date: 9/10/13

CS 6/12/14

CS 6/12/14 026A

Automated Independent Technical Review

Count Sequence Number: 23552 Batch Number: 1LANDA1837
Counter ID: MCS HENC #1
Container ID: 92292
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/6/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings.	
- The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings.	
- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	

027
CS 6/12/14

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,55 56,and 54.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marat Date: 6/5/14

028
6/12/14

Automated Independent Technical Review

Count Sequence Number: 23552 Batch Number: 1LANDA1837
Counter ID: MCS HENC #1
Container ID: 92292
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/6/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings. - The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings. - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.

028A
027

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,55 56,and 54.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chamberlain Date: 9-9-13

SUPERCEDED CS 6/12/14

CS 6/12/14 028B

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 2LANDA1077	Examination Date: 1/14/13			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 92134 92470
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	X 4/4/14 CJ 1/17/14		X	~~No NCRs associated with BDR.~~ NCR-LANL-0606-14 CJ 6/17/14

CCP RECORDS ORIGINAL
DATE REC'D 01-23-13

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1077	Examination Date: 1/14/13			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	235U is not present
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1077 **Examination Date: 1/14/13**

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1077 **Examination Date:** 1/14/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				

Veronica Waldram	Veronica Waldram	1/23/13
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soatema	Carolina Soatema	NCR-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	**NDA Batch #:** 2LANDA1077
NDA Counter ID: HENC 2	**NDA Batch Date:** 1/14/2013
Waste Containers:	
92134	
92470	
N/A	
N/A	
N/A	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Ryan Hammon	
Approval Signature and Date: B Hammon 1-21-13	

B Hammon 6-6-14

CCP RECORDS ORIGINAL
DATE REC'D 1/23/13

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 2LANDA1077

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~NA~~ 34 ~~24~~ 6-6-14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review List(s)	6
QA Control Sheets (Background and Daily QC Checks)	13
Weekly Interfering Matrix Drum Measurement Control Chart	28

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 2LANDA1077

Date: 1/14/2013

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 1/14/13.
The Weekly Interfering Matrix Drum Measurement for this batch was run on 1/15/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ RH 6-6-14
NCR-LANL-0606-14 RH 6-6-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
Drum: 92470 Reanalyzed Per NCR-LANL-0606-14 RH 6-6-14

NDA ITR: [signature] Date: 1-21-13
Ryan Hammon

[signature] 6-6-14

303

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 2LANDA1077
Procedure/Rev Number: CCP-TP-063, Rev. 14	**NDA Counter ID:** HENC 2

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Drum Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review List	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background 4. Daily Neutron QC Check	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No

004

Attachment 4 –NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Drum Measurements were properly performed and completed on 1/15/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Ryan Hammon	
Approval Signature and Date: R Hammon 1-21-13	

R Hammon 6-6-14

305

NDA 2000 Assay Report

********** Item Information **********

Item ID:	92470	Count Sequence Number:	14828		
Operator:	DCLTD231\Operator				
Assay Start:	1/14/2013 10:20:43 AM				
Description 1:	2LANDA1077				
Description 2:	POC - Gross Wt. = 161.0				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	15.9	kg	Net:	15.9 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.675 kg /l			

********** System Configuration **********

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

DIO
CS6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	92470	Count Sequence Number:	14828		
Operator:	DCLTD231\Operator				
Assay Start:	1/14/2013 10:20:43 AM				
Description 1:	2LANDA1077				
Description 2:	POC - Gross Wt. = 161.0				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	15.9	kg	Net:	15.9 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.675 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

SUPERCEDED

03/13/14

03/17/14 U10A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	14828	Batch Number:	2LANDA1077
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	92470	Analysis Date:	1/14/2013

Net Weight	15900.0 g	
Pu mass	9.80E+000 +-	1.86E+000 g
TRU Alpha Activity	2.42E+000 +-	3.42E-001 Ci
TRU Activity Concentration	1.52E+005 +-	2.15E+004 nCi/g
Pu-239 Equivalent Activity	2.44E+000 +-	3.42E-001 Ci
Pu-239 FGE	9.25E+000 +-	1.75E+000 g
Decay heat	7.90E-002 +-	1.13E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.71E-002	1.93E-005	3.53E-006	1.71E-006
PU238	9.02E-004	1.54E-002	2.93E-003	3.70E-005
PU239	9.20E+000	5.70E-001	1.08E-001	1.37E-003
PU240	5.88E-001	1.34E-001	2.54E-002	3.20E-004
AM241	4.96E-001	1.70E+000	3.23E-001	4.08E-003
PU241	1.17E-002	1.21E+000	2.29E-001	2.89E-003
PU242	1.96E-003	7.75E-006	1.47E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.50E-007
U233	<LLD	<LLD	0.00E+000	3.20E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.05E-006
U238	<LLD	<LLD	0.00E+000	7.57E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.5.14

ITR: _____ Date: 6-6-14

011
05/12/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	14828	Batch Number:	2LANDA1077
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	92470	Analysis Date:	1/14/2013

Net Weight	15900.0 g	
Pu mass	9.80E+000 +-	1.86E+000 g
TRU Alpha Activity	8.24E-001 +-	1.14E-001 Ci
TRU Activity Concentration	5.18E+004 +-	7.19E+003 nCi/g
Pu-239 Equivalent Activity	8.46E-001 +-	1.14E-001 Ci
Pu-239 FGE	9.24E+000 +-	1.75E+000 g
Decay heat	2.59E-002 +-	3.55E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.72E-002	1.94E-005	3.55E-006	1.71E-006
PU238	9.02E-004	1.56E-002	2.96E-003	3.74E-005
PU239	9.20E+000	5.79E-001	1.10E-001	1.39E-003
PU240	5.88E-001	1.35E-001	2.57E-002	3.24E-004
AM241	2.72E-002	9.43E-002	1.79E-002	2.26E-004
PU241	1.17E-002	1.22E+000	2.31E-001	2.92E-003
PU242	1.96E-003	7.79E-006	1.48E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.50E-007
U233	<LLD	<LLD	0.00E+000	3.20E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.05E-006
U238	<LLD	<LLD	0.00E+000	7.57E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 1·15·13

ITR: _____ Date: 1-21-13

cs 6/13/14

SUPERCEDED

cs 6/17/14 U11A

Automated Independent Technical Review

Count Sequence Number: 14828 Batch Number: 2LANDA1077
Counter ID: HENC #2
Container ID: 92470
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/14/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

012
06/12/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Brent B. Mercer Date: 6/5/14

012A
CSC 12/14

SUPERCEDED CJ 6/17/14

Automated Independent Technical Review

Count Sequence Number: 14828 Batch Number: 2LANDA1077
Counter ID: HENC #2
Container ID: 92470
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/14/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	OK
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Pu results taken from Passive Neutron data, U from Quantitative Gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	OK After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: _____ Date: 1/15/13 1/15/13

U123 CJ 6/17/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1846	Examination Date(s): 9/23/2013			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 68317 68323 68347 68349 68381 68391
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	9/23/14 X		X	NCR-LANL-0606-14 9/26/12/14

NTPC RECORDS ORIGINAL
DATE REC'D 9.27.13 RG

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1846	**Examination Date(s): 9/23/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1846	**Examination Date(s): 9/23/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1846	**Examination Date(s): 9/23/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna			9/23/13
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/12/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	**NDA Batch #:** 1LANDA1846
NDA Counter ID: HENC 1	**NDA Batch Date:** 9/23/13
Waste Containers:	
68347 68381	
68391	
68323	
68349	
68317	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Israel Aragon	
Approval Signature and Date:	
[signature]	9-24-13
[signature]	6-9-14

NTPC RECORDS ORIGINAL
DATE REC'D 9/25/13

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1846

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 39 JA 6-9-14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	25
Weekly Interfering Matrix Container Measurement Control Chart	40

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1846

Date: 9/23/13

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 9/23/13.
The Weekly Interfering Matrix Measurement for this batch was run on 9/23/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ IA 6-9-14
NCR-LANL-0606-14 IA 6-9-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
Drum 68317 REANALYZED PER NCR-LANL-0606-14 IA 6-9-14

NDA ITR: _____ Date: 9-24-13

Israel Aragon

_____ 6-9-14

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	NDA Batch Number: 1LANDA1846
Procedure/Rev Number: CCP-TP-063, Rev. 15	NDA Counter ID: HENC 1

Description of Criteria Reviewed	Criteria Met Yes/No/NA
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

004

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 9/23/13 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. Note: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Israel Aragon	
Approval Signature and Date: [signature] 9-24-13	
[signature] 6-9-14	

NDA 2000 Assay Report

Item Information

Item ID:	68317		Count Sequence Number:	23634	
Operator:	D3PW2DK1\operator				
Assay Start:	9/23/2013 2:11:06 PM				
Description 1:	1LANDA1846				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	11.1 kg	Net:	11.1 kg	
Container:	Volume:	208.0 l	Full:	25.0 %	
Density:		0.210 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CJ 6/12/14 DB

NDA 2000 Assay Report

Item Information

Item ID:	68317		Count Sequence Number:	23634	
Operator:	D3PW2DK1\operator				
Assay Start:	9/23/2013 2:11:06 PM				
Description 1:	1LANDA1846				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	11.1 kg	Net:	11.1 kg	
Container:	Volume:	208.0 l	Full:	25.0 %	
Density:		0.210 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERSEDED CS 6/12/14

CS 6/12/14 018A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23634	Batch Number:	1LANDA1846
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68317	Analysis Date:	9/23/2013

Net Weight	11100.0 g	
Pu mass	3.20E+000 +-	6.47E-001 g
TRU Alpha Activity	1.44E+000 +-	2.46E-001 Ci
TRU Activity Concentration	1.30E+005 +-	2.22E+004 nCi/g
Pu-239 Equivalent Activity	1.45E+000 +-	2.46E-001 Ci
Pu-239 FGE	3.02E+000 +-	6.05E-001 g
Decay heat	4.74E-002 +-	8.16E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.12E-002	1.49E-005	1.53E-006	9.07E-007
PU238	2.93E-004	5.01E-003	1.01E-003	3.35E-005
PU239	3.00E+000	1.86E-001	3.75E-002	1.24E-003
PU240	2.00E-001	4.54E-002	9.16E-003	3.04E-004
AM241	3.51E-001	1.20E+000	2.43E-001	8.05E-003
PU241	4.07E-003	4.19E-001	8.46E-002	2.80E-003
PU242	6.41E-004	2.53E-006	5.12E-007	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.79E-007
U233	<LLD	<LLD	0.00E+000	2.05E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.58E-007
U238	<LLD	<LLD	0.00E+000	4.19E-006
AM243	6.03E-004	1.21E-004	1.26E-005	2.72E-006

Errors quoted at 1.000 sigma

Operator: B Hanna Date: 6-6-14

ITR: [signature] Date: 6-9-14

019
CS 6/12/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23634	Batch Number:	1LANDA1846
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68317	Analysis Date:	9/23/2013

Net Weight	11100.0 g		
Pu mass	3.20E+000 +-	6.47E-001	g
TRU Alpha Activity	2.70E-001 +-	3.93E-002	Ci
TRU Activity Concentration	2.44E+004 +-	3.54E+003	nCi/g
Pu-239 Equivalent Activity	2.78E-001 +-	3.93E-002	Ci
Pu-239 FGE	3.01E+000 +-	6.05E-001	g
Decay heat	8.51E-003 +-	1.22E-003	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.12E-002	1.49E-005	1.53E-006	9.07E-007
PU238	2.93E-004	5.01E-003	1.01E-003	3.35E-005
PU239	3.00E+000	1.86E-001	3.75E-002	1.24E-003
PU240	2.00E-001	4.54E-002	9.16E-003	3.04E-004
AM241	9.89E-003	3.39E-002	6.85E-003	2.27E-004
PU241	4.07E-003	4.19E-001	8.46E-002	2.80E-003
PU242	6.41E-004	2.53E-006	5.12E-007	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.79E-007
U233	<LLD	<LLD	0.00E+000	2.05E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.58E-007
U238	<LLD	<LLD	0.00E+000	4.19E-006
AM243	6.03E-004	1.21E-004	1.26E-005	2.72E-006

Errors quoted at 1.000 sigma

Operator: [signature] Date: 9/24/13

ITR: [signature] Date: 9-24-13

CS 6/12/14

CS6/12/14 319A

Automated Independent Technical Review

Count Sequence Number: 23634 Batch Number: 1LANDA1846
Counter ID: MCS HENC #1
Container ID: 68317
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/23/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Add-a-Source correction factor was set to one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
No Warnings Reported.	
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
Density is outside range (0.02 to 2.10 g/cc) or fill height is below 30%.	Fill height acceptable, neutron results applied.

020
CS 6/12/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marah Date: 6/5/14

021
CS 6/12/14

CJ 6/12/14

Automated Independent Technical Review

Count Sequence Number: 23634 Batch Number: 1LANDA1846
Counter ID: MCS HENC #1
Container ID: 68317
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/23/2013

SUPERCEDED

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Add-a-Source correction factor was set to one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Density is outside range (0.02 to 2.10 g/cc) or fill height is below 30%.	Fill height acceptable, neutron results applied.

021A
CJ 6/12/14 ~~020~~

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chamberlain Date: 9-24-13

CS6/12/14

CS6/12/14 021B

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1889	**Examination Date(s): 1/13/2014**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 69032 68553 92669 68638 69047 69031 69053
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	CS 4/17/14 X		X	NCR-LANL-0606-14 CS 6/17/14

NTPC RECORDS ORIGINAL
DATE REC'D 01/16/14 (L)

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1889	**Examination Date(s): 1/13/2014**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1889	Examination Date(s): 1/13/2014			
Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1889				Examination Date(s): 1/13/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Jake Knox				1/16/2014
SPM Printed Name		Signature		Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
Carolina Soatema	Carolina Soatema	NCR-LANL-0606-14	6/17/14

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1889
NDA Counter ID: HENC 1	NDA Batch Date: 01/13/14
Waste Containers:	
69032 69031	
68553 69053	
92669	
68638	
69047	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Dominic R. Archuleta	
Approval Signature and Date: D=R C 1-15-14 (D 1-15-14)	

Dominic R. Archuleta
D=R C 6-9-14

NTPC RECORDS ORIGINAL
DATE REC'D 1/16/14

01

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1889

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	DA 6-9-14 ~~N/A~~ 3A
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	30
Weekly Interfering Matrix Container Measurement Control Chart	45

02

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1889

Date: 01/13/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 1/13/14.
The Weekly Interfering Matrix Measurement for this batch was run on 1/13/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ DA 6.9.14
NCR-LANL-0606-14 DA 6.9.14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified
operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable. DA 6.9.14
Drum 68638 REANALYZED PER NCR-LANL-0606-14

NDA ITR: D=R Date: 1.15.14
Dominic R. Archuleta

Dominic R. Archuleta
D=R 6.9.14

03

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1889
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 1/13/14 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Dominic R. Archuleta	
Approval Signature and Date: D=R C 1·15·14	

Dominic R. Archuleta
D=RC 6·9·14

05

NDA 2000 Assay Report

Item Information

Item ID:	68638	Count Sequence Number:	24095
Operator:	D3PW2DK1\operator		
Assay Start:	1/13/2014 12:59:01 PM		
Description 1:	1LANDA1889		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Debris S5000		
Container Type:	55 gallon drum		
Weight:	Net: 5.1 kg	Net:	5.1 kg
Container:	Volume: 208.0 l	Full:	25.0 %
Density:	0.100 kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

ED 6/17/14 015

NDA 2000 Assay Report

Item Information

Item ID:	68638	Count Sequence Number:	24095
Operator:	D3PW2DK1\operator		
Assay Start:	1/13/2014 12:59:01 PM		
Description 1:	1LANDA1889		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Debris S5000		
Container Type:	55 gallon drum		
Weight:	Net: 5.1 kg	Net:	5.1 kg
Container:	Volume: 208.0 l	Full:	25.0 %
Density:	0.100 kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SCANNED 6/17/14

ES 6/19/14 15A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24095	Batch Number:	1LANDA1889
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68638	Analysis Date:	1/13/2014

Net Weight	5100.0 g	
Pu mass	5.77E-001 +-	2.73E-001 g
TRU Alpha Activity	4.02E-001 +-	1.71E-001 Ci
TRU Activity Concentration	7.88E+004 +-	3.35E+004 nCi/g
Pu-239 Equivalent Activity	4.03E-001 +-	1.71E-001 Ci
Pu-239 FGE	5.45E-001 +-	2.56E-001 g
Decay heat	1.33E-002 +-	5.67E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	0.00E+000	0.00E+000	0.00E+000	3.91E-007
PU238	5.26E-005	9.00E-004	4.25E-004	3.28E-005
PU239	5.41E-001	3.36E-002	1.59E-002	1.22E-003
PU240	3.46E-002	7.85E-003	3.71E-003	2.86E-004
AM241	1.05E-001	3.59E-001	1.70E-001	1.31E-002
PU241	6.56E-004	6.76E-002	3.19E-002	2.46E-003
PU242	1.15E-004	4.56E-007	2.16E-007	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.27E-007
U233	<LLD	<LLD	0.00E+000	7.85E-004
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.52E-007
U238	<LLD	<LLD	0.00E+000	3.65E-006
AM243	9.61E-005	1.92E-005	1.67E-006	1.09E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-9-14

ITR: _____ Date: 6.9.14

016
6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24095	Batch Number:	1LANDA1889
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68638	Analysis Date:	1/13/2014

Net Weight	5100.0 g	
Pu mass	5.77E-001 +-	2.73E-001 g
TRU Alpha Activity	4.79E-002 +-	1.65E-002 Ci
TRU Activity Concentration	9.39E+003 +-	3.24E+003 nCi/g
Pu-239 Equivalent Activity	4.91E-002 +-	1.65E-002 Ci
Pu-239 FGE	5.43E-001 +-	2.56E-001 g
Decay heat	1.51E-003 +-	5.15E-004 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	0.00E+000	0.00E+000	0.00E+000	3.91E-007
PU238	5.26E-005	9.00E-004	4.25E-004	3.28E-005
PU239	5.41E-001	3.36E-002	1.59E-002	1.22E-003
PU240	3.46E-002	7.85E-003	3.71E-003	2.86E-004
AM241	1.63E-003	5.58E-003	2.64E-003	2.03E-004
PU241	6.56E-004	6.76E-002	3.19E-002	2.46E-003
PU242	1.15E-004	4.56E-007	2.16E-007	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.27E-007
U233	<LLD	<LLD	0.00E+000	7.85E-004
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.52E-007
U238	<LLD	<LLD	0.00E+000	3.65E-006
AM243	9.61E-005	1.92E-005	1.67E-006	1.09E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.15.14

ITR: _____ Date: 1.15.14

SUPERCEDED CS 1/17/14

CS 1/17/14 16A

Automated Independent Technical Review

Count Sequence Number: 24095
Counter ID: MCS HENC #1
Container ID: 68638
Waste Matrix Code: Debris S5000
Sequence Type:

Batch Number: 1LANDA1889
Count Type:
Assay Date: 1/13/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Add-a-Source correction factor was set to one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Cosmic Ray Rejection Analysis complete with warnings.	
- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Results are marked as invalid.	

017

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Density is outside range (0.02 to 2.10 g/cc) or fill height is below 30%.	Fill height acceptable, neutron results applied.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Manak Date: 6/5/14

018
CJ 6/17/14

Automated Independent Technical Review

Count Sequence Number: 24095
Counter ID: MCS HENC #1
Container ID: 68638
Waste Matrix Code: Debris S5000
Sequence Type:

Batch Number: 1LANDA1889
Count Type:
Assay Date: 1/13/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Add-a-Source correction factor was set to one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors.	Ok
Cosmic Ray Rejection Analysis complete with warnings.	
- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.

SCREENED CJ 6/13/14

018A
CJ 6/13/14 17

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Density is outside range (0.02 to 2.10 g/cc) or fill height is below 30%.	Fill height acceptable, neutron results applied.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chambers Date: 1-14-14

CS 6/17/14 Sheri Chambers

CS 6/17/14 183

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1891	Examination Date(s): 1/15/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 59537 59538 68540 69075 69157 69160 S818617
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	X			NCR-LANL-0108-14 Rework NCR-LANL-0127-14 Use-as-is NCR-LANL-0129-14 Rejects (S818631)

NCR-LANL-0606-14 CJ 1-7-14

NTPC RECORDS ORIGINAL
DATE REC'D 01/29/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1891	Examination Date(s): 1/15/2014			
Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1891	Examination Date(s): 1/15/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			Except for S818631
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1891	Examination Date(s): 1/15/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna (SPM Printed Name)	Carolina Soaterna (Signature)			1/29/14 (Date)

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/17/14

NCR-LANL-0606-14 Rev. 4
Attachment 4 Page 463 of 614

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1891
NDA Counter ID: HENC 1	NDA Batch Date: 1/15/14
Waste Containers:	
69160 59538	
69157 59537	
69075 68540	
S818617	
S818631	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Pete Lucchini	
Approval Signature and Date: 1-21-14	

Richard C. Baumann 1-22-14

1-28-14

6-11-14

NTPC RECORDS ORIGINAL
DATE REC'D 1/22/14

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1891

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	4
Attachment 4, NDA Independent Technical Reviewer Checklist	12
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	14
QA Control Sheets (Background and Daily QC Checks)	42
Weekly Interfering Matrix Container Measurement Control Chart	57

002

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	NDA Batch Number: 1LANDA1891
Procedure/Rev Number: CCP-TP-063, Rev. 15	NDA Counter ID: HENC 1

Description of Criteria Reviewed	Criteria Met Yes/No/NA
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR? RAB 1-28-14	☑ Yes ☐ No ☑ N/A RAB 1-28-14
Weekly Interfering Matrix Container Measurements were properly performed and completed on 1/13/14 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Pete Lucchini Approval Signature and Date: 1-21-14	

Richard C. Baumann RCBaumann 1-22-14

RCBaumann 1-28-14

6-11-14

NDA 2000 Assay Report

********** Item Information **********

Item ID:	69160		Count Sequence Number:	24114	
Operator:	D3PW2DK1\operator				
Assay Start:	1/15/2014 10:07:12 AM				
Description 1:	1LANDA1891				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	135.0 kg	Net:	135.0 kg	
Container:	Volume:	208.0 l	Full:	90.0 %	
Density:		0.720 kg /l			

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CSH/TH 014

NDA 2000 Assay Report

Item Information

Item ID:	69160		Count Sequence Number:	24114	
Operator:	D3PW2DK1\operator				
Assay Start:	1/15/2014 10:07:12 AM				
Description 1:	1LANDA1891				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	135.0 kg	Net:	135.0 kg	
Container:	Volume:	208.0 l	Full:	90.0 %	
Density:		0.720 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERSEDED 06/12/14

06/19/14 014A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24114	Batch Number:	1LANDA1891
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69160	Analysis Date:	1/15/2014

Net Weight	135000.0 g	
Pu mass	3.38E+001 +-	6.39E+000 g
TRU Alpha Activity	1.55E+001 +-	2.46E+000 Ci
TRU Activity Concentration	1.14E+005 +-	1.82E+004 nCi/g
Pu-239 Equivalent Activity	1.56E+001 +-	2.46E+000 Ci
Pu-239 FGE	3.15E+001 +-	5.91E+000 g
Decay heat	5.09E-001 +-	8.17E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	0.00E+000	0.00E+000	0.00E+000	6.08E-006
PU238	5.86E-003	1.00E-001	1.90E-002	5.01E-005
PU239	3.12E+001	1.93E+000	3.66E-001	9.68E-004
PU240	2.48E+000	5.62E-001	1.06E-001	2.81E-004
AM241	3.75E+000	1.29E+001	2.43E+000	6.43E-003
PU241	6.53E-002	6.73E+000	1.27E+000	3.37E-003
PU242	2.34E-002	9.22E-005	1.75E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.57E-006
U233	<LLD	<LLD	0.00E+000	1.19E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.67E-006
U238	<LLD	<LLD	0.00E+000	2.79E-005
CM243	4.29E-006	2.10E-004	4.21E-005	2.64E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-11-14

ITR: _____ Date: 6.11.14

CD 6/13/14 OK

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24114	Batch Number:	1LANDA1891
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.2
Item ID:	69160	Analysis Date:	1/15/2014

Net Weight	135000.0 g	
Pu mass	3.38E+001 +-	6.39E+000 g
TRU Alpha Activity	3.13E+000 +-	3.95E-001 Ci
TRU Activity Concentration	2.32E+004 +-	2.93E+003 nCi/g
Pu-239 Equivalent Activity	3.25E+000 +-	3.96E-001 Ci
Pu-239 FGE	3.14E+001 +-	5.91E+000 g
Decay heat	9.90E-002 +-	1.24E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	0.00E+000	0.00E+000	0.00E+000	6.08E-006
PU238	5.86E-003	1.00E-001	1.90E-002	5.01E-005
PU239	3.12E+001	1.93E+000	3.66E-001	9.68E-004
PU240	2.48E+000	5.62E-001	1.06E-001	2.81E-004
AM241	1.55E-001	5.33E-001	1.01E-001	2.67E-004
PU241	6.53E-002	6.73E+000	1.27E+000	3.37E-003
PU242	2.34E-002	9.22E-005	1.75E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.57E-006
U233	<LLD	<LLD	0.00E+000	1.19E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.67E-006
U238	<LLD	<LLD	0.00E+000	2.79E-005
CM243	4.29E-006	2.10E-004	4.21E-005	2.64E-005

Errors quoted at 1.000 sigma

Operator: D=R Date: 1.20.14

ITR: Date: 1.21.14

6/17/14

CS 6/19/14 015A

Automated Independent Technical Review

Count Sequence Number: 24114
Counter ID: MCS HENC #1
Container ID: 69160
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1891
Count Type:
Assay Date: 1/15/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,54.

06/17/14 OIQ

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	MCA deadtime = 52.51%. No spectral distortion observed. Spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Manah Date: 6/9/14

CD 6/17/14 017

Automated Independent Technical Review

Count Sequence Number: 24114
Counter ID: MCS HENC #1
Container ID: 69160
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1891
Count Type:
Assay Date: 1/15/2014

SUPERSEDED CS 1/17/14

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,54.

017A
CS 1/17/14 016

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	MCA deadtime = 52.51%. No spectral distortion observed. Spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chambers Date: 1-16-14

SCL Reviewed 6/17/14

CS 6/17/14 0173

NDA 2000 Assay Report

********** Item Information **********

Item ID:	69157		Count Sequence Number:	24115	
Operator:	D3PW2DK1\operator				
Assay Start:	1/15/2014 10:50:59 AM				
Description 1:	1LANDA1891				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	121.0	kg	Net:	121.0 kg
Container:	Volume:	208.0	l	Full:	75.0 %
Density:		0.780	kg /l		

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 4/17/14 DB

NDA 2000 Assay Report

Item Information

Item ID:	69157		Count Sequence Number:	24115	
Operator:	D3PW2DK1\operator				
Assay Start:	1/15/2014 10:50:59 AM				
Description 1:	1LANDA1891				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	121.0 kg	Net:	121.0 kg	
Container:	Volume:	208.0 l	Full:	75.0 %	
Density:		0.780 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERSEDED 06/17/14

06/17/14 018A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24115	Batch Number:	1LANDA1891
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-C63 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69157	Analysis Date:	1/15/2014

Net Weight	121000.0 g	
Pu mass	2.14E+001 +-	4.16E+000 g
TRU Alpha Activity	2.30E+001 +-	4.12E+000 Ci
TRU Activity Concentration	1.90E+005 +-	3.40E+004 nCi/g
Pu-239 Equivalent Activity	2.32E+001 +-	4.12E+000 Ci
Pu-239 FGE	1.92E+001 +-	3.65E+000 g
Decay heat	7.60E-001 +-	1.37E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	0.00E+000	0.00E+000	0.00E+000	9.00E-006
PU238	9.24E-003	1.58E-001	3.08E-002	7.80E-005
PU239	1.87E+001	1.16E+000	2.26E-001	5.73E-004
PU240	2.46E+000	5.59E-001	1.09E-001	2.76E-004
AM241	6.15E+000	2.11E+001	4.11E+000	1.04E-002
PU241	1.17E-001	1.21E+001	2.35E+000	5.96E-003
PU242	4.71E-002	1.86E-004	3.63E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.48E-006
U233	<LLD	<LLD	0.00E+000	1.74E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.07E-006
U238	1.73E+003	5.81E-004	1.24E-004	1.17E-004
CM243	1.39E-006	6.79E-005	1.90E-005	3.41E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-11-14

ITR: _____ Date: 6-11-14

019
06/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 24115
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 69157

Batch Number: 1LANDA1891
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 1/15/2014

Net Weight	121000.0 g	
Pu mass	2.14E+001 +-	4.16E+000 g
TRU Alpha Activity	2.58E+000 +-	2.87E-001 Ci
TRU Activity Concentration	2.13E+004 +-	2.38E+003 nCi/g
Pu-239 Equivalent Activity	2.80E+000 +-	2.91E-001 Ci
Pu-239 FGE	1.90E+001 +-	3.65E+000 g
Decay heat	8.24E-002 +-	9.10E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	0.00E+000	0.00E+000	0.00E+000	9.00E-006
PU238	9.24E-003	1.58E-001	3.08E-002	7.80E-005
PU239	1.87E+001	1.16E+000	2.26E-001	5.73E-004
PU240	2.46E+000	5.59E-001	1.09E-001	2.76E-004
AM241	2.04E-001	6.99E-001	1.36E-001	3.46E-004
PU241	1.17E-001	1.21E+001	2.35E+000	5.96E-003
PU242	4.71E-002	1.86E-004	3.63E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.48E-006
U233	<LLD	<LLD	0.00E+000	1.74E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.07E-006
U238	1.73E+003	5.81E-004	1.24E-004	1.17E-004
CM243	1.39E-006	6.79E-005	1.90E-005	3.41E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 1-20-14

ITR: _____ Date: 1-21-14

013A

Automated Independent Technical Review

Count Sequence Number: 24115 Batch Number: 1LANDA1891
Counter ID: MCS HENC #1
Container ID: 69157
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/15/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-54.

CS 6/11/14

Comments	Disposition
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
MCA Deadtime greater than the upper limit of 50.0%.	MCA deadtime = 63.19%
Total U mass is greater than the upper limit of 500.0 g.	U238 verified by AK and gamma spectrum. Results valid.
Spectrum Validity Check engine has suggested data review.	After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marah Date: 6/9/14

021
CS 6/17/14

Automated Independent Technical Review

Count Sequence Number: 24115
Counter ID: MCS HENC #1
Container ID: 69157
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 1LANDA1891
Count Type:
Assay Date: 1/15/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-54.

CS 6/17/14

CS 6/17/14 021A 020

CS 6/13/14

Comments	Disposition
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
MCA Deadtime greater than the upper limit of 50.0%.	MCA deadtime = 63.19%
Total U mass is greater than the upper limit of 500.0 g.	U238 verified by AK and gamma spectrum. Results valid.
Spectrum Validity Check engine has suggested data review.	After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chandler Date: 1-16-14

CS 6/18/14 021B

NDA 2000 Assay Report

********** Item Information **********

Item ID:	69075		Count Sequence Number:	24116	
Operator:	D3PW2DK1\operator				
Assay Start:	1/15/2014 11:34:59 AM				
Description 1:	1LANDA1891				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	199.0 kg	Net:	199.0 kg	
Container:	Volume:	208.0 l	Full:	90.0 %	
Density:		1.060 kg /l			

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CD 6/13/14

NDA 2000 Assay Report

Item Information

Item ID:	69075	Count Sequence Number:	24116
Operator:	D3PW2DK1\operator		
Assay Start:	1/15/2014 11:34:59 AM		
Description 1:	1LANDA1891		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gallon drum		
Weight:	Net: 199.0 kg	Net:	199.0 kg
Container:	Volume: 208.0 l	Full:	90.0 %
Density:	1.060 kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERSEDED CD 6/13/14

CD 6/13/14 022A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24116	Batch Number:	1LANDA1891
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69075	Analysis Date:	1/15/2014

Net Weight	199000.0 g	
Pu mass	7.32E+001 +-	1.65E+001 g
TRU Alpha Activity	2.56E+001 +-	4.64E+000 Ci
TRU Activity Concentration	1.29E+005 +-	2.33E+004 nCi/g
Pu-239 Equivalent Activity	2.58E+001 +-	4.64E+000 Ci
Pu-239 FGE	6.89E+001 +-	1.54E+001 g
Decay heat	8.39E-001 +-	1.54E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	0.00E+000	0.00E+000	0.00E+000	1.09E-005
PU238	6.68E-003	1.14E-001	2.57E-002	3.11E-005
PU239	6.85E+001	4.25E+000	9.55E-001	1.16E-003
PU240	4.61E+000	1.05E+000	2.36E-001	2.85E-004
AM241	5.88E+000	2.02E+001	4.54E+000	5.49E-003
PU241	9.16E-002	9.43E+000	2.12E+000	2.57E-003
PU242	1.47E-002	5.79E-005	1.30E-005	0.00E+000
SR90	5.13E-008	7.07E-006	4.31E-006	0.00E+000
CS137	8.14E-008	7.07E-006	4.31E-006	2.66E-006
U233	<LLD	<LLD	0.00E+000	2.11E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	6.55E-006
U238	<LLD	<LLD	0.00E+000	4.53E-005
CM243	7.84E-006	3.84E-004	9.49E-005	4.77E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-11-14

ITR: _____ Date: 6.11.14

023
CD 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24116	Batch Number:	1LANDA1891
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69075	Analysis Date:	1/15/2014

Net Weight	199000.0 g	
Pu mass	7.32E+001 +-	1.65E+001 g
TRU Alpha Activity	6.16E+000 +-	9.99E-001 Ci
TRU Activity Concentration	3.10E+004 +-	5.02E+003 nCi/g
Pu-239 Equivalent Activity	6.33E+000 +-	1.00E+000 Ci
Pu-239 FGE	6.88E+001 +-	1.54E+001 g
Decay heat	1.94E-001 +-	3.12E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	0.00E+000	0.00E+000	0.00E+000	1.09E-005
PU238	6.68E-003	1.14E-001	2.57E-002	3.11E-005
PU239	6.85E+001	4.25E+000	9.55E-001	1.16E-003
PU240	4.61E+000	1.05E+000	2.36E-001	2.85E-004
AM241	2.20E-001	7.55E-001	1.70E-001	2.05E-004
PU241	9.16E-002	9.43E+000	2.12E+000	2.57E-003
PU242	1.47E-002	5.79E-005	1.30E-005	0.00E+000
SR90	5.13E-008	7.07E-006	4.31E-006	0.00E+000
CS137	8.14E-008	7.07E-006	4.31E-006	2.66E-006
U233	<LLD	<LLD	0.00E+000	2.11E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	6.55E-006
U238	<LLD	<LLD	0.00E+000	4.53E-005
CM243	7.84E-006	3.84E-004	9.49E-005	4.77E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.20.14

ITR: _____ Date: 1.21.14

SUPERSEDED 2/12/14

2/12/14 023A

Automated Independent Technical Review

Count Sequence Number: 24116 Batch Number: 1LANDA1891
Counter ID: MCS HENC #1
Container ID: 69075
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/15/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.

024
CS 6/17/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
MCA Deadtime greater than the upper limit of 50.0%.	MCA deadtime = 59.63%
Spectrum Validity Check engine has suggested data review.	After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Manak Date: 6/9/14

025
CD 6/12/14

Automated Independent Technical Review

Count Sequence Number: 24116 Batch Number: 1LANDA1891
Counter ID: MCS HENC #1
Container ID: 69075
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/15/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52, 53.

6/17/14

025A
CCN174824

CS 6/17/14

Comments	Disposition
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
MCA Deadtime greater than the upper limit of 50.0%.	MCA deadtime = 59.63%
Spectrum Validity Check engine has suggested data review.	After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Cleaves Date: 1-16-14

CS 6/17/14 0253

NDA 2000 Assay Report

********** Item Information **********

Item ID:	68540		Count Sequence Number:	24121	
Operator:	D3PW2DK1\operator				
Assay Start:	1/15/2014 3:28:12 PM				
Description 1:	1LANDA1891				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Debris S5000				
Container Type:	55 gallon drum				
Weight:	Net:	5.1	kg	Net:	5.1 kg
Container:	Volume:	208.0	l	Full:	20.0 %
Density:		0.120 kg /l			

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CD 11/14 035

NDA 2000 Assay Report

Item Information

Item ID:	68540	Count Sequence Number:	24121
Operator:	D3PW2DK1\operator		
Assay Start:	1/15/2014 3:28:12 PM		
Description 1:	1LANDA1891		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Debris S5000		
Container Type:	55 gallon drum		
Weight:	Net: 5.1 kg	Net:	5.1 kg
Container:	Volume: 208.0 l	Full:	20.0 %
Density:	0.120 kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 1/17/14

CS 1/17/14 038A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24121	Batch Number:	1LANDA1891
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68540	Analysis Date:	1/15/2014

Net Weight	5100.0 g		
Pu mass	4.04E-001 +-	1.29E-001	g
TRU Alpha Activity	2.94E-001 +-	8.48E-002	Ci
TRU Activity Concentration	5.77E+004 +-	1.66E+004	nCi/g
Pu-239 Equivalent Activity	2.95E-001 +-	8.48E-002	Ci
Pu-239 FGE	3.83E-001 +-	1.21E-001	g
Decay heat	9.73E-003 +-	2.82E-003	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	0.00E+000	0.00E+000	0.00E+000	3.18E-007
PU238	3.69E-005	6.31E-004	2.01E-004	6.18E-004
PU239	3.80E-001	2.35E-002	7.51E-003	2.30E-002
PU240	2.43E-002	5.51E-003	1.76E-003	5.39E-003
AM241	7.72E-002	2.65E-001	8.44E-002	2.59E-001
PU241	4.60E-004	4.74E-002	1.51E-002	4.64E-002
PU242	8.10E-005	3.20E-007	1.02E-007	0.00E+000
CO60	2.24E-011	2.53E-008	6.06E-009	1.99E-008
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.09E-007
U233	<LLD	<LLD	0.00E+000	6.71E-004
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.91E-007
U238	<LLD	<LLD	0.00E+000	2.47E-006
AM243	1.10E-004	2.20E-005	1.99E-006	9.32E-007

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-11-14

ITR: _____ Date: 6.11.14

CS 6/11/14 039

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24121	Batch Number:	1LANDA1891
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68540	Analysis Date:	1/15/2014

Net Weight	5100.0 g	
Pu mass	4.04E-001 +-	1.29E-001 g
TRU Alpha Activity	3.36E-002 +-	7.81E-003 Ci
TRU Activity Concentration	6.59E+003 +-	1.53E+003 nCi/g
Pu-239 Equivalent Activity	3.45E-002 +-	7.82E-003 Ci
Pu-239 FGE	3.81E-001 +-	1.21E-001 g
Decay heat	1.06E-003 +-	2.44E-004 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	0.00E+000	0.00E+000	0.00E+000	3.18E-007
PU238	3.69E-005	6.31E-004	2.01E-004	6.18E-004
PU239	3.80E-001	2.35E-002	7.51E-003	2.30E-002
PU240	2.43E-002	5.51E-003	1.76E-003	5.39E-003
AM241	1.14E-003	3.91E-003	1.25E-003	3.83E-003
PU241	4.60E-004	4.74E-002	1.51E-002	4.64E-002
PU242	8.10E-005	3.20E-007	1.02E-007	0.00E+000
CO60	2.24E-011	2.53E-008	6.06E-009	1.99E-008
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.09E-007
U233	<LLD	<LLD	0.00E+000	6.71E-004
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.91E-007
U238	<LLD	<LLD	0.00E+000	2.47E-006
AM243	1.10E-004	2.20E-005	1.99E-006	9.32E-007

Errors quoted at 1.000 sigma

Operator: DEAC Date: 1.20.14

ITR: Date: 1.21.14

9 6/17/14

ES4/17/14039A

Automated Independent Technical Review

Count Sequence Number: 24121 Batch Number: 1LANDA1891
Counter ID: MCS HENC #1
Container ID: 68540
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 1/15/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Add-a-Source correction factor was set to one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
No Warnings Reported.	
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
Density is outside range (0.02 to 2.10 g/cc) or fill height is below 30%.	Fill height acceptable, neutron results applied.

040 06/17/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Manak Date: 6/5/14

041 cs 6/11/14

Automated Independent Technical Review

Count Sequence Number: 24121
Counter ID: MCS HENC #1
Container ID: 68540
Waste Matrix Code: Debris S5000
Sequence Type:

Batch Number: 1LANDA1891
Count Type:
Assay Date: 1/15/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one. Add-a-Source correction factor was set to one.	 Ok Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	 Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	 Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Density is outside range (0.02 to 2.10 g/cc) or fill height is below 30%.	 Ok Fill height acceptable, neutron results applied.

CS 1/17/14

CS 1/17/14 041A

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 1-16-14

SUPERSEDED cs 6/12/14

cs 6/12/14 0418

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1867 **Examination Date(s):** 19 November 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				**Container(s):** 68549, 93836, 68615, 68616, 93814, 93822, 93828
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	4/17/14 X		X	NCR-LANL-0606-14 CS 4/17/14

NTPC RECORDS ORIGINAL
DATE REC'D 12/2/13 (L)

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1867 **Examination Date(s):** 19 November 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1867 **Examination Date(s):** 19 November 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1867 **Examination Date(s):** 19 November 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: **None**

The container QC checks were properly performed and meeet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.

David W. Moody		*27 November 2013*
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soderna		NSE-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	**NDA Batch #:** 1LANDA1867
NDA Counter ID: HENC 1	**NDA Batch Date:** 11/19/2013
Waste Containers:	
68549 93822	
93836 93828	
68615	
68616	
93814	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Pete Lucchini	
Approval Signature and Date: 11-25-13	

6-10-14

NTPC RECORDS ORIGINAL
DATE RECD 11/26/13

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1867

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 6.10.14 003A 6.10.14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	27
Weekly Interfering Matrix Container Measurement Control Chart	42

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1867

Date: 11/19/2013

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 11/19/13.
The Weekly Interfering Matrix Measurement for this batch was run on 11/19/13.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ PV 6-10-14
NCR-LANL-0606-14 PV 6-10-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
Drum 93814 reanalyzed per NCR-LANL-0606-14 PV 6-10-14

NDA ITR: _____ Date: 11-25-13

Pete Lucchini

6-10-14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	NDA Batch Number: 1LANDA1867
Procedure/Rev Number: CCP-TP-063, Rev. 15	NDA Counter ID: HENC 1

Description of Criteria Reviewed	Criteria Met Yes/No/NA
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s) Data are reported in the proper units.	☑ Yes ☐ No ☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

004

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 11/19/13 (Date)	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Pete Lucchini	
Approval Signature and Date: [signature] 11.25.13	

[signature] 6.10.14

005

NDA 2000 Assay Report

********** Item Information **********

Item ID:	93814		Count Sequence Number:	23867	
Operator:	D3PW2DK1\operator				
Assay Start:	11/19/2013 1:47:14 PM				
Description 1:	1LANDA1867				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	230.0	kg	Net:	230.0 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		1.160 kg /l			

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

018
CD 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	93814	Count Sequence Number:	23867
Operator:	D3PW2DK1\operator		
Assay Start:	11/19/2013 1:47:14 PM		
Description 1:	1LANDA1867		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gallon drum		
Weight:	Net: 230.0 kg	Net:	280.0 kg
Container:	Volume: 208.0 l	Full:	95.0 %
Density:	1.160 kg /l		

SUPERCEDED

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

01814 018A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23867	Batch Number:	1LANDA1867
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	93814	Analysis Date:	11/19/2013

Net Weight	230000.0 g	
Pu mass	3.25E+001 +-	6.48E+000 g
TRU Alpha Activity	1.61E+001 +-	2.72E+000 Ci
TRU Activity Concentration	7.01E+004 +-	1.18E+004 nCi/g
Pu-239 Equivalent Activity	1.63E+001 +-	2.72E+000 Ci
Pu-239 FGE	3.00E+001 +-	5.91E+000 g
Decay heat	5.31E-001 +-	9.02E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.78E-001	1.96E-004	4.88E-005	7.88E-006
PU238	9.37E-003	1.60E-001	3.19E-002	7.37E-005
PU239	2.97E+001	1.84E+000	3.67E-001	8.46E-004
PU240	2.75E+000	6.24E-001	1.24E-001	2.87E-004
AM241	3.93E+000	1.35E+001	2.69E+000	6.21E-003
PU241	9.23E-002	9.51E+000	1.90E+000	4.37E-003
PU242	2.31E-002	9.13E-005	1.82E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.87E-006
U233	<LLD	<LLD	0.00E+000	1.69E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.31E-006
U238	<LLD	<LLD	0.00E+000	3.43E-005
AM243	5.41E-003	1.08E-003	2.71E-004	2.39E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.10.14

ITR: _____ Date: 6.10.14

019
6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23867	Batch Number:	1LANDA1867
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	93814	Analysis Date:	11/19/2013

Net Weight	230000.0 g		
Pu mass	3.25E+001	+-	6.48E+000 g
TRU Alpha Activity	3.05E+000	+-	3.97E-001 Ci
TRU Activity Concentration	1.33E+004	+-	1.73E+003 nCi/g
Pu-239 Equivalent Activity	3.22E+000	+-	3.99E-001 Ci
Pu-239 FGE	2.99E+001	+-	5.91E+000 g
Decay heat	9.65E-002	+-	1.24E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.78E-001	1.96E-004	4.88E-005	7.88E-006
PU238	9.37E-003	1.60E-001	3.19E-002	7.37E-005
PU239	2.97E+001	1.84E+000	3.67E-001	8.46E-004
PU240	2.75E+000	6.24E-001	1.24E-001	2.87E-004
AM241	1.24E-001	4.24E-001	8.45E-002	1.95E-004
PU241	9.23E-002	9.51E+000	1.90E+000	4.37E-003
PU242	2.31E-002	9.13E-005	1.82E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.87E-006
U233	<LLD	<LLD	0.00E+000	1.69E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.31E-006
U238	<LLD	<LLD	0.00E+000	3.43E-005
AM243	5.41E-003	1.08E-003	2.71E-004	2.39E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 11.22.13

ITR: _____ Date: 11.25.13

SUPERCEDED

CS 6/17/14

CS 6/17/14 0134

Automated Independent Technical Review

Count Sequence Number: 23867 Batch Number: 1LANDA1867
Counter ID: MCS HENC #1
Container ID: 93814
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/19/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-53.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

020 CS 6/17/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marah Date: 6/9/14

020A
CS 6/19/14

Automated Independent Technical Review

Count Sequence Number: 23867 Batch Number: 1LANDA1867
Counter ID: MCS HENC #1
Container ID: 93814
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/19/2013

SUPERCEDED CJ 6/17/14

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-53.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chambers Date: 11-20-13

CJ 6/17/14 020B

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1904 **Examination Date(s):** 2/3/14

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 65223 68775 69214 69252 69285 69286 69289 69290 69295 69300
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	CS 6/17/14 X		X	DCR-LANL-0606-14 CS 6/17/14

NTPC RECORDS ORIGINAL
DATE REC'D 2-7-14 DH

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1904 **Examination Date(s):** 2/3/14

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1904 **Examination Date(s):** 2/3/14

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1904 **Examination Date(s):** 2/3/14

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			

Comments: None

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.

Veronica Waldram	Veronica Waldram	February 6, 2014
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soderna	Carolina Soderna	NOE-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1904
NDA Counter ID: HENC 1	NDA Batch Date: 2/3/14
Waste Containers:	
69214	65223
69290	68775
69286	69295
69300	69285
69289	69252
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Dominic R. Archuleta	
Approval Signature and Date: D=R C 2.5.14	

Dominic R. Archuleta
D=R.C 6.10.14

NTPC RECORDS ORIGINAL
DATE RECD 2/10/14 001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1904

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 3a 6-10-14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	41
Weekly Interfering Matrix Container Measurement Control Chart	56

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1904

Date: 2/3/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 2/3/14.
The Weekly Interfering Matrix Measurement for this batch was run on 2/3/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ DA 6.10.14
NCR-LANL-0606-14 DA 6.10.14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
Drum 69252 re-~~a~~ DA 6.10.14 analyzed per NCR-LANL-0606-14 DA 6.10.14

NDA ITR: D-R C Date: 2.5.14

Dominic R. Archuleta

Dominic R. Archuleta
D-R C 6.10.14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1904
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s) Data are reported in the proper units.	☑ Yes ☐ No ☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 2/3/14 (Date)	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A

NDA Independent Technical Reviewer Approval

NDA Independent Technical Reviewer Printed Name: Dominic R. Archuleta

Approval Signature and Date:

DRA 2.5.14

Dominic R. Archuleta
DRA 6.10.14

005

NDA 2000 Assay Report

********** Item Information **********

Item ID:	69252		Count Sequence Number:	24260	
Operator:	D3PW2DK1\operator				
Assay Start:	2/3/2014 4:13:42 PM				
Description 1:	1LANDA1904				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	144.0 kg	Net:	144.0 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.730 kg /l			

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

038
CJ 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	69252		Count Sequence Number:	24260	
Operator:	D3PW2DK1\operator				
Assay Start:	2/3/2014 4:13:42 PM				
Description 1:	1LANDA1904				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	144.0 kg	Net:	144.0 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.730 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERSEDED cs 6/13/14

cs 6/13/14 038 K

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 24260
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 69252
Batch Number: 1LANDA1904
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 2/3/2014

Net Weight	144000.0 g		
Pu mass	4.08E+001	+- 7.13E+000	g
TRU Alpha Activity	1.29E+001	+- 1.78E+000	Ci
TRU Activity Concentration	8.97E+004	+- 1.24E+004	nCi/g
Pu-239 Equivalent Activity	1.30E+001	+- 1.78E+000	Ci
Pu-239 FGE	3.86E+001	+- 6.69E+000	g
Decay heat	4.23E-001	+- 5.90E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.95E-001	1.37E-004	2.61E-005	5.17E-006
PU238	3.73E-003	6.37E-002	1.11E-002	3.38E-005
PU239	3.83E+001	2.38E+000	4.15E-001	1.26E-003
PU240	2.45E+000	5.56E-001	9.71E-002	2.95E-004
AM241	2.89E+000	9.91E+000	1.73E+000	5.26E-003
PU241	4.63E-002	4.77E+000	8.33E-001	2.53E-003
PU242	8.18E-003	3.23E-005	5.64E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.29E-006
U233	<LLD	<LLD	0.00E+000	1.05E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.24E-006
U238	<LLD	<LLD	0.00E+000	2.39E-005
CM243	6.58E-006	3.22E-004	6.33E-005	2.38E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.10.14

ITR: D=nC Date: 6.10.14

CD 6/17/14 039

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24260	Batch Number:	1LANDA1904
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69252	Analysis Date:	2/3/2014

Net Weight	144000.0 g	
Pu mass	4.08E+001 +-	7.13E+000 g
TRU Alpha Activity	3.39E+000 +-	4.32E-001 Ci
TRU Activity Concentration	2.36E+004 +-	3.00E+003 nCi/g
Pu-239 Equivalent Activity	3.48E+000 +-	4.32E-001 Ci
Pu-239 FGE	3.85E+001 +-	6.69E+000 g
Decay heat	1.07E-001 +-	1.35E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.95E-001	1.37E-004	2.61E-005	5.17E-006
PU238	3.73E-003	6.37E-002	1.11E-002	3.38E-005
PU239	3.83E+001	2.38E+000	4.15E-001	1.26E-003
PU240	2.45E+000	5.56E-001	9.71E-002	2.95E-004
AM241	1.15E-001	3.96E-001	6.91E-002	2.10E-004
PU241	4.63E-002	4.77E+000	8.33E-001	2.53E-003
PU242	8.18E-003	3.23E-005	5.64E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.29E-006
U233	<LLD	<LLD	0.00E+000	1.05E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.24E-006
U238	<LLD	<LLD	0.00E+000	2.39E-005
CM243	6.58E-006	3.22E-004	6.33E-005	2.38E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 2.4.14

ITR: _____ Date: 2.5.14

SUPERCEDED CJ 4/7/14

CJ 4/7/14 039A

Automated Independent Technical Review

Count Sequence Number: 24260 Batch Number: 1LANDA1904
Counter ID: MCS HENC #1
Container ID: 69252
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 2/3/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

040
CS 6/17/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Mauk Date: 6/9/14

040A
6/17/14

SUPERCEDED CJ 6/17/14

Automated Independent Technical Review

Count Sequence Number: 24260 Batch Number: 1LANDA1904
Counter ID: MCS HENC #1
Container ID: 69252
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 2/3/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Shari Chambers Date: 2-4-14

CJ6/17/14 0406

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1915	Examination Date(s): 2/24/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 69343 69363 69364 69365 69412 69421 69432
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	CS 2/27/14 X		-X-	NCR-LANL-0606-14

CS 2/27/14

NTPC RECORDS ORIGINAL
DATE REC'D 2/27/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1915	Examination Date(s): 2/24/2014			
Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1915	Examination Date(s): 2/24/2014			
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1915	**Examination Date(s): 2/24/2014**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna			2/27/2014
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1915
NDA Counter ID: HENC 1	NDA Batch Date: 2/24/14
Waste Containers:	
69363 69343	
69365 69364	
69412	
69432	
69421	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Pete Lucchini	
Approval Signature and Date: 2-26-14	

DAVID SAGER

6-10-14

NTPC RECORDS ORIGINAL
DATE REC'D 2/27/14

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1915

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	96-1014 ~~N/A~~ 3a
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	31
Weekly Interfering Matrix Container Measurement Control Chart	46

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1915

Date: 2/24/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 2/24/14.
The Weekly Interfering Matrix Measurement for this batch was run on 2/24/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ DS 6.10.14

NCR-LANL-0606-14 DS 6.10.14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable. Drum 69364 Reanalyzed per NCR-LANL-0606-14 DS 6.10.14

NDA ITR: _____ Date: 2.26.14

Pete Lucchini

DAVID SAGER

DS 6.10.14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1915
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 2/24/14 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Pete Lucchini	
Approval Signature and Date: [signature] 2·26·14	

DAVID SAGER
[signature] 6·10·14

005

NDA 2000 Assay Report

********** Item Information **********

Item ID:	69364		Count Sequence Number:	24389	
Operator:	D3PW2DK1\operator				
Assay Start:	2/24/2014 3:26:08 PM				
Description 1:	1LANDA1915				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, Homo				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	204.0	kg	Net:	204.0 kg
Container:	Volume:	208.0	l	Full:	100.0 %
Density:		0.980	kg /l		

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

028 CS 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	69364		Count Sequence Number:	24389	
Operator:	D3PW2DK1\operator				
Assay Start:	2/24/2014 3:26:08 PM				
Description 1:	1LANDA1915				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	204.0 kg	Net:	204.0 kg	
Container:	Volume:	208.0 l	Full:	100.0 %	
Density:		0.980 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

SUPERSEDED CS 6/17/14

Cochiti 028A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24389	Batch Number:	1LANDA1915
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69364	Analysis Date:	2/24/2014

Net Weight	204000.0 g	
Pu mass	5.34E+001 +-	1.05E+001 g
TRU Alpha Activity	1.51E+001 +-	2.29E+000 Ci
TRU Activity Concentration	7.41E+004 +-	1.12E+004 nCi/g
Pu-239 Equivalent Activity	1.52E+001 +-	2.29E+000 Ci
Pu-239 FGE	5.02E+001 +-	9.84E+000 g
Decay heat	4.94E-001 +-	7.57E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.51E-001	1.77E-004	4.00E-005	6.16E-006
PU238	4.87E-003	8.33E-002	1.64E-002	3.01E-005
PU239	4.99E+001	3.09E+000	6.10E-001	1.12E-003
PU240	3.46E+000	7.86E-001	1.55E-001	2.84E-004
AM241	3.25E+000	1.12E+001	2.20E+000	4.03E-003
PU241	6.95E-002	7.16E+000	1.41E+000	2.59E-003
PU242	1.55E-002	6.13E-005	1.21E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.32E-006
U233	<LLD	<LLD	0.00E+000	1.25E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.42E-006
U238	<LLD	<LLD	0.00E+000	4.87E-005
AM243	1.29E-003	2.58E-004	5.90E-005	1.72E-005

Errors quoted at 1.000 sigma

Operator: Marsha Egan Date: 6.10.14

ITR: D Date: 6.10.14

029
CS 6/12/14
CS 6/12/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24389	Batch Number:	1LANDA1915
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69364	Analysis Date:	2/24/2014

Net Weight	204000.0 g	
Pu mass	5.34E+001 +-	1.05E+001 g
TRU Alpha Activity	4.54E+000 +-	6.40E-001 Ci
TRU Activity Concentration	2.22E+004 +-	3.14E+003 nCi/g
Pu-239 Equivalent Activity	4.67E+000 +-	6.40E-001 Ci
Pu-239 FGE	5.01E+001 +-	9.84E+000 g
Decay heat	1.43E-001 +-	2.00E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.51E-001	1.77E-004	4.00E-005	6.16E-006
PU238	4.87E-003	8.33E-002	1.64E-002	3.01E-005
PU239	4.99E+001	3.09E+000	6.10E-001	1.12E-003
PU240	3.46E+000	7.86E-001	1.55E-001	2.84E-004
AM241	1.68E-001	5.78E-001	1.14E-001	2.09E-004
PU241	6.95E-002	7.16E+000	1.41E+000	2.59E-003
PU242	1.55E-002	6.13E-005	1.21E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.32E-006
U233	<LLD	<LLD	0.00E+000	1.25E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.42E-006
U238	<LLD	<LLD	0.00E+000	4.87E-005
AM243	1.29E-003	2.58E-004	5.90E-005	1.72E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 2.25.14

ITR: _____ Date: 2.26.14

SUPERSEDED 3/18/14

3/18/14 029K 3/18/14

Automated Independent Technical Review

Count Sequence Number: 24389 Batch Number: 1LANDA1915
Counter ID: MCS HENC #1
Container ID: 69364
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 2/24/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok

030
CS 6/17/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Mamak Date: 6/9/14

030A
CJ 6/13/14

Automated Independent Technical Review

Count Sequence Number: 24389 Batch Number: 1LANDA1915
Counter ID: MCS HENC #1
Container ID: 69364
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 2/24/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

SUPERCEDED CS 6/13/14

Expert Review by: Sheri Chambers Date: 2-25-14

PJ 6/17/14 030B

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1917	**Examination Date(s): 02/26/2014**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 69434 69425 69374 68707 68701 69433
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	6/17/14 X		-X-	NCR-LANL-0606-14

es 6/17/14

NTPC RECORDS ORIGINAL
DATE REC'D 3/4/14 (L)

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1917	Examination Date(s): 02/26/2014			
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1917	Examination Date(s): 02/26/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1917				Examination Date(s): 02/26/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna			3/3/2014
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1917
NDA Counter ID: HENC 1	NDA Batch Date: 02/26/14
Waste Containers:	
69434 69433	
69425	
69374	
68707	
68701	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Tim Barton Israel Aragon	
Approval Signature and Date: Tim Barton 2/27/14	

6-10-14

NTPC RECORDS ORIGINAL 001
DATE REC'D 3/3/14

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1917

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~NA~~ 3 9 10-14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	28
Weekly Interfering Matrix Container Measurement Control Chart	43

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1917

Date: 02/26/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 02/26/14.
The Weekly Interfering Matrix Measurement for this batch was run on 02/24/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ IA 6-10-14
NCR-LANL-0606-14
IA 6-10-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
The overall quality of data in this Batch Data Report is acceptable.
Drum 69433 was reanalyzed per NCR-LANL-0606-14 IA 6-10-14

NDA ITR: Tim Barton Date: 2/27/14

Tim Barton Israel Aragon
6-10-14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1917
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 02/24/14 (Date)	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note:** Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Tim Barton Ismael Aragon	
Approval Signature and Date: Tim Barton 2/27/14	

6-10-14

005

NDA 2000 Assay Report

Item Information

Item ID:	69433	Count Sequence Number:	24410		
Operator:	D3PW2DK1\operator				
Assay Start:	2/26/2014 1:59:32 PM				
Description 1:	1LANDA1917				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	97.6	kg	Net:	97.6 kg
Container:	Volume:	208.0	l	Full:	80.0 %
Density:		0.590 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 6/11/14 024

NDA 2000 Assay Report

Item Information

Item ID:	69433	Count Sequence Number:	24410
Operator:	D3PW2DK1\operator		
Assay Start:	2/26/2014 1:59:32 PM		
Description 1:	1LANDA1917		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gallon drum		
Weight:	Net: 97.6 kg	Net:	97.6 kg
Container:	Volume: 208.0 l	Full:	80.0 %
Density:	0.590 kg /l		

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

024A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24410	Batch Number:	1LANDA1917
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69433	Analysis Date:	2/26/2014

Net Weight	97600.0 g	
Pu mass	1.62E+001 +-	4.24E+000 g
TRU Alpha Activity	1.67E+001 +-	4.04E+000 Ci
TRU Activity Concentration	1.72E+005 +-	4.14E+004 nCi/g
Pu-239 Equivalent Activity	1.69E+001 +-	4.04E+000 Ci
Pu-239 FGE	1.47E+001 +-	3.79E+000 g
Decay heat	5.54E-001 +-	1.34E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	3.04E-001	2.14E-004	3.59E-005	6.53E-006
PU238	5.31E-003	9.09E-002	2.38E-002	7.04E-005
PU239	1.44E+001	8.96E-001	2.35E-001	6.94E-004
PU240	1.62E+000	3.68E-001	9.66E-002	2.85E-004
AM241	4.49E+000	1.54E+001	4.03E+000	1.19E-002
PU241	5.95E-002	6.13E+000	1.61E+000	4.75E-003
PU242	2.59E-002	1.02E-004	2.69E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.56E-006
U233	<LLD	<LLD	0.00E+000	1.24E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.63E-006
U238	<LLD	<LLD	0.00E+000	4.76E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6/10/14

ITR: _____ Date: 6-10-14

CJ 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24410	Batch Number:	1LANDA1917
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69433	Analysis Date:	2/26/2014

Net Weight	97600.0 g			
Pu mass	1.62E+001	+-	4.24E+000	g
TRU Alpha Activity	1.82E+000	+-	2.82E-001	Ci
TRU Activity Concentration	1.86E+004	+-	2.89E+003	nCi/g
Pu-239 Equivalent Activity	1.93E+000	+-	2.84E-001	Ci
Pu-239 FGE	1.46E+001	+-	3.78E+000	g
Decay heat	5.79E-002	+-	8.90E-003	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	3.04E-001	2.14E-004	3.58E-005	6.53E-006
PU238	5.31E-003	9.09E-002	2.38E-002	7.04E-005
PU239	1.44E+001	8.96E-001	2.35E-001	6.94E-004
PU240	1.62E+000	3.68E-001	9.66E-002	2.85E-004
AM241	1.34E-001	4.61E-001	1.21E-001	3.57E-004
PU241	5.95E-002	6.13E+000	1.61E+000	4.75E-003
PU242	2.59E-002	1.02E-004	2.69E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.56E-006
U233	<LLD	<LLD	0.00E+000	1.24E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.63E-006
U238	<LLD	<LLD	0.00E+000	4.76E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 2.27.14

ITR: _____ Date: 2/27/14

2/27/14

025A

Automated Independent Technical Review

Count Sequence Number: 24410 Batch Number: 1LANDA1917
Counter ID: MCS HENC #1
Container ID: 69433
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 2/26/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor was set to one.	Ok
Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings.	
- The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings.	
- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok

026
CS 6/17/14

Comments	Disposition
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-54,52.
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	Ok MCA deadtime = 59.04%. After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marsh Date: 6/9/14

027
CD 6/11/14

Automated Independent Technical Review

Count Sequence Number: 24410 Batch Number: 1LANDA1917
Counter ID: MCS HENC #1
Container ID: 69433
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 2/26/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor was set to one.	Ok
Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Curium/Californium Neutron Analysis complete with warnings.	
- The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue.	Ok
- The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Cosmic Ray Rejection Analysis complete with warnings.	
- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok

CS 6/17/14

027A
CS 6/17/14 ~~026~~

Comments	Disposition
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-54,52.
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	Ok MCA deadtime = 59.04%. After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Shari Chamberlain Date: 2-27-14

CJ 4/17/14 027A

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 1LANDA1925	**Examination Date(s): 03/10/2014**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 69272 69511 69505 69510 69491 69013 69253 68877
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	6/17/14 X		-X-	NCR-LANL-0606-14 06/17/14

NTPC RECORDS ORIGINAL
DATE REC'D 03/13/14

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1925	**Examination Date(s): 03/10/2014**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**			X	
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1925	Examination Date(s): 03/10/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			Except for 69505
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 1LANDA1925				**Examination Date(s): 03/10/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna			3/13/14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 1LANDA1925
NDA Counter ID: HENC 1	NDA Batch Date: 3/10/14
Waste Containers:	
69272 69013	
69511 69253	
69505 68877	
69510	
69491	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Bret Templeton	
Approval Signature and Date: Bret Templeton 3-12-14	

Bret Templeton 6-10-14

NTPC RECORDS ORIGINAL
DATE REC'D 3/13/14

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 1LANDA1925

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 3a 6-10-14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	37
Weekly Interfering Matrix Container Measurement Control Chart	52

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 1LANDA1925

Date: 3/10/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 3/10/14.
The Weekly Interfering Matrix Measurement for this batch was run on 3/10/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ 6-10-14
NCR-LANL-0606-14 6-10-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report
The overall quality of data in this Batch Data Report is acceptable.
Drum 69272 re-analyzed per NCR-LANL-0606-14 6-10-14

NDA ITR: Bret Templeton Date: 3-12-14

Bret Templeton 6-10-14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 1LANDA1925
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 1

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002)	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 3/10/14 (Date)	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☐ Yes ☑ No
If YES, is it reported?	☐ Yes ☐ No ☑ N/A

NDA Independent Technical Reviewer Approval

NDA Independent Technical Reviewer Printed Name: Bret Templeton

Approval Signature and Date: Bret Templeton 3-12-14

Bret Templeton 6-10-14

005

NDA 2000 Assay Report

********** Item Information **********

Item ID:	69272		Count Sequence Number:	24503	
Operator:	D3PW2DK1\operator				
Assay Start:	3/10/2014 9:10:57 AM				
Description 1:	1LANDA1925				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	157.0	kg	Net:	157.0 kg
Container:	Volume:	208.0	l	Full:	85.0 %
Density:		0.890 kg /l			

********** System Configuration **********

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CDC
CD 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	69272		Count Sequence Number:	24503	
Operator:	D3PW2DK1\operator				
Assay Start:	3/10/2014 9:10:57 AM				
Description 1:	1LANDA1925				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	157.0 kg	Net:	157.0 kg	
Container:	Volume:	208.0 l	Full:	85.0 %	
Density:		0.890 kg /l			

System Configuration

Counter:	MCS HENC #1
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks On (GE - 0

Errors quoted at 1.000 sigma

CS 6/13/14

SCI

CS 6/13/14 006A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24503	Batch Number:	1LANDA1925
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69272	Analysis Date:	3/10/2014

Net Weight	157000.0 g	
Pu mass	8.60E+000 +-	2.26E+000 g
TRU Alpha Activity	1.47E+001 +-	3.64E+000 Ci
TRU Activity Concentration	9.35E+004 +-	2.32E+004 nCi/g
Pu-239 Equivalent Activity	1.48E+001 +-	3.64E+000 Ci
Pu-239 FGE	7.35E+000 +-	1.86E+000 g
Decay heat	4.86E-001 +-	1.21E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.78E-001	1.96E-004	4.19E-005	6.79E-006
PU238	5.03E-003	8.61E-002	2.26E-002	7.80E-005
PU239	7.06E+000	4.38E-001	1.15E-001	3.97E-004
PU240	1.42E+000	3.23E-001	8.49E-002	2.93E-004
AM241	4.03E+000	1.38E+001	3.63E+000	1.25E-002
PU241	7.77E-002	8.00E+000	2.10E+000	7.25E-003
PU242	3.06E-002	1.21E-004	3.18E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.60E-006
U233	<LLD	<LLD	0.00E+000	1.41E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	4.29E-006
U238	<LLD	<LLD	0.00E+000	2.95E-005
AM243	2.98E-003	5.95E-004	1.28E-004	1.98E-005

Errors quoted at 1.000 sigma

Operator: D=RC Date: 6-10-14

ITR: Battiste Date: 6-10-14

007 06/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	24503	Batch Number:	1LANDA1925
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69272	Analysis Date:	3/10/2014

Net Weight	157000.0 g	
Pu mass	8.60E+000 +-	2.26E+000 g
TRU Alpha Activity	1.22E+000 +-	1.75E-001 Ci
TRU Activity Concentration	7.79E+003 +-	1.12E+003 nCi/g
Pu-239 Equivalent Activity	1.37E+000 +-	1.80E-001 Ci
Pu-239 FGE	7.27E+000 +-	1.86E+000 g
Decay heat	3.93E-002 +-	5.58E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.78E-001	1.96E-004	4.19E-005	6.79E-006
PU238	5.03E-003	8.61E-002	2.26E-002	7.80E-005
PU239	7.06E+000	4.38E-001	1.15E-001	3.97E-004
PU240	1.42E+000	3.23E-001	8.49E-002	2.93E-004
AM241	1.09E-001	3.76E-001	9.87E-002	3.40E-004
PU241	7.77E-002	8.00E+000	2.10E+000	7.25E-003
PU242	3.06E-002	1.21E-004	3.18E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.60E-006
U233	<LLD	<LLD	0.00E+000	1.41E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	4.29E-006
U238	<LLD	<LLD	0.00E+000	2.95E-005
AM243	2.98E-003	5.95E-004	1.28E-004	1.98E-005

Errors quoted at 1.000 sigma

Operator: Ann Barton Date: 3/11/14

ITR: Brett Tupler Date: 3-12-14

SUPERCEDED CJ 6/17/14

CJ 6/17/14 007A

Automated Independent Technical Review

Count Sequence Number: 24503 Batch Number: 1LANDA1925
Counter ID: MCS HENC #1
Container ID: 69272
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/10/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-56.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review spectrum valid.

008
CS 6/17/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Mercer Date: 6/9/14

DOSA
CS 6/12/14

SUPERCEDED CJ 6/17/14

Automated Independent Technical Review

Count Sequence Number: 24503 Batch Number: 1LANDA1925
Counter ID: MCS HENC #1
Container ID: 69272
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/10/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-56.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 3-11-14

CJ6/17/14 0086

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 2LANDA1256	Examination Date(s): 1/24/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 55705 69091 69230 69237 S803796 S814238 S816101 S820345
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	X			NCR-LANL-0141-14 (68766) NCR-LANL-0606-14 CS 4/7/14

NTPC RECORDS ORIGINAL
DATE REC'D 02/04/14 (L)

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1256				Examination Date(s): 1/24/2014
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1256	Examination Date(s): 1/24/2014			
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			Except for 68766
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1256				Examination Date(s): 1/24/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna		2/3/14	
SPM Printed Name	Signature		Date	

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14	6/17/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 2LANDA1256
NDA Counter ID: HENC 2	NDA Batch Date: 1/24/14
Waste Containers:	
S820345 68766	
S816101 69091	
S803796 69237	
S814238 55705	
69230	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Maria Escarcega	
Approval Signature and Date: 1·30·14	

6·10·14

MARIA ESCARCEGA

NTPC RECORDS ORIGINAL
DATE REC'D 2/3/14

001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 2LANDA1256

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	3a
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	43
Weekly Interfering Matrix Container Measurement Control Chart	58

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 2LANDA1256

Date: 1/24/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 1/24/14.
The Weekly Interfering Matrix Measurement for this batch was run on 1/22/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

NCR-LANL-0141-14 6.10.14
NCR-LANL-0606-14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
Drum 69230 REANALYZED PER NCR-LANL-0606-14 6.10.14 ~~06.06.14~~ 6.10.14

NDA ITR: Maria Escarcega Date: 1.30.14

Maria Escarcega

Maria Escarcega MARIA ESCARCEGA 6.10.14

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	NDA Batch Number: 2LANDA1256
Procedure/Rev Number: CCP-TP-063, Rev. 15	NDA Counter ID: HENC 2

Description of Criteria Reviewed	Criteria Met Yes/No/NA
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s)	☑ Yes ☐ No
Data are reported in the proper units.	☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

004

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002).	☑ Yes ☐ No
Were QC criteria that were not met documented with an NCR?	☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 1/22/14 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container?	☐ Yes ☑ No
If YES, are they reported?	☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container?	☑ Yes ☐ No
If YES, is it reported?	☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Maria Escarcega	
~~Approval~~ Signature and Date: [signature] 1·30·14	

[signature] 6·10·14

MARIA ESCARCEGA

005

NDA 2000 Assay Report

Item Information

Item ID:	69230	Count Sequence Number:	16876		
Operator:	DCLTD231\Operator				
Assay Start:	1/24/2014 12:50:16 PM				
Description 1:	2LANDA1256				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	125.0	kg	Net:	125.0 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.630	kg /l		

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

023
CD 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	69230		Count Sequence Number:	16876	
Operator:	DCLTD231\Operator				
Assay Start:	1/24/2014 12:50:16 PM				
Description 1:	2LANDA1256				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	125.0 kg	Net:	125.0 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.630 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

SUPERSEDED

CJ 6/17/14

CJ 6/17/14 0234

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	16876	Batch Number:	2LANDA1256
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69230	Analysis Date:	1/24/2014

Net Weight	125000.0 g		
Pu mass	3.31E+001 +-	6.61E+000	g
TRU Alpha Activity	6.22E+000 +-	8.54E-001	Ci
TRU Activity Concentration	4.98E+004 +-	6.83E+003	nCi/g
Pu-239 Equivalent Activity	6.29E+000 +-	8.54E-001	Ci
Pu-239 FGE	3.19E+001 +-	6.21E+000	g
Decay heat	2.02E-001 +-	2.80E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	9.58E-002	6.76E-005	1.17E-005	1.37E-006
PU238	3.02E-003	5.17E-002	1.03E-002	3.50E-005
PU239	3.11E+001	1.93E+000	3.85E-001	1.31E-003
PU240	1.99E+000	4.51E-001	9.00E-002	3.06E-004
AM241	1.11E+000	3.79E+000	7.57E-001	2.57E-003
PU241	3.76E-002	3.87E+000	7.73E-001	2.63E-003
PU242	6.63E-003	2.62E-005	5.23E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	6.18E-007
U233	<LLD	<LLD	0.00E+000	6.02E-003
U234	1.49E-002	9.26E-005	2.07E-005	0.00E+000
U235	1.06E+000	2.30E-006	5.13E-007	1.59E-006
U238	<LLD	<LLD	0.00E+000	1.41E-005
AM243	1.35E-003	2.71E-004	4.72E-005	8.38E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-9-14

ITR: _____ Date: 6.10.14

024
CD dialia

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	16876	Batch Number:	2LANDA1256
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69230	Analysis Date:	1/24/2014

Net Weight	125000.0 g	
Pu mass	3.31E+001 +-	6.61E+000 g
TRU Alpha Activity	2.75E+000 +-	4.00E-001 Ci
TRU Activity Concentration	2.20E+004 +-	3.20E+003 nCi/g
Pu-239 Equivalent Activity	2.82E+000 +-	4.01E-001 Ci
Pu-239 FGE	3.19E+001 +-	6.21E+000 g
Decay heat	8.65E-002 +-	1.25E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	9.58E-002	6.76E-005	1.17E-005	1.37E-006
PU238	3.02E-003	5.17E-002	1.03E-002	3.50E-005
PU239	3.11E+001	1.93E+000	3.85E-001	1.31E-003
PU240	1.99E+000	4.51E-001	9.00E-002	3.06E-004
AM241	9.35E-002	3.21E-001	6.40E-002	2.17E-004
PU241	3.76E-002	3.87E+000	7.73E-001	2.63E-003
PU242	6.63E-003	2.62E-005	5.23E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	6.18E-007
U233	<LLD	<LLD	0.00E+000	6.02E-003
U234	1.49E-002	9.26E-005	2.07E-005	0.00E+000
U235	1.06E+000	2.30E-006	5.13E-007	1.59E-006
U238	<LLD	<LLD	0.00E+000	1.41E-005
AM243	1.35E-003	2.71E-004	4.72E-005	8.38E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 1-30-14

ITR: _____ Date: 1-30-14

SUPERSEDED 6/17/14

CJ 6/17/14 024A

Automated Independent Technical Review

Count Sequence Number: 16876 Batch Number: 2LANDA1256
Counter ID: HENC #2
Container ID: 69230
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/24/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

025
CS 6/17/14

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marah Date: 6/9/14

026
CD 6/17/14

Automated Independent Technical Review

Count Sequence Number: 16876
Counter ID: HENC #2
Container ID: 69230
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 2LANDA1256
Count Type:
Assay Date: 1/24/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

SUPERCEDED CS 6/11/14

CS 6/17/14 026A ~~025~~

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 1-28-14

SUPERSEDED 05/17/14

05/17/14 026B

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: 2LANDA1258				Examination Date(s): 1/27/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**	X			
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers: 68873 68876 69211 69213 69226 69234 69235 69256 69258
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**	X			
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**	X			
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**	CS 2/24/14 X		X	NCR-LANL-0606-14 CS 2/24/14

NTPC RECORDS ORIGINAL
DATE REC'D 02/04/14 (C)

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1258				Examination Date(s): 1/27/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**	X			
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**	X			
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**	X			
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**	X			
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**	X			
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**	X			
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1258				Examination Date(s): 1/27/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**	X			
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**	X			
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**	X			
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
31. Is the title "Radioassay Data Sheet" included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: 2LANDA1258				Examination Date(s): 1/27/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**	X			
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.				
Carolina Soaterna	Carolina Soaterna		2/3/14	
SPM Printed Name	Signature		Date	

Checklist is to be re-signed only when a re-review is performed.

Carolina Soaterna	Carolina Soaterna	NCR-LANL-0606-14 ~~NCR-606~~ CS 6/24/14	CS 6/24/14
SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 1 – NDA Batch Data Report Cover Sheet

Site ID: LANL	NDA Batch #: 2LANDA1258
NDA Counter ID: HENC 2	NDA Batch Date: 1/27/14
Waste Containers:	
69211 69226	
69258 69235	
69256 68876	
69213 68873	
69234	
NDA Independent Technical Reviewer (ITR) Approval	
NDA ITR's Printed Name: Pete Lucchini TIM BARTON	
Approval Signature and Date: 1.31.14	

6/17/14

NTPC RECORDS ORIGINAL
DATE RECD 2/3/14 001

Attachment 2 – NDA Batch Data Report Table of Contents

NDA Batch Number: 2LANDA1258

Testing Facility: LANL

SECTION	PAGE NUMBER
Attachment 1, NDA Batch Data Report Cover Sheet	1
Attachment 2, NDA Batch Data Report Table of Contents	2
Attachment 3, NDA Batch Data Report Narrative Summary	3
Copy of NCR(s), if applicable	~~N/A~~ 3a 3b 6/17/14
Attachment 4, NDA Independent Technical Reviewer Checklist	4
Waste Container Report Files with Radioassay Data Sheet(s) and • Automated Independent Technical Review(s)	6
QA Control Sheets (Background and Daily QC Checks)	42
Weekly Interfering Matrix Container Measurement Control Chart	57

002

Attachment 3 – NDA Batch Data Report Narrative Summary

Batch #: 2LANDA1258

Date: 1/27/14

Quality Control Summary:

Instrument Performance Measurements for this Batch Data Report were performed on 1/27/14.
The Weekly Interfering Matrix Measurement for this batch was run on 1/27/14.
All Measurements results are acceptable and are included in this Batch Data Report.

Nonconformance:

~~None~~ B 6/17/14
NCR-LANL-0606-14 B 6/17/14

NDA ITR Comments:

All technical issues were reviewed and resolved by the Expert Analyst.
In the absence of the operator who generated this data, another qualified operator reviewed and signed this Batch Data Report.
The overall quality of data in this Batch Data Report is acceptable.
DRUM 69258 REANALYZED PER NCR-LANL-0606-14 B 6/17/14

NDA ITR: _____ Date: 1.31.14
Pete Lucchini

Tim Barton 6/17/14
TIM BARTON

003

Attachment 4 – NDA Independent Technical Reviewer Checklist

Site ID: LANL	**NDA Batch Number:** 2LANDA1258
Procedure/Rev Number: CCP-TP-063, Rev. 15	**NDA Counter ID:** HENC 2

Description of Criteria Reviewed	**Criteria Met Yes/No/NA**
NDA Independent Technical Reviewer (ITR) Checklist	
Data generation and reduction were conducted in a technically correct manner in accordance with the standard operating procedures for the NDA methods used, including the following: • NDA Batch Data Report Cover Sheet • NDA Batch Data Report Table of Contents • NDA Batch Data Report Narrative Summary • NDA Independent Technical Reviewer Checklist • NCR (If applicable) • Last Results Reports • Quality Assurance Control Charts (Background and Daily QC Checks) • Weekly Interfering Matrix Container Measurement Control Chart • Radioassay Data Sheet(s) • Automated Independent Technical Review(s) Data are reported in the proper units.	☑ Yes ☐ No ☑ Yes ☐ No
Calculations have been validated by a valid calculation program or a spot check of verified calculation programs.	☑ Yes ☐ No
QC documentation is complete and includes: 1. Daily Gamma Background 2. Daily Gamma QC Check 3. Daily Neutron Background (N/A for MILCC) 4. Daily Neutron QC Check (N/A for MILCC)	 ☑ Yes ☐ No ☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A

Attachment 4 – NDA Independent Technical Reviewer Checklist (continued)

NDA Independent Technical Reviewer Checklist	
QC measurement results are within established control limits per standard operating procedures (Reference Table A-3 Range of Applicability, CCP-PO-002). Were QC criteria that were not met documented with an NCR?	☑ Yes ☐ No ☐ Yes ☐ No ☑ N/A
Weekly Interfering Matrix Container Measurements were properly performed and completed on 1/27/14 (Date).	☑ Yes ☐ No
The activities and masses (including Total Measurement Uncertainties (TMU) expressed in one sigma) are reported for the 10 WIPP-tracked radionuclides, as listed in Section 4.3 NOTE plus U-235. **Note**: Less than LLD or zero values shall be reported in accordance with CCP-PO-002, Sections 3.3.1 and A.3.	☑ Yes ☐ No
Are there any additional radionuclides that contribute to 95 percent of the radioactive hazard in any container? If YES, are they reported?	☐ Yes ☑ No ☐ Yes ☐ No ☑ N/A
Was U-235 detected in any waste container? If YES, is it reported?	☑ Yes ☐ No ☑ Yes ☐ No ☐ N/A
NDA Independent Technical Reviewer Approval	
NDA Independent Technical Reviewer Printed Name: Pete Lucchini TJM BARTON Approval Signature and Date: [signature] 1/31/14 [signature] 6/17/14	

005

NDA 2000 Assay Report

********** Item Information **********

Item ID:	69258		Count Sequence Number:	16899	
Operator:	DCLTD231\Operator				
Assay Start:	1/27/2014 10:40:32 AM				
Description 1:	2LANDA1258				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Debris S5000				
Container Type:	55 gal Drum				
Weight:	Net:	162.0 kg	Net:	162.0 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.820 kg /l			

********** System Configuration **********

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

010
CJ 6/24/14

NDA 2000 Assay Report

Item Information

Item ID:	69258		Count Sequence Number:	16899	
Operator:	DCLTD231\Operator				
Assay Start:	1/27/2014 10:40:32 AM				
Description 1:	2LANDA1258				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Debris S5000				
Container Type:	55 gal Drum				
Weight:	Net:	162.0 kg	Net:	162.0 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.820 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

SUPERCEDED 8 C/24/14

CS 6/24/14 010A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	16899	Batch Number:	2LANDA1258
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69258	Analysis Date:	1/27/2014

Net Weight	162000.0 g	
Pu mass	8.49E+001 +-	1.99E+001 g
TRU Alpha Activity	3.12E+001 +-	5.82E+000 Ci
TRU Activity Concentration	1.93E+005 +-	3.60E+004 nCi/g
Pu-239 Equivalent Activity	3.15E+001 +-	5.82E+000 Ci
Pu-239 FGE	7.81E+001 +-	1.81E+001 g
Decay heat	1.02E+000 +-	1.93E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	3.95E-001	2.79E-004	5.65E-005	5.27E-006
PU238	2.32E-002	3.97E-001	9.30E-002	7.62E-005
PU239	7.74E+001	4.80E+000	1.12E+000	9.20E-004
PU240	7.18E+000	1.63E+000	3.81E-001	3.12E-004
AM241	7.10E+000	2.44E+001	5.70E+000	4.67E-003
PU241	1.76E-001	1.82E+001	4.25E+000	3.48E-003
PU242	6.04E-002	2.39E-004	5.58E-005	0.00E+000
CO60	3.73E-010	4.22E-007	9.88E-008	1.72E-007
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.37E-006
U233	<LLD	<LLD	0.00E+000	2.23E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	7.38E-006
U238	<LLD	<LLD	0.00E+000	6.72E-005
AM243	8.96E-003	1.79E-003	3.65E-004	3.34E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-17-14

ITR: _____ Date: 6/17/14

011
6/24/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	16899	Batch Number:	2LANDA1258
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	69258	Analysis Date:	1/27/2014

Net Weight	162000.0 g		
Pu mass	8.49E+001	+- 1.99E+001	g
TRU Alpha Activity	8.15E+000	+- 1.23E+000	Ci
TRU Activity Concentration	5.03E+004	+- 7.59E+003	nCi/g
Pu-239 Equivalent Activity	8.47E+000	+- 1.23E+000	Ci
Pu-239 FGE	7.80E+001	+- 1.81E+001	g
Decay heat	2.58E-001	+- 3.85E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	3.95E-001	2.79E-004	5.65E-005	5.27E-006
PU238	2.32E-002	3.97E-001	9.30E-002	7.62E-005
PU239	7.74E+001	4.80E+000	1.12E+000	9.20E-004
PU240	7.18E+000	1.63E+000	3.81E-001	3.12E-004
AM241	3.84E-001	1.32E+000	3.08E-001	2.52E-004
PU241	1.76E-001	1.82E+001	4.25E+000	3.48E-003
PU242	6.04E-002	2.39E-004	5.58E-005	0.00E+000
CO60	3.73E-010	4.22E-007	9.88E-008	1.72E-007
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.37E-006
U233	<LLD	<LLD	0.00E+000	2.23E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	7.38E-006
U238	<LLD	<LLD	0.00E+000	6.72E-005
AM243	8.96E-003	1.79E-003	3.65E-004	3.34E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.31.14

ITR: _____ Date: 1.31.14

SUPERSEDED 5/6/14

011A

Automated Independent Technical Review

Count Sequence Number: 16899 Batch Number: 2LANDA1258
Counter ID: HENC #2
Container ID: 69258
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 1/27/2014

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate. Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-53.

012
CJ 6/24/14

WDS WCA/WCO CERTIFICATION PACKAGE

CH-LANL – August 19, 2014

GEN9

(This package is for Audit Purposes Only)

S5000 – LA-MHD01.001

LASB02160 – SWB with 2 55-gallon containers

1. Container Information Summary (CIS) – CCP Correlation of Container Identification Numbers to Batch Data Report Numbers
2. NCR/CAR Check
3. AK Summary Report to obtain vent/closure date
4. Build Sheet for LASB02085
5. Waste Container Data Report from WDS

LA00000093229

Container LA00000093229 package which includes the following:

a. Spreadsheet
b. Waste Container Data Report from WDS
c. Rad Survey
d. RTR Data
e. NDA Data
f. Flam Gas Data and Filter

LA00000083713

Container LA00000083713 package which includes the following:

a. Spreadsheet
b. Waste Container Data Report from WDS
c. Rad Survey
d. RTR Data
e. NDA Data
f. Flam Gas Data and Filter

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001

Lot # 375

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Transportation Headspace Gas BDR			
								Sample	Analysis		
53464	LA00000053464	LANDA0178	LA-RTR2-05-0125	N/A	N/A	N/A		LA13FG2045	LAHSGS070010	N/A	N/A
66855	LA00000066855	2LANDA1113	LA-RTR2-13-0037	N/A	N/A	N/A		LA13FG2044	N/A	N/A	N/A
66857	LA00000066857	2LANDA1113	LA-RTR2-13-0037	N/A	N/A	N/A		LA13FG2044	N/A	N/A	N/A
66876	LA00000066876	2LANDA1112	LA-RTR2-13-0036	N/A	N/A	N/A		LA13FG2044	N/A	N/A	N/A
66877	LA00000066877	2LANDA1118	LA-RTR2-13-0039	N/A	N/A	N/A		LA13FG2044	N/A	N/A	N/A
66940	LA00000066940	2LANDA1112	LA-RTR2-13-0036	N/A	N/A	N/A		LA13FG2044	N/A	N/A	N/A
66947	LA00000066947	1LANDA1747	LA-RTR2-13-0053	N/A	N/A	N/A		LA13FG2044	N/A	N/A	N/A
66977	LA00000066977	1LANDA1747	LA-RTR2-13-0053	N/A	N/A	N/A		LA13FG2044	N/A	N/A	N/A
92332	LA00000092332	2LANDA1131	LA-HERTR-13-0037	N/A	N/A	N/A		LA13FG2045	N/A	N/A	N/A
92395	LA00000092395	1LANDA1745	LA-RTR2-13-0049	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
~~92402~~	~~LA00000092402~~	~~1LANDA1743~~	~~LA-RTR2-13-0047~~	~~N/A~~	~~N/A~~	~~N/A~~	~~Yes~~	~~LA13FG2045~~	~~N/A~~	~~N/A~~	~~N/A~~
92426	LA00000092426	1LANDA1743	LA-RTR2-13-0047	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
92440	LA00000092440	1LANDA1745	LA-RTR2-13-0049	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
92442	LA00000092442	1LANDA1745	LA-RTR2-13-0048	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
92443	LA00000092443	1LANDA1745	LA-RTR2-13-0049	N/A	N/A	N/A		LA13FG2044	N/A	N/A	N/A
92513	LA00000092513	1LANDA1743	LA-RTR2-13-0047	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
92532	LA00000092532	1LANDA1745	LA-RTR2-13-0048	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
92536	LA00000092536	2LANDA1134	LA-RTR2-13-0050	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
92618	LA00000092618	2LANDA1115	LA-RTR2-13-0040	N/A	N/A	N/A		LA13FG2044	N/A	N/A	N/A
92800	LA00000092800	1LANDA1747	LA-RTR2-13-0050	N/A	N/A	N/A		LA13FG2044	N/A	N/A	N/A
92874	LA00000092874	1LANDA1747	LA-RTR2-13-0048	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
92955	LA00000092955	1LANDA1744	LA-RTR2-13-0048	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
92957	LA00000092957	1LANDA1744	LA-RTR2-13-0047	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
92972	LA00000092972	1LANDA1744	LA-RTR2-13-0048	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
93014	LA00000093014	1LANDA1745	LA-RTR2-13-0049	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
93025	LA00000093025	1LANDA1746	LA-RTR2-13-0050	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
93060	LA00000093060	1LANDA1746	LA-RTR2-13-0050	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
93062	LA00000093062	1LANDA1746	LA-RTR2-13-0050	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
93123	LA00000093123	2LANDA1131	LA-HERTR-13-0037	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
93175	LA00000093175	1LANDA1744	LA-RTR2-13-0047	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
93229	LA00000093229	2LANDA1132	LA-RTR2-13-0049	N/A	N/A	N/A	Yes	LA13FG2045	N/A	N/A	N/A
S804946	LAS804946	2LANDA1139	LA-RTR2-12-0113	N/A	N/A	N/A		LA13FG2043	N/A	N/A	N/A
S817484	LAS817484	2LANDA1105	LA-RTR2-13-0027	N/A	N/A	N/A	Yes	LA13FG2043	N/A	N/A	N/A

Jim Eastham
Signature of Site Project Manager

Jim Eastham
Printed Name

5/7/2013
Date

Roger Whitaker

ROGER WHITEAKER

11/6/2013

(1) FAILED FGGR RW 11/6/2013

C/S-2

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001

Lot # 414

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
54517	LA00000054517	LANDA0089	LA-RTR2-05-0044	N/A	No	LA13FG2126	N/A
63370	LA00000063370	1LANDA0915	LA-RTR2-08-0088	N/A	No	LA13FG2126	N/A
~~65661~~	~~LA00000065661~~	~~2LANDA0857~~	~~LA-RTR2-13-0136~~	~~N/A~~	~~No~~	~~LA11FG8100~~	~~N/A~~
66775	LA00000066775	1LANDA1647	LA-RTR2-12-0114	N/A	No	LA13FG2126	N/A
83467	LA00000083467	2LANDA0511	LA-RTR2-09-0173	N/A	Yes	LA13FG2126	N/A
83713	LA00000083713	2LANDA0520	N/A	LAVE500275	No	LA13FG2126	N/A
83715	LA00000083715	2LANDA0520	N/A	LAVE500275	No	LA13FG2126	N/A
83725	LA00000083725	2LANDA0521	N/A	LAVE500276	No	LA13FG2126	N/A
83733	LA00000083733	2LANDA0521	N/A	LAVE500277	No	LA13FG2126	N/A
85017	LA00000085017	1LANDA1216	LA-RTR2-10-0044	N/A	No	LA13FG2126	N/A
86452	LA00000086452	2LANDA0640	N/A	LAVE500392	No	LA13FG2126	N/A
86469	LA00000086469	2LANDA0640	N/A	LAVE500393	No	LA13FG2126	N/A
89289	LA00000089289	1LANDA1438	LA-RTR2-11-0088	N/A	No	LA13FG2126	N/A
92428	LA00000092428	1LANDA1744	LA-RTR2-13-0048	N/A	Yes	LA13FG2126	N/A

99F 1/2/14 Removed FROM LOT DUE TO NEW NDA BDR

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 12/19/2013 (Date)

Kirkes, Creta - NWP

From: Mueller, Terry - NWP
Sent: Thursday, May 09, 2013 9:53 AM
To: Dominguez, Lena - NWP; Pettus, Helen - NWP; Soaterna, Carolina - NWP; Valenzuela, Bobbie - NWP
Cc: Walker, Mak (Maryann) - NWP; Jones, Laura - NWP
Subject: FW: NCR/CAR Request LANL AK6 LA-MHD01.001 Lot 375
Attachments: NCR_BDR_CONTAINER_CHECK_LANL AK6 LA-MHD01.001 Lot 375.xls

There are no NCR or CAR dispositions that impact the acceptability of these containers, alternate container IDs, and associated BDRs for certification and shipping as listed on the attached. This check was verified independently.

Thanks!

TERRY L. MUELLER
Assurance Programs
MS GS-103
work (575)-234-7016
fax (575)-234-7042

Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA
Contractor to the Department of Energy

From: Dominguez, Lena - NWP
Sent: Thursday, May 09, 2013 9:36 AM
To: Mueller, Terry - NWP; Jones, Laura - NWP; Walker, Mak (Maryann) - NWP; Kantrowitz, Rich - NWP; Gomez, Chris - NWP; Klingler, Larry - NWP
Subject: NCR/CAR Request LANL AK6 LA-MHD01.001 Lot 375

Please do an NCR/CAR check for LANL AK6 LA-MHD01.001 Lot 375.

Thanks,

Lena Dominguez
Central Characterization Project
Nuclear Waste Partnership LLC
Contractor for the U. S. Department of Energy
575-234-7537

Thursday, August 21, 2014

CONTAINERID: 83713

LANL

AK DATA

Container ID	Container Type	AKA Matrix	WDS Status	AK Excluded	WSID	LOTID	LOT Excluded
83713	55G	LA00000083713	RECEIVED_SHIP	NO	LA-MHD01.001	LA-MHD01.001-Lot 414 (LA-MHD01.001-Lot 414)	

BDR DATA

BDRID	Type	Status	Generation Date
2LANDA0520	NDA	Complete	2009-12-14
LA13FG2126	HSG_TRANS	Complete	2013-12-10
LAVE500275	VE	Complete	2009-12-03

NCR DATA

Container ID	NCRID	Status	Release Code
83713	NO DATA		

REJECT DATA

Container ID	BDRID	NCRID	NCR Status	Release Code	Actual Condition
83713	NO DATA				

1of1
~~2of3~~ CK 8/21/14

Vent & Closure Dates from AK Tracking Spreadsheet - SWB LASB02160

Container ID	Vent Date	Closure Date
LA00000093229	3/12/2013	3/12/2013
LA00000083713	12/3/2009	12/3/2009

Generated: 8/19/14 3:02 PM

Overpack Container #: LASB02160

Overpack Gross Weight + Error

503.52 kg

1,110.25 lbs

Overpack Governing Shipping Period (days): 20

Overpack Container Filters

Filter Model	Quantity
NF019D	2

Inner Containers

Container Number	GrossWgt+Err (kg)	(lbs)	PCB Waste?	Be Present?	Total Dose Rate (mrem/hr)	TRUCON Code	Waste Stream Profile	Filter Model	Qty
LA00000093229	85.30	188.09	N	Y	14.60	LA225C	LA-MHD01.001	NF019D	1
LA00000083713	60.30	132.96	N	Y	1.60	LA225D	LA-MHD01.001	NF019D	1

Waste Isolation Pilot Plant
Overpack Data Report

Report Statistics

Report Version:	**2.3**
WDS Instance:	**prd05.wipp.carlsbad.nm.us**
Generated on:	**August 19, 2014 03:03 PM**
Generated by:	**KIRKES, CRETA**
Total Pages:	**7**

Selection Criteria

Container Number:	**LASB02160**

Container: LASB02160
Type: 14 - SWB OP

Extended Status: APPROVED CERT RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 01/17/2014
Waste Handling Code: CH
Disposal Date:

Current Location Site: WI
Generator Site: LA
Destination Site ID: WI

Certification Program ID: C4
Shipping Program ID: C4

Neutron Dose Rate (mrem/hr): 0.6
Beta Gamma Dose Rate (mrem/hr): 1.5
Total Dose Rate (mrem/hr): 2.1

FGE (g): 1.927E02
FGE Uncertainty (g): 2.17E01

Gross Weight (kg): 488.50
Gross Weight Uncert (kg): 15.02

Decay Heat (W): 6.689E-01
Decay Heat Uncertainty (W): 4.82E-02

Shipment Data

Payload ID: **LA3610** Assembly ID: LA139927 Payload Complete? Y
Shipment Number: LA140019 Send Date: 01/31/2014 Receipt Date: 02/01/2014
Shipment Status: SHIPMENT RECEIVED AT DESTINATION

Certification Data Values

Waste Stream Profile Code: LA-MHD01.001
Waste Type Code: MTRU
IDC Code: NONE
Waste Matrix Code: S5400
WAC Revision Number: 7.4
Fill Factor (%): 17.31

Transportation Data Values

Closure Date: 01/16/2014
Vent Date: 01/16/2014
Shipment Purpose: DISPOSAL
Machine Compacted? N

TRU Alpha Activity (Ci): 2.106E01
TRU Alpha Activity Uncertainty (Ci): 1.54E00
TRU Alpha Activity Concentration (Ci/g): 2.808E-04
PU-239 Equivalent Activity (PE-Ci): 2.136E01
Alpha Surface Contamination (dpm/cm^2): 19.0
Beta/Gamma Surface Contamination (dpm/cm^2): 199.0

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date

Container: LASB02160
Type: 14 - SWB OP

Extended Status: APPROVED CERT RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 01/17/2014
Waste Handling Code: CH
Disposal Date:

PCB Waste? N
PCB Mass (kg):
PCB Concentration (ppm):
PCB Out of Service Date:
Be Present? Y
Be <= 1% by weight? Y

Separation OK?
Governing Packing Fraction (compaction level): non-compacted

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date
NF019D	1.85E-05	2	01/16/2014

Certification Comments

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
AM-241	5.146E00	5.860E-01	1.483E00	1.723E-01
AM-243	9.108E-05	7.929E-06	4.508E-04	3.925E-05
CS-137	2.325E-07	2.317E-08	2.650E-09	2.641E-10
NP-237	5.290E-05	6.770E-06	7.420E-02	9.689E-03
PU-238	5.962E-01	6.780E-02	3.446E-02	3.999E-03
PU-239	1.204E01	1.370E00	1.914E02	2.223E01
PU-240	3.290E00	3.740E-01	1.430E01	1.659E00
PU-241	1.900E01	2.150E00	1.827E-01	2.110E-02
PU-242	3.266E-04	3.710E-05	8.226E-02	9.536E-03
SR-90	2.325E-07	2.317E-08	1.684E-09	1.679E-10
U-233	.000E00	.000E00	.000E00	.000E00

Container: LASB02160
Type: 14 - SWB OP

Extended Status: APPROVED CERT RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 01/17/2014

Waste Handling Code: CH
Disposal Date:

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
U-234	.000E00	.000E00	.000E00	.000E00
U-235	.000E00	.000E00	.000E00	.000E00
U-238	.000E00	.000E00	.000E00	.000E00

Material Parameters

Material Parameter	Description	Weight (kg)
1	IRON BASE METAL ALLOYS	68.80
3	OTHER METAL/ALLOYS	12.10
4	OTHER INORGANIC MATERIALS	6.70
6	CELLULOSICS	11.70
7	RUBBER	7.50
8	PLASTICS	10.90
9	SOLIDIFIED INORGANIC MATERIAL	23.70
13	STEEL CONTAINER MATERIALS	347.50
	Waste Weight:	141.40
	Packaging Weight:	347.50
	Total Material Weight:	488.90

Hazardous Codes

Hazardous Code	Description
D004	ARSENIC
D005	BARIUM

Container: LASB02160
Type: 14 - SWB OP

Extended Status: APPROVED CERT RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 01/17/2014

Waste Handling Code: CH
Disposal Date:

Hazardous Codes

Hazardous Code	Description
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D018	BENZENE
D019	CARBON TETRACHLORIDE
D021	CHLOROBENZENE
D022	CHLOROFORM
D035	METHYL ETHYL KETONE
D038	PYRIDINE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
F001	SPENT HALOGENATED SOLVENTS
F002	SPENT HALOGENATED SOLVENTS
F005	SPENT NON-HALOGENATED SOLVENTS

Container: LASB02160
Type: 14 - SWB OP

Extended Status: APPROVED CERT RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 01/17/2014
Waste Handling Code: CH
Disposal Date:

Edit Limit Check Results

Evaluation Date: 01/17/2014 15:17:13 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
DI_CERT_ALL	PASS		
DI_CERT_BE	PASS		
DI_CERT_CERT	PASS		
DI_CERT_CHARZ	PASS		
DI_CERT_ED	PASS		
DI_CERT_EPA	PASS		
DI_CERT_PCB	PASS		
DI_CERT_PERC	PASS		
DI_CERT_TRAMPAC	PASS		
DSA	PASS		
WAC	PASS		
WAP_CERT	PASS		

TRAMPAC Evaluation Results

Evaluation Date: 01/17/2014 15:17:15 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
OP_ACT	PASS	OP_GVE_MIX	Overpack has inner containers with mixed shipping categories - assignment of governing decay heat limit, FGGR limit, and shipping category is not applicable.
OP_ALL	PASS		
OP_CFG	PASS		
OP_DDH	PASS		
OP_FGE	PASS		
OP_FIL	PASS		
OP_GVE	PASS		
OP_RDR	PASS		
OP_SHIP			

Container: LASB02160
Type: 14 - SWB OP

Extended Status: APPROVED CERT RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 01/17/2014
Waste Handling Code: CH
Disposal Date:

TRAMPAC Evaluation Results

Evaluation Date: 01/17/2014 15:17:15 Overall Status: PASS

Evaluation Code	Status
OP_TGRR	PASS
OP_WGT	PASS

Inner Containers

Container Number	Type Code	TRUCON Code	Shipping Category	Shipping Period	Gross Weight + Error	FGE + 2x Error	Waste Stream
LA00000083713	16 - 55 gal TBO	LA225D	3003400044	20	60.30	8.896E-1	LA-MHD01.001
LA00000093229	16 - 55 gal TBO	LA225C	3001090047	20	85.30	2.354E2	LA-MHD01.001

History

Event Date/Time	Event Description	Reason
12/31/2013 10:34:14	INSERT DATA INTO THE DATABASE	
01/17/2014 15:17:16	SUCCESSFUL SUBMISSION FOR CERT	
01/17/2014 15:17:53	APPROVED FOR CERT	
01/22/2014 10:48:58	ASSIGNED TO PAYLOAD	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	WDS Master Template.xls Rev. 8 Addendum #8, SCO #1065 Excel 2003/2007 Microsoft Windows XP	Units	data	comments									initial	date
2	Shipper Site ID		C4	Location ID	Dest Program ID	Shipping Purpose				LA00000093229			LD/BV	05/09/13
3	Waste Stream Profile		LA-MHD01.001	LA	WI	D							LD/BV	05/09/13
4	Container Number		LA00000093229										LD/BV	05/09/13
5	Container Type		tbo good	drum, swb, tdop, etc., see WWIS labels for valid types.					U-235 FEM	U-235 FEM Uncert	FGGR Flag	FGGR Test Period	LD/BV	05/09/13
6	WAC Rev #		7.4						NULL	NULL	NULL	NULL	LD/BV	05/09/13
7	[redacted]							Be mass<=100 kg	Be <= 1%	Be Present	Aqueous Material	Compacted Wst		
8	Cert Site		C4	HP 5/15/13				Y	Y	Y	N	N	LD/BV	05/09/13
9	Cert Date		5/13/13											
10	Waste Handling Code		CH	CH, RH									LD/BV	05/09/13
11	Waste Type Code		MTRU	TRU, MTRU									LD/BV	05/09/13
12	Waste Stream BIR ID		LA-MHD01.001										LD/BV	05/09/13
13	Waste Stream MWIR ID		NONE										LD/BV	05/09/13
14	Generator Site ID		LA										LD/BV	05/09/13
15	IDC Code		NONE										LD/BV	05/09/13
16	Matrix Code		S5400										LD/BV	05/09/13
17	Trucon Code		LA225C	Invalid Ship Cat									LD/BV	05/09/13
18	Shipping Category		30010900471	> 0.012 Watt-years										
19	Tru Alpha Act	Ci	2.10E+01	2.102E+01									LD/BV	05/09/13
20	Tru Alpha Act Uncert	1sigma Ci	1.54E+00	2.408E+01	Tru Alpha Act + 2sigma (Ci)								LD/BV	05/09/13
21	Tru Alpha Act Conc	nCi/g	4.24E+05	4.24E+05									LD/BV	05/09/13
22	[redacted]		3.10E+04	4.860E+05	Tru Alpha Act Conc + 2sigma (Ci)			Drum Weight	27.7				LD/BV	05/09/13
23	Pu239 Fiss Gm Eq	g	1.92E+02	1.915E+02				[redacted]					LD/BV	05/09/13
24	Pu239 Fiss Gm Eq Uncert	1sigma g	2.17E+01	2.354E+02	Pu239 Fiss Gm Eq + 2sigma (Ci)								LD/BV	05/09/13
25	Pu239 Eq Act	Ci	2.13E+01	2.133E+01									LD/BV	05/09/13
26	Decay Heat	watts	6.67E-01	6.663E-01									LD/BV	05/09/13
27	Decay Heat Uncert	1sigma watts	4.82E-02	7.15E-01	Decay Heat + 1sigma (watts)								LD/BV	05/09/13
28	Layers of Packaging		1										LD/BV	05/09/13
29	Fill Factor		65	percentage	Liner Lid Present								LD/BV	05/09/13
30	Liner Type			1 = plastic drum liner									LD/BV	05/09/13
31	Liner Punctured				Liner Hole Size								LD/BV	05/09/13
32	PCB Conc		NULL		(mm)		PCB Waste	PCB Mass (kg)	Out of Service				LD/BV	05/09/13
33	Closure Date		3/12/2013	Watt-years	Waste Gen Date		N	NULL	NULL				LD/BV	05/09/13
34	Vent Date		3/12/2013	0.106	NULL								LD/BV	05/09/13
35	Filter Install Date		3/12/2013				Filter Reduction Date	NULL					LD/BV	05/09/13
36	Filter Manufacturer		NFT				Reduced Filter Model	NULL					LD/BV	05/09/13
37	[redacted]												LD/BV	05/09/13
38	Filter Model Number		NF019D										LD/BV	05/09/13
39	Number of Filters Installed		1										LD/BV	05/09/13
40	Aspiration Method ID		3										LD/BV	05/09/13
41	Gas Gen Rate			#VALUE!	<<Gas Gen Rate Calculated.									
42	Hydrogen/Methane Gen Rate													
43	Gas Gen Comp Date				Waste (kg)	Packaging (kg)	Total (kg)							
44	Gross Weight	kg	83		49.6	33.4	83.0						LD/BV	05/09/13
45	Gross Weight Uncert	1sigma kg	2.3										LD/BV	05/09/13
46	Alpha Surf Cont	dpm/100 cm^2	19										LD/BV	05/09/13
47	Beta/Gamma Surf Cont	dpm/100 cm^2	199										LD/BV	05/09/13
48	Neutron Dose Rate	mrem/hr	4.6										LD/BV	05/09/13
49	Beta/Gamma Dose Rate	mrem/hr	10										LD/BV	05/09/13
50	Radionuclide		NP-237	PU-238	PU-239	PU-240	AM-241	PU-241	PU-242	SR-90	CS-137	U-233	LD/BV	05/09/13
51	Activity	Ci	5.23E-05	5.95E-01	1.20E+01	3.28E+00	5.14E+00	1.89E+01	3.26E-04	-1.00E+00	-1.00E+00	-1.00E+00	LD/BV	05/09/13
52	Activity Uncert	1sigma Ci	6.77E-06	6.78E-02	1.37E+00	3.74E-01	5.86E-01	2.15E+00	3.71E-05	-1.00E+00	-1.00E+00	-1.00E+00	LD/BV	05/09/13
53	Mass	grams	7.34E-02	3.44E-02	1.91E+02	1.43E+01	1.48E+00	1.82E-01	6.21E-02	-1.00E+00	-1.00E+00	-1.00E+00		
54	Mass Uncert	1sigma grams	9.69E-03	4.00E-03	2.22E+01	1.66E+00	1.72E-01	2.11E-02	9.54E-03	-1.00E+00	-1.00E+00	-1.00E+00		
55	calc Tru Alpha Act	Ci	5.23E-05	5.95E-01	1.20E+01	3.28E+00	5.14E+00	0.00E+00	3.26E-04	0.00E+00	0.00E+00	0.00E+00		
56	calc Tru Alpha Act Conc	nCi/g	1.05E+00	1.20E+04	2.42E+05	6.61E+04	1.04E+05	0.00E+00	6.57E+00	0.00E+00	0.00E+00	0.00E+00		
57	calc Act	Ci	5.23E-05	5.95E-01	1.20E+01	3.28E+00	5.14E+00	1.89E+01	3.26E-04	0.00E+00	0.00E+00	0.00E+00		
58	calc Act Conc	nCi/g	1.05E+00	1.20E+04	2.42E+05	6.61E+04	1.04E+05	3.81E+05	6.57E+00	0.00E+00	0.00E+00	0.00E+00		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
59	calc Pu239 FGE	g	1.10E-03	3.89E-03	1.91E+02	3.21E-01	2.77E-02	4.09E-01	6.16E-04	0.00E+00	0.00E+00	0.00E+00		
60	calc Pu239 Eq Act	Ci	5.23E-05	5.41E-01	1.20E+01	3.28E+00	5.14E+00	3.71E-01	2.96E-04	0.00E+00	0.00E+00	0.00E+00		
61	calc Decay Heat	watts	1.53E-06	1.97E-02	3.72E-01	1.02E-01	1.72E-01	6.02E-04	9.61E-06	0.00E+00	0.00E+00	0.00E+00		
62	uncert Tru Alpha Act	Ci	6.91E-06	6.92E-02	1.40E+00	3.82E-01	5.98E-01	0.00E+00	3.79E-05	0.00E+00	0.00E+00	0.00E+00		
63	uncert Tru Alpha Act Conc	nCi/g	1.39E-01	1.39E+03	2.82E+04	7.69E+03	1.21E+04	0.00E+00	7.63E-01	0.00E+00	0.00E+00	0.00E+00		
64	uncert Act	Ci	6.91E-06	6.92E-02	1.40E+00	3.82E-01	5.98E-01	2.19E+00	3.79E-05	0.00E+00	0.00E+00	0.00E+00		
65	uncert Act Conc	nCi/g	1.39E-01	1.39E+03	2.82E+04	7.69E+03	1.21E+04	4.42E+04	7.63E-01	0.00E+00	0.00E+00	0.00E+00		
66	uncert Pu239 FGE	g	1.45E-04	4.52E-04	2.22E+01	3.73E-02	3.22E-03	4.75E-02	7.15E-05	0.00E+00	0.00E+00	0.00E+00		
67	uncert Pu239 Eq Act	Ci	6.77E-06	6.16E-02	1.37E+00	3.74E-01	5.86E-01	4.22E-02	3.37E-05	0.00E+00	0.00E+00	0.00E+00		
68	uncert Decay Heat	watts	2.02E-07	2.29E-03	4.33E-02	1.19E-02	2.00E-02	6.98E-05	1.12E-06	0.00E+00	0.00E+00	0.00E+00		
69	Shipping Calcs	3.95E+03	9.67E-03	1.10E+02	2.22E+03	6.06E+02	9.50E+02	7.00E+01	6.03E-02	0.00E+00	0.00E+00	0.00E+00		
70	49CFR173.433f		0.00%	2.78%	56.09%	15.33%	24.03%	1.77%	0.00%	0.00%	0.00%	0.00%		
71	Radionuclide		U-234	U-235	U-238								LD/BV	05/09/13
72	Activity	Ci	-1.00E+00	0.00E+00	-1.00E+00								LD/BV	05/09/13
73	Activity Uncert	1sigma Ci	-1.00E+00	0.00E+00	-1.00E+00								LD/BV	05/09/13
74	Mass	grams	-1.00E+00	0.00E+00	-1.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
75	Mass Uncert	1sigma grams	-1.00E+00	0.00E+00	-1.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
76	calc Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
77	calc Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
78	calc Act	Ci	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
79	calc Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
80	calc Pu239 FGE	g	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
81	calc Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
82	calc Decay Heat	watts	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
83	uncert Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
84	uncert Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
85	uncert Act	Ci	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
86	uncert Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
87	uncert Pu239 FGE	g	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
88	uncert Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
89	uncert Decay Heat	watts	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
90	Shipping Calcs		0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
91	49CFR173.433f		0.00%	0.00%	0.00%	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
92	Waste Material Parameter		IM	OM	OI	R	PW	IS	PP	CP			LD/BV	05/09/13
93	Wgt of Mat Parms	kg	8.1	4.1	6.7	5	2	23.7	2	3.7			LD/BV	05/09/13
94	Radio Assay Method		11HC2	PAN, FRAM, TGS, HENC									LD/BV	05/09/13
95	Data Package Number		2LANDA1132										LD/BV	05/09/13
96	Assay Date		4/4/2013										LD/BV	05/09/13
97	Charz Method ID		11RR2	RTRM, VISUAL									LD/BV	05/09/13
98	Data Package Number		LA-RTR2-13-0049										LD/BV	05/09/13
99	Charz Method Date		4/3/2013										LD/BV	05/09/13
100	Haz Codes		F001	F002	F005	D004	D005	D006	D007	D008	D009	D010	LD/BV	05/09/13
101	Haz Codes		D011	D018	D019	D021	D022	D035	D038	D039	D040		LD/BV	05/09/13
102	Haz Codes													
103	Haz Codes													
104	Sample ID	Headspace Gas H/M	H-LA00000093229										LD/BV	05/09/13
105	Sample Type		HGHM-T	HGHM									LD/BV	05/09/13
106	Layer No. Sampled		0		730.4								LD/BV	05/09/13
107	Date Sampled		4/26/2013			Sample Site							LD/BV	05/09/13
108	Method ID		11HG2	DTP-1.2-041		C4							LD/BV	05/09/13
109	Data Package Number		LA13FG2045										LD/BV	05/09/13
110	CAS #		1333-74-0	74-82-8										
111	Analyte		HYDROGEN	METHANE									LD/BV	05/09/13
112	Concentration				588.26	142.14							LD/BV	05/09/13
113	units	%vol			PPMV	PPMV							LD/BV	05/09/13
114	Date Analyzed		04/26/13	4/26/2013		2.5%= 14.71							LD/BV	05/09/13
115	B Detectable Flag													
116	D Detectable Flag													
117	E Detectable Flag													
118	J Detectable Flag													
119	U Detectable Flag			U									LD/BV	05/09/13
120	NA Detectable Flag		NA											
121	Methanol Sample ID		11HG2											
122	Sample ID	Headspace Gas VOC	LA00000093229										LD/BV	05/09/13
123	Sample Type		HGVO-T	HGVO									LD/BV	05/09/13
124	Layer No. Sampled		0			SARP-Flammable VOCs (ppmv)		61.585					LD/BV	05/09/13
125	Date Sampled		4/26/2013										LD/BV	05/09/13
126	Method ID		11HG2	DTP-1.2-041									LD/BV	05/09/13
127	Data Package Number		LA13FG2045										LD/BV	05/09/13

14.71 5/13/13 CH

WDS Master Template.xls Rev. 8
Addendum #8, SCO #1065
Excel 2003/2007 Microsoft
Windows XP

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
128														
129	CAS #		67-56-1	60-29-7	75-35-4	67-64-1	75-34-3	156-59-2	78-93-3	110-82-7			LD/BV	05/09/13
130	Analyte		Methanol	Ethyl ether	1,1-Dichloroethylene	Acetone	1,1-Dichloroethane	cis-1,2-Dichloroethylene	Methyl ethyl ketone	Cyclohexane				
131	Concentration		35.23	0.96	6.38	18.08	4.08	0.76	11.73	5.10			LD/BV	05/09/13
132	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			LD/BV	05/09/13
133	Date Analyzed		4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013			LD/BV	05/09/13
134	B Detectable Flag													
135	D Detectable Flag													
136	E Detectable Flag													
137	J Detectable Flag													
138	U Detectable Flag		U	U	U	U	U	U	U	U			LD/BV	05/09/13
139	NA Detectable Flag													
140	SARP-Flammable Calc		17.615	0.48	3.19	9.04	2.04	0.38	5.865	2.55				
141	CAS #		71-43-2	107-06-2	71-36-3	108-10-1	108-88-3	108-90-7	100-41-4	108383/106423			LD/BV	05/09/13
142	Analyte		Benzene	1,2-Dichloroethane	Butanol	Methyl isobutyl ketone	Toluene	Chlorobenzene	Ethyl benzene	m-Xylene/p-Xylene				
143	Concentration		1.77	3.66	1.84	9.82	8.02	4.10	3.57	1.92			LD/BV	05/09/13
144	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			LD/BV	05/09/13
145	Date Analyzed		4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013			LD/BV	05/09/13
146	B Detectable Flag													
147	D Detectable Flag													
148	E Detectable Flag													
149	J Detectable Flag													
150	U Detectable Flag		U	U	U	U	U	U	U	U			LD/BV	05/09/13
151	NA Detectable Flag													
152	SARP-Flammable Calc		0.885	1.83	0.92	4.91	4.01	2.05	1.785	0.96				
153	CAS #		95-47-6	108-67-8	95-63-6								LD/BV	05/09/13
154	Analyte		o-Xylene	1,3,5-Trimethylbenzen	1,2,4-Trimethylbenzen	NULL	NULL	NULL	NULL	NULL				
155	Concentration		2.10	1.96	2.13								LD/BV	05/09/13
156	units	ppmv	ppmv	ppmv	ppmv								LD/BV	05/09/13
157	Date Analyzed		4/26/2013	4/26/2013	4/26/2013	NULL	NULL	NULL	NULL	NULL			LD/BV	05/09/13
158	B Detectable Flag													
159	D Detectable Flag													
160	E Detectable Flag													
161	J Detectable Flag													
162	U Detectable Flag		U	U	U								LD/BV	05/09/13
163	NA Detectable Flag					NA	NA	NA	NA	NA				
164	SARP-Flammable Calc		1.05	0.98	1.065	NULL	NULL	NULL	NULL	NULL				
165	CAS #													
166	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
167	Concentration													
168	units	ppmv												
169	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
170	B Detectable Flag													
171	D Detectable Flag													
172	E Detectable Flag													
173	J Detectable Flag													
174	U Detectable Flag													
175	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA				
176	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
177	CAS #													
178	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
179	Concentration													
180	units	ppmv												
181	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
182	B Detectable Flag													
183	D Detectable Flag													
184	E Detectable Flag										WDS Master Template.xls Rev. 8			
185	J Detectable Flag										Addendum #8, SCO #1065			
186	U Detectable Flag										Excel 2003/2007 Microsoft			
187	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA	Windows XP			
188	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
189			type	comment										
190	Comment												LD/BV	05/09/13
191	Comment													
192	Comment													
193	Comment													
194	Comment													
195	Comment													
196	Comment													
197	Comment													
198	Comment													
199	Comment													
200														
201			Requirements Met?											
202	Free liquids <1% by volume		YES											
203	No non-rad. pyrophorics		YES											
204	Chemical compatability		YES											
205	No explosives		YES											
206	No corrosives		YES											
207	No pressurized containers		YES											
208	No sealed Containers >4 liters		YES											
209	Liner punctured/ filtered		YES											
210	Flammable VOCs <500ppmv		Yes											
211	Container is in Approved Waste Stream Profile Form?	LA-MHD01.001	YES											
212	Can it be established through Process Knowledge that the concentration of flammable VOCs present in the headspace of the container is <= 500 ppm?.		NO											
213														
214														
215														
216														
217														
218														
219														
220														
221														
222														
223														
224														
225														
226														
227														
228														
229														
230														
231														
232														
233														
234														
235														

C Hernandez
CCP Certification Official

5/14/13
Date

WDS Master Template.xls Rev. 8
Addendum #8, SCO #1065
Excel 2003/2007 Microsoft Windows XP

Waste Isolation Pilot Plant
Container Data Report

Report Statistics

Report Version:	**2.3**
WDS Instance:	**prd05.wipp.carlsbad.nm.us**
Generated on:	**August 19, 2014 03:13 PM**
Generated by:	**KIRKES, CRETA**
Total Pages:	**9**

Selection Criteria

Container Number:	**LA00000093229**

Container: LA00000093229
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 05/14/2013
Waste Handling Code: CH
Disposal Date:

Current Location Site: WI
Generator Site: LA
Destination Site ID: WI

Certification Program ID: C4
Shipping Program ID: C4

Neutron Dose Rate (mrem/hr): 4.6
Beta Gamma Dose Rate (mrem/hr): 10.0
Total Dose Rate (mrem/hr): 14.6

FGE (g): 1.92E02
FGE Uncertainty (g): 2.17E01

Gross Weight (kg): 83.00
Gross Weight Uncert (kg): 2.30

Decay Heat (W): 6.67E-01
Decay Heat Uncertainty (W): 4.82E-02

Overpack Container: LASB02160
Overpack Type: STANDARD WASTE BOX
Overpack Status: CERTIFICATION DATA APPROVED

Shipment Data

Payload ID: **LA3610** Assembly ID: LA139927 Payload Complete? Y
Shipment Number: LA140019 Send Date: 01/31/2014 Receipt Date: 02/01/2014
Shipment Status: SHIPMENT RECEIVED AT DESTINATION

Certification Data Values

Waste Stream Profile Code: LA-MHD01.001
Waste Type Code: MTRU
IDC Code: NONE
Waste Matrix Code: S5400
WAC Revision Number: 7.4
Fill Factor (%): 65.00
Waste Stream BIR ID: LA-MHD01.001
Waste Stream MWIR ID: NONE

TRU Alpha Activity (Ci): 2.1E01
TRU Alpha Activity Uncertainty (Ci): 1.54E00
TRU Alpha Activity Concentration (Ci/g): 4.24E-04
PU-239 Equivalent Activity (PE-Ci): 2.13E01
Alpha Surface Contamination (dpm/cm^2): 19.0
Beta/Gamma Surface Contamination (dpm/cm^2): 199.0

Transportation Data Values

Closure Date: 03/12/2013
Vent Date: 03/12/2013
Process Knowledge? N

TRUCON Code: LA225C
Shipping Category: 3001090047
Aspiration Method: 3

Shipment Purpose: DISPOSAL
Machine Compacted? N
Liner Exists? N
Liner Hole Size(mm):
Liner Lid Present?
Layers of Packaging 1
Aqueous Material? N

Gas Generation Data Values

Measured FGGR (mol/s)	Measured TGRR (mol/s)	Truncated FGGR Test (Y/N)	Truncated FGGR Test Period (days)

Container: LA00000093229
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 05/14/2013
Waste Handling Code: CH
Disposal Date:

PCB Waste? N
PCB Mass (kg):
PCB Concentration (ppm):
PCB Out of Service Date:
Be Present? Y
Be <= 1% by weight? Y
Be mass <= 100kg? Y
Separation OK?
Packing Fraction (compaction level): non-compacted

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date
NF019D	1.85E-05	1	03/12/2013

Certification Comments

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
AM-241	5.140E00	5.860E-01	1.481E00	1.723E-01
CS-137	<LLD	<LLD	<LLD	<LLD
NP-237	5.230E-05	6.770E-06	7.335E-02	9.689E-03
PU-238	5.950E-01	6.780E-02	3.439E-02	3.999E-03
PU-239	1.200E01	1.370E00	1.908E02	2.223E01
PU-240	3.280E00	3.740E-01	1.426E01	1.659E00
PU-241	1.890E01	2.150E00	1.817E-01	2.109E-02
PU-242	3.260E-04	3.710E-05	8.212E-02	9.536E-03
SR-90	<LLD	<LLD	<LLD	<LLD
U-233	<LLD	<LLD	<LLD	<LLD
U-234	<LLD	<LLD	<LLD	<LLD
U-235	.000E00	.000E00	.000E00	.000E00

Container: LA00000093229
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 05/14/2013
Waste Handling Code: CH
Disposal Date:

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
U-238	<LLD	<LLD	<LLD	<LLD

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	H-LA00000093229	HGHM-T	HEADSPACE GAS HYDROGEN AND METHANE	04/26/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
1333-74-0	HYDROGEN	588.26	04/26/2013	11HG2	NA
74-82-8	METHANE	14.71	04/26/2013	11HG2	U

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000093229	HGVO-T	HEADSPACE GAS VOC	04/26/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
100-41-4	ETHYL BENZENE	3.57	04/26/2013	11HG2	U
107-06-2	1,2-DICHLOROETHANE	3.66	04/26/2013	11HG2	U
108-10-1	METHYL ISOBUTYL KETONE	9.82	04/26/2013	11HG2	U
108-67-8	1,3,5-TRIMETHYLBENZENE	1.96	04/26/2013	11HG2	U
108-88-3	TOLUENE	8.02	04/26/2013	11HG2	U
108-90-7	CHLOROBENZENE	4.1	04/26/2013	11HG2	U
108383/106423	M,P-XYLENE	1.92	04/26/2013	11HG2	U

Container: LA00000093229
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 05/14/2013
Waste Handling Code: CH
Disposal Date:

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000093229	HGVO-T	HEADSPACE GAS VOC	04/26/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
110-82-7	CYCLOHEXANE	5.1	04/26/2013	11HG2	U
156-59-2	CIS-1,2-DICHLOROETHYLENE	0.76	04/26/2013	11HG2	U
60-29-7	ETHYL ETHER	0.96	04/26/2013	11HG2	U
67-56-1	METHANOL	35.23	04/26/2013	11HG2	U
67-64-1	ACETONE	18.08	04/26/2013	11HG2	U
71-36-3	BUTANOL	1.84	04/26/2013	11HG2	U
71-43-2	BENZENE	1.77	04/26/2013	11HG2	U
75-34-3	1,1-DICHLOROETHANE	4.08	04/26/2013	11HG2	U
75-35-4	1,1-DICHLOROETHYLENE	6.38	04/26/2013	11HG2	U
78-93-3	METHYL ETHYL KETONE	11.73	04/26/2013	11HG2	U
95-47-6	O-XYLENE	2.1	04/26/2013	11HG2	U
95-63-6	1,2,4-TRIMETHYLBENZENE	2.13	04/26/2013	11HG2	U

Material Parameters

Material Parameter	Description	Weight (kg)
1	IRON BASE METAL ALLOYS	8.10
3	OTHER METAL/ALLOYS	4.10
4	OTHER INORGANIC MATERIALS	6.70

Container: LA00000093229
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 05/14/2013
Waste Handling Code: CH
Disposal Date:

Material Parameters

Material Parameter	Description	Weight (kg)
7	RUBBER	5.00
8	PLASTICS	2.00
9	SOLIDIFIED INORGANIC MATERIAL	23.70
13	STEEL CONTAINER MATERIALS	27.70
14	PLASTIC/LINERS CONTAINER MATERIALS	2.00
15	CELLULOSICS PACKAGING MATERIALS	3.70
	Waste Weight:	49.60
	Packaging Weight:	33.40
	Total Material Weight:	83.00

Hazardous Codes

Hazardous Code	Description
D004	ARSENIC
D005	BARIUM
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D018	BENZENE
D019	CARBON TETRACHLORIDE

Container: LA00000093229
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 05/14/2013
Waste Handling Code: CH
Disposal Date:

Hazardous Codes

Hazardous Code	Description
D021	CHLOROBENZENE
D022	CHLOROFORM
D035	METHYL ETHYL KETONE
D038	PYRIDINE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
F001	SPENT HALOGENATED SOLVENTS
F002	SPENT HALOGENATED SOLVENTS
F005	SPENT NON-HALOGENATED SOLVENTS

Assay Methods

Labor Code	Assay Method	Description	Assay Date
C4	11HC2	CANBERRA HENC LA07/LAN6	04/04/2013

Non-Destructive Examination (NDE)

Labor Code	NDE Method	Description	Examination Date
C4	11RR2	RTR - VJ TECHNOLOGIES MOBILE SYSTEM	04/03/2013

Edit Limit Check Results
Evaluation Date: 05/15/2013 11:40:51 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
DI_CERT_ALL	PASS		

Container: LA00000093229
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 05/14/2013
Waste Handling Code: CH
Disposal Date:

Edit Limit Check Results
Evaluation Date: 05/15/2013 11:40:51 Overall Status: PASS

Evaluation Code	Status
DI_CERT_BE	PASS
DI_CERT_CERT	PASS
DI_CERT_CHARZ	PASS
DI_CERT_ED	PASS
DI_CERT_EPA	PASS
DI_CERT_PCB	PASS
DI_CERT_PERC	PASS
DI_CERT_TRAMPAC	PASS
DSA	PASS
WAC	PASS
WAP_CERT	PASS

TRAMPAC Evaluation Results
Evaluation Date: 05/15/2013 11:40:52 Overall Status: COND

Evaluation Code	Status
CE_ACT	PASS
CE_ALL	COND
CE_ASP	PASS
CE_DDH	PASS
CE_FGE	COND
CE_FIL	PASS
CE_GVE	PASS
CE_RDR	PASS
CE_TRU	PASS
CE_WGT	PASS

Return Code	Detailed Description
CE_FGE_FEL	Container Pu-239 fissile gram equivalent (FGE) plus two times the measurement error exceeds applicable FGE limit.
CE_FGE_SWB	Container is eligible for evaluation as part of a SWB Overpack.
CE_FGE_TDOP	Container is eligible for evaluation as part of a TDOP Overpack.

Container: LA00000093229
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 05/14/2013
Waste Handling Code: CH
Disposal Date:

TRAMPAC Evaluation Results
Evaluation Date: 05/15/2013 11:40:52 Overall Status: COND

Details

Matrix Depleted Shipping Category:		Compliance Method:	ANALYTICAL
Decay Heat Limit (w):	0.9417177435096622	FGE Limit (g):	200
FGGR (mol/s):	7.53551626262108E-8	FGGR Limit (mol/s):	1.0638297872340426E-7
Volume Model:		Required Aspiration Time (days):	
Total Headspace VOCs (ppm):	123.21		
Packaging Configuration:	COMMON_PACKAGING 2	DAC Scenario:	3
Closure Time (days):	0	Minimum Closure Time Applied (days):	53
Sample-Vent Time (days):	45	Min Sample-Vent Time Applied (days):	9
TFGVC in ICL (mol fr):		MLEL (mol fr):	0.05

History

Event Date/Time	Event Description	Reason
05/15/2013 11:40:53	SUCCESSFUL SUBMISSION FOR CERT	
05/15/2013 12:05:23	APPROVED FOR CERT	
01/17/2014 15:17:16	ASSIGNED TO OVERPACK	

5 Point Contamination/Radiation Survey Report 2013

RWP Number: 2012-0091, Rev.8

Survey Number:	Date/Time:
2013-02817	4/26/13 1700
Location:	**Surveyor:**
TA-54-Dome 49	S. Mallory

Survey Type:

- ☐ Routine
- ☐ Pre-Job RWP
- ☐ Post-Job RWP
- ☐ RMI
- ■ Drums
- ☐ Rad Material Release
- ☐ Rad Material Receipt
- ☐ Vehicle Release/Receipt
- ☐ Equipment
- ☐ Other

■ Contamination ■ Radiation

Survey of drums after sampling, prior to shipment to dome 49/ RANT/ WIPP.

Instrument	P/N #	Cal Due	Bkgd	MDA	units
E600	N/A	N/A	N/A	N/A	α dpm
SHP380AB	N/A	N/A	N/A	N/A	β dpm
E600	12452	8/6/2013	N/A	N/A	mrem/h
SNRD	13122	8/6/2013	0.25	0.25	mrem/h
RO-20 / RO-2	12659	9/13/2013	0.1	0.1	mrem/h
Ludlum 139	N/A	N/A	N/A	N/A	α dpm

Berthold Model LB 770 Alpha/Beta Counter P/N: 902323

Please see attached data sheet if checked ■

RCT Signature

Supervisor B. McLean

Signature

Item	Alpha		Beta		Dose Rate (mrem/hr)			Location		
#	Removable (dpm/100cm²)	Total (dpm/100cm²)	Removable (dpm/100cm²)	Total (dpm/100cm²)	Contact	30 cm	1 Meter			
1	NDA	N/A	NDA	N/A	36.00	6.00	2.00	βγ	92426	Seam
2	NDA	N/A	NDA	N/A	2.50	0.60	0.40	η		Side
3	NDA	N/A	NDA	N/A	38.50	6.60	2.40	Total		Rim
4	NDA	N/A	NDA	N/A						Top
5	NDA	N/A	NDA	N/A						Bottom
6	NDA	N/A	NDA	N/A	15.00	5.00	1.00	βγ	92955	Seam
7	NDA	N/A	NDA	N/A	4.00	2.00	1.00	η		Side
8	NDA	N/A	NDA	N/A	19.00	7.00	2.00	Total		Rim
9	NDA	N/A	NDA	N/A						Top
10	NDA	N/A	NDA	N/A						Bottom
11	NDA	N/A	NDA	N/A	6.00	1.20	0.50	βγ	92536	Seam
12	NDA	N/A	NDA	N/A	2.00	0.25	0.25	η		Side
13	NDA	N/A	NDA	N/A	8.00	1.45	0.75	Total		Rim
14	NDA	N/A	NDA	N/A						Top
15	NDA	N/A	NDA	N/A						Bottom
16	NDA	N/A	NDA	N/A	11.00	4.00	1.00	βγ	93060	Seam
17	NDA	N/A	NDA	N/A	1.40	0.80	0.25	η		Side
18	NDA	N/A	NDA	N/A	12.40	4.80	1.25	Total		Rim
19	NDA	N/A	NDA	N/A						Top
20	NDA	N/A	NDA	N/A						Bottom
21	NDA	N/A	NDA	N/A	6.00	1.50	0.30	βγ	92440	Seam
22	NDA	N/A	NDA	N/A	0.25	0.25	0.25	η		Side
23	NDA	N/A	NDA	N/A	6.25	1.75	0.55	Total		Rim
24	NDA	N/A	NDA	N/A						Top
25	NDA	N/A	NDA	N/A						Bottom
26	NDA	N/A	NDA	N/A	10.00	6.00	2.50	βγ	93229	Seam
27	NDA	N/A	NDA	N/A	4.60	2.00	0.80	η		Side
28	NDA	N/A	NDA	N/A	14.60	8.00	3.30	Total		Rim
29	NDA	N/A	NDA	N/A						Top
30	NDA	N/A	NDA	N/A						Bottom

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0049
Examination Date:	4/3/2013
Waste Container ID:	93229
Video/Audio Recorded Media Number:	LA-RTR2-13-0049 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 83.0 kg Tare Wt.: 33.4 kg Net Wt.: 49.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 93229

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal cans with material, scrap metal, metal hardware

AM:

OM: Scrap lead

OI: Broken glass

C:

R: Leaded rubber apron

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	8.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	4.1
Other Inorganic Materials (OI)	6.7
Cellulosics (C):	
Rubber (R):	5.0
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	23.7
Soils (S):	
Total WMP Weight:	49.6

CCP Radiography Data Sheet

Waste Container ID: 93229

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	
RTR Operator: Michael Simmons (Print Name) — Signature — 4/3/2013 (Date)	

NDA 2000 Assay Report

Item Information

Item ID:	93229		Count Sequence Number:	15442	
Operator:	DCLTD231\Operator				
Assay Start:	4/4/2013 10:09:02 AM				
Description 1:	2LANDA1132				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Debris S5000				
Container Type:	55 gal Drum				
Weight:	Net:	49.6 kg	Net:	49.6 kg	
Container:	Volume:	208.0 l	Full:	65.0 %	
Density:		0.370 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	15442	Batch Number:	2LANDA1132
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	93229	Analysis Date:	4/4/2013

Net Weight	49600.0 g		
Pu mass	2.06E+002	+- 2.34E+001	g
TRU Alpha Activity	2.10E+001	+- 1.54E+000	Ci
TRU Activity Concentration	4.24E+005	+- 3.10E+004	nCi/g
Pu-239 Equivalent Activity	2.13E+001	+- 1.54E+000	Ci
Pu-239 FGE	1.92E+002	+- 2.17E+001	g
Decay heat	6.67E-001	+- 4.82E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.33E-002	5.23E-005	6.77E-006	2.65E-006
PU238	3.44E-002	5.95E-001	6.78E-002	5.82E-005
PU239	1.91E+002	1.20E+001	1.37E+000	1.17E-003
PU240	1.43E+001	3.28E+000	3.74E-001	3.21E-004
AM241	1.48E+000	5.14E+000	5.86E-001	5.03E-004
PU241	1.82E-001	1.89E+001	2.15E+000	1.85E-003
PU242	8.22E-002	3.26E-004	3.71E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.58E-007
U233	<LLD	<LLD	0.00E+000	1.08E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.89E-006
U238	<LLD	<LLD	0.00E+000	1.40E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 4-8-13

ITR: _____ Date: 4-9-13

Automated Independent Technical Review

Count Sequence Number: 15442 Batch Number: 2LANDA1132
Counter ID: HENC #2
Container ID: 93229
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 4/4/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Add-a-Source correction factor was set to one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	Ok
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Pu239 FGE >200g with 2*TMU but <325g.

Expert Review by: Sheri Chamberlain Date: 4-8-13

Attachment 4 – Flammable Gas Analysis Form

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **93229**

BDR Number: **LA13FG2045**

Sampling Date: **4/26/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	588.26	
74-82-8	Methane	142.14	U
67-56-1	Methanol	35.23	U
60-29-7	Ethyl Ether	0.96	U
75-35-4	1,1-Dichloroethylene	6.38	U
67-64-1	Acetone	18.08	U
75-34-3	1,1-Dichloroethane	4.08	U
156-59-2	cis-1,2-Dichloroethene	0.76	U
78-93-3	Methyl ethyl ketone	11.73	U
110-82-7	Cyclohexane	5.10	U
71-43-2	Benzene	1.77	U
107-06-2	1,2-Dichloroethane	3.66	U
71-36-3	1-Butanol	1.84	U
108-10-1	Methyl isobutyl ketone	9.82	U
108-88-3	Toluene	8.02	U
108-90-7	Chlorobenzene	4.10	U
100-41-4	Ethylbenzene	3.57	U
108-38-3/106-42-3	m- and p-Xylene	1.92	U
95-47-6	o-Xylene	2.10	U
108-67-8	1,3,5-Trimethylbenzene	1.96	U
95-63-6	1,2,4-Trimethylbenzene	2.13	U

CAS Number	IDENTIFIED TIC COMPOUND	Est. Amount ppmv
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

BDR Number: LA13FG2045

Waste Container ID		8 Filter Model Number	9 Hydrogen Diffusivity of Filter (mol/s/mf)	10 Package Configuration Group Number	11 Closure Date	12 Vent Date	13 Required DAC Value (in days)	14 Drum Age (in days)	15 Can this container be sampled?
1	92332	NucFil-019DS	1.85E-05	3	11/7/2012	11/7/2012	12	170	Y
2	93123	NucFil-019DS	1.85E-05	3	3/1/2013	3/1/2013	12	56	Y
3	53464	NucFil-019DS	1.85E-05	3	8/15/2005	8/15/2005	44	2811	Y
4	92513	NucFil-019DS	1.85E-05	3	1/3/2013	1/3/2013	12	113	Y
5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	92442	NucFil-019DS	1.85E-05	3	12/7/2012	12/7/2012	12	140	Y
7	93014	NucFil-019DS	1.85E-05	3	2/20/2013	2/20/2013	12	65	Y
8	93025	NucFil-019DS	1.85E-05	3	2/21/2013	2/21/2013	12	64	Y
9	93175	NucFil-019DS	1.85E-05	3	3/7/2013	3/7/2013	12	50	Y
10	92395	NucFil-019DS	1.85E-05	3	11/26/2012	11/26/2012	12	151	Y
11	92972	NucFil-019DS	1.85E-05	3	2/17/2013	2/17/2013	12	68	Y
12	92532	NucFil-019DS	1.85E-05	3	1/8/2013	1/8/2013	12	108	Y
13	93062	NucFil-019DS	1.85E-05	3	2/23/2013	2/23/2013	12	62	Y
14	92402	NucFil-019DS	1.85E-05	3	11/27/2012	11/27/2012	12	150	Y
15	92874	NucFil-019DS	1.85E-05	3	2/8/2013	2/8/2013	12	77	Y
16	92440	NucFil-019DS	1.85E-05	3	12/7/2012	12/7/2012	12	140	Y
17	92957	NucFil-019DS	1.85E-05	3	2/16/2013	2/16/2013	12	69	Y
18	93060	NucFil-019DS	1.85E-05	3	2/23/2013	2/23/2013	12	62	Y
19	93229	NucFil-019DS	1.85E-05	3	3/12/2013	3/12/2013	12	45	Y
20	92426	NucFil-019DS	1.85E-05	3	12/5/2012	12/5/2012	12	142	Y

Operator: Sara Aragon
Printed Name

Sara A
Signature

4-26-13
Date

IDC 1.13 SCO 1029 Addendum 30	Units	data	comments									
Shipper Site ID		C4	Location ID	Dest Program ID	Shipping Purpose							LA00000083713
Waste Stream Profile		LA-MHD01.001	LA	WI	D							
Container Number		LA00000083713										
Container Type		55GD TBO					PU-235 FEM	U-235 FEM Uncert	FGGR Flag	FGGR Test Period		
WAC Rev #		7.4					NULL	NULL	N			
Cert Site		C4				Be mass<=100 kg	Be <= 1%	Be Present	Aqueous Material	Compacted Wst		
Cert Date		12/31/2013				Y	Y	Y	N	N		
Waste Handling Code		CH	CH ONLY									
Waste Type Code		MTRU	TRU, MTRU									
Waste Stream BIR ID		LA-MHD01.001										
Waste Stream MWIR ID		NONE										
Generator Site ID		LA										
IDC Code		NONE										
Matrix Code		S5400										
Trucon Code		LA225D										
Shipping Category		3003400044										
Tru Alpha Act	Ci	5.96E-02		5.96E-02								
Tru Alpha Act Uncert	1sigma Ci	7.11E-03	7.38E-02	Tru Alpha Act + 2sigma (Ci)								
Tru Alpha Act Conc	nCi/g	2.34E+03				Drum Weight	27.2					
Pu239 Fiss Gm Eq	g	6.72E-01		6.82E-01		PP	2.1					
Pu239 Fiss Gm Eq Uncert	1sigma g	1.09E-01	8.90E-01	Pu239 Fiss Gm Eq + 2sigma (Ci)		CP	3.7					
Pu239 Eq Act	Ci	6.15E-02		6.15E-02		LP						
Decay Heat	watts	1.87E-03		1.87E-03		SL						
Decay Heat Uncert	1sigma watts	2.21E-04	2.09E-03	Decay Heat + 1sigma (watts)								
Layers of Packaging		1										
Fill Factor		90	percentage	Liner Lid Present	N							
Liner Type			1 = plastic drum liner									
Liner Punctured				Liner Hole Size								
PCB Conc		NULL		(mm)		PCB Waste	PCB Mass (kg)	Out of Service				
Closure Date		12/03/2009	Watt-years	Waste Gen Date								
Vent Date		12/03/2009	0.0074768	NULL								
Filter Install Date		12/03/2009			Filter Reduction Date							
Filter Model Number		NF019D			Reduced Filter Model							
Number of Filters Installed		1										
Aspiration Method ID		3										
Gas Gen Rate			7.36E-10	<<Gas Gen Rate Calculated								
Hydrogen/Methane Gen Rate												
Gas Gen Comp Date				Waste (kg)	Packaging (kg)	Total (kg)						
Gross Weight	kg	58.4		25.4	33	58.4						
Gross Weight Uncert	1sigma kg	2.3										
Alpha Surf Cont	dpm/100 cm^2	19										
Beta/Gamma Surf Cont	dpm/100 cm^2	199										
Neutron Dose Rate	mrem/hr	0.4										
Beta/Gamma Dose Rate	mrem/hr	1.2										

Radionuclide		SR-90	CS-137	U-233	U-234	U-235	U-238	NP-237	PU-238	PU-239	PU-240
Activity	Ci	2.32E-07	2.32E-07	-1.00E+00	-1.00E+00	0.00E+00	-1.00E+00	6.04E-07	1.16E-03	4.21E-02	9.83E-03
Activity Uncert	1sigma Ci	2.32E-08	2.32E-08	-1.00E+00	-1.00E+00	0.00E+00	-1.00E+00	5.73E-08	1.89E-04	6.84E-03	1.60E-03
Mass	grams	1.68E-09	2.65E-09	-1.00E+00	-1.00E+00	0.00E+00	-1.00E+00	8.46E-04	6.71E-05	6.69E-01	4.28E-02
Mass Uncert	1sigma grams	1.68E-10	2.64E-10	-1.00E+00	-1.00E+00	0.00E+00	-1.00E+00	8.03E-05	1.09E-05	1.09E-01	6.96E-03

Radionuclide		PU-241	PU-242	AM-241	AM-243
Activity	Ci	1.03E-01	5.66E-07	6.41E-03	9.11E-05
Activity Uncert	1sigma Ci	1.67E-02	9.21E-08	1.04E-03	7.93E-06
Mass	grams	9.86E-04	1.43E-04	1.85E-03	4.51E-04
Mass Uncert	1sigma grams	1.60E-04	2.32E-05	3.00E-04	3.92E-05

Waste Material Parameters		C	IM	OM	R	XPM
Wgt of Mat Parms	kg	4.30	5.80	8.00	2.50	4.80
Radio Assay Method		11HC2	PAN, FRAM, TGS, HENC			
Data Package Number		2LANDA0520				
Assay Date		12/14/2009				
Charz Method ID		11VE1	RTRM, VISUAL			
Data Package Number		LAVE500275				
Charz Method Date		12/03/2009				

Haz Codes		F001	F002	D008	D007	D011	F005	D004	D005	D006	D009
Haz Codes		D010	D019	D021	D022	D035	D038	D039	D018	D040	
Sample ID	Headspace Gas HM	83713									

Sample Type		HGHM-T
Sample Type		HGVO-T
Layer No. Sampled		0
Date Sampled		12/10/2013
Method ID		11HG2
Data Package Number		LA13FG2126

Sample Site
C4

CAS #		1333-74-0	74-82-8	67-56-1	60-29-7	75-35-4	67-64-1	75-34-3	156-59-2	78-93-3	110-82-7
Analyte		Hydrogen	Methane	Methanol	Ethyl ether	Dichloroethylene	Acetone	1,1-Dichloroethane	cis-1,2-Dichloroethylene	Methyl ethyl ketone	Cyclohexane
Concentration		90.37	2.25925	35.23	0.96	6.38	18.08	4.08	0.76	11.73	5.1
Date Analyzed		12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013
D Detectable Flag											
U Detectable Flag		U	U	U	U	U	U	U	U	U	U
NA Detectable Flag											

CAS #		71-43-2	107-06-2	71-36-3	108-10-1	108-88-3	108-90-7	100-41-4	108-38-3/106-42-3	95-47-6	108-67-8
Analyte		Benzene	1,2-Dichloroethane	Butanol	Methyl isobutyl ketone	Toluene	Chlorobenzene	Ethyl benzene	m,p-Xylene	o-xylene	1,3,5-Trimethylbenzene
Concentration		1.77	3.66	1.84	9.82	8.02	4.1	3.57	1.92	2.1	1.96
Date Analyzed		12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013
D Detectable Flag											
U Detectable Flag		U	U	U	U	U	U	U	U	U	U
NA Detectable Flag											

CAS #		95-63-6
Analyte		1,2,4-Trimethylbenzene
Concentration		2.13
Date Analyzed		12/10/2013
D Detectable Flag		
U Detectable Flag		U
NA Detectable Flag		

		Requirements Met?
Free liquids <1% by volume		YES
No non-rad. pyrophorics		YES
Chemical compatability		YES
No explosives		YES
No corrosives		YES
No pressurized containers		YES
No sealed Containers >4 liters		YES
Liner punctured/ filtered		YES
Flammable VOCs <500ppmv		YES
Container is in Approved Waste Stream Profile Form?	LA-MHD01.001	YES
Can it be established through Process Knowledge that the concentration of flammable VOCs present in the headspace of the container is <= 500 ppm?		NO

V&V Initials	Date
HP/BV	12/30/2013

Lorraine Hensley
CCP Certification Official

12/31/2013
Date

Waste Isolation Pilot Plant
Container Data Report

Report Statistics

Report Version:	**2.3**
WDS Instance:	**prd05.wipp.carlsbad.nm.us**
Generated on:	**August 19, 2014 03:12 PM**
Generated by:	**KIRKES, CRETA**
Total Pages:	**9**

Selection Criteria

Container Number: **LA00000083713**

Container: LA00000083713
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 12/31/2013
Waste Handling Code: CH
Disposal Date:

Current Location Site:	WI
Generator Site:	LA
Destination Site ID:	WI
Certification Program ID:	C4
Shipping Program ID:	C4
Overpack Container:	LASB02160
Overpack Type:	STANDARD WASTE BOX
Overpack Status:	CERTIFICATION DATA APPROVED

Neutron Dose Rate (mrem/hr):	0.4
Beta Gamma Dose Rate (mrem/hr):	1.2
Total Dose Rate (mrem/hr):	1.6

FGE (g):	6.72E-01
FGE Uncertainty (g):	1.088E-01
Gross Weight (kg):	58.00
Gross Weight Uncert (kg):	2.30
Decay Heat (W):	1.869E-03
Decay Heat Uncertainty (W):	2.208E-04

Shipment Data

Payload ID: **LA3610** Assembly ID: LA139927 Payload Complete? Y
Shipment Number: LA140019 Send Date: 01/31/2014 Receipt Date: 02/01/2014
Shipment Status: SHIPMENT RECEIVED AT DESTINATION

Certification Data Values

Waste Stream Profile Code:	LA-MHD01.001
Waste Type Code:	MTRU
IDC Code:	NONE
Waste Matrix Code:	S5400
WAC Revision Number:	7.4
Fill Factor (%):	90.00
Waste Stream BIR ID:	LA-MHD01.001
Waste Stream MWIR ID:	NONE

TRU Alpha Activity (Ci):	5.956E-02
TRU Alpha Activity Uncertainty (Ci):	7.106E-03
TRU Alpha Activity Concentration (Ci/g):	2.345E-06
PU-239 Equivalent Activity (PE-Ci):	6.146E-02
Alpha Surface Contamination (dpm/cm^2):	19.0
Beta/Gamma Surface Contamination (dpm/cm^2):	199.0

Transportation Data Values

Closure Date:	12/03/2009
Vent Date:	12/03/2009
Process Knowledge?	N
TRUCON Code:	LA225D
Shipping Category:	3003400044
Aspiration Method:	3

Shipment Purpose:	DISPOSAL
Machine Compacted?	N
Liner Exists?	N
Liner Hole Size(mm):	
Liner Lid Present?	
Layers of Packaging	1
Aqueous Material?	N

Gas Generation Data Values

Measured FGGR (mol/s)	Measured TGRR (mol/s)	Truncated FGGR Test (Y/N)	Truncated FGGR Test Period (days)
		N	

Container: LA00000083713
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 12/31/2013
Waste Handling Code: CH
Disposal Date:

PCB Waste? N
PCB Mass (kg):
PCB Concentration (ppm):
PCB Out of Service Date:
Be Present? Y
Be <= 1% by weight? Y
Be mass <= 100kg? Y
Separation OK?
Packing Fraction (compaction level): non-compacted

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date
NF019D	1.85E-05	1	12/03/2009

Certification Comments

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
AM-241	6.412E-03	1.043E-03	1.847E-03	3.004E-04
AM-243	9.108E-05	7.929E-06	4.508E-04	3.925E-05
CS-137	2.325E-07	2.317E-08	2.650E-09	2.641E-10
NP-237	6.040E-07	5.730E-08	8.460E-04	8.026E-05
PU-238	1.162E-03	1.890E-04	6.714E-05	1.092E-05
PU-239	4.206E-02	6.842E-03	6.688E-01	1.088E-01
PU-240	9.831E-03	1.599E-03	4.277E-02	6.957E-03
PU-241	1.025E-01	1.668E-02	9.864E-04	1.605E-04
PU-242	5.661E-07	9.210E-08	1.427E-04	2.321E-05
SR-90	2.325E-07	2.317E-08	1.684E-09	1.679E-10
U-233	.000E00	.000E00	.000E00	.000E00
U-234	.000E00	.000E00	.000E00	.000E00

Container: LA00000083713
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 12/31/2013
Waste Handling Code: CH
Disposal Date:

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
U-235	.000E00	.000E00	.000E00	.000E00
U-238	.000E00	.000E00	.000E00	.000E00

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	83713	HGVO-T	HEADSPACE GAS VOC	12/10/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
100-41-4	ETHYL BENZENE	3.57	12/10/2013	11HG2	U
107-06-2	1,2-DICHLOROETHANE	3.66	12/10/2013	11HG2	U
108-10-1	METHYL ISOBUTYL KETONE	9.82	12/10/2013	11HG2	U
108-67-8	1,3,5-TRIMETHYLBENZENE	1.96	12/10/2013	11HG2	U
108-88-3	TOLUENE	8.02	12/10/2013	11HG2	U
108-90-7	CHLOROBENZENE	4.1	12/10/2013	11HG2	U
108383/106423	M,P-XYLENE	1.92	12/10/2013	11HG2	U
110-82-7	CYCLOHEXANE	5.1	12/10/2013	11HG2	U
156-59-2	CIS-1,2-DICHLOROETHYLENE	0.76	12/10/2013	11HG2	U
60-29-7	ETHYL ETHER	0.96	12/10/2013	11HG2	U
67-56-1	METHANOL	35.23	12/10/2013	11HG2	U
67-64-1	ACETONE	18.08	12/10/2013	11HG2	U
71-36-3	BUTANOL	1.84	12/10/2013	11HG2	U

Container: LA00000083713
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 12/31/2013
Waste Handling Code: CH
Disposal Date:

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	83713	HGVO-T	HEADSPACE GAS VOC	12/10/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
71-43-2	BENZENE	1.77	12/10/2013	11HG2	U
75-34-3	1,1-DICHLOROETHANE	4.08	12/10/2013	11HG2	U
75-35-4	1,1-DICHLOROETHYLENE	6.38	12/10/2013	11HG2	U
78-93-3	METHYL ETHYL KETONE	11.73	12/10/2013	11HG2	U
95-47-6	O-XYLENE	2.1	12/10/2013	11HG2	U
95-63-6	1,2,4-TRIMETHYLBENZENE	2.13	12/10/2013	11HG2	U

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	H-83713	HGHM-T	HEADSPACE GAS HYDROGEN AND METHANE	12/10/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
1333-74-0	HYDROGEN	90.37	12/10/2013	11HG2	U
74-82-8	METHANE	2.25925	12/10/2013	11HG2	U

Material Parameters

Material Parameter	Description	Weight (kg)
1	IRON BASE METAL ALLOYS	5.80

Container: LA00000083713
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 12/31/2013
Waste Handling Code: CH
Disposal Date:

Material Parameters

Material Parameter	Description	Weight (kg)
3	OTHER METAL/ALLOYS	8.00
6	CELLULOSICS	4.30
7	RUBBER	2.50
8	PLASTICS	4.80
13	STEEL CONTAINER MATERIALS	27.20
14	PLASTIC/LINERS CONTAINER MATERIALS	2.10
15	CELLULOSICS PACKAGING MATERIALS	3.70
	Waste Weight:	25.40
	Packaging Weight:	33.00
	Total Material Weight:	58.40

Hazardous Codes

Hazardous Code	Description
D004	ARSENIC
D005	BARIUM
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D018	BENZENE
D019	CARBON TETRACHLORIDE

Container: LA00000083713
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 12/31/2013
Waste Handling Code: CH
Disposal Date:

Hazardous Codes

Hazardous Code	Description
D021	CHLOROBENZENE
D022	CHLOROFORM
D035	METHYL ETHYL KETONE
D038	PYRIDINE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
F001	SPENT HALOGENATED SOLVENTS
F002	SPENT HALOGENATED SOLVENTS
F005	SPENT NON-HALOGENATED SOLVENTS

Assay Methods

Labor Code	Assay Method	Description	Assay Date
C4	11HC2	CANBERRA HENC LA07/LAN6	12/14/2009

Non-Destructive Examination (NDE)

Labor Code	NDE Method	Description	Examination Date
C4	11VE1	CCP MOBILE VE AND REPACKAGING	12/03/2009

Edit Limit Check Results
Evaluation Date: 12/31/2013 10:15:43 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
DI_CERT_ALL	PASS		

Container: LA00000083713
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 12/31/2013
Waste Handling Code: CH
Disposal Date:

Edit Limit Check Results
Evaluation Date: 12/31/2013 10:15:43 Overall Status: PASS

Evaluation Code	Status
DI_CERT_BE	PASS
DI_CERT_CERT	PASS
DI_CERT_CHARZ	PASS
DI_CERT_ED	PASS
DI_CERT_EPA	PASS
DI_CERT_PCB	PASS
DI_CERT_PERC	PASS
DI_CERT_TRAMPAC	PASS
DSA	PASS
WAC	PASS
WAP_CERT	PASS

TRAMPAC Evaluation Results
Evaluation Date: 12/31/2013 10:15:44 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
CE_ACT	PASS		
CE_ALL	PASS		
CE_ASP	PASS		
CE_DDH	PASS		
CE_FGE	PASS		
CE_FIL	PASS		
CE_GVE	PASS		
CE_RDR	PASS		
CE_TRU	PASS		
CE_WGT	PASS		

Container: LA00000083713
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK RECEIVED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 12/31/2013
Waste Handling Code: CH
Disposal Date:

TRAMPAC Evaluation Results

Evaluation Date: 12/31/2013 10:15:44 Overall Status: PASS

Details

Matrix Depleted Shipping Category:		Compliance Method:	ANALYTICAL
Decay Heat Limit (w):	0.3224879679144385	FGE Limit (g):	200
FGGR (mol/s):	6.587116871863678E-10	FGGR Limit (mol/s):	1.1363636363636364E-7
Volume Model:		Required Aspiration Time (days):	
Total Headspace VOCs (ppm):	123.21		
Packaging Configuration:	COMMON_PACKAGING 2	DAC Scenario:	3
Closure Time (days):	0	Minimum Closure Time Applied (days):	53
Sample-Vent Time (days):	1468	Min Sample-Vent Time Applied (days):	9
TFGVC in ICL (mol fr):		MLEL (mol fr):	0.05

History

Event Date/Time	Event Description	Reason
12/31/2013 10:15:45	SUCCESSFUL SUBMISSION FOR CERT VIA THE WEB SERVICE	
12/31/2013 10:50:36	APPROVED FOR CERT	
01/17/2014 15:17:16	ASSIGNED TO OVERPACK	

5 Point Contamination/Radiation Survey Report 2013

RWP Number: 2012-0091, Rev.8

Survey Number:	Date/Time:
2013-08353	12/10/2013 1100
Location:	**Surveyor:**
TA-54-224	G.Fred

Survey Type:

- ☐ Routine
- ☐ Pre-Job RWP
- ☐ Post-Job RWP
- ☐ RMI
- ■ Drums
- ☐ Rad Material Release
- ☐ Rad Material Receipt
- ☐ Vehicle Release/Receipt
- ☐ Equipment
- ☐ Other

■ **Contamination** ■ **Radiation**

Survey of drums after sampling, prior to shipment to dome 49/ RANT/ WIPP.

Instrument	P/N #	Cal Due	Bkgd	MDA	units
E600	N/A	N/A	N/A	N/A	α dpm
SHP380AB	N/A	N/A	N/A	N/A	β dpm
E600	12484	8/29/2014	N/A	N/A	mrem/h
SNRD	13101	2/1/2014	0.25	0.25	mrem/h
RO-20 / RO-2	6488	4/30/2014	0.1	0.1	mrem/h
Ludlum 139	N/A	N/A	N/A	N/A	α dpm

Alpha/Beta Counter Ludlum Model 770 P/N:

Please see attached data sheet if checked ■

RCT Signature 2046607

Supervisor R. Fleischacker

Signature

Item	Alpha		Beta		Dose Rate (mrem/hr)			Location
#	Removable (dpm/100cm²)	Total (dpm/100cm²)	Removable (dpm/100cm²)	Total (dpm/100cm²)	Contact	30 cm	1 Meter	
1	NDA	N/A	NDA	N/A	0.50	0.10	0.10	βγ 83179 Seam
2	NDA	N/A	NDA	N/A	0.25	0.25	0.25	η Side
3	NDA	N/A	NDA	N/A	0.75	0.35	0.35	Total Rim
4	NDA	N/A	NDA	N/A				Top
5	NDA	N/A	NDA	N/A				Bottom
6	NDA	N/A	NDA	N/A	4.20	2.80	1.50	βγ 65505 Seam
7	NDA	N/A	NDA	N/A	2.00	1.30	0.80	η Side
8	NDA	N/A	NDA	N/A	6.20	4.10	2.30	Total Rim
9	NDA	N/A	NDA	N/A				Top
10	NDA	N/A	NDA	N/A				Bottom
11	NDA	N/A	NDA	N/A	2.00	1.20	0.70	βγ 64488 Seam
12	NDA	N/A	NDA	N/A	1.00	0.70	0.25	η Side
13	NDA	N/A	NDA	N/A	3.00	1.90	0.95	Total Rim
14	NDA	N/A	NDA	N/A				Top
15	NDA	N/A	NDA	N/A				Bottom
16	NDA	N/A	NDA	N/A	0.80	0.10	0.10	βγ 86452 Seam
17	NDA	N/A	NDA	N/A	0.25	0.25	0.25	η Side
18	NDA	N/A	NDA	N/A	1.05	0.35	0.35	Total Rim
19	**6.1**	N/A	NDA	N/A				Top
20	NDA	N/A	NDA	N/A				Bottom
21	NDA	N/A	NDA	N/A	1.20	0.60	0.30	βγ 83713 Seam
22	NDA	N/A	NDA	N/A	0.40	0.25	0.25	η Side
23	NDA	N/A	NDA	N/A	1.60	0.85	0.55	Total Rim
24	NDA	N/A	NDA	N/A				Top
25	NDA	N/A	NDA	N/A				Bottom
26	NDA	N/A	NDA	N/A	0.20	0.10	0.10	βγ 83341 Seam
27	NDA	N/A	NDA	N/A	0.25	0.25	0.25	η Side
28	NDA	N/A	NDA	N/A	0.45	0.35	0.35	Total Rim
29	NDA	N/A	NDA	N/A				Top
30	NDA	N/A	NDA	N/A				Bottom

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 6

Batch Data Report No.: LAVE500275

Section 2: Output Waste Container Data		
Output Waste Container ID: 83713		Waste Stream ID: LA-MHD01.001
Container Type: 55 GAL. DRUM	TRUCON Code: LA-225	Waste Matrix Code:S5400
Audio/Video Media Recording Number: ☒ N/A		
Waste Container Weights: Tare Wt: 33.0 kg.		Gross Wt: 58.4 kg.
Rigid Liner Present? ☐ NO ☒ YES Type of Liner: ☐ Lead ☐ Plastic ☒ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil		Rigid Liner Lid Present? ☒ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☒ N/A ☐ Vented: Hole Size: ☒ N/A ☐ Filtered: Model No.: ☒ N/A Serial No.: ☒ N/A
Bag Liner Present? ☐ NO ☒ YES		Volume Utilization Percentage: 90 %
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☒ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☒ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Container Filter and Lid Ring/Bolt Torque Data Filter Torque Wrench: Serial/ID No.: 035972 Calibration Due Date: 1/14/10 Filter: Model No.: Nucfil-019DS Serial No.: HJ-2358 Torque Value: 10 ft/lbs		Lid Ring/Bolt Torque Wrench Serial/ID No.: 035972 Calibration Due Date: 1/14/10 Lid Ring/Bolt Torque Value: 60 ft/lbs
Is total dose rate greater than 200mrem/hr? ☒ NO ☐ YES		
NCR(s) associated with the output container? ☒ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 6

Batch Data Report No.: LAVE500275 **Date:** N/A

Output Waste Container ID: 83713

TID/LOCK Number Removed: N/A **TID/LOCK Number Applied:** N/A

Section 3: Waste Package Data

Package Number (If applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing and WMP Reconciliation Code(s) [Table 4[bc]]
N/A	Metal cans	IM	5.8	E
N/A	Lead shielding	OM	8.0	E
N/A	Rubber gloves	R	2.5	E
N/A	Cheese cloth, clothing	C	4.0	E
N/A	Plastic bags, stubs, plastic sheeting	PW	3.0	E
N/A	Plastic bag liner	PP	0.3	E/XPW
WAIP	Bag-out stubs Cheese cloth	PW C	1.5 0.3	E/WAIP

VEO 1: N/A N/A Page N/A of N/A
Print Name Sign
VEO 2: N/A N/A
Print Name Sign

Signatures annotate the absence of prohibited items and are only required for Newly Generated Waste.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 6

Batch Data Report No.: LAVE500275

Output Waste Container ID: 83713

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.2
Plastics (PP):	2.1
Others: (C)	3.7
Total Packaging Weight:	33.0
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	5.8
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	8.0
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	4.3
Rubber (R):	2.5
Plastics (waste materials) (PW):	4.8
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	25.4

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 6

Batch Data Report No.: LAVE500275 Output Waste Container ID: 83713

Section 5: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No	N/A
Is there liquid in the container?	☐	☒	
Is there any liquid in the waste, including internal containers, that DOES NOT meet the criteria of residual (waste shall contain as little residual liquid as is reasonably achievable by pouring, pumping and/or aspirating, and internal containers shall contain less than 1 inch or 2.5 centimeters of liquid in the bottom of the container)?	☐	☐	☒
Is the total volume of liquid in the container **GREATER** than 1% of the container?	☐	☐	☒
Is there detectable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐	☒	
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☒	
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☒	
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐	☒	
Is there an indication of wastes containing explosives or compressed gases?	☐	☒	
Is there an indication of polychlorinated biphenyls (PCBs) not authorized under an EPA PCB waste disposal authorization?	☐	☒	
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☒	
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☒	
TRUPACT II Criteria			
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste?	☐	☒	
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☒	
Are there sealed containers GREATER than 4 liters?	☐	☒	
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☒	

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 6 of 6

Batch Data Report No.: LAVE500275 Output Waste Container ID: 83713

Section 5: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 6: Approvals

Visual Examination Operator 1:

Michael Tierney
Print Name

Signature

12·3·09
Date

Visual Examination Operator 2:

Gerald Espinoza
Print Name

Signature

12/4/09
Date

NDA 2000 Assay Report

Item Information

Item ID:	83713		Count Sequence Number:	8475	
Operator:	DCLTD231\Operator				
Assay Start:	12/14/2009 12:57:06 PM				
Description 1:	2LANDA0520				
Description 2:	No Cans				
Location:	LANL TA-54				
Comment:	AK-6, Counted to Precision				
Matrix Type:	Debris S5000				
Container Type:	55 gal Drum				
Weight:	Net:	25.4 kg	Net:	25.4 kg	
Container:	Volume:	208.0 l	Full:	90.0 %	
Density:		0.140 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	8475	Batch Number:	2LANDA0520
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 11	Software Version:	NDA 2000 V.4.0
Item ID:	83713	Analysis Date:	12/14/2009

Net Weight	25400.0 g		
Pu mass	7.13E-001	+-	1.16E-001 g
TRU Alpha Activity	5.96E-002	+-	7.11E-003 Ci
TRU Activity Concentration	2.34E+003	+-	2.80E+002 nCi/g
Pu-239 Equivalent Activity	6.15E-002	+-	7.11E-003 Ci
Pu-239 FGE	6.72E-001	+-	1.09E-001 g
Decay heat	1.87E-003	+-	2.21E-004 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	8.46E-004	6.04E-007	5.73E-008	8.55E-008
PU238	6.71E-005	1.16E-003	1.89E-004	3.75E-004
PU239	6.69E-001	4.21E-002	6.84E-003	1.36E-002
PU240	4.28E-002	9.83E-003	1.60E-003	3.17E-003
AM241	1.85E-003	6.41E-003	1.04E-003	2.07E-003
PU241	9.86E-004	1.03E-001	1.67E-002	3.31E-002
PU242	1.43E-004	5.66E-007	9.21E-008	0.00E+000
SR90	1.68E-009	2.32E-007	2.32E-008	0.00E+000
CS137	2.65E-009	2.32E-007	2.32E-008	2.71E-008
U233	<LLD	<LLD	0.00E+000	5.23E-004
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.69E-007
U238	<LLD	<LLD	0.00E+000	1.57E-006
AM243	4.51E-004	9.11E-005	7.93E-006	7.73E-007

Errors quoted at 1.000 sigma

Operator: _____ Date: 12-15-09

ITR: _____ Date: 12-15-09

Automated Independent Technical Review

Count Sequence Number: 8475
Batch Number: 2LANDA0520
Counter ID: HENC #2
Container ID: 83713
Waste Matrix Code: Debris S5000
Count Type:
Sequence Type:
Assay Date: 12/14/2009

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.

Comments	Disposition
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chambers Date: 12-15-09

Attachment 4 – Flammable Gas Analysis Form

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **83713**

BDR Number: **LA13FG2126**

Sampling Date: **12/10/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	90.37	U
74-82-8	Methane	142.14	U
67-56-1	Methanol	35.23	U
60-29-7	Ethyl Ether	0.96	U
75-35-4	1,1-Dichloroethylene	6.38	U
67-64-1	Acetone	18.08	U
75-34-3	1,1-Dichloroethane	4.08	U
156-59-2	cis-1,2-Dichloroethene	0.76	U
78-93-3	Methyl ethyl ketone	11.73	U
110-82-7	Cyclohexane	5.10	U
71-43-2	Benzene	1.77	U
107-06-2	1,2-Dichloroethane	3.66	U
71-36-3	1-Butanol	1.84	U
108-10-1	Methyl isobutyl ketone	9.82	U
108-88-3	Toluene	8.02	U
108-90-7	Chlorobenzene	4.10	U
100-41-4	Ethylbenzene	3.57	U
108-38-3/106-42-3	m- and p-Xylene	1.92	U
95-47-6	o-Xylene	2.10	U
108-67-8	1,3,5-Trimethylbenzene	1.96	U
95-63-6	1,2,4-Trimethylbenzene	2.13	U

CAS Number	IDENTIFIED TIC COMPOUND	Est. Amount ppmv
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

BDR Number: LA13FG2126

Waste Container ID		8 Filter Model Number	9 Hydrogen Diffusivity of Filter (mol/s/mf)	10 Package Configuration Group Number	11 Closure Date	12 Vent Date	13 Required DAC Value (in days)	14 Drum Age (in days)	15 Can this container be sampled?
1	54517	NucFil-019DS	1.85E-05	3	4/12/2005	4/12/2005	12	3164	Y
2	83179	NucFil-019DS	1.85E-05	3	9/22/2009	9/22/2009	12	1540	Y
3	83725	NucFil-019DS	1.85E-05	3	12/4/2009	12/4/2009	12	1467	Y
4	85017	NucFil-019DS	1.85E-05	3	3/31/2010	3/31/2010	44	1350	Y
5	86469	NucFil-019DS	1.85E-05	3	7/13/2010	7/13/2010	12	1246	Y
6	94152	NucFil-019DS	1.85E-05	3	8/8/2013	8/8/2013	12	124	Y
7	66775	NucFil-019DS	1.85E-05	3	6/6/2012	6/6/2012	12	552	Y
8	68459	NucFil-019DS	1.85E-05	3	9/26/2013	9/26/2013	12	75	Y
9	63370	NucFil-019DS	1.85E-05	3	5/11/2005	5/11/2005	12	3135	Y
10	83713	NucFil-019DS	1.85E-05	3	12/3/2009	12/3/2009	12	1468	Y
11	83341	NucFil-019DS	1.85E-05	3	10/14/2009	10/14/2009	12	1518	Y
12	83467	NucFil-019DS	1.85E-05	3	10/28/2009	10/28/2009	44	1504	Y
13	83715	NucFil-019DS	1.85E-05	3	12/3/2009	12/3/2009	12	1468	Y
14	83733	NucFil-019DS	1.85E-05	3	12/7/2009	12/7/2009	12	1464	Y
15	84332	NucFil-019DS	1.85E-05	3	2/16/2010	2/16/2010	96	1393	Y
16	86452	NucFil-019DS	1.85E-05	3	7/12/2010	7/12/2010	12	1247	Y
17	92522	NucFil-019DS	1.85E-05	3	1/7/2013	1/7/2013	12	337	Y
18	92428	NucFil-019DS	1.85E-05	3	12/5/2012	12/5/2012	12	370	Y
19	89289	NucFil-019DS	1.85E-05	3	6/13/2011	6/13/2011	12	911	Y
20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

27

Operator: Nathan Wales — **Printed Name**

Nathan — **Signature**

12-11-13 — **Date**

DIVIDER

PAGE

WDS WCA/WCO CERTIFICATION PACKAGE

CH-LANL – August 19, 2014

(This package is for Audit Purposes Only)

S5000 – LA-MHD01.001

LA00000094071 – 55-gallon drum

1. Container Information Summary (CIS) – CCP Correlation of Container Identification Numbers to Batch Data Report Numbers
2. NCR/CAR check
3. AK Vent/Closure
    a. Container LA00000094071:
        i. Spreadsheet
        ii. Waste Container Data Report from WDS
        iii. Rad Survey
        iv. RTR Data
        v. NDA Data
        vi. Flam Gas/Filter

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 396

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Management/ Overpack Yes	Transportation Headspace Gas BDR
66901	LA00000066901	1LANDA1706	LA-RTR2-13-0015	N/A		LA13FG2092
67175	LA00000067175	2LANDA1158	LA-RTR2-13-0069	N/A		LA13FG2059
92760	LA00000092760	1LANDA1788	LA-RTR2-13-0080	N/A	Yes	LA13FG12071
92773	LA00000092773	1LANDA1788	LA-RTR2-13-0080	N/A	Yes	LA13FG12071
92840	LA00000092840	1LANDA1788	LA-RTR2-13-0080	N/A	Yes	LA13FG12071
93385	LA00000093385	2LANDA1196	LA-RTR2-13-0092	N/A		LA13FG2088
93411	LA00000093411	2LANDA1196	LA-RTR2-13-0092	N/A		LA13FG2088
93686	LA00000093686	1LANDA1813	LA-HERTR-13-0086	N/A		LA13FG2092
94018	LA00000094018	3LANDA0186	LA-HERTR-13-0087	N/A		LA13FG2089
94031	LA00000094031	3LANDA0186	LA-HERTR-13-0087	N/A		LA13FG2091
94071	LA00000094071	2LANDA1204	LA-RTR2-13-0096	N/A		LA13FG2092

Jim Eastham 7/17/2013

Signature of Site Project Manager | Printed Name | Date

Audit purposes only

C/S-05

Thursday, August 21, 2014

CONTAINERID: 94071

LANL

AK DATA

Container ID	Container Type	AKA Matrix	WDS Status	AK Excluded	WSID	LOTID	LOT Excluded
94071	55G	LA00000094071	EMPLACED_CNTR	NO	LA-MHD01.001	LA-MHD01.001-Lot 396 (none)	

BDR DATA

BDRID	Type	Status	Generation Date
2LANDA1202	NDA	Complete	2013-07-30
2LANDA1204	NDA	Complete	2013-08-02
LA-RTR2-13-0096	RTR	Complete	2013-07-30
LA13FG2092	HSG_TRANS	Complete	2013-08-07

NCR DATA

Container ID	NCRID	Status	Release Code
94071	NO DATA		

REJECT DATA

Container ID	BDRID	NCRID	NCR Status	Release Code	Actual Condition
94071	NO DATA				

Vent & Closure Dates from AK Tracking Spreadsheet

Container ID	Vent Date	Closure Date	Container Type
LA00000094071	7/25/2013	7/25/2013	55-gallon Drum

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	WDS Master Template.xls Rev. 8 Addendum #8, SCO #1065 Excel 2003/2007 Microsoft Windows XP	Units	data	comments									initial	date
2	Shipper Site ID		C4	Location ID	Dest Program ID	Shipping Purpose				LA00000094071			LD/HP	08/21/13
3	Waste Stream Profile		LA-MHD01.001	LA	WI	D							LD/HP	08/21/13
4	Container Number		LA00000094071										LD/HP	08/21/13
5	Container Type		drum	drum, swb, tdop, etc., see WWIS labels for valid types.					U-235 FEM	U-235 FEM Uncert	FGGR Flag	FGGR Test Period	LD/HP	08/21/13
6	WAC Rev #		7.4						NULL	NULL	NULL	NULL	LD/HP	08/21/13
7	[redacted]							Be mass<=100 kg	Be <= 1%	Be Present	Aqueous Material	Compacted Wst		
8	Cert Site		C4					Y	Y	Y	N	N	LD/HP	08/21/13
9	Cert Date		8/22/13											
10	Waste Handling Code		CH	CH, RH									LD/HP	08/21/13
11	Waste Type Code		MTRU	TRU, MTRU									LD/HP	08/21/13
12	Waste Stream BIR ID		LA-MHD01.001										LD/HP	08/21/13
13	Waste Stream MWIR ID		NONE										LD/HP	08/21/13
14	Generator Site ID		LA										LD/HP	08/21/13
15	IDC Code		NONE										LD/HP	08/21/13
16	Matrix Code		S5400										LD/HP	08/21/13
17	Trucon Code				Invalid Ship Cat								LD/HP	08/21/13
18	Shipping Category													
19	Tru Alpha Act	Ci	1.57E+01		1.570E+01								LD/HP	08/21/13
20	Tru Alpha Act Uncert	1sigma Ci	2.83E+00	2.136E+01	Tru Alpha Act + 2sigma (Ci)								LD/HP	08/21/13
21	Tru Alpha Act Conc	nCi/g	2.73E+05		2.73E+05								LD/HP	08/21/13
22	[redacted]		4.92E+04	3.714E+05	Tru Alpha Act Conc + 2sigma (Ci)			Drum Weight	27.7				LD/HP	08/21/13
23	Pu239 Fiss Gm Eq	g	1.38E+02		1.361E+02								LD/HP	08/21/13
24	Pu239 Fiss Gm Eq Uncert	1sigma g	2.02E+01	1.784E+02	Pu239 Fiss Gm Eq + 2sigma (Ci)								LD/HP	08/21/13
25	Pu239 Eq Act	Ci	1.61E+01		1.608E+01								LD/HP	08/21/13
26	Decay Heat	watts	5.00E-01		5.000E-01								LD/HP	08/21/13
27	Decay Heat Uncert	1sigma watts	9.30E-02	5.93E-01	Decay Heat + 1sigma (watts)								LD/HP	08/21/13
28	Layers of Packaging		1										LD/HP	08/21/13
29	Fill Factor		95	percentage	Liner Lid Present								LD/HP	08/21/13
30	Liner Type			1 = plastic drum liner									LD/HP	08/21/13
31	Liner Punctured				Liner Hole Size (mm)								LD/HP	08/21/13
32	PCB Conc		NULL				PCB Waste	PCB Mass (kg)	Out of Service				LD/HP	08/21/13
33	Closure Date		7/25/2013	Watt-years	Waste Gen Date		N	NULL	NULL				LD/HP	08/21/13
34	Vent Date		7/25/2013	0.037	NULL								LD/HP	08/21/13
35	Filter Install Date		7/25/2013				Filter Reduction Date	NULL					LD/HP	08/21/13
36	Filter Manufacturer		NFT				Reduced Filter Model	NULL					LD/HP	08/21/13
37	[redacted]												LD/HP	08/21/13
38	Filter Model Number		NF019D										LD/HP	08/21/13
39	Number of Filters Installed		1										LD/HP	08/21/13
40	Aspiration Method ID		3										LD/HP	08/21/13
41	Gas Gen Rate			#VALUE!	<<Gas Gen Rate Calculated									
42	Hydrogen/Methane Gen Rate													
43	Gas Gen Comp Date				Waste (kg)	Packaging (kg)	Total (kg)							
44	Gross Weight	kg	91		57.6	33.4	91.0						LD/HP	08/21/13
45	Gross Weight Uncert	1sigma kg	2.3										LD/HP	08/21/13
46	Alpha Surf Cont	dpm/100 cm^2	19										LD/HP	08/21/13
47	Beta/Gamma Surf Cont	dpm/100 cm^2	199										LD/HP	08/21/13
48	Neutron Dose Rate	mrem/hr	2										LD/HP	08/21/13
49	Beta/Gamma Dose Rate	mrem/hr	11										LD/HP	08/21/13
50	Radionuclide		NP-237	PU-238	PU-239	PU-240	AM-241	PU-241	PU-242	SR-90	CS-137	U-233	LD/HP	08/21/13
51	Activity	Ci	6.32E-05	2.53E-01	8.52E+00	2.10E+00	4.83E+00	2.02E+01	1.69E-04	-1.00E+00	-1.00E+00	-1.00E+00	LD/HP	08/21/13
52	Activity Uncert	1sigma Ci	7.27E-06	3.72E-02	1.25E+00	3.08E-01	2.52E+00	2.97E+00	2.48E-05	-1.00E+00	-1.00E+00	-1.00E+00	LD/HP	08/21/13
53	Mass	grams	8.86E-02	1.46E-02	1.35E+02	9.13E+00	1.39E+00	1.94E-01	4.26E-02	-1.00E+00	-1.00E+00	-1.00E+00		
54	Mass Uncert	1sigma grams	1.04E-02	2.19E-03	2.03E+01	1.37E+00	7.41E-01	2.91E-02	6.37E-03	-1.00E+00	-1.00E+00	-1.00E+00		
55	calc Tru Alpha Act	Ci	6.32E-05	2.53E-01	8.52E+00	2.10E+00	4.83E+00	0.00E+00	1.69E-04	0.00E+00	0.00E+00	0.00E+00		
56	calc Tru Alpha Act Conc	nCi/g	1.10E+00	4.39E+03	1.48E+05	3.65E+04	8.39E+04	0.00E+00	2.93E+00	0.00E+00	0.00E+00	0.00E+00		
57	calc Act	Ci	6.32E-05	2.53E-01	8.52E+00	2.10E+00	4.83E+00	2.02E+01	1.69E-04	0.00E+00	0.00E+00	0.00E+00		
58	calc Act Conc	nCi/g	1.10E+00	4.39E+03	1.48E+05	3.65E+04	8.39E+04	3.51E+05	2.93E+00	0.00E+00	0.00E+00	0.00E+00		

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
59	calc Pu239 FGE	g	1.33E-03	1.65E-03	1.35E+02	2.05E-01	2.60E-02	4.37E-01	3.19E-04	0.00E+00	0.00E+00	0.00E+00		
60	calc Pu239 Eq Act	Ci	6.32E-05	2.30E-01	8.52E+00	2.10E+00	4.83E+00	3.96E-01	1.54E-04	0.00E+00	0.00E+00	0.00E+00		
61	calc Decay Heat	watts	1.85E-06	8.38E-03	2.64E-01	6.54E-02	1.61E-01	6.43E-04	4.98E-06	0.00E+00	0.00E+00	0.00E+00		
62	uncert Tru Alpha Act	Ci	7.42E-06	3.80E-02	1.28E+00	3.14E-01	2.57E+00	0.00E+00	2.53E-05	0.00E+00	0.00E+00	0.00E+00		
63	uncert Tru Alpha Act Conc	nCi/g	1.29E-01	6.59E+02	2.21E+04	5.46E+03	4.46E+04	0.00E+00	4.39E-01	0.00E+00	0.00E+00	0.00E+00		
64	uncert Act	Ci	7.42E-06	3.80E-02	1.28E+00	3.14E-01	2.57E+00	3.03E+00	2.53E-05	0.00E+00	0.00E+00	0.00E+00		
65	uncert Act Conc	nCi/g	1.29E-01	6.59E+02	2.21E+04	5.46E+03	4.46E+04	5.26E+04	4.39E-01	0.00E+00	0.00E+00	0.00E+00		
66	uncert Pu239 FGE	g	1.56E-04	2.48E-04	2.03E+01	3.07E-02	1.39E-02	6.56E-02	4.78E-05	0.00E+00	0.00E+00	0.00E+00		
67	uncert Pu239 Eq Act	Ci	7.27E-06	3.38E-02	1.25E+00	3.08E-01	2.52E+00	5.82E-02	2.25E-05	0.00E+00	0.00E+00	0.00E+00		
68	uncert Decay Heat	watts	2.17E-07	1.29E-03	3.95E-02	9.78E-03	8.60E-02	9.65E-05	7.46E-07	0.00E+00	0.00E+00	0.00E+00		
69	Shipping Calcs	2.98E+03	1.17E-02	4.88E+01	1.57E+03	3.88E+02	8.93E+02	7.48E+01	3.12E-02	0.00E+00	0.00E+00	0.00E+00		
70	49CFR173.433f		0.00%	1.57%	52.89%	13.04%	29.99%	2.51%	0.00%	0.00%	0.00%	0.00%		
71	Radionuclide		U-234	U-235	U-238	AM-243	CM-243						LD/HP	08/21/13
72	Activity	Ci	-1.00E+00	0.00E+00	-1.00E+00	4.24E-05	9.92E-06						LD/HP	08/21/13
73	Activity Uncert	1sigma Ci	-1.00E+00	0.00E+00	-1.00E+00	5.55E-06	3.53E-06						LD/HP	08/21/13
74	Mass	grams	-1.00E+00	0.00E+00	-1.00E+00	2.10E-04	1.90E-07	NULL	NULL	NULL	NULL	NULL		
75	Mass Uncert	1sigma grams	-1.00E+00	0.00E+00	-1.00E+00	2.80E-05	6.90E-08	NULL	NULL	NULL	NULL	NULL		
76	calc Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	4.24E-05	9.92E-06	NULL	NULL	NULL	NULL	NULL		
77	calc Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	7.36E-01	1.72E-01	NULL	NULL	NULL	NULL	NULL		
78	calc Act	Ci	0.00E+00	0.00E+00	0.00E+00	4.24E-05	9.92E-06	NULL	NULL	NULL	NULL	NULL		
79	calc Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	7.36E-01	1.72E-01	NULL	NULL	NULL	NULL	NULL		
80	calc Pu239 FGE	g	0.00E+00	0.00E+00	0.00E+00	2.71E-06	9.50E-07	NULL	NULL	NULL	NULL	NULL		
81	calc Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	4.24E-05	6.81E-06	NULL	NULL	NULL	NULL	NULL		
82	calc Decay Heat	watts	0.00E+00	0.00E+00	0.00E+00	1.36E-06	3.61E-07	NULL	NULL	NULL	NULL	NULL		
83	uncert Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	5.66E-06	3.60E-06	NULL	NULL	NULL	NULL	NULL		
84	uncert Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	9.83E-02	6.25E-02	NULL	NULL	NULL	NULL	NULL		
85	uncert Act	Ci	0.00E+00	0.00E+00	0.00E+00	5.66E-06	3.60E-06	NULL	NULL	NULL	NULL	NULL		
86	uncert Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	9.83E-02	6.25E-02	NULL	NULL	NULL	NULL	NULL		
87	uncert Pu239 FGE	g	0.00E+00	0.00E+00	0.00E+00	3.62E-07	3.45E-07	NULL	NULL	NULL	NULL	NULL		
88	uncert Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	5.55E-06	2.42E-06	NULL	NULL	NULL	NULL	NULL		
89	uncert Decay Heat	watts	0.00E+00	0.00E+00	0.00E+00	1.82E-07	1.31E-07	NULL	NULL	NULL	NULL	NULL		
90	Shipping Calcs		0.00E+00	0.00E+00	0.00E+00	7.84E-03	1.22E-03	NULL	NULL	NULL	NULL	NULL		
91	49CFR173.433f		0.00%	0.00%	0.00%	0.00%	0.00%	NULL	NULL	NULL	NULL	NULL		
92	Waste Material Parameter		IM	OM	OI	PW	IS	PP	CP				LD/HP	08/21/13
93	Wgt of Mat Parms	kg	16.5	11	8	4	18.1	2	3.7				LD/HP	08/21/13
94	Radio Assay Method		11HC2	PAN, FRAM, TGS, HENC									LD/HP	08/21/13
95	Data Package Number		2LANDA1204										LD/HP	08/21/13
96	Assay Date		8/2/2013										LD/HP	08/21/13
97	Charz Method ID		11RR2	RTRM, VISUAL									LD/HP	08/21/13
98	Data Package Number		LA-RTR2-13-0096										LD/HP	08/21/13
99	Charz Method Date		7/30/2013										LD/HP	08/21/13
100	Haz Codes		F001	F002	F005	D004	D005	D006	D007	D008	D009	D010	LD/HP	08/21/13
101	Haz Codes		D011	D018	D019	D021	D022	D035	D038	D039	D040		LD/HP	08/21/13
102	Haz Codes													
103	Haz Codes													
104	Sample ID	Headspace Gas H/M	H-LA00000094071										LD/HP	08/21/13
105	Sample Type		HGHM-T	HGHM									LD/HP	08/21/13
106	Layer No. Sampled		0		716.8								LD/HP	08/21/13
107	Date Sampled		8/7/2013			Sample Site							LD/HP	08/21/13
108	Method ID		11HG2	DTP-1.2-041		C4							LD/HP	08/21/13
109	Data Package Number		LA13FG2092										LD/HP	08/21/13
110	CAS #		1333-74-0	74-82-8										
111	Analyte		HYDROGEN	METHANE									LD/HP	08/21/13
112	Concentration				574.66	142.44							LD/HP	08/21/13
113	units	%vol			PPMV	PPMV							LD/HP	08/21/13
114	Date Analyzed		08/07/13	8/7/2013		2.5%= 14.37							LD/HP	08/21/13
115	B Detectable Flag													
116	D Detectable Flag													
117	E Detectable Flag													
118	J Detectable Flag													
119	U Detectable Flag			U									LD/HP	08/21/13
120	NA Detectable Flag		NA											
121	Methanol Sample ID		11HG2											
122	Sample ID	Headspace Gas VOC	LA00000094071										LD/HP	08/21/13
123	Sample Type		HGVO-T	HGVO									LD/HP	08/21/13
124	Layer No. Sampled		0			SARP-Flammable VOCs (ppmv)	61.605						LD/HP	08/21/13
125	Date Sampled		8/7/2013										LD/HP	08/21/13
126	Method ID		11HG2	DTP-1.2-041									LD/HP	08/21/13
127	Data Package Number		LA13FG2092										LD/HP	08/21/13

14.37 JLL 8/22/13

WDS Master Template xls Rev 8
Addendum #8, SCO #1065
Excel 2003/2007 Microsoft
Windows XP

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
128														
129	CAS #		67-56-1	60-29-7	75-35-4	67-64-1	75-34-3	156-59-2	78-93-3	110-82-7			LD/HP	08/21/13
130	Analyte		Methanol	Ethyl ether	1,1-Dichloroethylene	Acetone	1,1-Dichloroethane	cis-1,2-Dichloroethylene	Methyl ethyl ketone	Cyclohexane				
131	Concentration		35.23	0.96	6.38	18.08	4.08	0.76	11.73	5.10			LD/HP	08/21/13
132	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			LD/HP	08/21/13
133	Date Analyzed		8/7/2013	8/7/2013	8/7/2013	8/7/2013	8/7/2013	8/7/2013	8/7/2013	8/7/2013			LD/HP	08/21/13
134	B Detectable Flag													
135	D Detectable Flag													
136	E Detectable Flag													
137	J Detectable Flag													
138	U Detectable Flag		U	U	U	U	U	U	U	U			LD/HP	08/21/13
139	NA Detectable Flag													
140	SARP-Flammable Calc		17.615	0.48	3.19	9.04	2.04	0.38	5.865	2.55				
141	CAS #		71-43-2	107-06-2	71-36-3	108-10-1	108-88-3	108-90-7	100-41-4	108383/106423			LD/HP	08/21/13
142	Analyte		Benzene	1,2-Dichloroethane	Butanol	Methyl isobutyl ketone	Toluene	Chlorobenzene	Ethyl benzene	m-Xylene/p-Xylene				
143	Concentration		1.77	3.66	1.84	9.82	8.02	4.10	3.57	1.92			LD/HP	08/21/13
144	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			LD/HP	08/21/13
145	Date Analyzed		8/7/2013	8/7/2013	8/7/2013	8/7/2013	8/7/2013	8/7/2013	8/7/2013	8/7/2013			LD/HP	08/21/13
146	B Detectable Flag													
147	D Detectable Flag													
148	E Detectable Flag													
149	J Detectable Flag													
150	U Detectable Flag		U	U	U	U	U	U	U	U			LD/HP	08/21/13
151	NA Detectable Flag													
152	SARP-Flammable Calc		0.885	1.83	0.92	4.91	4.01	2.05	1.785	0.96				
153	CAS #		95-47-6	108-67-8	95-63-6								LD/HP	08/21/13
154	Analyte		o-Xylene	1,3,5-Trimethylbenzen	1,2,4-Trimethylbenzen	NULL	NULL	NULL	NULL	NULL				
155	Concentration		2.10	1.96	2.13								LD/HP	08/21/13
156	units	ppmv	ppmv	ppmv	ppmv								LD/HP	08/21/13
157	Date Analyzed		8/7/2013	8/7/2013	8/7/2013	NULL	NULL	NULL	NULL	NULL			LD/HP	08/21/13
158	B Detectable Flag													
159	D Detectable Flag													
160	E Detectable Flag													
161	J Detectable Flag													
162	U Detectable Flag		U	U	U								LD/HP	08/21/13
163	NA Detectable Flag					NA	NA	NA	NA	NA				
164	SARP-Flammable Calc		1.05	0.98	1.065	NULL	NULL	NULL	NULL	NULL				
165	CAS #													
166	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
167	Concentration													
168	units	ppmv												
169	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
170	B Detectable Flag													
171	D Detectable Flag													
172	E Detectable Flag													
173	J Detectable Flag													
174	U Detectable Flag													
175	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA				
176	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
177	CAS #													
178	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
179	Concentration													
180	units	ppmv												
181	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
182	B Detectable Flag													
183	D Detectable Flag													
184	E Detectable Flag										WDS Master Template.xls Rev 8			
185	J Detectable Flag										Addendum #8, SCO #1065			
186	U Detectable Flag										Excel 2003/2007 Microsoft			
187	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA	Windows XP			
188	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				

COPY

	A	B	C	D	M	N
189			type	comment		
190	Comment				LD/HP	08/21/13
191	Comment					
192	Comment					
193	Comment					
194	Comment					
195	Comment					
196	Comment					
197	Comment					
198	Comment					
199	Comment					
200						
201			Requirements Met?			
202	Free liquids <1% by volume		YES			
203	No non-rad. pyrophorics		YES			
204	Chemical compatability		YES			
205	No explosives		YES			
206	No corrosives		YES			
207	No pressurized containers		YES			
208	No sealed Containers >4 liters		YES			
209	Liner punctured/ filtered		YES			
210	Flammable VOCs <500ppmv		Yes			
211	Container is in Approved Waste Stream Profile Form?	LA-MHD01.001	YES			
212	Can it be established through Process Knowledge that the concentration of flammable VOCs present in the headspace of the container is <= 500 ppm?.		NO			
213						
214						
215						
216						
217						
218						
219						
220						
221						
222						
223						
224						
225						
226						
227						
228						
229						
230						
231						
232						
233						
234						
235						

G. Hinsley
CCP Certification Official

8/22/13
Date

WDS Master Template xls Rev 8
Addendum #8, SCO #1065
Excel 2003/2007 Microsoft Windows XP

COPY

Waste Isolation Pilot Plant
Container Data Report

Report Statistics

Report Version:	**2.3**
WDS Instance:	**prd05.wipp.carlsbad.nm.us**
Generated on:	**June 20, 2014 09:01 AM**
Generated by:	**KIRKES, CRETA**
Total Pages:	**9**

Selection Criteria

Container Number:	**LA00000094071**

Container: LA00000094071
Type: 1 - 55 gal

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 08/22/2013
Waste Handling Code: CH
Disposal Date: 09/14/2013

Current Location Site:	WI	Neutron Dose Rate (mrem/hr):	2.0	FGE (g):	1.38E02
Generator Site:	LA	Beta Gamma Dose Rate (mrem/hr):	11.0	FGE Uncertainty (g):	2.02E01
Destination Site ID:	WI	Total Dose Rate (mrem/hr):	13.0	Gross Weight (kg):	91.00
Certification Program ID:	C4			Gross Weight Uncert (kg):	2.30
Shipping Program ID:	C4			Decay Heat (W):	5.0E-01
				Decay Heat Uncertainty (W):	9.3E-02

Shipment Data

Payload ID: **LA3388** Assembly ID: LA134472 Payload Complete? Y
Shipment Number: LA130134 Send Date: 09/11/2013 Receipt Date: 09/11/2013
Shipment Status: SHIPMENT RECEIVED AT DESTINATION

Emplacement Location

Panel: 6 Room: 2
Row: 96 Column: 2 Height: T

Certification Data Values

Waste Stream Profile Code:	LA-MHD01.001
Waste Type Code:	MTRU
IDC Code:	NONE
Waste Matrix Code:	S5400
WAC Revision Number:	7.4
Fill Factor (%):	95.00
Waste Stream BIR ID:	LA-MHD01.001
Waste Stream MWIR ID:	NONE

TRU Alpha Activity (Ci):	1.57E01
TRU Alpha Activity Uncertainty (Ci):	2.83E00
TRU Alpha Activity Concentration (Ci/g):	2.73E-04
PU-239 Equivalent Activity (PE-Ci):	1.61E01
Alpha Surface Contamination (dpm/cm^2):	19.0
Beta/Gamma Surface Contamination (dpm/cm^2):	199.0

Transportation Data Values

Closure Date:	07/25/2013	Shipment Purpose:	DISPOSAL
Vent Date:	07/25/2013	Machine Compacted?	N
Process Knowledge?	N	Liner Exists?	N
		Liner Hole Size(mm):	
TRUCON Code:	LA225C	Liner Lid Present?	
Shipping Category:	3001090041	Layers of Packaging	1
Aspiration Method:	3	Aqueous Material?	N

Gas Generation Data Values

Measured FGGR (mol/s)	Measured TGRR (mol/s)	Truncated FGGR Test (Y/N)	Truncated FGGR Test Period (days)

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date

Container: LA00000094071
Type: 1 - 55 gal

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 08/22/2013
Waste Handling Code: CH
Disposal Date: 09/14/2013

PCB Waste? N
PCB Mass (kg):
PCB Concentration (ppm):
PCB Out of Service Date:
Be Present? Y
Be <= 1% by weight? Y
Be mass <= 100kg? Y
Separation OK?
Packing Fraction (compaction level): non-compacted

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date
NF019D	1.85E-05	1	07/25/2013

Certification Comments

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
AM-241	4.830E00	2.520E00	1.392E00	7.410E-01
AM-243	4.240E-05	5.550E-06	2.099E-04	2.804E-05
CM-243	9.920E-06	3.530E-06	1.900E-07	6.900E-08
CS-137	<LLD	<LLD	<LLD	<LLD
NP-237	6.320E-05	7.270E-06	8.864E-02	1.040E-02
PU-238	2.530E-01	3.720E-02	1.462E-02	2.194E-03
PU-239	8.520E00	1.250E00	1.355E02	2.028E01
PU-240	2.100E00	3.080E-01	9.130E00	1.366E00
PU-241	2.020E01	2.970E00	1.942E-01	2.914E-02
PU-242	1.690E-04	2.480E-05	4.257E-02	6.374E-03
SR-90	<LLD	<LLD	<LLD	<LLD
U-233	<LLD	<LLD	<LLD	<LLD

Container: LA00000094071
Type: 1 - 55 gal

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 08/22/2013
Waste Handling Code: CH
Disposal Date: 09/14/2013

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
U-234	<LLD	<LLD	<LLD	<LLD
U-235	.000E00	.000E00	.000E00	.000E00
U-238	<LLD	<LLD	<LLD	<LLD

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	H-LA00000094071	HGHM-T	HEADSPACE GAS HYDROGEN AND METHANE	08/07/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
1333-74-0	HYDROGEN	574.66	08/07/2013	11HG2	NA
74-82-8	METHANE	14.37	08/07/2013	11HG2	U

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000094071	HGVO-T	HEADSPACE GAS VOC	08/07/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
100-41-4	ETHYL BENZENE	3.57	08/07/2013	11HG2	U
107-06-2	1,2-DICHLOROETHANE	3.66	08/07/2013	11HG2	U
108-10-1	METHYL ISOBUTYL KETONE	9.82	08/07/2013	11HG2	U
108-67-8	1,3,5-TRIMETHYLBENZENE	1.96	08/07/2013	11HG2	U
108-88-3	TOLUENE	8.02	08/07/2013	11HG2	U

Container: LA00000094071
Type: 1 - 55 gal

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 08/22/2013
Waste Handling Code: CH
Disposal Date: 09/14/2013

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000094071	HGVO-T	HEADSPACE GAS VOC	08/07/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
108-90-7	CHLOROBENZENE	4.1	08/07/2013	11HG2	U
108383/106423	M,P-XYLENE	1.92	08/07/2013	11HG2	U
110-82-7	CYCLOHEXANE	5.1	08/07/2013	11HG2	U
156-59-2	CIS-1,2-DICHLOROETHYLENE	0.76	08/07/2013	11HG2	U
60-29-7	ETHYL ETHER	0.96	08/07/2013	11HG2	U
67-56-1	METHANOL	35.23	08/07/2013	11HG2	U
67-64-1	ACETONE	18.08	08/07/2013	11HG2	U
71-36-3	BUTANOL	1.84	08/07/2013	11HG2	U
71-43-2	BENZENE	1.77	08/07/2013	11HG2	U
75-34-3	1,1-DICHLOROETHANE	4.08	08/07/2013	11HG2	U
75-35-4	1,1-DICHLOROETHYLENE	6.38	08/07/2013	11HG2	U
78-93-3	METHYL ETHYL KETONE	11.73	08/07/2013	11HG2	U
95-47-6	O-XYLENE	2.1	08/07/2013	11HG2	U
95-63-6	1,2,4-TRIMETHYLBENZENE	2.13	08/07/2013	11HG2	U

Material Parameters

Material Parameter	Description	Weight (kg)

Container: LA00000094071
Type: 1 - 55 gal

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 08/22/2013

Waste Handling Code: CH
Disposal Date: 09/14/2013

Material Parameters

Material Parameter	Description	Weight (kg)
1	IRON BASE METAL ALLOYS	16.50
3	OTHER METAL/ALLOYS	11.00
4	OTHER INORGANIC MATERIALS	8.00
8	PLASTICS	4.00
9	SOLIDIFIED INORGANIC MATERIAL	18.10
13	STEEL CONTAINER MATERIALS	27.70
14	PLASTIC/LINERS CONTAINER MATERIALS	2.00
15	CELLULOSICS PACKAGING MATERIALS	3.70
	Waste Weight:	57.60
	Packaging Weight:	33.40
	Total Material Weight:	91.00

Hazardous Codes

Hazardous Code	Description
D004	ARSENIC
D005	BARIUM
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D018	BENZENE

Container: LA00000094071
Type: 1 - 55 gal

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 08/22/2013
Waste Handling Code: CH
Disposal Date: 09/14/2013

Hazardous Codes

Hazardous Code	Description
D019	CARBON TETRACHLORIDE
D021	CHLOROBENZENE
D022	CHLOROFORM
D035	METHYL ETHYL KETONE
D038	PYRIDINE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
F001	SPENT HALOGENATED SOLVENTS
F002	SPENT HALOGENATED SOLVENTS
F005	SPENT NON-HALOGENATED SOLVENTS

Assay Methods

Labor Code	Assay Method	Description	Assay Date
C4	11HC2	CANBERRA HENC LA07/LAN6	08/02/2013

Non-Destructive Examination (NDE)

Labor Code	NDE Method	Description	Examination Date
C4	11RR2	RTR - VJ TECHNOLOGIES MOBILE SYSTEM	07/30/2013

Edit Limit Check Results

Evaluation Date: 08/22/2013 10:00:56 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description

Container: LA00000094071
Type: 1 - 55 gal

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 08/22/2013
Waste Handling Code: CH
Disposal Date: 09/14/2013

Edit Limit Check Results
Evaluation Date: 08/22/2013 10:00:56 Overall Status: PASS

Evaluation Code	Status
DI_CERT_ALL	PASS
DI_CERT_BE	PASS
DI_CERT_CERT	PASS
DI_CERT_CHARZ	PASS
DI_CERT_ED	PASS
DI_CERT_EPA	PASS
DI_CERT_PCB	PASS
DI_CERT_PERC	PASS
DI_CERT_TRAMPAC	PASS
DSA	PASS
WAC	PASS
WAP_CERT	PASS

TRAMPAC Evaluation Results
Evaluation Date: 08/22/2013 10:00:57 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
CE_ACT	PASS		
CE_ALL	PASS		
CE_ASP	PASS		
CE_DDH	PASS		
CE_FGE	PASS		
CE_FIL	PASS		
CE_GVE	PASS		
CE_RDR	PASS		
CE_TRU	PASS		

Container: LA00000094071
Type: 1 - 55 gal

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 08/22/2013
Waste Handling Code: CH
Disposal Date: 09/14/2013

TRAMPAC Evaluation Results

Evaluation Date: 08/22/2013 10:00:57 Overall Status: PASS

Evaluation Code	Status
CE_WGT	PASS

Details

Matrix Depleted Shipping Category:		Compliance Method:	ANALYTICAL
Decay Heat Limit (w):	1.0795300962183931	FGE Limit (g):	200
FGGR (mol/s):	5.648812790570525E-8	FGGR Limit (mol/s):	1.2195121951219514E-7
Volume Model:		Required Aspiration Time (days):	
Total Headspace VOCs (ppm):	123.21		
Packaging Configuration:	COMMON_PACKAGING 2	DAC Scenario:	3
Closure Time (days):	0	Minimum Closure Time Applied (days):	53
Sample-Vent Time (days):	13	Min Sample-Vent Time Applied (days):	9
TFGVC in ICL (mol fr):		MLEL (mol fr):	0.05

History

Event Date/Time	Event Description	Reason
08/22/2013 10:00:57	INSERT DATA INTO THE DATABASE	
08/22/2013 10:00:57	SUCCESSFUL SUBMISSION FOR CERT	
08/22/2013 10:07:26	APPROVED FOR CERT	
09/04/2013 10:21:29	ASSIGNED TO PAYLOAD	

Survey Number:	Date/ Time:
2013-05454	8/7/13 1700
Location:	**Surveyor:**
TA-54-232	S. Mallory

Survey Type:

- ☐ Routine
- ☐ Pre-Job RWP
- ☐ Post-Job RWP
- ☐ RMI
- ■ Drums
- ☐ Rad Material Release
- ☐ Rad Material Receipt
- ☐ Vehicle Release/Receipt
- ☐ Equipment
- ☐ Other

■ **Contamination** ■ **Radiation**

Survey of drums after sampling, prior to shipment to dome 49/ RANT/ WIPP.

Instrument	P/N #	Cal Due	Bkgd	MDA	units
E600	N/A	N/A	N/A	N/A	α dpm
SHP380AB	N/A	N/A	N/A	N/A	β dpm
E600	12479	1/14/2014	N/A	N/A	mrem/h
SNRD	13588	10/18/2013	0.25	0.25	mrem/h
RO-20 / RO-2	12659	9/13/2013	0.1	0.1	mrem/h
Ludlum 139	N/A	N/A	N/A	N/A	α dpm

Berthold Model 770 Alpha/Beta Counter P/N: 948175

Please see attached data sheet if checked ■

RCT Signature

Supervisor **M. Fitzpatrick**

#	Alpha Removable (dpm/100cm²)	Alpha Total (dpm/100cm²)	Beta Removable (dpm/100cm²)	Beta Total (dpm/100cm²)	Contact	30 cm	1 Meter			
1	NDA	N/A	NDA	N/A	42.00	18.00	3.00	βγ	94082	Seam
2	NDA	N/A	NDA	N/A	1.50	0.60	0.25	η		Side
3	NDA	N/A	NDA	N/A	43.50	18.60	3.25	Total		Rim
4	NDA	N/A	NDA	N/A						Top
5	NDA	N/A	NDA	N/A						Bottom
6	NDA	N/A	NDA	N/A	30.00	15.00	3.40	βγ	94060	Seam
7	NDA	N/A	NDA	N/A	0.25	0.25	0.25	η		Side
8	NDA	N/A	NDA	N/A	30.25	15.25	3.65	Total		Rim
9	NDA	N/A	NDA	N/A						Top
10	NDA	N/A	NDA	N/A						Bottom
11	NDA	N/A	NDA	N/A	48.00	15.00	7.00	βγ	94074	Seam
12	NDA	N/A	NDA	N/A	0.80	0.25	0.25	η		Side
13	NDA	N/A	NDA	N/A	48.80	15.25	7.25	Total		Rim
14	NDA	N/A	NDA	N/A						Top
15	NDA	N/A	NDA	N/A						Bottom
16	NDA	N/A	NDA	N/A	11.00	2.70	1.00	βγ	94071	Seam
17	NDA	N/A	NDA	N/A	2.00	0.80	0.25	η		Side
18	NDA	N/A	NDA	N/A	13.00	3.50	1.25	Total		Rim
19	NDA	N/A	NDA	N/A						Top
20	NDA	N/A	NDA	N/A						Bottom
21	NDA	N/A	NDA	N/A	3.50	1.70	0.60	βγ	66901	Seam
22	NDA	N/A	NDA	N/A	1.50	0.60	0.25	η		Side
23	NDA	N/A	NDA	N/A	5.00	2.30	0.85	Total		Rim
24	NDA	N/A	NDA	N/A						Top
25	NDA	N/A	NDA	N/A						Bottom
26	NDA	N/A	NDA	N/A	8.00	4.00	0.80	βγ	93686	Seam
27	NDA	N/A	NDA	N/A	1.80	0.90	0.40	η		Side
28	NDA	N/A	NDA	N/A	9.80	4.90	1.20	Total		Rim
29	NDA	N/A	NDA	N/A						Top
30	NDA	N/A	NDA	N/A						Bottom

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0096
Examination Date:	7/30/2013
Waste Container ID:	94071
Video/Audio Recorded Media Number:	LA-RTR2-13-0096 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 91.0 kg Tare Wt.: 33.4 kg Net Wt.: 57.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 94071

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal cans with material, open 5 gal bucket, metal lids

AM:

OM: Scrap lead

OI: Broken glass

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	16.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	11.0
Other Inorganic Materials (OI)	8.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	18.1
Soils (S):	
Total WMP Weight:	57.6

CCP Radiography Data Sheet

Waste Container ID: 94071

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material which may require additional Project Office review.	

RTR Operator:

Michael Simmons		7/30/2013
Print Name	Signature	Date

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	16301	Batch Number:	2LANDA1204
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	94071	Analysis Date:	8/2/2013

Net Weight	57600.0 g		
Pu mass	1.47E+002 +-	2.16E+001	g
TRU Alpha Activity	1.57E+001 +-	2.83E+000	Ci
TRU Activity Concentration	2.73E+005 +-	4.92E+004	nCi/g
Pu-239 Equivalent Activity	1.61E+001 +-	2.83E+000	Ci
Pu-239 FGE	1.38E+002 +-	2.02E+001	g
Decay heat	5.00E-001 +-	9.30E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	8.96E-002	6.32E-005	7.27E-006	3.50E-006
PU238	1.48E-002	2.53E-001	3.72E-002	3.68E-005
PU239	1.37E+002	8.52E+000	1.25E+000	1.24E-003
PU240	9.24E+000	2.10E+000	3.08E-001	3.05E-004
AM241	1.41E+000	4.83E+000	2.52E+000	4.52E-002
PU241	1.96E-001	2.02E+001	2.97E+000	2.94E-003
PU242	4.27E-002	1.69E-004	2.48E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	6.17E-007
U233	<LLD	<LLD	0.00E+000	6.65E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.82E-006
U238	<LLD	<LLD	0.00E+000	2.27E-005
AM243	2.12E-004	4.24E-005	5.55E-006	7.85E-006
CM243	2.02E-007	9.92E-006	3.53E-006	7.96E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 8-7-13

ITR: _____ Date: 8-8-13

NDA 2000 Assay Report

Item Information

Item ID:	94071		Count Sequence Number:	16301	
Operator:	DCLTD231\Operator				
Assay Start:	8/2/2013 3:10:57 PM				
Description 1:	2LANDA1204				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, MT-83, Precision				
Matrix Type:	Debris S5000				
Container Type:	55 gal Drum				
Weight:	Net:	57.6 kg	Net:	57.6 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.290 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

Attachment 4 – Flammable Gas Analysis Form

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **94071**

BDR Number: **LA13FG2092**

Sampling Date: **8/7/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	574.66	
74-82-8	Methane	142.14	U
67-56-1	Methanol	35.23	U
60-29-7	Ethyl Ether	0.96	U
75-35-4	1,1-Dichloroethylene	6.38	U
67-64-1	Acetone	18.08	U
75-34-3	1,1-Dichloroethane	4.08	U
156-59-2	cis-1,2-Dichloroethene	0.76	U
78-93-3	Methyl ethyl ketone	11.73	U
110-82-7	Cyclohexane	5.10	U
71-43-2	Benzene	1.77	U
107-06-2	1,2-Dichloroethane	3.66	U
71-36-3	1-Butanol	1.84	U
108-10-1	Methyl isobutyl ketone	9.82	U
108-88-3	Toluene	8.02	U
108-90-7	Chlorobenzene	4.10	U
100-41-4	Ethylbenzene	3.57	U
108-38-3/106-42-3	m- and p-Xylene	1.92	U
95-47-6	o-Xylene	2.10	U
108-67-8	1,3,5-Trimethylbenzene	1.96	U
95-63-6	1,2,4-Trimethylbenzene	2.13	U

CAS Number	IDENTIFIED TIC COMPOUND	Est. Amount ppmv
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

BDR Number: LA13FG2092

	Waste Container ID	8 Filter Model Number	9 Hydrogen Diffusivity of Filter (mol/s/mf)	10 Package Configuration Group Number	11 Closure Date	12 Vent Date	13 Required DAC Value (in days)	14 Drum Age (in days)	15 Can this container be sampled?
1	66901	NucFil-019DS	1.85E-05	3	6/20/2012	6/20/2012	12	413	Y
2	93686	NucFil-019DS	1.85E-05	3	5/13/2013	5/13/2013	12	86	Y
3	94071	NucFil-019DS	1.85E-05	3	7/25/2013	7/25/2013	12	13	Y
4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Operator: Richard Jagielski
Printed Name

Signature

8/7/13
Date

DIVIDER

PAGE

DIVIDER

PAGE

WDS WCA/WCO CERTIFICATION PACKAGE

CH-LANL – August 19, 2014

(This package is for Audit Purposes Only)

S5000 – LA-MHD01.001

LASB02085 – SWB with 4 55-gallon containers

1. Container Information Summary (CIS) – CCP Correlation of Container Identification Numbers to Batch Data Report Numbers
2. NCR/CAR Check
3. AK Summary Report to obtain vent/closure date
4. Build Sheet for LASB02085
5. Waste Container Data Report from WDS

LA00000066852

Container LA00000066852 package which includes the following:

a. Spreadsheet
b. Waste Container Data Report from WDS
c. Rad Survey
d. RTR Data
e. NDA Data
f. Flam Gas Data and Filter

LA00000088927

Container LA00000088927 package which includes the following:

a. Spreadsheet
b. Waste Container Data Report from WDS
c. Rad Survey
d. RTR Data
e. NDA Data
f. Flam Gas Data and Filter

LA00000091257

Container LA00000091257 package which includes the following:

a. Spreadsheet
b. Waste Container Data Report from WWIS
c. Rad Survey
d. RTR Data
e. NDA Data
f. Flam Gas Data and Filter

LA00000093043

Container LA00000093043 package which includes the following:

a. Spreadsheet
b. Waste Container Data Report from WWIS
c. Rad Survey
d. RTR Data
e. NDA Data
f. Flam Gas Data and Filter

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 401

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
52838	LA00000052838	1LANDA1484	LA-HERTR-13-0081	N/A	No	LA11FG2088	N/A
66291	LA00000066291	1LANDA1839	N/A	LAVE550045	No	LA12FG2002	N/A
66852	LA00000066852	2LANDA1140	N/A	LAVE550080	No	LA13FG12092	N/A
66865	LA00000066865	1LANDA1830	LA-RTR2-13-0101	N/A	No	LA13FG2098	N/A
66892	LA00000066892	1LANDA1831	LA-RTR2-13-0101	N/A	No	LA13FG2097	N/A
66899	LA00000066899	1LANDA1831	LA-RTR2-13-0101	N/A	No	LA13FG2097	N/A
67202	LA00000067202	2LANDA1215	N/A	LAVE550112	No	LA13FG2097	N/A
67204	LA00000067204	1LANDA1831	N/A	LAVE550112	No	LA13FG2097	N/A
67215	LA00000067215	1LANDA1832	N/A	LAVE550111	No	LA13FG2096	N/A
67329	LA00000067329	2LANDA1213	N/A	LAVE550101	No	LA13FG2097	N/A
67330	LA00000067330	1LANDA1830	N/A	LAVE550101	No	LA13FG2097	N/A
67331	LA00000067331	1LANDA1831	N/A	LAVE550101	No	LA13FG2097	N/A
67332	LA00000067332	2LANDA1215	N/A	LAVE550101	No	LA13FG2097	N/A
67335	LA00000067335	1LANDA1831	N/A	LAVE550101	No	LA13FG2097	N/A
67379	LA00000067379	2LANDA1213	N/A	LAVE550105	No	LA13FG2097	N/A
67381	LA00000067381	1LANDA1831	N/A	LAVE550105	No	LA13FG2097	N/A
67391	LA00000067391	2LANDA1215	N/A	LAVE550108	No	LA13FG2097	N/A
67393	LA00000067393	2LANDA1215	N/A	LAVE550108	No	LA13FG2097	N/A
67395	LA00000067395	1LANDA1833	N/A	LAVE550108	No	LA13FG2097	N/A
90983	LA00000090983	2LANDA0956	LA-RTR2-12-0029	N/A	No	LA13FG12092	N/A
91257	LA00000091257	2LANDA0975	LA-RTR2-12-0046	N/A	No	LA13FG12092	N/A
92402	LA00000092402	1LANDA1743	LA-RTR2-13-0047	N/A	No	LA13FG12092	N/A
92658	LA00000092658	1LANDA1787	LA-RTR2-13-0078	N/A	No	LA13FG2068	N/A
92809	LA00000092809	2LANDA1132	LA-RTR2-13-0049	N/A	No	LA13FG12092	N/A

Veronica Waldram
Signature of Site Project Manager

Veronica Waldram
Printed Name

09/25/2013
Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 402

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
54210	LA00000054210	4LANDA0014	LA-HERTR-13-0073	N/A	No	LA13FG2101	N/A
59006	LA00000059006	2LANDA1220	LA-RTR2-12-0050	LAVE500027	No	LA12FG8032	N/A
59130	LA00000059130	1LANDA1754	LA-RTR2-13-0057	N/A	Yes	LA13FG12097	N/A
67095	LA00000067095	1LANDA1802	LA-HERTR-13-0080	N/A	Yes	LA13FG12097	N/A
67336	LA00000067336	1LANDA1830	LA-RTR2-13-0101	N/A	Yes	LA13FG12097	N/A
67370	LA00000067370	2LANDA1213	N/A	LAVE550105	No	LA13FG2100	N/A
67376	LA00000067376	2LANDA1213	N/A	LAVE550105	No	LA13FG2100	N/A
88927	LA00000088927	2LANDA0825	LA-RTR2-11-0069	N/A	Yes	LA11FG2046	N/A
88968	LA00000088968	2LANDA0820	LA-RTR2-11-0062	N/A	Yes	LA11FG8061	N/A
90917	LA00000090917	2LANDA0953	LA-RTR2-12-0028	N/A	No	LA13FG2100	N/A
94072	LA00000094072	1LANDA1819	LA-RTR2-13-0096	N/A	No	LA13FG2100	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
10/03/2013 — Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD01.001 Lot # 370

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Transportation Headspace Gas BDR			
								Sample	Analysis		
63833	LA00000063833	1LANDA1727	LA-HERTR-12-0112	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92582	LA00000092582	2LANDA1091	LA-RTR2-13-0009	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92584	LA00000092584	2LANDA1083	LA-RTR2-13-0009	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92589	LA00000092589	2LANDA1083	LA-RTR2-13-0009	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92611	LA00000092611	2LANDA1119	LA-RTR2-13-0041	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92620	LA00000092620	1LANDA1740	LA-HERTR-13-0030	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92644	LA00000092644	1LANDA1709	LA-RTR2-13-0017	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92688	LA00000092688	1LANDA1714	LA-RTR2-13-0021	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92727	LA00000092727	2LANDA1098	LA-HERTR-13-0010	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92838	LA00000092838	1LANDA1713	LA-HERTR-13-0009	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92850	LA00000092850	1LANDA1719	LA-RTR2-13-0025	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92863	LA00000092863	1LANDA1716	LA-RTR2-13-0027	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92879	LA00000092879	1LANDA1718	LA-RTR2-13-0026	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92923	LA00000092923	2LANDA1104	LA-RTR2-13-0028	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92924	LA00000092924	2LANDA1109	LA-RTR2-13-0028	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92969	LA00000092969	2LANDA1114	LA-RTR2-13-0032	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92976	LA00000092976	2LANDA1122	LA-HERTR-13-0017	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
92988	LA00000092988	2LANDA1123	LA-HERTR-13-0017	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
93043	LA00000093043	2LANDA1115	LA-RTR2-13-0033	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
93073	LA00000093073	1LANDA1727	LA-RTR2-13-0034	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
93211	LA00000093211	2LANDA1123	LA-RTR2-13-0044	N/A	N/A	N/A		LA13FG2037	N/A	N/A	N/A
93275	LA00000093275	3LANDA0158	LA-HERTR-13-0035	N/A	N/A	N/A		LA13FG2039	N/A	N/A	N/A
93276	LA00000093276	3LANDA0158	LA-HERTR-13-0035	N/A	N/A	N/A		LA13FG2039	N/A	N/A	N/A
93277	LA00000093277	3LANDA0158	LA-HERTR-13-0035	N/A	N/A	N/A		LA13FG2039	N/A	N/A	N/A

Signature of Site Project Manager

Jim Eastham
Printed Name

4/17/2013
Date

C18-05

Thursday, August 21, 2014

CONTAINERID: 66852

LANL

AK DATA

Container ID	Container Type	AKA Matrix	WDS Status	AK Excluded	WSID	LOTID	LOT Excluded
66852	55G	LA00000066852	EMPLACED_CNTR	NO	LA-MHD01.001	LA-MHD01.001-Lot 401 (LA-MHD01.001-Lot 401)	

BDR DATA

BDRID	Type	Status	Generation Date
2LANDA1140	NDA	Complete	2013-04-17
LA13FG12092	HSG_TRANS	Complete	2013-09-12
LA13FG2042	HSG_TRANS	Complete	2013-04-23
LAVE550080	VE	Complete	2012-11-14
LAVE550080QTVER		Complete	2013-02-07

NCR DATA

Container ID	NCRID	Status	Release Code
66852	NCR-LANL0582130	Closed	Resolved

REJECT DATA

Container ID	BDRID	NCRID	NCR Status	Release Code	Actual Condition
66852	LA13FG2042	NCR-LANL0582130	Closed	Resolved	Container exceeded the allowable flammable gas generation rate.

CONTAINERID: 88927

LANL

AK DATA

Container ID	Container Type	AKA Matrix	WDS Status	AK Excluded	WSID	LOTID	LOT Excluded
88927	55G	LA00000088927	EMPLACED_CNTR	NO	LA-MHD01.001	LA-MHD01.001-Lot 402 (LA-MHD01.001-Lot 402)	

BDR DATA

BDRID	Type	Status	Generation Date
2LANDA0825	NDA	Complete	2011-06-21
LA-RTR2-11-0069	RTR	Complete	2011-06-15
LA11FG2046	HSG_TRANS	Complete	2011-06-22

NCR DATA

Container ID	NCRID	Status	Release Code
88927	NCR-CCP2197110	Closed	Resolved
88927	NCR-LANL1201111	Superseded	None
88927	NCR-LANL1201112	Superseded	None
88927	NCR-LANL1201113	Superseded	None
88927	NCR-LANL1201114	Superseded	None
88927	NCR-LANL2654110	Closed	Resolved

REJECT DATA

Container ID	BDRID	NCRID	NCR Status	Release Code	Actual Condition

Thursday, August 21, 2014

88927	2LANDA0825	NCR-LANL1201111	Superseded	None	Drums were identified in LANL debris waste streams that contained shielded containers. Interviews with personnel identified that there was shielding of materials in excess of 200 mrem/hr. Five containers were found to be greater than 200 mrem/hr and were on separate NCRs. This NCR is a follow-on to NCR-LANL-1201-10 and its predecessors as required in CCP-QP-005, Rev.19, Section 4.1.1. This NCR is for containers in NDA BDRs that have potentially shielded containers inside, and have greater than 3.9 Ci of Am-241.NOTE: Drums may be added to this NCR without Revision.Reason for Revision 1: Add list of containers with associated BDR from Block 3 as Attachment 1. Add Attachment 2 of containers to remove as they no longer meet the scope of this NCR.Reason for Revision 2: Revise Attachment 1, added Container Number 88927 and removed containers identified in Attachment 2 of Revision 1.
88927	2LANDA0825	NCR-LANL1201112	Superseded	None	Drums were identified in LANL debris waste streams that contained shielded containers. Interviews with personnel identified that there was shielding of materials in excess of 200 mrem/hr. Five containers were found to be greater than 200 mrem/hr and were on separate NCRs. This NCR is a follow-on to NCR-LANL-1201-10 and its predecessors as required in CCP-QP-005, Rev.19, Section 4.1.1. This NCR is for containers in NDA BDRs that have potentially shielded containers inside, and have greater than 3.9 Ci of Am-241.NOTE: Drums may be added to this NCR without Revision.Reason for Revision 1: Add list of containers with associated BDR from Block 3 as Attachment 1. Add Attachment 2 of containers to remove as they no longer meet the scope of this NCR.Reason for Revision 2: Revise Attachment 1, added Container Number 88927 and removed containers identified in Attachment 2 of Revision 1.Reason for Revision 3: Remove containers listed in Attachment 2.
88927	2LANDA0825	NCR-LANL1201113	Superseded	None	Drums were identified in LANL debris waste streams that contained shielded containers. Interviews with personnel identified that there was shielding of materials in excess of 200 mrem/hr. Five containers were found to be greater than 200 mrem/hr and were on separate NCRs. This NCR is a follow-on to NCR-LANL-1201-10 and its predecessors as required in CCP-QP-005, Rev.19, Section 4.1.1. This NCR is for containers in NDA BDRs that have potentially shielded containers inside, and have greater than 3.9 Ci of Am-241.NOTE: Drums may be added to this NCR without Revision.Reason for Revision 1: Add list of containers with associated BDR from Block 3 as Attachment 1. Add Attachment 2 of containers to remove as they no longer meet the scope of this NCR.Reason for Revision 2: Revise Attachment 1, added Container Number 88927 and removed containers identified in Attachment 2 of Revision 1.Reason for Revision 3: Remove containers listed in Attachment 2.Reason for Revision 4: Remove containers listed in Attachment 2.
88927	2LANDA0825	NCR-LANL1201114	Superseded	None	Drums were identified in LANL debris waste streams that contained shielded containers. Interviews with personnel identified that there was shielding of materials in excess of 200 mrem/hr. Five containers were found to be greater than 200 mrem/hr and were on separate NCRs. This NCR is a follow-on to NCR-LANL-1201-10 and its predecessors as required in CCP-QP-005, Rev.19, Section 4.1.1. This NCR is for containers in NDA BDRs that have potentially shielded containers inside, and have greater than 3.9 Ci of Am-241.Reason for Revision 1: Add list of containers with associated BDR from Block 3 as Attachment 1. Add Attachment 2 of containers to remove as they no longer meet the scope of this NCR.Reason for Revision 2: Revise Attachment 1, added Container Number 88927 and removed containers identified in Attachment 2 of Revision 1.Reason for Revision 3: Remove containers listed in Attachment 2.Reason for Revision 4: Remove containers listed in Attachment 2.Reason for Revision 5: Remove containers listed in Attachment 2.

CONTAINERID: 91257

LANL

AK DATA

Container ID	Container Type	AKA Matrix	WDS Status	AK Excluded	WSID	LOTID	LOT Excluded
91257	55G	LA00000091257	EMPLACED_CNTR	NO	LA-MHD01.001	LA-MHD01.001-Lot 401 (LA-MHD01.001-Lot 401)	

BDR DATA

BDRID	Type	Status	Generation Date
2LANDA0975	NDA	Complete	2012-04-19
LA-RTR2-12-0046	RTR	Complete	2012-04-17
LA13FG12092	HSG_TRANS	Complete	2013-09-12

NCR DATA

Container ID	NCRID	Status	Release Code
91257	NO DATA		

REJECT DATA

Container ID	BDRID	NCRID	NCR Status	Release Code	Actual Condition
91257	NO DATA				

CONTAINERID: 93043

LANL

AK DATA

Container ID	Container Type	AKA Matrix	WDS Status	AK Excluded	WSID	LOTID	LOT Excluded
93043	55G	LA00000093043	EMPLACED_CNTR	NO	LA-MHD01.001	LA-MHD01.001-Lot 370 (none)	

BDR DATA

BDRID	Type	Status	Generation Date
2LANDA1115	NDA	Complete	2013-03-11
LA-RTR2-13-0033	RTR	Complete	2013-02-27
LA13FG2037	HSG_TRANS	Complete	2013-04-09

NCR DATA

Container ID	NCRID	Status	Release Code
93043	NO DATA		

REJECT DATA

Container ID	BDRID	NCRID	NCR Status	Release Code	Actual Condition
93043	NO DATA				

Vent & Closure Dates from AK Tracking Spreadsheet - SWB LASB02085

Container ID	Vent Date	Closure Date
LA00000066852	11/14/2012	11/14/2012
LA00000088927	5/3/2011	5/3/2011
LA00000091257	4/10/2012	4/10/2012
LA00000093043	2/22/2013	2/22/2013

Generated: 6/19/14 1:02 PM

Overpack Container #: LASB02085

Overpack Gross Weight + Error

645.13 kg

1,422.51 lbs

Overpack Governing Shipping Period (days): 20

Overpack Container Filters

Filter Model	Quantity
NF019D	2

Inner Containers

Container Number	GrossWgt+Err (kg)	(lbs)	PCB Waste?	Be Present?	Total Dose Rate (mrem/hr)	TRUCON Code	Waste Stream Profile	Filter Model	Qty
LA00000066852	111.40	245.64	N	Y	4.50	LA225D	LA-MHD01.001	NF019D	1
LA00000088927	85.80	189.19	N	Y	22.00	LA225D	LA-MHD01.001	NF019D	1
LA00000093043	80.80	178.16	N	Y	29.20	LA225C	LA-MHD01.001	NF019D	1
LA00000091257	70.80	156.11	N	Y	15.25	LA225D	LA-MHD01.001	NF019D	1

Waste Isolation Pilot Plant
Overpack Data Report

Report Statistics

Report Version:	**2.3**
WDS Instance:	**prd05.wipp.carlsbad.nm.us**
Generated on:	**June 19, 2014 01:02 PM**
Generated by:	**KIRKES, CRETA**
Total Pages:	**7**

Selection Criteria

Container Number:	**LASB02085**

Container: LASB02085
Type: 14 - SWB OP

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/25/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Current Location Site: WI
Generator Site: LA
Destination Site ID: WI

Certification Program ID: C4
Shipping Program ID: C4

Neutron Dose Rate (mrem/hr): 5.8
Beta Gamma Dose Rate (mrem/hr): 1.0
Total Dose Rate (mrem/hr): 6.8

FGE (g): 2.043E02
FGE Uncertainty (g): 3.05E01

Gross Weight (kg): 629.90
Gross Weight Uncert (kg): 15.23

Decay Heat (W): 2.06E00
Decay Heat Uncertainty (W): 2.633E-01

Shipment Data

Payload ID: **LA3479** Assembly ID: LA136767 Payload Complete? Y
Shipment Number: LA130165 Send Date: 11/05/2013 Receipt Date: 11/05/2013
Shipment Status: SHIPMENT RECEIVED AT DESTINATION

Emplacement Location

Panel: 6 Room: 1
Row: 34 Column: 2 Height: B

Certification Data Values

Waste Stream Profile Code: LA-MHD01.001
Waste Type Code: MTRU
IDC Code: NONE
Waste Matrix Code: S5400
WAC Revision Number: 7.4
Fill Factor (%): 32.95

Transportation Data Values

Closure Date: 10/22/2013
Vent Date: 10/22/2013
Shipment Purpose: DISPOSAL
Machine Compacted? N

TRU Alpha Activity (Ci): 6.304E01
TRU Alpha Activity Uncertainty (Ci): 7.976E00
TRU Alpha Activity Concentration (Ci/g): 2.986E-04
PU-239 Equivalent Activity (PE-Ci): 6.02E01
Alpha Surface Contamination (dpm/cm^2): 19.0
Beta/Gamma Surface Contamination (dpm/cm^2): 199.0

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date

Container: LASB02085
Type: 14 - SWB OP

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/25/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

PCB Waste? N
PCB Mass (kg):
PCB Concentration (ppm):
PCB Out of Service Date:
Be Present? Y
Be <= 1% by weight? Y

Separation OK?
Governing Packing Fraction (compaction level): non-compacted

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date
NF019D	1.85E-05	2	10/22/2013

Certification Comments

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
AM-241	7.583E00	2.666E00	2.185E00	7.841E-01
AM-243	6.398E-05	5.833E-06	3.167E-04	2.947E-05
CS-137	3.630E-07	9.840E-08	4.125E-09	1.141E-09
NP-237	6.349E-05	4.568E-06	8.904E-02	6.538E-03
PU-238	3.950E01	7.252E00	2.283E00	4.278E-01
PU-239	1.275E01	1.920E00	2.026E02	3.115E01
PU-240	3.140E00	4.496E-01	1.365E01	1.995E00
PU-241	4.036E01	4.433E00	3.880E-01	4.350E-02
PU-242	3.879E-02	5.330E-03	9.770E00	1.370E00
SR-90	3.630E-07	9.840E-08	2.630E-09	7.276E-10
U-232	4.460E-06	7.000E-07	2.065E-07	3.307E-08

Container: LASB02085
Type: 14 - SWB OP

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/25/2013

Waste Handling Code: CH
Disposal Date: 11/10/2013

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
U-233	<LLD	<LLD	<LLD	<LLD
U-234	5.960E-03	1.130E-03	9.431E-01	1.825E-01
U-235	9.963E-07	2.936E-07	4.549E-01	1.368E-01
U-238	<LLD	<LLD	<LLD	<LLD

Material Parameters

Material Parameter	Description	Weight (kg)
1	IRON BASE METAL ALLOYS	214.00
3	OTHER METAL/ALLOYS	7.50
4	OTHER INORGANIC MATERIALS	34.60
6	CELLULOSICS	11.10
7	RUBBER	32.00
8	PLASTICS	21.80
9	SOLIDIFIED INORGANIC MATERIAL	18.60
13	STEEL CONTAINER MATERIALS	290.30
	Waste Weight:	339.60
	Packaging Weight:	290.30
	Total Material Weight:	629.90

Hazardous Codes

Hazardous Code	Description
D004	ARSENIC

Container: LASB02085
Type: 14 - SWB OP

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/25/2013

Waste Handling Code: CH
Disposal Date: 11/10/2013

Hazardous Codes

Hazardous Code	Description
D005	BARIUM
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D018	BENZENE
D019	CARBON TETRACHLORIDE
D021	CHLOROBENZENE
D022	CHLOROFORM
D035	METHYL ETHYL KETONE
D038	PYRIDINE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
F001	SPENT HALOGENATED SOLVENTS
F002	SPENT HALOGENATED SOLVENTS
F005	SPENT NON-HALOGENATED SOLVENTS

Container: LASB02085
Type: 14 - SWB OP

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/25/2013

Waste Handling Code: CH
Disposal Date: 11/10/2013

Edit Limit Check Results

Evaluation Date: 10/25/2013 13:33:32 Overall Status: PASS

Evaluation Code	Status
DI_CERT_ALL	PASS
DI_CERT_BE	PASS
DI_CERT_CERT	PASS
DI_CERT_CHARZ	PASS
DI_CERT_ED	PASS
DI_CERT_EPA	PASS
DI_CERT_PCB	PASS
DI_CERT_PERC	PASS
DI_CERT_TRAMPAC	PASS
DSA	PASS
WAC	PASS
WAP_CERT	PASS

Return Code	Detailed Description

TRAMPAC Evaluation Results

Evaluation Date: 10/25/2013 13:33:36 Overall Status: PASS

Evaluation Code	Status
OP_ACT	PASS
OP_ALL	PASS
OP_CFG	PASS
OP_DDH	PASS
OP_FGE	PASS
OP_FIL	PASS
OP_GVE	PASS
OP_RDR	PASS
OP_SHIP	

Return Code	Detailed Description
OP_GVE_MIX	Overpack has inner containers with mixed shipping categories - assignment of governing decay heat limit, FGGR limit, and shipping category is not applicable.

Container: LASB02085
Type: 14 - SWB OP

Extended Status: APPROVED CERT EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/25/2013

Waste Handling Code: CH
Disposal Date: 11/10/2013

TRAMPAC Evaluation Results

Evaluation Date: 10/25/2013 13:33:36 Overall Status: PASS

Evaluation Code	Status
OP_TGRR	PASS
OP_WGT	PASS

Inner Containers

Container Number	Type Code	TRUCON Code	Shipping Category	Shipping Period	Gross Weight + Error	FGE + 2x Error	Waste Stream
LA00000066852	16 - 55 gal TBO	LA225D	3001090044	20	111.40	1.066E0	LA-MHD01.001
LA00000088927	16 - 55 gal TBO	LA225D	3001090044	20	85.80	2.55E0	LA-MHD01.001
LA00000091257	16 - 55 gal TBO	LA225D	3001090044	20	70.80	6.056E-1	LA-MHD01.001
LA00000093043	16 - 55 gal TBO	LA225C	3001090047	20	80.80	2.62E2	LA-MHD01.001

History

Event Date/Time	Event Description	Reason
10/18/2013 08:43:36	INSERT DATA INTO THE DATABASE	
10/25/2013 13:33:37	SUCCESSFUL SUBMISSION FOR CERT	
10/25/2013 13:34:07	APPROVED FOR CERT	
10/28/2013 08:53:57	ASSIGNED TO PAYLOAD	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	WDS Master Template.xls Rev. 8 Addendum #8, SCO #1065 Excel 2003/2007 Microsoft Windows XP	Units	data					comments					initial	date
2	Shipper Site ID		C4	Location ID	Dest Program ID	Shipping Purpose				LA00000066852			HP/LD	09/26/13
3	Waste Stream Profile		LA-MHD01.001	LA	WI	D							HP/LD	09/26/13
4	Container Number		LA00000066852	TBO Good CK 9/26/13									HP/LD	09/26/13
5	Container Type		drum	drum, swb, tdop, etc., see WWIS labels for valid types.					U-235 FEM	U-235 FEM Uncert	FGGR Flag	FGGR Test Period	HP/LD	09/26/13
6	WAC Rev #		7.4						NULL	NULL	NULL	NULL	HP/LD	09/26/13
7	[redacted]							Be mass<=100 kg	Be <= 1%	Be Present	Aqueous Material	Compacted Wst		
8	Cert Site		C4					Y	Y	Y	N	N	HP/LD	09/26/13
9	Cert Date		9/30/2013											
10	Waste Handling Code		CH	CH, RH									HP/LD	09/26/13
11	Waste Type Code		MTRU	TRU, MTRU									HP/LD	09/26/13
12	Waste Stream BIR ID		LA-MHD01.001										HP/LD	09/26/13
13	Waste Stream MWIR ID		NONE										HP/LD	09/26/13
14	Generator Site ID		LA										HP/LD	09/26/13
15	IDC Code		NONE										HP/LD	09/26/13
16	Matrix Code		S5400	LA225D CK 9/30/13									HP/LD	09/26/13
17	Trucon Code		LA22260			Invalid Ship Cat							HP/LD	09/26/13
18	Shipping Category		3001090094	> 0.012 Watt-years										
19	Tru Alpha Act	Ci	3.80E+01		3.795E+01								HP/LD	09/26/13
20	Tru Alpha Act Uncert	1sigma Ci	7.25E+00	5.250E+01	Tru Alpha Act + 2sigma (Ci)								HP/LD	09/26/13
21	Tru Alpha Act Conc	nCi/g	4.70E+05		4.70E+05								HP/LD	09/26/13
22	[redacted]		8.97E+04	6.494E+05	Tru Alpha Act Conc + 2sigma (Ci)			Drum Weight	27.7				HP/LD	09/26/13
23	Pu239 Fiss Gm Eq	g	7.92E-01		7.924E-01								HP/LD	09/26/13
24	Pu239 Fiss Gm Eq Uncert	1sigma g	1.37E-01	1.066E+00	Pu239 Fiss Gm Eq + 2sigma (Ci)								HP/LD	09/26/13
25	Pu239 Eq Act	Ci	3.45E+01		3.451E+01								HP/LD	09/26/13
26	Decay Heat	watts	1.26E+00		1.257E+00								HP/LD	09/26/13
27	Decay Heat Uncert	1sigma watts	2.40E-01	1.50E+00	Decay Heat + 1sigma (watts)								HP/LD	09/26/13
28	Layers of Packaging												HP/LD	09/26/13
29	Fill Factor		75	percentage	Liner Lid Present								HP/LD	09/26/13
30	Liner Type			1 = plastic drum liner									HP/LD	09/26/13
31	Liner Punctured				Liner Hole Size								HP/LD	09/26/13
32	PCB Conc		NULL		(mm)		PCB Waste	PCB Mass (kg)	Out of Service				HP/LD	09/26/13
33	Closure Date		11/14/2012	Watt-years	Waste Gen Date		N	NULL	NULL				HP/LD	09/26/13
34	Vent Date		11/14/2012	1.091	NULL								HP/LD	09/26/13
35	Filter Install Date		11/14/2012				Filter Reduction Date	NULL					HP/LD	09/26/13
36	Filter Manufacturer		NFT				Reduced Filter Model	NULL					HP/LD	09/26/13
37	[redacted]												HP/LD	09/26/13
38	Filter Model Number		NF019D										HP/LD	09/26/13
39	Number of Filters Installed		1										HP/LD	09/26/13
40	Aspiration Method ID		3										HP/LD	09/26/13
41	Gas Gen Rate			#VALUE!	<<Gas Gen Rate Calculated.									
42	Hydrogen/Methane Gen Rate													
43	Gas Gen Comp Date				Waste (kg)	Packaging (kg)	Total (kg)							
44	Gross Weight	kg	109.1		80.8	28.3	109.1						HP/LD	09/26/13
45	Gross Weight Uncert	1sigma kg	2.3										HP/LD	09/26/13
46	Alpha Surf Cont	dpm/100 cm^2	19										HP/LD	09/26/13
47	Beta/Gamma Surf Cont	dpm/100 cm^2	199										HP/LD	09/26/13
48	Neutron Dose Rate	mrem/hr	3.5										HP/LD	09/26/13
49	Beta/Gamma Dose Rate	mrem/hr	1										HP/LD	09/26/13
50	Radionuclide		SR-90	CS-137	U-232	U-233	U-234	U-235	NP-237	PU-238	U-238	PU-239	HP/LD	09/26/13
51	Activity	Ci	3.63E-07	3.63E-07	4.46E-06	-1.00E+00	5.92E-03	0.00E+00	0.00E+00	3.79E+01	-1.00E+00	3.40E-02	HP/LD	09/26/13
52	Activity Uncert	1sigma Ci	9.84E-08	9.84E-08	7.00E-07	-1.00E+00	1.13E-03	0.00E+00	0.00E+00	7.25E+00	-1.00E+00	8.08E-03	HP/LD	09/26/13
53	Mass	grams	2.63E-09	4.13E-09	2.06E-07	-1.00E+00	9.37E-01	0.00E+00	0.00E+00	2.19E+00	-1.00E+00	5.41E-01		
54	Mass Uncert	1sigma grams	7.28E-10	1.14E-09	3.31E-08	-1.00E+00	1.82E-01	0.00E+00	0.00E+00	4.28E-01	-1.00E+00	1.31E-01		
55	calc Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.79E+01	0.00E+00	3.40E-02		
56	calc Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.69E+05	0.00E+00	4.21E+02		
57	calc Act	Ci	3.63E-07	3.63E-07	4.46E-06	0.00E+00	5.92E-03	0.00E+00	0.00E+00	3.79E+01	0.00E+00	3.40E-02		
58	calc Act Conc	nCi/g	4.49E-03	4.49E-03	5.52E-02	0.00E+00	7.33E+01	0.00E+00	0.00E+00	4.69E+05	0.00E+00	4.21E+02		

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
59	calc Pu239 FGE	g	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E-01	0.00E+00	5.41E-01		
60	calc Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.45E+01	0.00E+00	3.40E-02		
61	calc Decay Heat	watts	4.21E-10	4.02E-10	1.43E-07	0.00E+00	1.70E-04	0.00E+00	0.00E+00	1.26E+00	0.00E+00	1.05E-03		
62	uncert Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E+00	0.00E+00	8.24E-03		
63	uncert Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.16E+04	0.00E+00	1.02E+02		
64	uncert Act	Ci	1.00E-07	1.00E-07	7.14E-07	0.00E+00	1.15E-03	0.00E+00	0.00E+00	7.40E+00	0.00E+00	8.24E-03		
65	uncert Act Conc	nCi/g	1.24E-03	1.24E-03	8.84E-03	0.00E+00	1.43E+01	0.00E+00	0.00E+00	9.16E+04	0.00E+00	1.02E+02		
66	uncert Pu239 FGE	g	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.83E-02	0.00E+00	1.31E-01		
67	uncert Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.59E+00	0.00E+00	8.08E-03		
68	uncert Decay Heat	watts	1.16E-10	1.11E-10	2.29E-08	0.00E+00	3.32E-05	0.00E+00	0.00E+00	2.45E-01	0.00E+00	2.56E-04		
69	Shipping Calcs	7.02E+03	1.34E-07	2.69E-08	5.50E-04	0.00E+00	2.19E-01	0.00E+00	0.00E+00	7.01E+03	0.00E+00	6.28E+00		
70	49CFR173.433f		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	99.85%	0.00%	0.09%		
71	Radionuclide		PU-240	AM-241	PU-241	PU-242	AM-243						HP/LD	09/26/13
72	Activity	Ci	1.69E-02	1.08E-03	1.19E-01	1.69E-05	3.08E-06						HP/LD	09/26/13
73	Activity Uncert	1sigma Ci	4.01E-03	2.03E-04	2.84E-02	4.02E-06	7.45E-07						HP/LD	09/26/13
74	Mass	grams	7.35E-02	3.11E-04	1.14E-03	4.26E-03	1.52E-05	NULL	NULL	NULL	NULL	NULL		
75	Mass Uncert	1sigma grams	1.78E-02	5.97E-05	2.79E-04	1.03E-03	3.76E-06	NULL	NULL	NULL	NULL	NULL		
76	calc Tru Alpha Act	Ci	1.69E-02	1.08E-03	0.00E+00	1.69E-05	3.08E-06	NULL	NULL	NULL	NULL	NULL		
77	calc Tru Alpha Act Conc	nCi/g	2.09E+02	1.34E+01	0.00E+00	2.09E-01	3.81E-02	NULL	NULL	NULL	NULL	NULL		
78	calc Act	Ci	1.69E-02	1.08E-03	1.19E-01	1.69E-05	3.08E-06	NULL	NULL	NULL	NULL	NULL		
79	calc Act Conc	nCi/g	2.09E+02	1.34E+01	1.47E+03	2.09E-01	3.81E-02	NULL	NULL	NULL	NULL	NULL		
80	calc Pu239 FGE	g	1.65E-03	5.82E-06	2.57E-03	3.19E-05	1.97E-07	NULL	NULL	NULL	NULL	NULL		
81	calc Pu239 Eq Act	Ci	1.69E-02	1.08E-03	2.33E-03	1.54E-05	3.08E-06	NULL	NULL	NULL	NULL	NULL		
82	calc Decay Heat	watts	5.26E-04	3.61E-05	3.79E-06	4.98E-07	9.90E-08	NULL	NULL	NULL	NULL	NULL		
83	uncert Tru Alpha Act	Ci	4.09E-03	2.07E-04	0.00E+00	4.10E-06	7.60E-07	NULL	NULL	NULL	NULL	NULL		
84	uncert Tru Alpha Act Conc	nCi/g	5.06E+01	2.56E+00	0.00E+00	5.08E-02	9.41E-03	NULL	NULL	NULL	NULL	NULL		
85	uncert Act	Ci	4.09E-03	2.07E-04	2.90E-02	4.10E-06	7.60E-07	NULL	NULL	NULL	NULL	NULL		
86	uncert Act Conc	nCi/g	5.06E+01	2.56E+00	3.59E+02	5.08E-02	9.41E-03	NULL	NULL	NULL	NULL	NULL		
87	uncert Pu239 FGE	g	4.00E-04	1.12E-06	6.27E-04	7.75E-06	4.85E-08	NULL	NULL	NULL	NULL	NULL		
88	uncert Pu239 Eq Act	Ci	4.01E-03	2.03E-04	5.57E-04	3.65E-06	7.45E-07	NULL	NULL	NULL	NULL	NULL		
89	uncert Decay Heat	watts	1.27E-04	6.92E-06	9.22E-07	1.21E-07	2.44E-08	NULL	NULL	NULL	NULL	NULL		
90	Shipping Calcs		3.12E+00	2.00E-01	4.41E-01	3.12E-03	5.69E-04	NULL	NULL	NULL	NULL	NULL		
91	49CFR173.433f		0.04%	0.00%	0.01%	0.00%	0.00%	NULL	NULL	NULL	NULL	NULL		
92	Waste Material Parameter		IM	OI	R	PW	PP						HP/LD	09/26/13
93	Wgt of Mat Parms	kg	44.1	3.5	32	1.2	0.6						HP/LD	09/26/13
94	Radio Assay Method		11HC2	PAN, FRAM, TGS, HENC									HP/LD	09/26/13
95	Data Package Number		2LANDA1140										HP/LD	09/26/13
96	Assay Date		4/17/2013										HP/LD	09/26/13
97	Charz Method ID		11VE1	RTRM, VISUAL									HP/LD	09/26/13
98	Data Package Number		LAVE550080										HP/LD	09/26/13
99	Charz Method Date		11/14/2012										HP/LD	09/26/13
100	Haz Codes		F001	F002	F005	D004	D005	D006	D007	D008	D009	D010	HP/LD	09/26/13
101	Haz Codes		D011	D018	D019	D021	D022	D035	D038	D039	D040		HP/LD	09/26/13
102	Haz Codes													
103	Haz Codes													
104	Sample ID	Headspace Gas H/M	H-LA00000066852										HP/LD	09/26/13
105	Sample Type		HGHM-T	HGHM									HP/LD	09/26/13
106	Layer No. Sampled		0		213.3								HP/LD	09/26/13
107	Date Sampled		9/12/2013			Sample Site							HP/LD	09/26/13
108	Method ID		11HG2	DTP-1.2-041		C4							HP/LD	09/26/13
109	Data Package Number		LA13FG12092										HP/LD	09/26/13
110	CAS #		1333-74-0	74-82-8										
111	Analyte		HYDROGEN	METHANE									HP/LD	09/26/13
112	Concentration				203 67	9.63							HP/LD	09/26/13
113	units	%vol			PPMV	PPMV							HP/LD	09/26/13
114	Date Analyzed		09/12/13	9/12/2013		2.5%= 5.09							HP/LD	09/26/13
115	B Detectable Flag													
116	D Detectable Flag													
117	E Detectable Flag													
118	J Detectable Flag													
119	U Detectable Flag			U									HP/LD	09/26/13
120	NA Detectable Flag		NA											
121	Methanol Sample ID		11HG2											
122	Sample ID	Headspace Gas VOC	LA00000066852										HP/LD	09/26/13
123	Sample Type		HGVO-T	HGVO									HP/LD	09/26/13
124	Layer No. Sampled		0			SARP-Flammable VOCs (ppmv)		49.555					HP/LD	09/26/13
125	Date Sampled		9/12/2013										HP/LD	09/26/13
126	Method ID		11HG2	DTP-1.2-041									HP/LD	09/26/13
127	Data Package Number		LA13FG12092										HP/LD	09/26/13

WDS Master Template.xls Rev. 8
Addendum #8, SCO #1065
Excel 2003/2007 Microsoft
Windows XP

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
128														
129	CAS #		67-56-1	60-29-7	75-35-4	67-64-1	75-34-3	156-59-2	78-93-3	110-82-7			HP/LD	09/26/13
130	Analyte		Methanol	Ethyl ether	1,1-Dichloroethylene	Acetone	1,1-Dichloroethane	cis-1,2-Dichloroethylene	Methyl ethyl ketone	Cyclohexane				
131	Concentration		30.57	1.77	5.36	18.09	2.29	0.36	2.55	2.09			HP/LD	09/26/13
132	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			HP/LD	09/26/13
133	Date Analyzed		9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013			HP/LD	09/26/13
134	B Detectable Flag													
135	D Detectable Flag													
136	E Detectable Flag													
137	J Detectable Flag													
138	U Detectable Flag		U	U	U		U	U	U	U			HP/LD	09/26/13
139	NA Detectable Flag					NA								
140	SARP-Flammable Calc		15.285	0.885	2.68	18.09	1.145	0.18	1.275	1.045				
141	CAS #		71-43-2	107-06-2	71-36-3	108-10-1	108-88-3	108-90-7	100-41-4	108383/106423			HP/LD	09/26/13
142	Analyte		Benzene	1,2-Dichloroethane	Butanol	Methyl isobutyl ketone	Toluene	Chlorobenzene	Ethyl benzene	m-Xylene/p-Xylene				
143	Concentration		2.95	0.92	0.54	3.11	2.73	0.87	1.15	0.59			HP/LD	09/26/13
144	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			HP/LD	09/26/13
145	Date Analyzed		9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013			HP/LD	09/26/13
146	B Detectable Flag													
147	D Detectable Flag													
148	E Detectable Flag													
149	J Detectable Flag													
150	U Detectable Flag			U	U	U	U	U	U	U			HP/LD	09/26/13
151	NA Detectable Flag		NA											
152	SARP-Flammable Calc		2.95	0.46	0.27	1.555	1.365	0.435	0.575	0.295				
153	CAS #		95-47-6	108-67-8	95-63-6								HP/LD	09/26/13
154	Analyte		o-Xylene	1,3,5-Trimethylbenzen	1,2,4-Trimethylbenzen	NULL	NULL	NULL	NULL	NULL				
155	Concentration		0.63	0.72	0.78								HP/LD	09/26/13
156	units	ppmv	ppmv	ppmv	ppmv								HP/LD	09/26/13
157	Date Analyzed		9/12/2013	9/12/2013	9/12/2013	NULL	NULL	NULL	NULL	NULL			HP/LD	09/26/13
158	B Detectable Flag													
159	D Detectable Flag													
160	E Detectable Flag													
161	J Detectable Flag													
162	U Detectable Flag		U	U	U								HP/LD	09/26/13
163	NA Detectable Flag					NA	NA	NA	NA	NA				
164	SARP-Flammable Calc		0.315	0.36	0.39	NULL	NULL	NULL	NULL	NULL				
165	CAS #													
166	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
167	Concentration													
168	units	ppmv												
169	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
170	B Detectable Flag													
171	D Detectable Flag													
172	E Detectable Flag													
173	J Detectable Flag													
174	U Detectable Flag													
175	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA				
176	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
177	CAS #													
178	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
179	Concentration													
180	units	ppmv												
181	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
182	B Detectable Flag													
183	D Detectable Flag													
184	E Detectable Flag										WDS Master Template.xls Rev. 8			
185	J Detectable Flag										Addendum #8, SCO #1065			
186	U Detectable Flag										Excel 2003/2007 Microsoft			
187	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA	Windows XP			
188	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				

COPY

	A	B	C	D	M	N
189			type	comment		
190	Comment				HP/LD	09/26/13
191	Comment					
192	Comment					
193	Comment					
194	Comment					
195	Comment					
196	Comment					
197	Comment					
198	Comment					
199	Comment					
200						
201			Requirements Met?			
202	Free liquids <1% by volume		YES			
203	No non-rad. pyrophorics		YES			
204	Chemical compatability		YES			
205	No explosives		YES			
206	No corrosives		YES			
207	No pressurized containers		YES			
208	No sealed Containers >4 liters		YES			
209	Liner punctured/ filtered		YES			
210	Flammable VOCs <500ppmv		Yes			
211	Container is in Approved Waste Stream Profile Form?	LA-MHD01.001	YES			
212	Can it be established through Process Knowledge that the concentration of flammable VOCs present in the headspace of the container is <= 500 ppm?.		NO			
213						
214						
215						
216						
217						
218						
219						
220						
221						
222						
223						
224						
225						
226						
227						
228						
229						
230						
231						
232						
233						
234						
235						

Creta Kirkes
CCP Certification Official

9-30-2013
Date

WDS Master Template xls Rev. 8
Addendum #8, SCO #1065
Excel 2003/2007 Microsoft Windows XP

COPY

Waste Isolation Pilot Plant
Container Data Report

Report Statistics

Report Version:	**2.3**
WDS Instance:	**prd05.wipp.carlsbad.nm.us**
Generated on:	**June 19, 2014 01:04 PM**
Generated by:	**KIRKES, CRETA**
Total Pages:	**9**

Selection Criteria

Container Number:	**LA00000066852**

Container: LA00000066852
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Current Location Site: WI
Generator Site: LA
Destination Site ID: WI

Certification Program ID: C4
Shipping Program ID: C4

Overpack Container: LASB02085
Overpack Type: STANDARD WASTE BOX
Overpack Status: CERTIFICATION DATA APPROVED

Neutron Dose Rate (mrem/hr): 3.5
Beta Gamma Dose Rate (mrem/hr): 1.0
Total Dose Rate (mrem/hr): 4.5

FGE (g): 7.92E-01
FGE Uncertainty (g): 1.37E-01

Gross Weight (kg): 109.10
Gross Weight Uncert (kg): 2.30

Decay Heat (W): 1.26E00
Decay Heat Uncertainty (W): 2.4E-01

Shipment Data

Payload ID: **LA3479** Assembly ID: LA136767 Payload Complete? Y
Shipment Number: LA130165 Send Date: 11/05/2013 Receipt Date: 11/05/2013
Shipment Status: SHIPMENT RECEIVED AT DESTINATION

Emplacement Location

Panel: 6 Room: 1
Row: 34 Column: 2 Height: B

Certification Data Values

Waste Stream Profile Code: LA-MHD01.001
Waste Type Code: MTRU
IDC Code: NONE
Waste Matrix Code: S5400
WAC Revision Number: 7.4
Fill Factor (%): 75.00
Waste Stream BIR ID: LA-MHD01.001
Waste Stream MWIR ID: NONE

TRU Alpha Activity (Ci): 3.8E01
TRU Alpha Activity Uncertainty (Ci): 7.25E00
TRU Alpha Activity Concentration (Ci/g): 4.7E-04
PU-239 Equivalent Activity (PE-Ci): 3.45E01
Alpha Surface Contamination (dpm/cm^2): 19.0
Beta/Gamma Surface Contamination (dpm/cm^2): 199.0

Transportation Data Values

Closure Date: 11/14/2012
Vent Date: 11/14/2012
Process Knowledge? N

TRUCON Code: LA225D
Shipping Category: 3001090044
Aspiration Method: 3

Shipment Purpose: DISPOSAL
Machine Compacted? N
Liner Exists? N
Liner Hole Size(mm):
Liner Lid Present?
Layers of Packaging 1
Aqueous Material? N

Gas Generation Data Values

Measured FGGR (mol/s)	Measured TGRR (mol/s)	Truncated FGGR Test (Y/N)	Truncated FGGR Test Period (days)

Container: LA00000066852
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

PCB Waste? N
PCB Mass (kg):
PCB Concentration (ppm):
PCB Out of Service Date:
Be Present? Y
Be <= 1% by weight? Y
Be mass <= 100kg? Y
Separation OK?
Packing Fraction (compaction level): non-compacted

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date
NF019D	1.85E-05	1	11/14/2012

Certification Comments

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
AM-241	1.080E-03	2.030E-04	3.112E-04	5.970E-05
AM-243	3.080E-06	7.450E-07	1.525E-05	3.763E-06
CS-137	3.630E-07	9.840E-08	4.125E-09	1.141E-09
NP-237	.000E00	.000E00	.000E00	.000E00
PU-238	3.790E01	7.250E00	2.191E00	4.276E-01
PU-239	3.400E-02	8.080E-03	5.405E-01	1.311E-01
PU-240	1.690E-02	4.010E-03	7.348E-02	1.779E-02
PU-241	1.190E-01	2.840E-02	1.144E-03	2.787E-04
PU-242	1.690E-05	4.020E-06	4.257E-03	1.033E-03
SR-90	3.630E-07	9.840E-08	2.630E-09	7.276E-10
U-232	4.460E-06	7.000E-07	2.065E-07	3.307E-08
U-233	<LLD	<LLD	<LLD	<LLD

Container: LA00000066852
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
U-234	5.920E-03	1.130E-03	9.367E-01	1.824E-01
U-235	.000E00	.000E00	.000E00	.000E00
U-238	<LLD	<LLD	<LLD	<LLD

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	H-LA00000066852	HGHM-T	HEADSPACE GAS HYDROGEN AND METHANE	09/12/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
1333-74-0	HYDROGEN	203.67	09/12/2013	11HG2	NA
74-82-8	METHANE	9.63	09/12/2013	11HG2	U

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000066852	HGVO-T	HEADSPACE GAS VOC	09/12/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
100-41-4	ETHYL BENZENE	1.15	09/12/2013	11HG2	U
107-06-2	1,2-DICHLOROETHANE	0.92	09/12/2013	11HG2	U
108-10-1	METHYL ISOBUTYL KETONE	3.11	09/12/2013	11HG2	U
108-67-8	1,3,5-TRIMETHYLBENZENE	0.72	09/12/2013	11HG2	U
108-88-3	TOLUENE	2.73	09/12/2013	11HG2	U

Container: LA00000066852
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000066852	HGVO-T	HEADSPACE GAS VOC	09/12/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
108-90-7	CHLOROBENZENE	0.87	09/12/2013	11HG2	U
108383/106423	M,P-XYLENE	0.59	09/12/2013	11HG2	U
110-82-7	CYCLOHEXANE	2.09	09/12/2013	11HG2	U
156-59-2	CIS-1,2-DICHLOROETHYLENE	0.36	09/12/2013	11HG2	U
60-29-7	ETHYL ETHER	1.77	09/12/2013	11HG2	U
67-56-1	METHANOL	30.57	09/12/2013	11HG2	U
67-64-1	ACETONE	18.09	09/12/2013	11HG2	NA
71-36-3	BUTANOL	0.54	09/12/2013	11HG2	U
71-43-2	BENZENE	2.95	09/12/2013	11HG2	NA
75-34-3	1,1-DICHLOROETHANE	2.29	09/12/2013	11HG2	U
75-35-4	1,1-DICHLOROETHYLENE	5.36	09/12/2013	11HG2	U
78-93-3	METHYL ETHYL KETONE	2.55	09/12/2013	11HG2	U
95-47-6	O-XYLENE	0.63	09/12/2013	11HG2	U
95-63-6	1,2,4-TRIMETHYLBENZENE	0.78	09/12/2013	11HG2	U

Material Parameters

Material Parameter	Description	Weight (kg)

Container: LA00000066852
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Material Parameters

Material Parameter	Description	Weight (kg)
1	IRON BASE METAL ALLOYS	44.10
4	OTHER INORGANIC MATERIALS	3.50
7	RUBBER	32.00
8	PLASTICS	1.20
13	STEEL CONTAINER MATERIALS	27.70
14	PLASTIC/LINERS CONTAINER MATERIALS	0.60
	Waste Weight:	80.80
	Packaging Weight:	28.30
	Total Material Weight:	109.10

Hazardous Codes

Hazardous Code	Description
D004	ARSENIC
D005	BARIUM
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D018	BENZENE
D019	CARBON TETRACHLORIDE

Container: LA00000066852
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Hazardous Codes

Hazardous Code	Description
D021	CHLOROBENZENE
D022	CHLOROFORM
D035	METHYL ETHYL KETONE
D038	PYRIDINE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
F001	SPENT HALOGENATED SOLVENTS
F002	SPENT HALOGENATED SOLVENTS
F005	SPENT NON-HALOGENATED SOLVENTS

Assay Methods

Labor Code	Assay Method	Description	Assay Date
C4	11HC2	CANBERRA HENC LA07/LAN6	04/17/2013

Non-Destructive Examination (NDE)

Labor Code	NDE Method	Description	Examination Date
C4	11VE1	CCP MOBILE VE AND REPACKAGING	11/14/2012

Edit Limit Check Results

Evaluation Date: 10/01/2013 07:39:07 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
DI_CERT_ALL	PASS		

Container: LA00000066852
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Waste Handling Code: CH
Certification Date: 09/30/2013
Disposal Date: 11/10/2013

Edit Limit Check Results
Evaluation Date: 10/01/2013 07:39:07 Overall Status: PASS

Evaluation Code	Status
DI_CERT_BE	PASS
DI_CERT_CERT	PASS
DI_CERT_CHARZ	PASS
DI_CERT_ED	PASS
DI_CERT_EPA	PASS
DI_CERT_PCB	PASS
DI_CERT_PERC	PASS
DI_CERT_TRAMPAC	PASS
DSA	PASS
WAC	PASS
WAP_CERT	PASS

TRAMPAC Evaluation Results
Evaluation Date: 10/01/2013 07:39:09 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
CE_ACT	PASS		
CE_ALL	PASS		
CE_ASP	PASS		
CE_DDH	PASS		
CE_FGE	PASS		
CE_FIL	PASS		
CE_GVE	PASS		
CE_RDR	PASS		
CE_TRU	PASS		
CE_WGT	PASS		

Container: LA00000066852
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

TRAMPAC Evaluation Results

Evaluation Date: 10/01/2013 07:39:09 Overall Status: PASS

Details

Matrix Depleted Shipping Category:		Compliance Method:	MEASUREMENT
Decay Heat Limit (w):	1.00592577147623	FGE Limit (g):	200
FGGR (mol/s):	5.177705706099815E-9	FGGR Limit (mol/s):	1.1363636363636364E-7
Volume Model:	3	Required Aspiration Time (days):	
Total Headspace VOCs (ppm):	78.07		
Packaging Configuration:	COMMON_PACKAGING 2	DAC Scenario:	3
Closure Time (days):	0	Minimum Closure Time Applied (days):	53
Sample-Vent Time (days):	302	Min Sample-Vent Time Applied (days):	9
TFGVC in ICL (mol fr):		MLEL (mol fr):	0.05

History

Event Date/Time	Event Description	Reason
10/01/2013 07:39:10	INSERT DATA INTO THE DATABASE	
10/01/2013 07:39:10	SUCCESSFUL SUBMISSION FOR CERT	
10/01/2013 07:47:35	APPROVED FOR CERT	
10/25/2013 13:33:37	ASSIGNED TO OVERPACK	

5 Point Contamination/Radiation Survey Report 2013 (Continuation)

Survey Number:	Date/Time:
2013-06497	9/12/13 1700
Location:	**Surveyor:**
TA-54-232/49	S.Mallory

Item	Alpha		Beta		Dose Rate (mrem/hr)			Location			Item	Alpha		Beta		Dose Rate (mrem/hr)			Location		
#	Removable (dpm/100cm²)	Total (dpm/100cm²)	Removable (dpm/100cm²)	Total (dpm/100cm²)	Contact	30 cm	1 Meter				#	Removable (dpm/100cm²)	Total (dpm/100cm²)	Removable (dpm/100cm²)	Total (dpm/100cm²)	Contact	30 cm	1 Meter			
31	NDA	N/A	NDA	N/A	12.00	6.00	1.90	βγ	90983	Seam	61								βγ	Seam
32	NDA	N/A	NDA	N/A	1.00	0.50	0.25	α		Side	62								α	Side
33	NDA	N/A	NDA	N/A	13.00	6.50	2.15	Total		Rim	63					0.00	0.00	0.00	Total	Rim
34	NDA	N/A	NDA	N/A						Top	64									Top
35	NDA	N/A	NDA	N/A						Bottom	65									Bottom
36	NDA	N/A	NDA	N/A	15.00	4.00	0.50	βγ	91257	Seam	66								βγ	Seam
37	NDA	N/A	NDA	N/A	0.25	0.25	0.25	α		Side	67								α	Side
38	NDA	N/A	NDA	N/A	15.25	4.25	0.75	Total		Rim	68					0.00	0.00	0.00	Total	Rim
39	NDA	N/A	NDA	N/A						Top	69									Top
40	NDA	N/A	NDA	N/A						Bottom	70									Bottom
41	NDA	N/A	NDA	N/A	28.00	5.00	1.80	βγ	92402	Seam	71								βγ	Seam
42	NDA	N/A	NDA	N/A	1.50	0.60	0.25	α		Side	72								α	Side
43	NDA	N/A	NDA	N/A	29.50	5.60	2.05	Total		Rim	73					0.00	0.00	0.00	Total	Rim
44	NDA	N/A	NDA	N/A						Top	74									Top
45	NDA	N/A	NDA	N/A						Bottom	75									Bottom
46	NDA	N/A	NDA	N/A	1.00	0.40	0.10	βγ	66852	Seam	76								βγ	Seam
47	NDA	N/A	NDA	N/A	3.50	2.10	1.20	α		Side	77								α	Side
48	NDA	N/A	NDA	N/A	4.50	2.50	1.30	Total		Rim	78					0.00	0.00	0.00	Total	Rim
49	NDA	N/A	NDA	N/A						Top	79									Top
50	NDA	N/A	NDA	N/A						Bottom	80									Bottom
51	NDA	N/A	NDA	N/A	0.10	0.10	0.10	βγ	94204	Seam	81								βγ	Seam
52	NDA	N/A	NDA	N/A	0.25	0.25	0.25	α		Side	82								α	Side
53	NDA	N/A	NDA	N/A	0.35	0.35	0.35	Total		Rim	83					0.00	0.00	0.00	Total	Rim
54	NDA	N/A	NDA	N/A						Top	84									Top
55	NDA	N/A	NDA	N/A						Bottm	85									Bottom
56	End	of	Survey					βγ		Seam	86								βγ	Seam
57								α		Side	87								α	Side
58					0.00	0.00	0.00	Total		Rim	88					0.00	0.00	0.00	Total	Rim
59										Top	89									Top
60										Bottom	90									Bottom

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550080

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 66852	Waste Stream ID: LA-mHD01.001	
Container Type: 55 gal. drum	TRUCON Code: LA 225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 109.1 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 75 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 041587 Calibration Due Date: 4-27-13 Filter: Model No.: NucFil-019DS Serial No.: CM-1722 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 041586 Calibration Due Date: 4-27-13 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550080 **Date:** 11-14-12

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	Leaded glovebox gloves	R	32.0	E
N/A	Graphite pieces	OI	3.5	E
N/A	Metal plates, vices, metal pieces	IM	44.1	E
N/A	Plastic bags, vinyl tape	PW	1.2	E
	N/A 11-14-12	SV		

N/A — VEO 1: Print Name; N/A — Signature; N/A — Date
N/A — VEO 2: Print Name; N/A — Signature; N/A — Date
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 66852

PCI Removed: N/A **PCI Applied:** LANL028079

N/A — VEO 1: Print Name; N/A — Signature; N/A — Date
N/A — VEO 2: Print Name; N/A — Signature; N/A — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550080

Output Waste Container ID: 66852

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	44.1
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	3.5
Cellulosics (C):	N/A
Rubber (R):	32.0
Plastics (waste materials) (PW):	1.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	80.8

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550080 **Output Waste Container ID:** 66852

Section 4: Prohibited Item(s) Summary (Questions answered 'YES' will be explained in the Comments block.)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT-II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550080 **Output Waste Container ID:** 66852

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James Thompson — Print Name | Signature | 11-14-12 — Date

Visual Examination Operator 2:

Jason Krylowicz — Print Name | Signature | 11-14-12 — Date

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	15541	Batch Number:	2LANDA1140
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	66852	Analysis Date:	4/17/2013

Net Weight	80800.0 g
Pu mass	2.81E+000 +- 4.39E-001 g
TRU Alpha Activity	3.80E+001 +- 7.25E+000 Ci
TRU Activity Concentration	4.70E+005 +- 8.97E+004 nCi/g
Pu-239 Equivalent Activity	3.45E+001 +- 6.59E+000 Ci
Pu-239 FGE	7.92E-001 +- 1.37E-001 g
Decay heat	1.26E+000 +- 2.40E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	2.63E-009	3.63E-007	9.84E-008	0.00E+000
CS137	4.14E-009	3.63E-007	9.84E-008	2.71E-007
U232	2.06E-007	4.46E-006	7.00E-007	3.20E-007
U233	<LLD	<LLD	0.00E+000	1.89E-003
U234	9.35E-001	5.92E-003	1.13E-003	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.99E-007
NP237	0.00E+000	0.00E+000	0.00E+000	5.85E-007
PU238	2.19E+000	3.79E+001	7.25E+000	2.42E-002
U238	<LLD	<LLD	0.00E+000	1.63E-005
PU239	5.40E-001	3.40E-002	8.08E-003	2.17E-005
PU240	7.34E-002	1.69E-002	4.01E-003	1.08E-005
AM241	3.11E-004	1.08E-003	2.03E-004	6.75E-005
PU241	1.15E-003	1.19E-001	2.84E-002	7.61E-005
PU242	4.26E-003	1.69E-005	4.02E-006	0.00E+000
AM243	1.52E-005	3.08E-006	7.45E-007	1.92E-006

Errors quoted at 1.000 sigma

Operator: D-R.C Date: 4-18-13

ITR: Date: 4/18/13

Attachment 4 – Flammable Gas Analysis Form

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **66852**

BDR Number: **LA13FG12092**

Sampling Date: **9/12/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	203.67	
74-82-8	Methane	9.63	U
67-56-1	Methanol	30.57	U
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	18.09	
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	2.95	
107-06-2	1,2-Dichloroethane	0.92	U
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	2.73	U
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

CAS Number	IDENTIFIED TIC COMPOUND	Est. Amount ppmv
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

BDR Number: LA13FG12092

	Waste Container ID	8 Filter Model Number	9 Hydrogen Diffusivity of Filter (mol/s/mf)	10 Package Configuration Group Number	11 Closure Date	12 Vent Date	13 Required DAC Value (in days)	14 Drum Age (in days)	15 Can this container be sampled?
1	66852	NucFil-019DS	3.70E-06	3	11/14/2012	11/14/2012	16	302	Y
2	90983	NucFil-019DS	3.70E-06	3	2/24/2012	2/24/2012	16	566	Y
3	91257	NucFil-019DS	3.70E-06	3	4/10/2012	4/10/2012	16	520	Y
4	92402	NucFil-019DS	3.70E-06	3	11/27/2012	11/27/2012	16	289	Y
5	92805	NucFil-019DS	3.70E-06	3	2/2/2013	2/2/2013	16	222	Y
6	92809	NucFil-019DS	3.70E-06	3	2/3/2013	2/3/2013	16	221	Y
7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Operator: Nathan Wales
Printed Name

Nathan Wales
Signature

9-12-13
Date

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	WDS Master Template.xls Rev. 8 Addendum #8, SCO #1065 Excel 2003/2007 Microsoft Windows XP	Units	data	comments									initial	date
2	Shipper Site ID		C4	Location ID	Dest Program ID	Shipping Purpose				LA00000088927			LD/HP	10/08/13
3	Waste Stream Profile		LA-MHD01.001	LA	WI	D							LD/HP	10/08/13
4	Container Number		LA00000088927	TBO Good Ch 10/9/13									LD/HP	10/08/13
5	Container Type		~~drum~~	drum, swb, tdop, etc . see WWIS labels for valid types.					U-235 FEM	U-235 FEM Uncert	FGGR Flag	FGGR Test Period	LD/HP	10/08/13
6	WAC Rev #		7.4						NULL	NULL	NULL	NULL	LD/HP	10/08/13
7	[redacted]							Be mass<=100 kg	Be <= 1%	Be Present	Aqueous Material	Compacted Wst		
8	Cert Site		C4					Y	Y	Y	N	N	LD/HP	10/08/13
9	Cert Date		10/9/13											
10	Waste Handling Code		CH	CH, RH									LD/HP	10/08/13
11	Waste Type Code		MTRU	TRU, MTRU									LD/HP	10/08/13
12	Waste Stream BIR ID		LA-MHD01.001										LD/HP	10/08/13
13	Waste Stream MWIR ID		NONE										LD/HP	10/08/13
14	Generator Site ID		LA										LD/HP	10/08/13
15	IDC Code		NONE										LD/HP	10/08/13
16	Matrix Code		S5400										LD/HP	10/08/13
17	Trucon Code		LA225D			Invalid Ship Cat							LD/HP	10/08/13
18	Shipping Category		300100044	2012 Waste-years										
19	Tru Alpha Act	Ci	4.76E+00		4.764E+00								LD/HP	10/08/13
20	Tru Alpha Act Uncert	1sigma Ci	2.42E+00	9.596E+00	Tru Alpha Act + 2sigma (Ci)								LD/HP	10/08/13
21	Tru Alpha Act Conc	nCi/g	9.51E+04		9.51E+04								LD/HP	10/08/13
22	[redacted]		4.82E+04	1.915E+05	Tru Alpha Act Conc + 2sigma (Ci)			Drum Weight	27.7				LD/HP	10/08/13
23	Pu239 Fiss Gm Eq	g	1.99E+00		1.991E+00								LD/HP	10/08/13
24	Pu239 Fiss Gm Eq Uncert	1sigma g	2.79E-01	2.550E+00	Pu239 Fiss Gm Eq + 2sigma (Ci)								LD/HP	10/08/13
25	Pu239 Eq Act	Ci	4.77E+00		4.768E+00								LD/HP	10/08/13
26	Decay Heat	watts	1.59E-01		1.590E-01								LD/HP	10/08/13
27	Decay Heat Uncert	1sigma watts	8.07E-02	2.40E-01	Decay Heat + 1sigma (watts)								LD/HP	10/08/13
28	Layers of Packaging		1										LD/HP	10/08/13
29	Fill Factor		95	percentage	Liner Lid Present								LD/HP	10/08/13
30	Liner Type			1 = plastic drum liner									LD/HP	10/08/13
31	Liner Punctured				Liner Hole Size								LD/HP	10/08/13
32	PCB Conc		NULL		(mm)		PCB Waste	PCB Mass (kg)	Out of Service				LD/HP	10/08/13
33	Closure Date		5/3/2011	Watt-years	Waste Gen Date		N	NULL	NULL				LD/HP	10/08/13
34	Vent Date		5/3/2011	0.387	NULL								LD/HP	10/08/13
35	Filter Install Date		5/3/2011				Filter Reduction Date	NULL					LD/HP	10/08/13
36	Filter Manufacturer		NFT				Reduced Filter Model	NULL					LD/HP	10/08/13
37	[redacted]												LD/HP	10/08/13
38	Filter Model Number		NF019D										LD/HP	10/08/13
39	Number of Filters Installed		1										LD/HP	10/08/13
40	Aspiration Method ID		3										LD/HP	10/08/13
41	Gas Gen Rate			#VALUE!	<<Gas Gen Rate Calculated.									
42	Hydrogen/Methane Gen Rate													
43	Gas Gen Comp Date				Waste (kg)	Packaging (kg)	Total (kg)							
44	Gross Weight	kg	83.5		50.1	33.4	83.5						LD/HP	10/08/13
45	Gross Weight Uncert	1sigma kg	2.3										LD/HP	10/08/13
46	Alpha Surf Cont	dpm/100 cm^2	19										LD/HP	10/08/13
47	Beta/Gamma Surf Cont	dpm/100 cm^2	199										LD/HP	10/08/13
48	Neutron Dose Rate	mrem/hr	5										LD/HP	10/08/13
49	Beta/Gamma Dose Rate	mrem/hr	17										LD/HP	10/08/13
50	Radionuclide		NP-237	PU-238	PU-239	PU-240	AM-241	PU-241	PU-242	SR-90	CS-137	U-233	LD/HP	10/08/13
51	Activity	Ci	3.00E-05	2.86E-03	1.05E-01	2.45E-02	4.63E+00	2.37E-01	1.41E-06	-1.00E+00	-1.00E+00	-1.00E+00	LD/HP	10/08/13
52	Activity Uncert	1sigma Ci	3.25E-06	6.08E-04	1.67E-02	5.21E-03	2.42E+00	5.05E-02	3.00E-07	-1.00E+00	-1.00E+00	-1.00E+00	LD/HP	10/08/13
53	Mass	grams	4.21E-02	1.65E-04	1.67E+00	1.06E-01	1.33E+00	2.28E-03	3.55E-04	-1.00E+00	-1.00E+00	-1.00E+00		
54	Mass Uncert	1sigma grams	4.66E-03	3.59E-05	2.70E-01	2.31E-02	7.10E-01	4.96E-04	7.71E-05	-1.00E+00	-1.00E+00	-1.00E+00		
55	calc Tru Alpha Act	Ci	3.00E-05	2.86E-03	1.05E-01	2.45E-02	4.63E+00	0.00E+00	1.41E-06	0.00E+00	0.00E+00	0.00E+00		
56	calc Tru Alpha Act Conc	nCi/g	5.99E-01	5.71E+01	2.09E+03	4.89E+02	9.25E+04	0.00E+00	2.81E-02	0.00E+00	0.00E+00	0.00E+00		
57	calc Act	Ci	3.00E-05	2.86E-03	1.05E-01	2.45E-02	4.63E+00	2.37E-01	1.41E-06	0.00E+00	0.00E+00	0.00E+00		
58	calc Act Conc	nCi/g	5.99E-01	5.71E+01	2.09E+03	4.89E+02	9.25E+04	4.74E+03	2.81E-02	0.00E+00	0.00E+00	0.00E+00		

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
59	calc Pu239 FGE	g	6.32E-04	1.87E-05	1.67E+00	2.40E-03	2.50E-02	5.14E-03	2.66E-06	0.00E+00	0.00E+00	0.00E+00		
60	calc Pu239 Eq Act	Ci	3.00E-05	2.60E-03	1.05E-01	2.45E-02	4.63E+00	4.66E-03	1.28E-06	0.00E+00	0.00E+00	0.00E+00		
61	calc Decay Heat	watts	8.80E-07	9.47E-05	3.25E-03	7.62E-04	1.55E-01	7.56E-06	4.16E-08	0.00E+00	0.00E+00	0.00E+00		
62	uncert Tru Alpha Act	Ci	3.32E-06	6.21E-04	1.70E-02	5.32E-03	2.47E+00	0.00E+00	3.06E-07	0.00E+00	0.00E+00	0.00E+00		
63	uncert Tru Alpha Act Conc	nCi/g	6.63E-02	1.24E+01	3.39E+02	1.06E+02	4.92E+04	0.00E+00	6.11E-03	0.00E+00	0.00E+00	0.00E+00		
64	uncert Act	Ci	3.32E-06	6.21E-04	1.70E-02	5.32E-03	2.47E+00	5.16E-02	3.06E-07	0.00E+00	0.00E+00	0.00E+00		
65	uncert Act Conc	nCi/g	6.63E-02	1.24E+01	3.39E+02	1.06E+02	4.92E+04	1.03E+03	6.11E-03	0.00E+00	0.00E+00	0.00E+00		
66	uncert Pu239 FGE	g	6.99E-05	4.06E-06	2.70E-01	5.20E-04	1.33E-02	1.12E-03	5.79E-07	0.00E+00	0.00E+00	0.00E+00		
67	uncert Pu239 Eq Act	Ci	3.25E-06	5.53E-04	1.67E-02	5.21E-03	2.42E+00	9.91E-04	2.73E-07	0.00E+00	0.00E+00	0.00E+00		
68	uncert Decay Heat	watts	9.73E-08	2.06E-05	5.27E-04	1.66E-04	8.24E-02	1.64E-06	9.03E-09	0.00E+00	0.00E+00	0.00E+00		
69	Shipping Calcs	8.81E+02	5.55E-03	5.28E-01	1.94E+01	4.53E+00	8.56E+02	8.79E-01	2.61E-04	0.00E+00	0.00E+00	0.00E+00		
70	49CFR173.433f		0.00%	0.06%	2.20%	0.51%	97.13%	0.10%	0.00%	0.00%	0.00%	0.00%		
71	Radionuclide		U-234	U-235	U-238								LD/HP	10/08/13
72	Activity	Ci	4.02E-05	9.96E-07	-1.00E+00								LD/HP	10/08/13
73	Activity Uncert	1sigma Ci	1.19E-05	2.94E-07	-1.00E+00								LD/HP	10/08/13
74	Mass	grams	6.37E-03	4.55E-01	-1.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
75	Mass Uncert	1sigma grams	1.92E-03	1.37E-01	-1.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
76	calc Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
77	calc Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
78	calc Act	Ci	4.02E-05	9.96E-07	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
79	calc Act Conc	nCi/g	8.03E-01	1.99E-02	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
80	calc Pu239 FGE	g	0.00E+00	2.93E-01	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
81	calc Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
82	calc Decay Heat	watts	1.16E-06	2.75E-08	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
83	uncert Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
84	uncert Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
85	uncert Act	Ci	1.21E-05	3.00E-07	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
86	uncert Act Conc	nCi/g	2.42E-01	5.98E-03	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
87	uncert Pu239 FGE	g	0.00E+00	8.80E-02	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
88	uncert Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
89	uncert Decay Heat	watts	3.49E-07	8.26E-09	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
90	Shipping Calcs		1.49E-03	0.00E+00	0.00E+00	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
91	49CFR173.433f		0.00%	0.00%	0.00%	NULL	NULL	NULL	NULL	NULL	NULL	NULL		
92	Waste Material Parameter		IM	OM	OI	PW	PP	CP					LD/HP	10/08/13
93	Wgt of Mat Parms	kg	27	5	14.1	4	2	3.7					LD/HP	10/08/13
94	Radio Assay Method		11HC2	PAN, FRAM, TGS, HENC									LD/HP	10/08/13
95	Data Package Number		2LANDA0825										LD/HP	10/08/13
96	Assay Date		6/21/2011										LD/HP	10/08/13
97	Charz Method ID		11RR2	RTRM, VISUAL									LD/HP	10/08/13
98	Data Package Number		LA-RTR2-11-0069										LD/HP	10/08/13
99	Charz Method Date		6/15/2011										LD/HP	10/08/13
100	Haz Codes		F001	F002	F005	D004	D005	D006	D007	D008	D009	D010	LD/HP	10/08/13
101	Haz Codes		D011	D018	D019	D021	D022	D035	D038	D039	D040		LD/HP	10/08/13
102	Haz Codes													
103	Haz Codes													
104	Sample ID	Headspace Gas H/M	H-LA00000088927										LD/HP	10/08/13
105	Sample Type		HGHM-T	HGHM									LD/HP	10/08/13
106	Layer No. Sampled		0		232.51								LD/HP	10/08/13
107	Date Sampled		6/22/2011			Sample Site							LD/HP	10/08/13
108	Method ID		11HG2	DTP-1.2-041		C4							LD/HP	10/08/13
109	Data Package Number		LA11FG2046										LD/HP	10/08/13
110	CAS #		1333-74-0	74-82-8										
111	Analyte		HYDROGEN	METHANE									LD/HP	10/08/13
112	Concentration				90.37	142.14	2.26 ch 10/9/13						LD/HP	10/08/13
113	units	%vol			PPMV	PPMV							LD/HP	10/08/13
114	Date Analyzed		06/22/11	6/22/2011		2.5%= 2.26							LD/HP	10/08/13
115	B Detectable Flag													
116	D Detectable Flag													
117	E Detectable Flag													
118	J Detectable Flag													
119	U Detectable Flag		U	U									LD/HP	10/08/13
120	NA Detectable Flag													
121	Methanol Sample ID		11HG2											
122	Sample ID	Headspace Gas VOC	LA00000088927										LD/HP	10/08/13
123	Sample Type		HGVO-T	HGVO									LD/HP	10/08/13
124	Layer No. Sampled		0			SARP-Flammable VOCs (ppmv)	92.335						LD/HP	10/08/13
125	Date Sampled		6/22/2011										LD/HP	10/08/13
126	Method ID		11HG2	DTP-1.2-041									LD/HP	10/08/13
127	Data Package Number		LA11FG2046										LD/HP	10/08/13

WDS Master Template.xls Rev. 8
Addendum #8, SCO #1065
Excel 2003/2007 Microsoft
Windows XP

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
128														
129	CAS #		67-56-1	60-29-7	75-35-4	67-64-1	75-34-3	156-59-2	78-93-3	110-82-7			LD/HP	10/08/13
130	Analyte		Methanol	Ethyl ether	1,1-Dichloroethylene	Acetone	1,1-Dichloroethane	cis-1,2-Dichloroethylene	Methyl ethyl ketone	Cyclohexane				
131	Concentration		35.23	0.96	6.38	18.08	4.08	0.76	11.73	5.10			LD/HP	10/08/13
132	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			LD/HP	10/08/13
133	Date Analyzed		6/22/2011	6/22/2011	6/22/2011	6/22/2011	6/22/2011	6/22/2011	6/22/2011	6/22/2011			LD/HP	10/08/13
134	B Detectable Flag													
135	D Detectable Flag													
136	E Detectable Flag													
137	J Detectable Flag													
138	U Detectable Flag		U	U	U	U	U	U	U	U			LD/HP	10/08/13
139	NA Detectable Flag													
140	SARP-Flammable Calc		17.615	0.48	3.19	9.04	2.04	0.38	5.865	2.55				
141	CAS #		71-43-2	107-06-2	71-36-3	108-10-1	108-88-3	108-90-7	100-41-4	108383/106423			LD/HP	10/08/13
142	Analyte		Benzene	1,2-Dichloroethane	Butanol	Methyl isobutyl ketone	Toluene	Chlorobenzene	Ethyl benzene	m-Xylene/p-Xylene				
143	Concentration		1.77	3.66	1.84	9.82	16.87	4.10	3.57	12.45			LD/HP	10/08/13
144	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			LD/HP	10/08/13
145	Date Analyzed		6/22/2011	6/22/2011	6/22/2011	6/22/2011	6/22/2011	6/22/2011	6/22/2011	6/22/2011			LD/HP	10/08/13
146	B Detectable Flag													
147	D Detectable Flag													
148	E Detectable Flag													
149	J Detectable Flag													
150	U Detectable Flag		U	U	U	U		U	U				LD/HP	10/08/13
151	NA Detectable Flag						NA			NA				
152	SARP-Flammable Calc		0.885	1.83	0.92	4.91	16.87	2.05	1.785	12.45				
153	CAS #		95-47-6	108-67-8	95-63-6								LD/HP	10/08/13
154	Analyte		o-Xylene	1,3,5-Trimethylbenzen	1,2,4-Trimethylbenzen	NULL	NULL	NULL	NULL	NULL				
155	Concentration		7.43	1.96	2.13								LD/HP	10/08/13
156	units	ppmv	ppmv	ppmv	ppmv								LD/HP	10/08/13
157	Date Analyzed		6/22/2011	6/22/2011	6/22/2011	NULL	NULL	NULL	NULL	NULL			LD/HP	10/08/13
158	B Detectable Flag													
159	D Detectable Flag													
160	E Detectable Flag													
161	J Detectable Flag													
162	U Detectable Flag			U	U								LD/HP	10/08/13
163	NA Detectable Flag		NA			NA	NA	NA	NA	NA				
164	SARP-Flammable Calc		7.43	0.98	1.065	NULL	NULL	NULL	NULL	NULL				
165	CAS #													
166	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
167	Concentration													
168	units	ppmv												
169	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
170	B Detectable Flag													
171	D Detectable Flag													
172	E Detectable Flag													
173	J Detectable Flag													
174	U Detectable Flag													
175	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA				
176	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
177	CAS #													
178	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
179	Concentration													
180	units	ppmv												
181	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
182	B Detectable Flag													
183	D Detectable Flag													
184	E Detectable Flag										WDS Master Template.xls Rev. 8			
185	J Detectable Flag										Addendum #8, SCO #1065			
186	U Detectable Flag										Excel 2003/2007 Microsoft			
187	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA	Windows XP			
188	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
189			type	comment										
190	Comment												LD/HP	10/08/13
191	Comment													
192	Comment													
193	Comment													
194	Comment													
195	Comment													
196	Comment													
197	Comment													
198	Comment													
199	Comment													
200														
201			Requirements Met?											
202	Free liquids <1% by volume		YES											
203	No non-rad. pyrophorics		YES											
204	Chemical compatability		YES											
205	No explosives		YES											
206	No corrosives		YES											
207	No pressurized containers		YES											
208	No sealed Containers >4 liters		YES											
209	Liner punctured/ filtered		YES											
210	Flammable VOCs <500ppmv		Yes											
211	Container is in Approved Waste Stream Profile Form?	LA-MHD01.001	YES											
212	Can it be established through Process Knowledge that the concentration of flammable VOCs present in the headspace of the container is <= 500 ppm?.		NO											
213														
214														
215														
216														
217														
218														
219														
220														
221														
222														
223														
224														
225														
226														
227														
228														
229														
230														
231														
232														
233														
234														
235														

H. Hensley
CCP Certification Official

10/9/13
Date

WDS Master Template xls Rev 8
Addendum #8, SCO #1065
Excel 2003/2007 Microsoft Windows XP

Waste Isolation Pilot Plant
Container Data Report

Report Statistics

Report Version:	**2.3**
WDS Instance:	**prd05.wipp.carlsbad.nm.us**
Generated on:	**June 19, 2014 01:04 PM**
Generated by:	**KIRKES, CRETA**
Total Pages:	**9**

Selection Criteria

Container Number: **LA00000088927**

Container: LA00000088927
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/09/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Current Location Site:	WI
Generator Site:	LA
Destination Site ID:	WI
Certification Program ID:	C4
Shipping Program ID:	C4
Overpack Container:	LASB02085
Overpack Type:	STANDARD WASTE BOX
Overpack Status:	CERTIFICATION DATA APPROVED

Neutron Dose Rate (mrem/hr):	5.0
Beta Gamma Dose Rate (mrem/hr):	17.0
Total Dose Rate (mrem/hr):	22.0

FGE (g):	1.992E00
FGE Uncertainty (g):	2.789E-01
Gross Weight (kg):	83.50
Gross Weight Uncert (kg):	2.30
Decay Heat (W):	1.589E-01
Decay Heat Uncertainty (W):	8.071E-02

Shipment Data

Payload ID: **LA3479** Assembly ID: LA136767 Payload Complete? Y
Shipment Number: LA130165 Send Date: 11/05/2013 Receipt Date: 11/05/2013
Shipment Status: SHIPMENT RECEIVED AT DESTINATION

Emplacement Location

Panel: 6 Room: 1
Row: 34 Column: 2 Height: B

Certification Data Values

Waste Stream Profile Code:	LA-MHD01.001
Waste Type Code:	MTRU
IDC Code:	NONE
Waste Matrix Code:	S5400
WAC Revision Number:	7.4
Fill Factor (%):	95.00
Waste Stream BIR ID:	LA-MHD01.001
Waste Stream MWIR ID:	NONE

TRU Alpha Activity (Ci):	4.764E00
TRU Alpha Activity Uncertainty (Ci):	2.416E00
TRU Alpha Activity Concentration (Ci/g):	9.509E-05
PU-239 Equivalent Activity (PE-Ci):	4.768E00
Alpha Surface Contamination (dpm/cm^2):	19.0
Beta/Gamma Surface Contamination (dpm/cm^2):	199.0

Transportation Data Values

Closure Date:	05/03/2011
Vent Date:	05/03/2011
Process Knowledge?	N
TRUCON Code:	LA225D
Shipping Category:	3001090044
Aspiration Method:	3

Shipment Purpose:	DISPOSAL
Machine Compacted?	N
Liner Exists?	N
Liner Hole Size(mm):	
Liner Lid Present?	
Layers of Packaging	1
Aqueous Material?	N

Gas Generation Data Values

Measured FGGR (mol/s)	Measured TGRR (mol/s)	Truncated FGGR Test (Y/N)	Truncated FGGR Test Period (days)

Container: LA00000088927
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/09/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

PCB Waste? N
PCB Mass (kg):
PCB Concentration (ppm):
PCB Out of Service Date:
Be Present? Y
Be <= 1% by weight? Y
Be mass <= 100kg? Y
Separation OK?
Packing Fraction (compaction level): non-compacted

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date
NF019D	1.85E-05	1	05/03/2011

Certification Comments

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
AM-241	4.632E00	2.416E00	1.335E00	7.104E-01
CS-137	<LLD	<LLD	<LLD	<LLD
NP-237	3.003E-05	3.255E-06	4.211E-02	4.658E-03
PU-238	2.859E-03	6.085E-04	1.653E-04	3.589E-05
PU-239	1.048E-01	1.666E-02	1.666E00	2.703E-01
PU-240	2.449E-02	5.211E-03	1.065E-01	2.312E-02
PU-241	2.374E-01	5.053E-02	2.283E-03	4.958E-04
PU-242	1.410E-06	3.001E-07	3.552E-04	7.714E-05
SR-90	<LLD	<LLD	<LLD	<LLD
U-233	<LLD	<LLD	<LLD	<LLD
U-234	4.025E-05	1.186E-05	6.369E-03	1.915E-03
U-235	9.963E-07	2.936E-07	4.549E-01	1.368E-01

Container: LA00000088927
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/09/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
U-238	<LLD	<LLD	<LLD	<LLD

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	H-LA00000088927	HGHM-T	HEADSPACE GAS HYDROGEN AND METHANE	06/22/2011	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
1333-74-0	HYDROGEN	90.37	06/22/2011	11HG2	U
74-82-8	METHANE	2.26	06/22/2011	11HG2	U

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000088927	HGVO-T	HEADSPACE GAS VOC	06/22/2011	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
100-41-4	ETHYL BENZENE	3.57	06/22/2011	11HG2	U
107-06-2	1,2-DICHLOROETHANE	3.66	06/22/2011	11HG2	U
108-10-1	METHYL ISOBUTYL KETONE	9.82	06/22/2011	11HG2	U
108-67-8	1,3,5-TRIMETHYLBENZENE	1.96	06/22/2011	11HG2	U
108-88-3	TOLUENE	16.87	06/22/2011	11HG2	NA
108-90-7	CHLOROBENZENE	4.1	06/22/2011	11HG2	U
108383/106423	M,P-XYLENE	12.45	06/22/2011	11HG2	NA

Container: LA00000088927
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/09/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000088927	HGVO-T	HEADSPACE GAS VOC	06/22/2011	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
110-82-7	CYCLOHEXANE	5.1	06/22/2011	11HG2	U
156-59-2	CIS-1,2-DICHLOROETHYLENE	0.76	06/22/2011	11HG2	U
60-29-7	ETHYL ETHER	0.96	06/22/2011	11HG2	U
67-56-1	METHANOL	35.23	06/22/2011	11HG2	U
67-64-1	ACETONE	18.08	06/22/2011	11HG2	U
71-36-3	BUTANOL	1.84	06/22/2011	11HG2	U
71-43-2	BENZENE	1.77	06/22/2011	11HG2	U
75-34-3	1,1-DICHLOROETHANE	4.08	06/22/2011	11HG2	U
75-35-4	1,1-DICHLOROETHYLENE	6.38	06/22/2011	11HG2	U
78-93-3	METHYL ETHYL KETONE	11.73	06/22/2011	11HG2	U
95-47-6	O-XYLENE	7.43	06/22/2011	11HG2	NA
95-63-6	1,2,4-TRIMETHYLBENZENE	2.13	06/22/2011	11HG2	U

Material Parameters

Material Parameter	Description	Weight (kg)
1	IRON BASE METAL ALLOYS	27.00
3	OTHER METAL/ALLOYS	5.00
4	OTHER INORGANIC MATERIALS	14.10

Container: LA00000088927
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/09/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Material Parameters

Material Parameter	Description	Weight (kg)
8	PLASTICS	4.00
13	STEEL CONTAINER MATERIALS	27.70
14	PLASTIC/LINERS CONTAINER MATERIALS	2.00
15	CELLULOSICS PACKAGING MATERIALS	3.70
	Waste Weight:	50.10
	Packaging Weight:	33.40
	Total Material Weight:	83.50

Hazardous Codes

Hazardous Code	Description
D004	ARSENIC
D005	BARIUM
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D018	BENZENE
D019	CARBON TETRACHLORIDE
D021	CHLOROBENZENE
D022	CHLOROFORM

Container: LA00000088927
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/09/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Hazardous Codes

Hazardous Code	Description
D035	METHYL ETHYL KETONE
D038	PYRIDINE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
F001	SPENT HALOGENATED SOLVENTS
F002	SPENT HALOGENATED SOLVENTS
F005	SPENT NON-HALOGENATED SOLVENTS

Assay Methods

Labor Code	Assay Method	Description	Assay Date
C4	11HC2	CANBERRA HENC LA07/LAN6	06/21/2011

Non-Destructive Examination (NDE)

Labor Code	NDE Method	Description	Examination Date
C4	11RR2	RTR - VJ TECHNOLOGIES MOBILE SYSTEM	06/15/2011

Edit Limit Check Results

Evaluation Date: 10/10/2013 10:15:00 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
DI_CERT_ALL	PASS		
DI_CERT_BE	PASS		
DI_CERT_CERT	PASS		
DI_CERT_CHARZ	PASS		

Container: LA00000088927
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 10/09/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Edit Limit Check Results

Evaluation Date: 10/10/2013 10:15:00 Overall Status: PASS

Evaluation Code	Status
DI_CERT_ED	PASS
DI_CERT_EPA	PASS
DI_CERT_PCB	PASS
DI_CERT_PERC	PASS
DI_CERT_TRAMPAC	PASS
DSA	PASS
WAC	PASS
WAP_CERT	PASS

TRAMPAC Evaluation Results

Evaluation Date: 10/10/2013 10:15:02 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
CE_ACT	PASS		
CE_ALL	PASS		
CE_ASP	PASS		
CE_DDH	PASS		
CE_FGE	PASS		
CE_FIL	PASS		
CE_GVE	PASS		
CE_RDR	PASS		
CE_TRU	PASS		
CE_WGT	PASS		

Container: LA00000088927
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Waste Handling Code: CH
Certification Date: 10/09/2013
Disposal Date: 11/10/2013

TRAMPAC Evaluation Results
Evaluation Date: 10/10/2013 10:15:02 Overall Status: PASS

Details

Matrix Depleted Shipping Category:		Compliance Method:	ANALYTICAL
Decay Heat Limit (w):	1.00592577147623	FGE Limit (g):	200
FGGR (mol/s):	1.795192704843313E-8	FGGR Limit (mol/s):	1.1363636363636364E-7
Volume Model:		Required Aspiration Time (days):	
Total Headspace VOCs (ppm):	147.92		
Packaging Configuration:	COMMON_PACKAGING 2	DAC Scenario:	3
Closure Time (days):	0	Minimum Closure Time Applied (days):	53
Sample-Vent Time (days):	50	Min Sample-Vent Time Applied (days):	9
TFGVC in ICL (mol fr):		MLEL (mol fr):	0.05

History

Event Date/Time	Event Description	Reason
10/10/2013 10:15:02	INSERT DATA INTO THE DATABASE	
10/10/2013 10:15:02	SUCCESSFUL SUBMISSION FOR CERT	
10/10/2013 10:15:43	APPROVED FOR CERT	
10/25/2013 13:33:37	ASSIGNED TO OVERPACK	

5 Point Contamination/Radiation Survey Report 2011(Continuation)

Survey Number: 2011-06-45484

Date/Time: 06-22-2011 1600

Location: Pad 10 TA-54-G 35 ~~4-18-11~~ 4-21-11

Surveyor: Mark Livesay

Item #	Alpha Removable (dpm/100cm²)	Alpha Total (dpm/100cm²)	Beta Removable (dpm/100cm²)	Beta Total (dpm/100cm²)	Dose Rate (mrem/hr) Contact	30 cm	1 Meter	Location		
31	NDA	N/A	NDA	N/A	5.00	1.40	0.60	βγ	88788	Top
32	NDA	N/A	NDA	N/A	1.60	0.40	0.25	η		Rim
33	NDA	N/A	NDA	N/A	6.60	1.80	0.85	Total		Seam
34	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Side
35	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Bottom
36	NDA	N/A	NDA	N/A	10.00	3.00	1.00	βγ	88571	Top
37	NDA	N/A	NDA	N/A	0.25	0.25	0.25	η		Rim
38	NDA	N/A	NDA	N/A	10.25	3.25	1.25	Total		Seam
39	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Side
40	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Bottom
41	NDA	N/A	NDA	N/A	41.00	12.00	2.00	βγ	88596	Top
42	NDA	N/A	NDA	N/A	0.50	0.30	0.25	η		Rim
43	NDA	N/A	NDA	N/A	41.50	12.30	2.25	Total		Seam
44	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Side
45	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Bottom
46	NDA	N/A	NDA	N/A	0.10	0.10	0.10	βγ	88804	Top
47	NDA	N/A	NDA	N/A	0.25	0.25	0.25	η		Rim
48	NDA	N/A	NDA	N/A	0.35	0.35	0.35	Total		Seam
49	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Side
50	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Bottom
51	NDA	N/A	NDA	N/A	5.50	1.40	0.50	βγ	88109	Top
52	NDA	N/A	NDA	N/A	3.00	0.70	0.25	η		Rim
53	NDA	N/A	NDA	N/A	8.50	2.10	0.75	Total		Seam
54	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Side
55	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Bottom
56	NDA	N/A	NDA	N/A	3.70	0.70	0.20	βγ	88758	Top
57	NDA	N/A	NDA	N/A	1.10	0.25	0.25	η		Rim
58	NDA	N/A	NDA	N/A	4.80	0.95	0.45	Total		Seam
59	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Side
60	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Bottom

Item #	Alpha Removable (dpm/100cm²)	Alpha Total (dpm/100cm²)	Beta Removable (dpm/100cm²)	Beta Total (dpm/100cm²)	Dose Rate (mrem/hr) Contact	30 cm	1 Meter	Location		
61	NDA	N/A	NDA	N/A	4.30	1.20	0.60	βγ	88659	Top
62	NDA	N/A	NDA	N/A	1.00	0.40	0.25	η		Rim
63	NDA	N/A	NDA	N/A	5.30	1.60	0.85	Total		Seam
64	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Side
65	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Bottom
66	NDA	N/A	NDA	N/A	0.10	0.10	0.10	βγ	88554	Top
67	NDA	N/A	NDA	N/A	0.25	0.25	0.25	η		Rim
68	NDA	N/A	NDA	N/A	0.35	0.35	0.35	Total		Seam
69	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Side
70	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Bottom
71	NDA	N/A	NDA	N/A	17.00	4.00	1.50	βγ	88927	Top
72	NDA	N/A	NDA	N/A	5.00	3.00	1.00	η		Rim
73	NDA	N/A	NDA	N/A	22.00	7.00	2.50	Total		Seam
74	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Side
75	NDA	N/A	NDA	N/A	N/A	N/A	N/A			Bottom
76								βγ	END OF SURVEY	Top
77								η		Rim
78								Total		Seam
79										Side
80										Bottom
81								βγ		Top
82				A				η		Rim
83			N					Total		Seam
84										Side
85										Bottom
86								βγ		Top
87								η		Rim
88								Total		Seam
89										Side
90										Bottom

Attachment 2 – CCP Radiography Data Sheet

Section 1: General Information	
☑ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-11-0069
Examination Date:	06/15/2011
Waste Container ID:	88927
Video/Audio Recorded Media Number:	LA-RTR2-11-0069 A
Procedure and Revision No.:	CCP-TP-053 Rev. 10
NCR(s) associated with the container? (e.g., Prohibited Items)	☑ NO ☐ YES NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt: 83.5 kg. Tare Wt: 33.4 kg. Net Wt: 50.1 kg.
Rigid Liner and Liner Vent Description: (e.g., "90 mil liner – NO Lid" or "NO Liner")	Fiberboard Liner - No Liner Lid
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	95 %

Best Available Copy

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 88927

Open 30 GAL. drum with material, scrap metal, metal cans with material, metal lid, metal closure ring, drum lid
Scrap lead
Broken glass, glass containers
Plastic bags, plastic containers, plastic caps

Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP): Liner Bag	2.0
Others: Fiberboard (C)	3.7
Total Packaging Weight:	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	27.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	5.0
Other Inorganic Materials (OI):	14.1
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	50.1

Best Available Copy

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 88927

	Yes	No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there an indication of PCBs liquids?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers GREATER than 4 liters?	☐	☑
Are there indications of inadequate protection for heavy and/or sharp objects?	☐	☑

Comments: This drum contains metal cans with material, which may require additional Project Office review.

RTR Operator:

Eric Lyles		6/15/11
Print Name	Signature	Date

Best Available Copy

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	11782	Batch Number:	2LANDA0825
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 13	Software Version:	NDA 2000 V.4.0
Item ID:	88927	Analysis Date:	6/21/2011

Net Weight	50100.0 g	
Pu mass	1.78E+000 +-	2.66E-001 g
TRU Alpha Activity	4.76E+000 +-	2.42E+000 Ci
TRU Activity Concentration	9.51E+004 +-	4.82E+004 nCi/g
Pu-239 Equivalent Activity	4.77E+000 +-	2.42E+000 Ci
Pu-239 FGE	1.99E+000 +-	2.79E-001 g
Decay heat	1.59E-001 +-	8.07E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	4.49E-007
U233	<LLD	<LLD	0.00E+000	3.09E-003
U234	6.36E-003	4.02E-005	1.19E-005	0.00E+000
U235	4.55E-001	9.96E-007	2.94E-007	9.11E-007
NP237	4.20E-002	3.00E-005	3.25E-006	1.65E-006
PU238	1.65E-004	2.86E-003	6.08E-004	3.88E-004
U238	<LLD	<LLD	0.00E+000	2.00E-005
PU239	1.67E+000	1.05E-001	1.67E-002	1.42E-002
PU240	1.07E-001	2.45E-002	5.21E-003	3.32E-003
AM241	1.33E+000	4.63E+000	2.42E+000	2.04E-002
PU241	2.28E-003	2.37E-001	5.05E-002	3.22E-002
PU242	3.55E-004	1.41E-006	3.00E-007	0.00E+000

Errors quoted at 1.000 sigma

Operator: _____ Date: 7/12/11

ITR: _____ Date: 7-13-11

NDA 2000 Assay Report

Item Information

Item ID:	88927		Count Sequence Number:	11782	
Operator:	DCLTD231\Operator				
Assay Start:	6/21/2011 11:09:30 AM				
Description 1:	2LANDA0825				
Description 2:	Cans with Material				
Location:	LANL TA-54				
Comment:	AK-6, Not Counted to Precision				
Matrix Type:	Debris S5000				
Container Type:	55 gal Drum				
Weight:	Net:	50.1 kg	Net:	50.1 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.250 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

Attachment 4 – Flammable Gas Analysis Form SCO 1050 Addendum 1 Windows XP SP3 - Excel 2007

Waste Container ID: **88927**

BDR Number: **LA11FG2046**

Sampling Date: **6/22/2011**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	90.37	U
74-82-8	Methane	142.14	U
67-56-1	Methanol	35.23	U
60-29-7	Ethyl Ether	0.96	U
75-35-4	1,1-Dichloroethylene	6.38	U
67-64-1	Acetone	18.08	U
75-34-3	1,1-Dichloroethane	4.08	U
156-59-2	cis-1,2-Dichloroethene	0.76	U
78-93-3	Methyl ethyl ketone	11.73	U
110-82-7	Cyclohexane	5.10	U
71-43-2	Benzene	1.77	U
107-06-2	1,2-Dichloroethane	3.66	U
71-36-3	1-Butanol	1.84	U
108-10-1	Methyl isobutyl ketone	9.82	U
108-88-3	Toluene	16.87	
108-90-7	Chlorobenzene	4.10	U
100-41-4	Ethylbenzene	3.57	U
108-38-3/106-42-3	m- and p-Xylene	12.45	
95-47-6	o-Xylene	7.43	
108-67-8	1,3,5-Trimethylbenzene	1.96	U
95-63-6	1,2,4-Trimethylbenzene	2.13	U

CAS Number	IDENTIFIED TIC COMPOUND	Est. Amount ppmv

BDR Number: LA11FG2046

Waste Container ID		8	9	10	11	12	13	14	15
		Filter Model Number	Hydrogen Diffusivity of Filter (mol/s/mf)	Package Configuration Group Number	Closure Date	Vent Date	Required DAC Value (in days)	Drum Age (in days)	Can this container be sampled?
1	65719	NucFil-019DS	1.85E-05	N/A	9/22/2010	9/22/2010	14	273	Y
2	65926	NucFil-019DS	1.85E-05	N/A	1/11/2011	1/11/2011	14	162	Y
3	88313	NucFil-019DS	1.85E-05	3	2/20/2011	2/20/2011	12	122	Y
4	88932	NucFil-019DS	1.85E-05	N/A	5/3/2011	5/3/2011	14	50	Y
5	88524	NucFil-019DS	1.85E-05	3	4/4/2011	4/4/2011	12	79	Y
6	88548	NucFil-019DS	1.85E-05	3	4/5/2011	4/5/2011	12	78	Y
7	88550	NucFil-019DS	1.85E-05	3	4/5/2011	4/5/2011	12	78	Y
8	88554	NucFil-019DS	1.85E-05	3	4/5/2011	4/5/2011	12	78	Y
9	88684	NucFil-019DS	1.85E-05	3	4/14/2011	4/14/2011	12	69	Y
10	88768	NucFil-019DS	1.85E-05	3	4/20/2011	4/20/2011	12	63	Y
11	88772	NucFil-019DS	1.85E-05	3	4/20/2011	4/20/2011	12	63	Y
12	88927	NucFil-019DS	1.85E-05	3	5/3/2011	5/3/2011	12	50	Y
13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Operator: Michael Simmons
Printed Name

Signature

9/15/11
Date

20
9/15/11 MS

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	WDS Master Template.xls Rev. 8 Addendum #8, SCO #1065 Excel 2003/2007 Microsoft Windows XP	Units	data	comments									initial	date
2	Shipper Site ID		C4	Location ID	Dest Program ID	Shipping Purpose				LA00000091257			HP/LD	09/26/13
3	Waste Stream Profile		LA-MHD01.001	LA	WI	D							HP/LD	09/26/13
4	Container Number		LA00000091257	TBO 9000 CK 9-26-13									HP/LD	09/26/13
5	Container Type		dpwm	drum, swb, tdop, etc., see WWIS labels for valid types.					U-235 FEM	U-235 FEM Uncert	FGGR Flag	FGGR Test Penod	HP/LD	09/26/13
6	WAC Rev #		7.4						NULL	NULL	NULL	NULL	HP/LD	09/26/13
7	[redacted]							Be mass<=100 kg	Be <= 1%	Be Present	Aqueous Matenal	Compacted Wst		
8	Cert Site		C4					Y	Y	Y	N	N	HP/LD	09/26/13
9	Cert Date		9/30/2013											
10	Waste Handling Code		CH	CH, RH									HP/LD	09/26/13
11	Waste Type Code		MTRU	TRU, MTRU									HP/LD	09/26/13
12	Waste Stream BIR ID		LA-MHD01.001										HP/LD	09/26/13
13	Waste Stream MWIR ID		NONE										HP/LD	09/26/13
14	Generator Site ID		LA										HP/LD	09/26/13
15	IDC Code		NONE										HP/LD	09/26/13
16	Matrix Code		S5400										HP/LD	09/26/13
17	Trucon Code		LA225D	Invalid Ship Cat									HP/LD	09/26/13
18	Shipping Category		3001090044	> 0.012 Watt-years										
19	Tru Alpha Act	Ci	2.58E+00		2.575E+00								HP/LD	09/26/13
20	Tru Alpha Act Uncert	1sigma Ci	6.08E-01	3.796E+00	Tru Alpha Act + 2sigma (Ci)								HP/LD	09/26/13
21	Tru Alpha Act Conc	nCi/g	7.36E+04		7.34E+04								HP/LD	09/26/13
22	[redacted]		1.73E+04	1.082E+05	Tru Alpha Act Conc + 2sigma (Ci)			Drum Weight	27.7				HP/LD	09/26/13
23	Pu239 Fiss Gm Eq	g	5.15E-01		5.141E-01								HP/LD	09/26/13
24	Pu239 Fiss Gm Eq Uncert	1sigma g	4.53E-02	6.056E-01	Pu239 Fiss Gm Eq + 2sigma (Ci)								HP/LD	09/26/13
25	Pu239 Eq Act	Ci	2.73E+00		2.725E+00								HP/LD	09/26/13
26	Decay Heat	watts	8.58E-02		8.559E-02								HP/LD	09/26/13
27	Decay Heat Uncert	1sigma watts	2.03E-02	1.06E-01	Decay Heat + 1sigma (watts)								HP/LD	09/26/13
28	Layers of Packaging		1										HP/LD	09/26/13
29	Fill Factor		60	percentage	Liner Lid Present								HP/LD	09/26/13
30	Liner Type			1 = plastic drum liner									HP/LD	09/26/13
31	Liner Punctured				Liner Hole Size								HP/LD	09/26/13
32	PCB Conc		NULL		(mm)		PCB Waste	PCB Mass (kg)	Out of Service				HP/LD	09/26/13
33	Closure Date		4/10/2012	Watt-years	Waste Gen Date		N	NULL	NULL				HP/LD	09/26/13
34	Vent Date		4/10/2012	0.126	NULL								HP/LD	09/26/13
35	Filter Install Date		4/10/2012				Filter Reduction Date	NULL					HP/LD	09/26/13
36	Filter Manufacturer		NFT				Reduced Filter Model	NULL					HP/LD	09/26/13
37	[redacted]												HP/LD	09/26/13
38	Filter Model Number		NF019D										HP/LD	09/26/13
39	Number of Filters Installed		1										HP/LD	09/26/13
40	Aspiration Method ID		3										HP/LD	09/26/13
41	Gas Gen Rate			#VALUE!	<<Gas Gen Rate Calculated.									
42	Hydrogen/Methane Gen Rate													
43	Gas Gen Comp Date				Waste (kg)	Packaging (kg)	Total (kg)							
44	Gross Weight	kg	68.5		35.1	33.4	68.5						HP/LD	09/26/13
45	Gross Weight Uncert	1sigma kg	2.3										HP/LD	09/26/13
46	Alpha Surf Cont	dpm/100 cm^2	19										HP/LD	09/26/13
47	Beta/Gamma Surf Cont	dpm/100 cm^2	199										HP/LD	09/26/13
48	Neutron Dose Rate	mrem/hr	0.25										HP/LD	09/26/13
49	Beta/Gamma Dose Rate	mrem/hr	15										HP/LD	09/26/13
50	Radionuclide		NP-237	PU-238	PU-239	PU-240	AM-241	PU-241	PU-242	SR-90	CS-137	U-233	HP/LD	09/26/13
51	Activity	Ci	9.76E-06	1.26E+00	7.22E-03	1.59E-01	1.11E+00	1.37E+01	3.86E-02	-1.00E+00	-1.00E+00	-1.00E+00	HP/LD	09/26/13
52	Activity Uncert	1sigma Ci	1.13E-06	1.75E-01	9.97E-04	2.20E-02	5.82E-01	1.89E+00	5.33E-03	-1.00E+00	-1.00E+00	-1.00E+00	HP/LD	09/26/13
53	Mass	grams	1.37E-02	7.28E-02	1.15E-01	6.91E-01	3.20E-01	1.32E-01	9.72E+00	-1.00E+00	-1.00E+00	-1.00E+00		
54	Mass Uncert	1sigma grams	1.62E-03	1.03E-02	1.62E-02	9.76E-02	1.71E-01	1.85E-02	1.37E+00	-1.00E+00	-1.00E+00	-1.00E+00		
55	calc Tru Alpha Act	Ci	9.76E-06	1.26E+00	7.22E-03	1.59E-01	1.11E+00	0.00E+00	3.86E-02	0.00E+00	0.00E+00	0.00E+00		
56	calc Tru Alpha Act Conc	nCi/g	2.78E-01	3.59E+04	2.06E+02	4.53E+03	3.16E+04	0.00E+00	1.10E+03	0.00E+00	0.00E+00	0.00E+00		
57	calc Act	Ci	9.76E-06	1.26E+00	7.22E-03	1.59E-01	1.11E+00	1.37E+01	3.86E-02	0.00E+00	0.00E+00	0.00E+00		
58	calc Act Conc	nCi/g	2.78E-01	3.59E+04	2.06E+02	4.53E+03	3.16E+04	3.90E+05	1.10E+03	0.00E+00	0.00E+00	0.00E+00		

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
59	calc Pu239 FGE	g	2.05E-04	8.23E-03	1.15E-01	1.56E-02	5.98E-03	2.96E-01	7.29E-02	0.00E+00	0.00E+00	0.00E+00		
60	calc Pu239 Eq Act	Ci	9.76E-06	1.15E+00	7.22E-03	1.59E-01	1.11E+00	2.69E-01	3.51E-02	0.00E+00	0.00E+00	0.00E+00		
61	calc Decay Heat	watts	2.86E-07	4.17E-02	2.24E-04	4.95E-03	3.71E-02	4.36E-04	1.14E-03	0.00E+00	0.00E+00	0.00E+00		
62	uncert Tru Alpha Act	Ci	1.15E-06	1.79E-01	1.02E-03	2.24E-02	5.94E-01	0.00E+00	5.44E-03	0.00E+00	0.00E+00	0.00E+00		
63	uncert Tru Alpha Act Conc	nCi/g	3.29E-02	5.09E+03	2.90E+01	6.40E+02	1.69E+04	0.00E+00	1.55E+02	0.00E+00	0.00E+00	0.00E+00		
64	uncert Act	Ci	1.15E-06	1.79E-01	1.02E-03	2.24E-02	5.94E-01	1.93E+00	5.44E-03	0.00E+00	0.00E+00	0.00E+00		
65	uncert Act Conc	nCi/g	3.29E-02	5.09E+03	2.90E+01	6.40E+02	1.69E+04	5.49E+04	1.55E+02	0.00E+00	0.00E+00	0.00E+00		
66	uncert Pu239 FGE	g	2.43E-05	1.17E-03	1.62E-02	2.20E-03	3.20E-03	4.17E-02	1.03E-02	0.00E+00	0.00E+00	0.00E+00		
67	uncert Pu239 Eq Act	Ci	1.13E-06	1.58E-01	9.97E-04	2.20E-02	5.82E-01	3.71E-02	4.85E-03	0.00E+00	0.00E+00	0.00E+00		
68	uncert Decay Heat	watts	3.38E-08	5.91E-03	3.15E-05	6.99E-04	1.99E-02	6.14E-05	1.60E-04	0.00E+00	0.00E+00	0.00E+00		
69	Shipping Calcs	5.27E+02	1.80E-03	2.33E+02	1.33E+00	2.94E+01	2.05E+02	5.07E+01	7.13E+00	0.00E+00	0.00E+00	0.00E+00		
70	49CFR173.433f		0.00%	44.22%	0.25%	5.58%	38.96%	9.63%	1.35%	0.00%	0.00%	0.00%		
71	Radionuclide		U-234	U-235	U-238	AM-243							HP/LD	09/26/13
72	Activity	Ci	-1.00E+00	0.00E+00	-1.00E+00	2.34E-05							HP/LD	09/26/13
73	Activity Uncert	1sigma Ci	-1.00E+00	0.00E+00	-1.00E+00	2.75E-06							HP/LD	09/26/13
74	Mass	grams	-1.00E+00	0.00E+00	-1.00E+00	1.16E-04	NULL	NULL	NULL	NULL	NULL	NULL		
75	Mass Uncert	1sigma grams	-1.00E+00	0.00E+00	-1.00E+00	1.39E-05	NULL	NULL	NULL	NULL	NULL	NULL		
76	calc Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	2.34E-05	NULL	NULL	NULL	NULL	NULL	NULL		
77	calc Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	6.67E-01	NULL	NULL	NULL	NULL	NULL	NULL		
78	calc Act	Ci	0.00E+00	0.00E+00	0.00E+00	2.34E-05	NULL	NULL	NULL	NULL	NULL	NULL		
79	calc Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	6.67E-01	NULL	NULL	NULL	NULL	NULL	NULL		
80	calc Pu239 FGE	g	0.00E+00	0.00E+00	0.00E+00	1.49E-06	NULL	NULL	NULL	NULL	NULL	NULL		
81	calc Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	2.34E-05	NULL	NULL	NULL	NULL	NULL	NULL		
82	calc Decay Heat	watts	0.00E+00	0.00E+00	0.00E+00	7.52E-07	NULL	NULL	NULL	NULL	NULL	NULL		
83	uncert Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	2.81E-06	NULL	NULL	NULL	NULL	NULL	NULL		
84	uncert Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	7.99E-02	NULL	NULL	NULL	NULL	NULL	NULL		
85	uncert Act	Ci	0.00E+00	0.00E+00	0.00E+00	2.81E-06	NULL	NULL	NULL	NULL	NULL	NULL		
86	uncert Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	7.99E-02	NULL	NULL	NULL	NULL	NULL	NULL		
87	uncert Pu239 FGE	g	0.00E+00	0.00E+00	0.00E+00	1.79E-07	NULL	NULL	NULL	NULL	NULL	NULL		
88	uncert Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	2.75E-06	NULL	NULL	NULL	NULL	NULL	NULL		
89	uncert Decay Heat	watts	0.00E+00	0.00E+00	0.00E+00	9.02E-08	NULL	NULL	NULL	NULL	NULL	NULL		
90	Shipping Calcs		0.00E+00	0.00E+00	0.00E+00	4.33E-03	NULL	NULL	NULL	NULL	NULL	NULL		
91	49CFR173.433f		0.00%	0.00%	0.00%	0.00%	NULL	NULL	NULL	NULL	NULL	NULL		
92	Waste Material Parameter		IM	OI	PW	IS	PP	CP					HP/LD	09/26/13
93	Wgt of Mat Parms	kg	22.1	3	5	5	2	3.7					HP/LD	09/26/13
94	Radio Assay Method		11HC2	PAN, FRAM, TGS, HENC									HP/LD	09/26/13
95	Data Package Number		2LANDA0975										HP/LD	09/26/13
96	Assay Date		4/18/2012										HP/LD	09/26/13
97	Charz Method ID		11RR2	RTRM, VISUAL									HP/LD	09/26/13
98	Data Package Number		LA-RTR2-12-0046										HP/LD	09/26/13
99	Charz Method Date		4/17/2012										HP/LD	09/26/13
100	Haz Codes		F001	F002	F005	D004	D005	D006	D007	D008	D009	D010	HP/LD	09/26/13
101	Haz Codes		D011	D018	D019	D021	D022	D035	D038	D039	D040		HP/LD	09/26/13
102	Haz Codes													
103	Haz Codes													
104	Sample ID	Headspace Gas H/M	H-LA00000091257										HP/LD	09/26/13
105	Sample Type		HGHM-T	HGHM									HP/LD	09/26/13
106	Layer No. Sampled		0		17.78								HP/LD	09/26/13
107	Date Sampled		9/12/2013			Sample Site							HP/LD	09/26/13
108	Method ID		11HG2	DTP-1.2-041		C4							HP/LD	09/26/13
109	Data Package Number		LA13FG12092										HP/LD	09/26/13
110	CAS #		1333-74-0	74-82-8										
111	Analyte		HYDROGEN	METHANE									HP/LD	09/26/13
112	Concentration				8.15	9.63							HP/LD	09/26/13
113	units	%vol			PPMV	PPMV							HP/LD	09/26/13
114	Date Analyzed		09/12/13	9/12/2013		2.5%= 0.20							HP/LD	09/26/13
115	8 Detectable Flag													
116	D Detectable Flag													
117	E Detectable Flag													
118	J Detectable Flag													
119	U Detectable Flag		U	U									HP/LD	09/26/13
120	NA Detectable Flag													
121	Methanol Sample ID		11HG2											
122	Sample ID	Headspace Gas VOC	LA00000091257										HP/LD	09/26/13
123	Sample Type		HGVO-T	HGVO									HP/LD	09/26/13
124	Layer No. Sampled		0			SARP-Flammable VOCs (ppmv)		34.525					HP/LD	09/26/13
125	Date Sampled		9/12/2013										HP/LD	09/26/13
126	Method ID		11HG2	DTP-1.2-041									HP/LD	09/26/13
127	Data Package Number		LA13FG12092										HP/LD	09/26/13

WDS Master Template.xls Rev. 8
Addendum #8, SCO #1065
Excel 2003/2007 Microsoft
Windows XP

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
128														
129	CAS #		67-56-1	60-29-7	75-35-4	67-64-1	75-34-3	156-59-2	78-93-3	110-82-7			HP/LD	09/26/13
130	Analyte		Methanol	Ethyl ether	1,1-Dichloroethylene	Acetone	1,1-Dichloroethane	cis-1,2-Dichloroethylene	Methyl ethyl ketone	Cyclohexane				
131	Concentration		30.57	1.77	5.36	11.55	2.29	0.36	2.55	2.09			HP/LD	09/26/13
132	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			HP/LD	09/26/13
133	Date Analyzed		9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013			HP/LD	09/26/13
134	B Detectable Flag													
135	D Detectable Flag													
136	E Detectable Flag													
137	J Detectable Flag													
138	U Detectable Flag		U	U	U	U	U	U	U	U			HP/LD	09/26/13
139	NA Detectable Flag													
140	SARP-Flammable Calc		15.285	0.885	2.68	5.775	1.145	0.18	1.275	1.045				
141	CAS #		71-43-2	107-06-2	71-36-3	108-10-1	108-88-3	108-90-7	100-41-4	108383/106423			HP/LD	09/26/13
142	Analyte		Benzene	1,2-Dichloroethane	Butanol	Methyl isobutyl ketone	Toluene	Chlorobenzene	Ethyl benzene	m-Xylene/p-Xylene				
143	Concentration		0.47	0.92	0.54	3.11	2.73	0.87	1.15	0.59			HP/LD	09/26/13
144	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			HP/LD	09/26/13
145	Date Analyzed		9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013			HP/LD	09/26/13
148	B Detectable Flag													
147	D Detectable Flag													
148	E Detectable Flag													
149	J Detectable Flag													
150	U Detectable Flag		U	U	U	U	U	U	U	U			HP/LD	09/26/13
151	NA Detectable Flag													
152	SARP-Flammable Calc		0.235	0.46	0.27	1.555	1.365	0.435	0.575	0.295				
153	CAS #		95-47-6	108-67-8	95-63-6								HP/LD	09/26/13
154	Analyte		o-Xylene	1,3,5-Trimethylbenzen	1,2,4-Trimethylbenzen	NULL	NULL	NULL	NULL	NULL				
155	Concentration		0.63	0.72	0.78								HP/LD	09/26/13
156	units	ppmv	ppmv	ppmv	ppmv								HP/LD	09/26/13
157	Date Analyzed		9/12/2013	9/12/2013	9/12/2013	NULL	NULL	NULL	NULL	NULL			HP/LD	09/26/13
158	B Detectable Flag													
159	D Detectable Flag													
160	E Detectable Flag													
161	J Detectable Flag													
162	U Detectable Flag		U	U	U								HP/LD	09/26/13
163	NA Detectable Flag					NA	NA	NA	NA	NA				
164	SARP-Flammable Calc		0.315	0.36	0.39	NULL	NULL	NULL	NULL	NULL				
165	CAS #													
166	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
167	Concentration													
168	units	ppmv												
169	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
170	B Detectable Flag													
171	D Detectable Flag													
172	E Detectable Flag													
173	J Detectable Flag													
174	U Detectable Flag													
175	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA				
176	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
177	CAS #													
178	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
179	Concentration													
180	units	ppmv												
181	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
182	B Detectable Flag													
183	D Detectable Flag													
184	E Detectable Flag										WDS Master Template.xls Rev. 8			
185	J Detectable Flag										Addendum #8, SCO #1065			
186	U Detectable Flag										Excel 2003/2007 Microsoft			
187	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA	Windows XP			
188	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
189			type	comment										
190	Comment												HP/LD	09/26/13
191	Comment													
192	Comment													
193	Comment													
194	Comment													
195	Comment													
196	Comment													
197	Comment													
198	Comment													
199	Comment													
200														
201			Requirements Met?											
202	Free liquids <1% by volume		YES											
203	No non-rad. pyrophorics		YES											
204	Chemical compatability		YES											
205	No explosives		YES											
206	No corrosives		YES											
207	No pressurized containers		YES											
208	No sealed Containers >4 liters		YES											
209	Liner punctured/ filtered		YES											
210	Flammable VOCs <500ppmv		Yes											
211	Container is in Approved Waste Stream Profile Form?	LA-MHD01.001	YES											
212	Can it be established through Process Knowledge that the concentration of flammable VOCs present in the headspace of the container is <= 500 ppm?.		NO											
213														
214														
215														
216														
217														
218														
219														
220														
221														
222														
223														
224														
225														
226														
227														
228														
229														
230														
231														
232														
233														
234														
235														

Greta Krabbe
CCP Certification Official

9-30-2013
Date

WDS Master Template.xls Rev 8
Addendum #8, SCO #1065
Excel 2003/2007 Microsoft Windows XP

COPY

Waste Isolation Pilot Plant
Container Data Report

Report Statistics

Report Version:	**2.3**
WDS Instance:	**prd05.wipp.carlsbad.nm.us**
Generated on:	**June 19, 2014 01:04 PM**
Generated by:	**KIRKES, CRETA**
Total Pages:	**9**

Selection Criteria

Container Number: **LA00000091257**

Container: LA00000091257
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Current Location Site: WI
Generator Site: LA
Destination Site ID: WI

Certification Program ID: C4
Shipping Program ID: C4

Overpack Container: LASB02085
Overpack Type: STANDARD WASTE BOX
Overpack Status: CERTIFICATION DATA APPROVED

Neutron Dose Rate (mrem/hr): 0.25
Beta Gamma Dose Rate (mrem/hr): 15.0
Total Dose Rate (mrem/hr): 15.25

FGE (g): 5.15E-01
FGE Uncertainty (g): 4.53E-02

Gross Weight (kg): 68.50
Gross Weight Uncert (kg): 2.30

Decay Heat (W): 8.58E-02
Decay Heat Uncertainty (W): 2.03E-02

Shipment Data

Payload ID: **LA3479** Assembly ID: LA136767 Payload Complete? Y
Shipment Number: LA130165 Send Date: 11/05/2013 Receipt Date: 11/05/2013
Shipment Status: SHIPMENT RECEIVED AT DESTINATION

Emplacement Location

Panel: 6 Room: 1
Row: 34 Column: 2 Height: B

Certification Data Values

Waste Stream Profile Code: LA-MHD01.001
Waste Type Code: MTRU
IDC Code: NONE
Waste Matrix Code: S5400
WAC Revision Number: 7.4
Fill Factor (%): 60.00
Waste Stream BIR ID: LA-MHD01.001
Waste Stream MWIR ID: NONE

TRU Alpha Activity (Ci): 2.58E00
TRU Alpha Activity Uncertainty (Ci): 6.08E-01
TRU Alpha Activity Concentration (Ci/g): 7.36E-05
PU-239 Equivalent Activity (PE-Ci): 2.73E00
Alpha Surface Contamination (dpm/cm^2): 19.0
Beta/Gamma Surface Contamination (dpm/cm^2): 199.0

Transportation Data Values

Closure Date: 04/10/2012
Vent Date: 04/10/2012
Process Knowledge? N

TRUCON Code: LA225D
Shipping Category: 3001090044
Aspiration Method: 3

Shipment Purpose: DISPOSAL
Machine Compacted? N
Liner Exists? N
Liner Hole Size(mm):
Liner Lid Present?
Layers of Packaging 1
Aqueous Material? N

Gas Generation Data Values

Measured FGGR (mol/s)	Measured TGRR (mol/s)	Truncated FGGR Test (Y/N)	Truncated FGGR Test Period (days)

Container: LA00000091257
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

PCB Waste?	N
PCB Mass (kg):	
PCB Concentration (ppm):	
PCB Out of Service Date:	
Be Present?	Y
Be <= 1% by weight?	Y
Be mass <= 100kg?	Y
Separation OK?	
Packing Fraction (compaction level):	non-compacted

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date
NF019D	1.85E-05	1	04/10/2012

Certification Comments

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
AM-241	1.110E00	5.820E-01	3.199E-01	1.711E-01
AM-243	2.340E-05	2.750E-06	1.158E-04	1.389E-05
CS-137	<LLD	<LLD	<LLD	<LLD
NP-237	9.760E-06	1.130E-06	1.369E-02	1.617E-03
PU-238	1.260E00	1.750E-01	7.283E-02	1.032E-02
PU-239	7.220E-03	9.970E-04	1.148E-01	1.617E-02
PU-240	1.590E-01	2.200E-02	6.913E-01	9.760E-02
PU-241	1.370E01	1.890E00	1.317E-01	1.854E-02
PU-242	3.860E-02	5.330E-03	9.723E00	1.370E00
SR-90	<LLD	<LLD	<LLD	<LLD
U-233	<LLD	<LLD	<LLD	<LLD
U-234	<LLD	<LLD	<LLD	<LLD

Container: LA00000091257
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
U-235	.000E00	.000E00	.000E00	.000E00
U-238	<LLD	<LLD	<LLD	<LLD

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	H-LA00000091257	HGHM-T	HEADSPACE GAS HYDROGEN AND METHANE	09/12/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
1333-74-0	HYDROGEN	8.15	09/12/2013	11HG2	U
74-82-8	METHANE	9.63	09/12/2013	11HG2	U

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000091257	HGVO-T	HEADSPACE GAS VOC	09/12/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
100-41-4	ETHYL BENZENE	1.15	09/12/2013	11HG2	U
107-06-2	1,2-DICHLOROETHANE	0.92	09/12/2013	11HG2	U
108-10-1	METHYL ISOBUTYL KETONE	3.11	09/12/2013	11HG2	U
108-67-8	1,3,5-TRIMETHYLBENZENE	0.72	09/12/2013	11HG2	U
108-88-3	TOLUENE	2.73	09/12/2013	11HG2	U
108-90-7	CHLOROBENZENE	0.87	09/12/2013	11HG2	U

Container: LA00000091257
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000091257	HGVO-T	HEADSPACE GAS VOC	09/12/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
108383/106423	M,P-XYLENE	0.59	09/12/2013	11HG2	U
110-82-7	CYCLOHEXANE	2.09	09/12/2013	11HG2	U
156-59-2	CIS-1,2-DICHLOROETHYLENE	0.36	09/12/2013	11HG2	U
60-29-7	ETHYL ETHER	1.77	09/12/2013	11HG2	U
67-56-1	METHANOL	30.57	09/12/2013	11HG2	U
67-64-1	ACETONE	11.55	09/12/2013	11HG2	U
71-36-3	BUTANOL	0.54	09/12/2013	11HG2	U
71-43-2	BENZENE	0.47	09/12/2013	11HG2	U
75-34-3	1,1-DICHLOROETHANE	2.29	09/12/2013	11HG2	U
75-35-4	1,1-DICHLOROETHYLENE	5.36	09/12/2013	11HG2	U
78-93-3	METHYL ETHYL KETONE	2.55	09/12/2013	11HG2	U
95-47-6	O-XYLENE	0.63	09/12/2013	11HG2	U
95-63-6	1,2,4-TRIMETHYLBENZENE	0.78	09/12/2013	11HG2	U

Material Parameters

Material Parameter	Description	Weight (kg)
1	IRON BASE METAL ALLOYS	22.10
4	OTHER INORGANIC MATERIALS	3.00

Container: LA00000091257
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Material Parameters

Material Parameter	Description	Weight (kg)
8	PLASTICS	5.00
9	SOLIDIFIED INORGANIC MATERIAL	5.00
13	STEEL CONTAINER MATERIALS	27.70
14	PLASTIC/LINERS CONTAINER MATERIALS	2.00
15	CELLULOSICS PACKAGING MATERIALS	3.70
	Waste Weight:	35.10
	Packaging Weight:	33.40
	Total Material Weight:	68.50

Hazardous Codes

Hazardous Code	Description
D004	ARSENIC
D005	BARIUM
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D018	BENZENE
D019	CARBON TETRACHLORIDE
D021	CHLOROBENZENE

Container: LA00000091257
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Hazardous Codes

Hazardous Code	Description
D022	CHLOROFORM
D035	METHYL ETHYL KETONE
D038	PYRIDINE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
F001	SPENT HALOGENATED SOLVENTS
F002	SPENT HALOGENATED SOLVENTS
F005	SPENT NON-HALOGENATED SOLVENTS

Assay Methods

Labor Code	Assay Method	Description	Assay Date
C4	11HC2	CANBERRA HENC LA07/LAN6	04/18/2012

Non-Destructive Examination (NDE)

Labor Code	NDE Method	Description	Examination Date
C4	11RR2	RTR - VJ TECHNOLOGIES MOBILE SYSTEM	04/17/2012

Edit Limit Check Results

Evaluation Date: 10/01/2013 07:42:11 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
DI_CERT_ALL	PASS		
DI_CERT_BE	PASS		
DI_CERT_CERT	PASS		

Container: LA00000091257
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Edit Limit Check Results

Evaluation Date: 10/01/2013 07:42:11 Overall Status: PASS

Evaluation Code	Status
DI_CERT_CHARZ	PASS
DI_CERT_ED	PASS
DI_CERT_EPA	PASS
DI_CERT_PCB	PASS
DI_CERT_PERC	PASS
DI_CERT_TRAMPAC	PASS
DSA	PASS
WAC	PASS
WAP_CERT	PASS

TRAMPAC Evaluation Results

Evaluation Date: 10/01/2013 07:42:13 Overall Status: PASS

Evaluation Code	Status
CE_ACT	PASS
CE_ALL	PASS
CE_ASP	PASS
CE_DDH	PASS
CE_FGE	PASS
CE_FIL	PASS
CE_GVE	PASS
CE_RDR	PASS
CE_TRU	PASS
CE_WGT	PASS

Return Code	Detailed Description

Container: LA00000091257
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 09/30/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

TRAMPAC Evaluation Results

Evaluation Date: 10/01/2013 07:42:13 Overall Status: PASS

Details

Matrix Depleted Shipping Category:		Compliance Method:	ANALYTICAL
Decay Heat Limit (w):	1.00592577147623	FGE Limit (g):	200
FGGR (mol/s):	9.693362748619022E-9	FGGR Limit (mol/s):	1.1363636363636364E-7
Volume Model:		Required Aspiration Time (days):	
Total Headspace VOCs (ppm):	69.05		
Packaging Configuration:	COMMON_PACKAGING 2	DAC Scenario:	3
Closure Time (days):	0	Minimum Closure Time Applied (days):	53
Sample-Vent Time (days):	520	Min Sample-Vent Time Applied (days):	9
TFGVC in ICL (mol fr):		MLEL (mol fr):	0.05

History

Event Date/Time	Event Description	Reason
10/01/2013 07:42:13	INSERT DATA INTO THE DATABASE	
10/01/2013 07:42:13	SUCCESSFUL SUBMISSION FOR CERT	
10/01/2013 07:47:39	APPROVED FOR CERT	
10/25/2013 13:33:37	ASSIGNED TO OVERPACK	

5 Point Contamination/Radiation Survey Report 2013 (Continuation)

Survey Number:	Date/Time:
2013-06497	9/12/13 1700
Location:	**Surveyor:**
TA-54-232/49	S.Mallory

Item	Alpha		Beta		Dose Rate (mrem/hr)			Location		
#	Removable (dpm/100cm²)	Total (dpm/100cm²)	Removable (dpm/100cm²)	Total (dpm/100cm²)	Contact	30 cm	1 Meter			
31	NDA	N/A	NDA	N/A	12.00	6.00	1.90	βγ	90983	Scan
32	NDA	N/A	NDA	N/A	1.00	0.50	0.25	α		Side
33	NDA	N/A	NDA	N/A	13.00	6.50	2.15	Total		Rim
34	NDA	N/A	NDA	N/A						Top
35	NDA	N/A	NDA	N/A						Bottom
36	NDA	N/A	NDA	N/A	15.00	4.00	0.50	βγ	91257	Scan
37	NDA	N/A	NDA	N/A	0.25	0.25	0.25	α		Side
38	NDA	N/A	NDA	N/A	15.25	4.25	0.75	Total		Rim
39	NDA	N/A	NDA	N/A						Top
40	NDA	N/A	NDA	N/A						Bottom
41	NDA	N/A	NDA	N/A	28.00	5.00	1.80	βγ	92402	Scan
42	NDA	N/A	NDA	N/A	1.50	0.60	0.25	α		Side
43	NDA	N/A	NDA	N/A	29.50	5.60	2.05	Total		Rim
44	NDA	N/A	NDA	N/A						Top
45	NDA	N/A	NDA	N/A						Bottom
46	NDA	N/A	NDA	N/A	1.00	0.40	0.10	βγ	66852	Scan
47	NDA	N/A	NDA	N/A	3.50	2.10	1.20	α		Side
48	NDA	N/A	NDA	N/A	4.50	2.50	1.30	Total		Rim
49	NDA	N/A	NDA	N/A						Top
50	NDA	N/A	NDA	N/A						Bottom
51	NDA	N/A	NDA	N/A	0.10	0.10	0.10	βγ	94204	Scan
52	NDA	N/A	NDA	N/A	0.25	0.25	0.25	α		Side
53	NDA	N/A	NDA	N/A	0.35	0.35	0.35	Total		Rim
54	NDA	N/A	NDA	N/A						Top
55	NDA	N/A	NDA	N/A						Bottm
56	End	of	Survey					βγ		Scan
57								α		Side
58					0.00	0.00	0.00	Total		Rim
59										Top
60										Bottom

Item	Alpha		Beta		Dose Rate (mrem/hr)			Location
#	Removable (dpm/100cm²)	Total (dpm/100cm²)	Removable (dpm/100cm²)	Total (dpm/100cm²)	Contact	30 cm	1 Meter	
61								βγ Scan
62								α Side
63					0.00	0.00	0.00	Total Rim
64								Top
65								Bottom
66								βγ Scan
67								α Side
68					0.00	0.00	0.00	Total Rim
69								Top
70								Bottom
71								βγ Scan
72								α Side
73					0.00	0.00	0.00	Total Rim
74								Top
75								Bottom
76								βγ Scan
77								α Side
78					0.00	0.00	0.00	Total Rim
79								Top
80								Bottom
81								βγ Scan
82								α Side
83					0.00	0.00	0.00	Total Rim
84								Top
85								Bottom
86								βγ Scan
87								α Side
88					0.00	0.00	0.00	Total Rim
89								Top
90								Bottom

Attachment 2 – CCP Radiography Data Sheet

Section 1: General Information	
☑ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-12-0046
Examination Date:	04/17/2012
Waste Container ID:	91257
Video/Audio Recorded Media Number:	LA-RTR2-12-0046 A
Procedure and Revision No.:	CCP-TP-053 Rev. 11
NCR(s) associated with the container? (e.g., Prohibited Items)	☑ NO ☐ YES NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt: 68.5 kg. Tare Wt: 33.4 kg. Net Wt: 35.1 kg.
Rigid Liner and Liner Vent Description: (e.g., "90 mil liner – NO Lid" or "NO Liner")	Fiberboard Liner - No Liner Lid
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	60 %

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 91257

Section 3: Container Inventory and Comments (Detailed descriptions)
Crushed metal lids, metal cans with material, metal lids, metal hardware, metal tubing, mechanical component, electrical component, Broken glass, glass labware Plastic bags, horsetails, plastic labware Homogeneous solid material

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP): Liner Bag	2.0
Others: Fiberboard Liner(C)	3.7
Total Packaging Weight:	33.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal / Alloys (IM):	22.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI):	3.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	5.0
Soils (S):	
Total WMP Weight:	35.1

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 91257

Section 5: RTR Summary (Questions answered "YES" will be explained in the Comments block, except for Question 1.)	Yes	No
Is there observable liquid?	☐	☑
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there an indication of PCBs liquids?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
CH or RH TRAMPAC		
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers GREATER than 4 liters?	☐	☑
Are there indications of inadequate protection for heavy and/or sharp objects?	☐	☑

Comments: This drum contains metal cans with material, which may require additional Project Office review.

Operator trainee Simmons under supervision of qualified operator Elliott.

RTR Operator:

Print Name	Signature	Date
Aaron Elliott		04/17/2012
Michael Simmons		4/17/12

4/17/12 MS

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	13564	Batch Number:	2LANDA0975
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 13	Software Version:	NDA 2000 V.4.0
Item ID:	91257	Analysis Date:	4/18/2012

Net Weight	35100.0 g
Pu mass	1.07E+001 +- 1.48E+000 g
TRU Alpha Activity	2.58E+000 +- 6.08E-001 Ci
TRU Activity Concentration	7.36E+004 +- 1.73E+004 nCi/g
Pu-239 Equivalent Activity	2.73E+000 +- 6.05E-001 Ci
Pu-239 FGE	5.15E-001 +- 4.53E-002 g
Decay heat	8.58E-002 +- 2.03E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.37E-002	9.76E-006	1.13E-006	8.76E-007
PU238	7.31E-002	1.26E+000	1.75E-001	1.03E-004
PU239	1.15E-001	7.22E-003	9.97E-004	5.87E-007
PU240	6.93E-001	1.59E-001	2.20E-002	1.30E-005
AM241	3.20E-001	1.11E+000	5.82E-001	1.61E-002
PU241	1.32E-001	1.37E+001	1.89E+000	1.11E-003
PU242	9.74E+000	3.86E-002	5.33E-003	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.07E-007
U233	<LLD	<LLD	0.00E+000	1.65E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	6.12E-007
U238	<LLD	<LLD	0.00E+000	7.55E-006
AM243	1.16E-004	2.34E-005	2.75E-006	2.34E-006

Errors quoted at 1.000 sigma

Operator: Jami Barton Date: 4/21/12

ITR: [signature] Date: 4/21/12

NDA 2000 Assay Report

Item Information

Item ID:	91257	Count Sequence Number:	13564		
Operator:	DCLTD231\Operator				
Assay Start:	4/18/2012 11:46:15 AM				
Description 1:	2LANDA0975				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	Ak-6, MT-42, Not Precision				
Matrix Type:	Debris S5000				
Container Type:	55 gal Drum				
Weight:	Net:	35.1	kg	Net:	35.1 kg
Container:	Volume:	208.0	l	Full:	60.0 %
Density:		0.280	kg /l		

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

Attachment 4 – Flammable Gas Analysis Form

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **91257**

BDR Number: **LA13FG12092**

Sampling Date: **9/12/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	8.15	U
74-82-8	Methane	9.63	U
67-56-1	Methanol	30.57	U
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	11.55	U
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	0.47	U
107-06-2	1,2-Dichloroethane	0.92	U
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	2.73	U
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

CAS Number	IDENTIFIED TIC COMPOUND	Est. Amount ppmv
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

BDR Number: LA13FG12092

	Waste Container ID	8 Filter Model Number	9 Hydrogen Diffusivity of Filter (mol/s/mf)	10 Package Configuration Group Number	11 Closure Date	12 Vent Date	13 Required DAC Value (in days)	14 Drum Age (in days)	15 Can this container be sampled?
1	66852	NucFil-019DS	3.70E-06	3	11/14/2012	11/14/2012	16	302	Y
2	90983	NucFil-019DS	3.70E-06	3	2/24/2012	2/24/2012	16	566	Y
3	91257	NucFil-019DS	3.70E-06	3	4/10/2012	4/10/2012	16	520	Y
4	92402	NucFil-019DS	3.70E-06	3	11/27/2012	11/27/2012	16	289	Y
5	92805	NucFil-019DS	3.70E-06	3	2/2/2013	2/2/2013	16	222	Y
6	92809	NucFil-019DS	3.70E-06	3	2/3/2013	2/3/2013	16	221	Y
7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Operator: Nathan Wales
Printed Name

Nathan Wales
Signature

9-12-13
Date

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	WDS Master Template.xls Rev. 8 Addendum #8, SCO #1065 Excel 2003/2007 Microsoft Windows XP	Units	data	comments									initial	date
2	Shipper Site ID		C4	Location ID	Dest Program ID	Shipping Purpose				LA00000093043			LD/HP	04/17/13
3	Waste Stream Profile		LA-MHD01.001	LA	WI	D							LD/HP	04/17/13
4	Container Number		LA00000093043										LD/HP	04/17/13
5	Container Type		tbo good	drum, swb, tdop, etc., see WWIS labels for valid types.					U-235 FEM	U-235 FEM Uncert	FGGR Flag	FGGR Test Period	LD/HP	04/17/13
6	WAC Rev #		7.3						NULL	NULL	NULL	NULL	LD/HP	04/17/13
7	[redacted]							Be mass<=100 kg	Be <= 1%	Be Present	Aqueous Material	Compacted Wst		
8	Cert Site		C4					Y	Y	Y	N	N	LD/HP	04/17/13
9	Cert Date		4-19-13											
10	Waste Handling Code		CH	CH, RH									LD/HP	04/17/13
11	Waste Type Code		MTRU	TRU, MTRU									LD/HP	04/17/13
12	Waste Stream BIR ID		LA-W001										LD/HP	04/17/13
13	Waste Stream MWIR ID		NONE										LD/HP	04/17/13
14	Generator Site ID		LA										LD/HP	04/17/13
15	IDC Code		NONE										LD/HP	04/17/13
16	Matrix Code		S5400										LD/HP	04/17/13
17	Trucon Code		LA225C		Invalid Ship Cat								LD/HP	04/17/13
18	Shipping Category		30010900 47	[illegible]										
19	Tru Alpha Act	Ci	1.77E+01		1.772E+01								LD/HP	04/17/13
20	Tru Alpha Act Uncert	1sigma Ci	2.20E+00	2.210E+01	Tru Alpha Act + 2sigma (Ci)								LD/HP	04/17/13
21	Tru Alpha Act Conc	nCi/g	3.93E+05		3.93E+05								LD/HP	04/17/13
22	[redacted]		4.87E+04	4.904E+05	Tru Alpha Act Conc + 2sigma (Ci)			Drum Weight	27.7				LD/HP	04/17/13
23	Pu239 Fiss Gm Eq	g	2.01E+02		2.012E+02			[redacted]					LD/HP	04/17/13
24	Pu239 Fiss Gm Eq Uncert	1sigma g	3.05E+01	2.620E+02	Pu239 Fiss Gm Eq + 2sigma (Ci)								LD/HP	04/17/13
25	Pu239 Eq Act	Ci	1.82E+01		1.820E+01								LD/HP	04/17/13
26	Decay Heat	watts	5.55E-01		5.557E-01								LD/HP	04/17/13
27	Decay Heat Uncert	1sigma watts	6.92E-02	6.24E-01	Decay Heat + 1sigma (watts)								LD/HP	04/17/13
28	Layers of Packaging		1										LD/HP	04/17/13
29	Fill Factor		65	percentage	Liner Lid Present								LD/HP	04/17/13
30	Liner Type			1 = plastic drum liner									LD/HP	04/17/13
31	Liner Punctured				Liner Hole Size								LD/HP	04/17/13
32	PCB Conc		NULL		(mm)		PCB Waste	PCB Mass (kg)	Out of Service				LD/HP	04/17/13
33	Closure Date		2/22/2013	Watt-years	Waste Gen Date		N	NULL	NULL				LD/HP	04/17/13
34	Vent Date		2/22/2013	0.084	NULL								LD/HP	04/17/13
35	Filter Install Date		2/22/2013				Filter Reduction Date	NULL					LD/HP	04/17/13
36	Filter Manufacturer		NFT				Reduced Filter Model	NULL					LD/HP	04/17/13
37	[redacted]												LD/HP	04/17/13
38	Filter Model Number		NF019D										LD/HP	04/17/13
39	Number of Filters Installed		1										LD/HP	04/17/13
40	Aspiration Method ID		3										LD/HP	04/17/13
41	Gas Gen Rate			#VALUE!	<<Gas Gen Rate Calculated.									
42	Hydrogen/Methane Gen Rate													
43	Gas Gen Comp Date				Waste (kg)	Packaging (kg)	Total (kg)							
44	Gross Weight	kg	78.5		45.1	33.4	78.5						LD/HP	04/17/13
45	Gross Weight Uncert	1sigma kg	2.3										LD/HP	04/17/13
46	Alpha Surf Cont	dpm/100 cm^2	19										LD/HP	04/17/13
47	Beta/Gamma Surf Cont	dpm/100 cm^2	199										LD/HP	04/17/13
48	Neutron Dose Rate	mrem/hr	4.2										LD/HP	04/17/13
49	Beta/Gamma Dose Rate	mrem/hr	25										LD/HP	04/17/13
50	Radionuclide		NP-237	PU-238	PU-239	PU-240	AM-241	PU-241	PU-242	SR-90	CS-137	U-233	LD/HP	04/17/13
51	Activity	Ci	2.37E-05	3.39E-01	1.26E+01	2.94E+00	1.84E+00	2.63E+01	1.69E-04	-1.00E+00	-1.00E+00	-1.00E+00	LD/HP	04/17/13
52	Activity Uncert	1sigma Ci	3.00E-06	5.17E-02	1.92E+00	4.49E-01	9.67E-01	4.01E+00	2.59E-05	-1.00E+00	-1.00E+00	-1.00E+00	LD/HP	04/17/13
53	Mass	grams	3.32E-02	1.96E-02	2.00E+02	1.28E+01	5.30E-01	2.53E-01	4.26E-02	-1.00E+00	-1.00E+00	-1.00E+00		
54	Mass Uncert	1sigma grams	4.29E-03	3.05E-03	3.11E+01	1.99E+00	2.84E-01	3.93E-02	6.66E-03	-1.00E+00	-1.00E+00	-1.00E+00		
55	calc Tru Alpha Act	Ci	2.37E-05	3.39E-01	1.26E+01	2.94E+00	1.84E+00	0.00E+00	1.69E-04	0.00E+00	0.00E+00	0.00E+00		
56	calc Tru Alpha Act Conc	nCi/g	5.25E-01	7.52E+03	2.79E+05	6.52E+04	4.08E+04	0.00E+00	3.75E+00	0.00E+00	0.00E+00	0.00E+00		
57	calc Act	Ci	2.37E-05	3.39E-01	1.26E+01	2.94E+00	1.84E+00	2.63E+01	1.69E-04	0.00E+00	0.00E+00	0.00E+00		
58	calc Act Conc	nCi/g	5.25E-01	7.52E+03	2.79E+05	6.52E+04	4.08E+04	5.83E+05	3.75E+00	0.00E+00	0.00E+00	0.00E+00		

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
59	calc Pu239 FGE	g	4.99E-04	2.21E-03	2.00E+02	2.88E-01	9.92E-03	5.69E-01	3.19E-04	0.00E+00	0.00E+00	0.00E+00		
60	calc Pu239 Eq Act	Ci	2.37E-05	3.08E-01	1.26E+01	2.94E+00	1.84E+00	5.16E-01	1.54E-04	0.00E+00	0.00E+00	0.00E+00		
61	calc Decay Heat	watts	6.95E-07	1.12E-02	3.91E-01	9.15E-02	6.15E-02	8.37E-04	4.98E-06	0.00E+00	0.00E+00	0.00E+00		
62	uncert Tru Alpha Act	Ci	3.06E-06	5.28E-02	1.96E+00	4.58E-01	9.87E-01	0.00E+00	2.64E-05	0.00E+00	0.00E+00	0.00E+00		
63	uncert Tru Alpha Act Conc	nCi/g	6.79E-02	1.17E+03	4.34E+04	1.02E+04	2.19E+04	0.00E+00	5.86E-01	0.00E+00	0.00E+00	0.00E+00		
64	uncert Act	Ci	3.06E-06	5.28E-02	1.96E+00	4.58E-01	9.87E-01	4.09E+00	2.64E-05	0.00E+00	0.00E+00	0.00E+00		
65	uncert Act Conc	nCi/g	6.79E-02	1.17E+03	4.34E+04	1.02E+04	2.19E+04	9.07E+04	5.86E-01	0.00E+00	0.00E+00	0.00E+00		
66	uncert Pu239 FGE	g	6.44E-05	3.45E-04	3.11E+01	4.48E-02	5.32E-03	8.85E-02	4.99E-05	0.00E+00	0.00E+00	0.00E+00		
67	uncert Pu239 Eq Act	Ci	3.00E-06	4.70E-02	1.92E+00	4.49E-01	9.67E-01	7.86E-02	2.35E-05	0.00E+00	0.00E+00	0.00E+00		
68	uncert Decay Heat	watts	8.97E-08	1.75E-03	6.07E-02	1.43E-02	3.30E-02	1.30E-04	7.79E-07	0.00E+00	0.00E+00	0.00E+00		
69	Shipping Calcs	3.37E+03	4.38E-03	6.27E+01	2.33E+03	5.43E+02	3.40E+02	9.74E+01	3.12E-02	0.00E+00	0.00E+00	0.00E+00		
70	49CFR173.433f		0.00%	1.86%	69.06%	16.11%	10.08%	2.89%	0.00%	0.00%	0.00%	0.00%		
71	Radionuclide		U-234	U-235	U-238	AM-243							LD/HP	04/17/13
72	Activity	Ci	-1.00E+00	0.00E+00	-1.00E+00	3.75E-05							LD/HP	04/17/13
73	Activity Uncert	1sigma Ci	-1.00E+00	0.00E+00	-1.00E+00	5.09E-06							LD/HP	04/17/13
74	Mass	grams	-1.00E+00	0.00E+00	-1.00E+00	1.86E-04	NULL	NULL	NULL	NULL	NULL	NULL		
75	Mass Uncert	1sigma grams	-1.00E+00	0.00E+00	-1.00E+00	2.57E-05	NULL	NULL	NULL	NULL	NULL	NULL		
76	calc Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	3.75E-05	NULL	NULL	NULL	NULL	NULL	NULL		
77	calc Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	8.31E-01	NULL	NULL	NULL	NULL	NULL	NULL		
78	calc Act	Ci	0.00E+00	0.00E+00	0.00E+00	3.75E-05	NULL	NULL	NULL	NULL	NULL	NULL		
79	calc Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	8.31E-01	NULL	NULL	NULL	NULL	NULL	NULL		
80	calc Pu239 FGE	g	0.00E+00	0.00E+00	0.00E+00	2.39E-06	NULL	NULL	NULL	NULL	NULL	NULL		
81	calc Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	3.75E-05	NULL	NULL	NULL	NULL	NULL	NULL		
82	calc Decay Heat	watts	0.00E+00	0.00E+00	0.00E+00	1.20E-06	NULL	NULL	NULL	NULL	NULL	NULL		
83	uncert Tru Alpha Act	Ci	0.00E+00	0.00E+00	0.00E+00	5.19E-06	NULL	NULL	NULL	NULL	NULL	NULL		
84	uncert Tru Alpha Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	1.15E-01	NULL	NULL	NULL	NULL	NULL	NULL		
85	uncert Act	Ci	0.00E+00	0.00E+00	0.00E+00	5.19E-06	NULL	NULL	NULL	NULL	NULL	NULL		
86	uncert Act Conc	nCi/g	0.00E+00	0.00E+00	0.00E+00	1.15E-01	NULL	NULL	NULL	NULL	NULL	NULL		
87	uncert Pu239 FGE	g	0.00E+00	0.00E+00	0.00E+00	3.32E-07	NULL	NULL	NULL	NULL	NULL	NULL		
88	uncert Pu239 Eq Act	Ci	0.00E+00	0.00E+00	0.00E+00	5.09E-06	NULL	NULL	NULL	NULL	NULL	NULL		
89	uncert Decay Heat	watts	0.00E+00	0.00E+00	0.00E+00	1.67E-07	NULL	NULL	NULL	NULL	NULL	NULL		
90	Shipping Calcs		0.00E+00	0.00E+00	0.00E+00	6.93E-03	NULL	NULL	NULL	NULL	NULL	NULL		
91	49CFR173.433f		0.00%	0.00%	0.00%	0.00%	NULL	NULL	NULL	NULL	NULL	NULL		
92	Waste Material Parameter		IM	OM	OI	PW	IS	PP	CP				LD/HP	04/17/13
93	Wgt of Mat Parms	kg	10	2.5	14	5	13.6	2	3.7				LD/HP	04/17/13
94	Radio Assay Method		11HC2	PAN, FRAM, TGS, HENC									LD/HP	04/17/13
95	Data Package Number		2LANDA1115										LD/HP	04/17/13
96	Assay Date		3/11/2013										LD/HP	04/17/13
97	Charz Method ID		11RR2	RTRM, VISUAL									LD/HP	04/17/13
98	Data Package Number		LA-RTR2-13-0033										LD/HP	04/17/13
99	Charz Method Date		2/27/2013										LD/HP	04/17/13
100	Haz Codes		F001	F002	F005	D004	D005	D006	D007	D008	D009	D010	LD/HP	04/17/13
101	Haz Codes		D011	D018	D019	D021	D022	D035	D038	D039	D040		LD/HP	04/17/13
102	Haz Codes													
103	Haz Codes													
104	Sample ID	Headspace Gas H/M	H-LA00000093043										LD/HP	04/17/13
105	Sample Type		HGHM-T	HGHM									LD/HP	04/17/13
106	Layer No. Sampled		0		5985.48								LD/HP	04/17/13
107	Date Sampled		4/9/2013			Sample Site							LD/HP	04/17/13
108	Method ID		11HG2	DTP-1.2-041		C4							LD/HP	04/17/13
109	Data Package Number		LA13FG2037										LD/HP	04/17/13
110	CAS #		1333-74-0	74-82-8										
111	Analyte		HYDROGEN	METHANE									LD/HP	04/17/13
112	Concentration				5843.34	142.14							LD/HP	04/17/13
113	units	%vol			PPMV	PPMV							LD/HP	04/17/13
114	Date Analyzed		04/09/13	4/9/2013		2.5%= 146.08							LD/HP	04/17/13
115	B Detectable Flag													
116	D Detectable Flag													
117	E Detectable Flag													
118	J Detectable Flag													
119	U Detectable Flag			U									LD/HP	04/17/13
120	NA Detectable Flag		NA											
121	Methanol Sample ID		11HG2											
122	Sample ID	Headspace Gas VOC	LA00000093043										LD/HP	04/17/13
123	Sample Type		HGVO-T	HGVO									LD/HP	04/17/13
124	Layer No. Sampled		0			SARP-Flammable VOCs (ppmv)	61.605						LD/HP	04/17/13
125	Date Sampled		4/9/2013										LD/HP	04/17/13
126	Method ID		11HG2	DTP-1.2-041									LD/HP	04/17/13
127	Data Package Number		LA13FG2037										LD/HP	04/17/13

WDS Master Template.xls Rev. 8
Addendum #8, SCO #1065
Excel 2003/2007 Microsoft
Windows XP

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
128														
129	CAS #		67-56-1	60-29-7	75-35-4	67-64-1	75-34-3	156-59-2	78-93-3	110-82-7			LD/HP	04/17/13
130	Analyte		Methanol	Ethyl ether	1,1-Dichloroethylene	Acetone	1,1-Dichloroethane	cis-1,2-Dichloroethylene	Methyl ethyl ketone	Cyclohexane				
131	Concentration		35.23	0.96	6.38	18.08	4.08	0.76	11.73	5.10			LD/HP	04/17/13
132	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			LD/HP	04/17/13
133	Date Analyzed		4/9/2013	4/9/2013	4/9/2013	4/9/2013	4/9/2013	4/9/2013	4/9/2013	4/9/2013			LD/HP	04/17/13
134	B Detectable Flag													
135	D Detectable Flag													
136	E Detectable Flag													
137	J Detectable Flag													
138	U Detectable Flag		U	U	U	U	U	U	U	U			LD/HP	04/17/13
139	NA Detectable Flag													
140	SARP-Flammable Calc		17.615	0.48	3.19	9.04	2.04	0.38	5.865	2.55				
141	CAS #		71-43-2	107-06-2	71-36-3	108-10-1	108-88-3	108-90-7	100-41-4	108383/106423			LD/HP	04/17/13
142	Analyte		Benzene	1,2-Dichloroethane	Butanol	Methyl isobutyl ketone	Toluene	Chlorobenzene	Ethyl benzene	m-Xylene/p-Xylene				
143	Concentration		1.77	3.66	1.84	9.82	8.02	4.10	3.57	1.92			LD/HP	04/17/13
144	units	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv			LD/HP	04/17/13
145	Date Analyzed		4/9/2013	4/9/2013	4/9/2013	4/9/2013	4/9/2013	4/9/2013	4/9/2013	4/9/2013			LD/HP	04/17/13
146	B Detectable Flag													
147	D Detectable Flag													
148	E Detectable Flag													
149	J Detectable Flag													
150	U Detectable Flag		U	U	U	U	U	U	U	U			LD/HP	04/17/13
151	NA Detectable Flag													
152	SARP-Flammable Calc		0.885	1.83	0.92	4.91	4.01	2.05	1.785	0.96				
153	CAS #		95-47-6	108-67-8	95-63-6								LD/HP	04/17/13
154	Analyte		o-Xylene	1,3,5-Trimethylbenzen	1,2,4-Trimethylbenzen	NULL	NULL	NULL	NULL	NULL				
155	Concentration		2.10	1.96	2.13								LD/HP	04/17/13
156	units	ppmv	ppmv	ppmv	ppmv								LD/HP	04/17/13
157	Date Analyzed		4/9/2013	4/9/2013	4/9/2013	NULL	NULL	NULL	NULL	NULL			LD/HP	04/17/13
158	B Detectable Flag													
159	D Detectable Flag													
160	E Detectable Flag													
161	J Detectable Flag													
162	U Detectable Flag		U	U	U								LD/HP	04/17/13
163	NA Detectable Flag					NA	NA	NA	NA	NA				
164	SARP-Flammable Calc		1.05	0.98	1.065	NULL	NULL	NULL	NULL	NULL				
165	CAS #													
166	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
167	Concentration													
168	units	ppmv												
169	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
170	B Detectable Flag													
171	D Detectable Flag													
172	E Detectable Flag													
173	J Detectable Flag													
174	U Detectable Flag													
175	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA				
176	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
177	CAS #													
178	Analyte		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
179	Concentration													
180	units	ppmv												
181	Date Analyzed		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				
182	B Detectable Flag													
183	D Detectable Flag													
184	E Detectable Flag										WDS Master Template.xls Rev. 8			
185	J Detectable Flag										Addendum #8, SCO #1065			
186	U Detectable Flag										Excel 2003/2007 Microsoft			
187	NA Detectable Flag		NA	NA	NA	NA	NA	NA	NA	NA	Windows XP			
188	SARP-Flammable Calc		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				

COPY

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
189			type	comment										
190	Comment												LD/HP	04/17/13
191	Comment													
192	Comment													
193	Comment													
194	Comment													
195	Comment													
196	Comment													
197	Comment													
198	Comment													
199	Comment													
200														
201			Requirements Met?											
202	Free liquids <1% by volume		YES											
203	No non-rad. pyrophorics		YES											
204	Chemical compatability		YES											
205	No explosives		YES											
206	No corrosives		YES											
207	No pressurized containers		YES											
208	No sealed Containers >4 liters		YES											
209	Liner punctured/ filtered		YES											
210	Flammable VOCs <500ppmv		Yes											
211	Container is in Approved Waste Stream Profile Form?	LA-MHD01.001	YES											
212	Can it be established through Process Knowledge that the concentration of flammable VOCs present in the headspace of the container is <= 500 ppm?.		NO											
213														
214														
215														
216														
217														
218														
219														
220														
221														
222														
223														
224														
225														
226														
227														
228														
229														
230														
231														
232														
233														
234														
235														

Mike Ramirez
CCP Certification Official

4-19-13
Date

WDS Master Template.xls Rev 8
Addendum #8 SCO #1065
Excel 2003/2007 Microsoft Windows XP

COPY

Waste Isolation Pilot Plant
Container Data Report

Report Statistics

Report Version:	**2.3**
WDS Instance:	**prd05.wipp.carlsbad.nm.us**
Generated on:	**June 19, 2014 01:05 PM**
Generated by:	**KIRKES, CRETA**
Total Pages:	**9**

Selection Criteria

Container Number:	**LA00000093043**

Container: LA00000093043
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Waste Handling Code: CH
Certification Date: 04/19/2013
Disposal Date: 11/10/2013

Current Location Site: WI
Generator Site: LA
Destination Site ID: WI

Certification Program ID: C4
Shipping Program ID: C4

Overpack Container: LASB02085
Overpack Type: STANDARD WASTE BOX
Overpack Status: CERTIFICATION DATA APPROVED

Neutron Dose Rate (mrem/hr): 4.2
Beta Gamma Dose Rate (mrem/hr): 25.0
Total Dose Rate (mrem/hr): 29.2

FGE (g): 2.01E02
FGE Uncertainty (g): 3.05E01

Gross Weight (kg): 78.50
Gross Weight Uncert (kg): 2.30

Decay Heat (W): 5.55E-01
Decay Heat Uncertainty (W): 6.92E-02

Shipment Data

Payload ID: **LA3479** Assembly ID: LA136767 Payload Complete? Y
Shipment Number: LA130165 Send Date: 11/05/2013 Receipt Date: 11/05/2013
Shipment Status: SHIPMENT RECEIVED AT DESTINATION

Emplacement Location

Panel: 6 Room: 1
Row: 34 Column: 2 Height: B

Certification Data Values

Waste Stream Profile Code: LA-MHD01.001
Waste Type Code: MTRU
IDC Code: NONE
Waste Matrix Code: S5400
WAC Revision Number: 7.3
Fill Factor (%): 65.00
Waste Stream BIR ID: LA-W001
Waste Stream MWIR ID: NONE

TRU Alpha Activity (Ci): 1.77E01
TRU Alpha Activity Uncertainty (Ci): 2.2E00
TRU Alpha Activity Concentration (Ci/g): 3.93E-04
PU-239 Equivalent Activity (PE-Ci): 1.82E01
Alpha Surface Contamination (dpm/cm^2): 19.0
Beta/Gamma Surface Contamination (dpm/cm^2): 199.0

Transportation Data Values

Closure Date: 02/22/2013
Vent Date: 02/22/2013
Process Knowledge? N

TRUCON Code: LA225C
Shipping Category: 3001090047
Aspiration Method: 3

Shipment Purpose: DISPOSAL
Machine Compacted? N
Liner Exists? N
Liner Hole Size(mm):
Liner Lid Present?
Layers of Packaging 1
Aqueous Material? N

Gas Generation Data Values

Measured FGGR (mol/s)	Measured TGRR (mol/s)	Truncated FGGR Test (Y/N)	Truncated FGGR Test Period (days)

Container: LA00000093043
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 04/19/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

PCB Waste? N
PCB Mass (kg):
PCB Concentration (ppm):
PCB Out of Service Date:
Be Present? Y
Be <= 1% by weight? Y
Be mass <= 100kg? Y
Separation OK?
Packing Fraction (compaction level): non-compacted

Filters

Filter Model Number	Filter Diffusivity (mol/s/ml)	Quantity	Install Date
NF019D	1.85E-05	1	02/22/2013

Certification Comments

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
AM-241	1.840E00	9.670E-01	5.303E-01	2.844E-01
AM-243	3.750E-05	5.090E-06	1.856E-04	2.571E-05
CS-137	<LLD	<LLD	<LLD	<LLD
NP-237	2.370E-05	3.000E-06	3.324E-02	4.293E-03
PU-238	3.390E-01	5.170E-02	1.960E-02	3.049E-03
PU-239	1.260E01	1.920E00	2.003E02	3.115E01
PU-240	2.940E00	4.490E-01	1.278E01	1.992E00
PU-241	2.630E01	4.010E00	2.529E-01	3.934E-02
PU-242	1.690E-04	2.590E-05	4.257E-02	6.657E-03
SR-90	<LLD	<LLD	<LLD	<LLD
U-233	<LLD	<LLD	<LLD	<LLD
U-234	<LLD	<LLD	<LLD	<LLD

Container: LA00000093043
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 04/19/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Radionuclides

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass (g)	Mass Uncert (g)
U-235	.000E00	.000E00	.000E00	.000E00
U-238	<LLD	<LLD	<LLD	<LLD

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	H-LA00000093043	HGHM-T	HEADSPACE GAS HYDROGEN AND METHANE	04/09/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
1333-74-0	HYDROGEN	5843.34	04/09/2013	11HG2	NA
74-82-8	METHANE	142.14	04/09/2013	11HG2	U

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000093043	HGVO-T	HEADSPACE GAS VOC	04/09/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
100-41-4	ETHYL BENZENE	3.57	04/09/2013	11HG2	U
107-06-2	1,2-DICHLOROETHANE	3.66	04/09/2013	11HG2	U
108-10-1	METHYL ISOBUTYL KETONE	9.82	04/09/2013	11HG2	U
108-67-8	1,3,5-TRIMETHYLBENZENE	1.96	04/09/2013	11HG2	U
108-88-3	TOLUENE	8.02	04/09/2013	11HG2	U
108-90-7	CHLOROBENZENE	4.1	04/09/2013	11HG2	U

Container: LA00000093043
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 04/19/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Samples

Labor Code	Sample ID	Sample Type Code	Sample Type Description	Sample Date	Layer Sampled
C4	LA00000093043	HGVO-T	HEADSPACE GAS VOC	04/09/2013	0

Unique Samples

CAS Number	Analyte Description	Concentration (ppm)	Analysis Date	Analysis Method	Reporting Flags
108383/106423	M,P-XYLENE	1.92	04/09/2013	11HG2	U
110-82-7	CYCLOHEXANE	5.1	04/09/2013	11HG2	U
156-59-2	CIS-1,2-DICHLOROETHYLENE	0.76	04/09/2013	11HG2	U
60-29-7	ETHYL ETHER	0.96	04/09/2013	11HG2	U
67-56-1	METHANOL	35.23	04/09/2013	11HG2	U
67-64-1	ACETONE	18.08	04/09/2013	11HG2	U
71-36-3	BUTANOL	1.84	04/09/2013	11HG2	U
71-43-2	BENZENE	1.77	04/09/2013	11HG2	U
75-34-3	1,1-DICHLOROETHANE	4.08	04/09/2013	11HG2	U
75-35-4	1,1-DICHLOROETHYLENE	6.38	04/09/2013	11HG2	U
78-93-3	METHYL ETHYL KETONE	11.73	04/09/2013	11HG2	U
95-47-6	O-XYLENE	2.1	04/09/2013	11HG2	U
95-63-6	1,2,4-TRIMETHYLBENZENE	2.13	04/09/2013	11HG2	U

Material Parameters

Material Parameter	Description	Weight (kg)
1	IRON BASE METAL ALLOYS	10.00
3	OTHER METAL/ALLOYS	2.50

Container: LA00000093043
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 04/19/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Material Parameters

Material Parameter	Description	Weight (kg)
4	OTHER INORGANIC MATERIALS	14.00
8	PLASTICS	5.00
9	SOLIDIFIED INORGANIC MATERIAL	13.60
13	STEEL CONTAINER MATERIALS	27.70
14	PLASTIC/LINERS CONTAINER MATERIALS	2.00
15	CELLULOSICS PACKAGING MATERIALS	3.70
	Waste Weight:	45.10
	Packaging Weight:	33.40
	Total Material Weight:	78.50

Hazardous Codes

Hazardous Code	Description
D004	ARSENIC
D005	BARIUM
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D018	BENZENE
D019	CARBON TETRACHLORIDE

Container: LA00000093043
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 04/19/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Hazardous Codes

Hazardous Code	Description
D021	CHLOROBENZENE
D022	CHLOROFORM
D035	METHYL ETHYL KETONE
D038	PYRIDINE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
F001	SPENT HALOGENATED SOLVENTS
F002	SPENT HALOGENATED SOLVENTS
F005	SPENT NON-HALOGENATED SOLVENTS

Assay Methods

Labor Code	Assay Method	Description	Assay Date
C4	11HC2	CANBERRA HENC LA07/LAN6	03/11/2013

Non-Destructive Examination (NDE)

Labor Code	NDE Method	Description	Examination Date
C4	11RR2	RTR - VJ TECHNOLOGIES MOBILE SYSTEM	02/27/2013

Edit Limit Check Results

Evaluation Date: 04/19/2013 09:37:25 Overall Status: PASS

Evaluation Code	Status	Return Code	Detailed Description
DI_CERT_ALL	PASS		

Container: LA00000093043
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 04/19/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

Edit Limit Check Results
Evaluation Date: 04/19/2013 09:37:25 Overall Status: PASS

Evaluation Code	Status
DI_CERT_BE	PASS
DI_CERT_CERT	PASS
DI_CERT_CHARZ	PASS
DI_CERT_ED	PASS
DI_CERT_EPA	PASS
DI_CERT_PCB	PASS
DI_CERT_PERC	PASS
DI_CERT_TRAMPAC	PASS
DSA	PASS
WAC	PASS
WAP_CERT	PASS

TRAMPAC Evaluation Results
Evaluation Date: 04/19/2013 09:37:26 Overall Status: COND

Evaluation Code	Status
CE_ACT	PASS
CE_ALL	COND
CE_ASP	PASS
CE_DDH	PASS
CE_FGE	COND
CE_FIL	PASS
CE_GVE	PASS
CE_RDR	PASS
CE_TRU	PASS
CE_WGT	PASS

Return Code	Detailed Description
CE_FGE_FEL	Container Pu-239 fissile gram equivalent (FGE) plus two times the measurement error exceeds applicable FGE limit.
CE_FGE_SWB	Container is eligible for evaluation as part of a SWB Overpack.
CE_FGE_TDOP	Container is eligible for evaluation as part of a TDOP Overpack.

Container: LA00000093043
Type: 16 - 55 gal TBO

Extended Status: APPROVED CERT IN APPROVED CERT OVERPACK EMPLACED
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 04/19/2013
Waste Handling Code: CH
Disposal Date: 11/10/2013

TRAMPAC Evaluation Results
Evaluation Date: 04/19/2013 09:37:26 Overall Status: COND

Details

Matrix Depleted Shipping Category:		Compliance Method:	ANALYTICAL
Decay Heat Limit (w):	0.9417177435096622	FGE Limit (g):	200
FGGR (mol/s):	6.270182197533284E-8	FGGR Limit (mol/s):	1.0638297872340426E-7
Volume Model:		Required Aspiration Time (days):	
Total Headspace VOCs (ppm):	123.21		
Packaging Configuration:	COMMON_PACKAGING 2	DAC Scenario:	3
Closure Time (days):	0	Minimum Closure Time Applied (days):	53
Sample-Vent Time (days):	46	Min Sample-Vent Time Applied (days):	9
TFGVC in ICL (mol fr):		MLEL (mol fr):	0.05

History

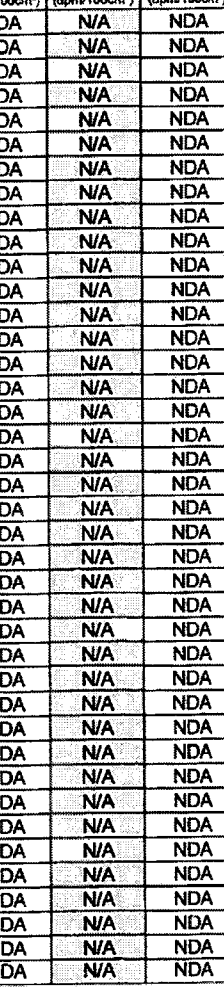
Event Date/Time	Event Description	Reason
04/19/2013 09:37:26	SUCCESSFUL SUBMISSION FOR CERT	
04/19/2013 10:29:07	APPROVED FOR CERT	
10/25/2013 13:33:37	ASSIGNED TO OVERPACK	

5 Point Contamination/Radiation Survey Report 2013 (Continuation)

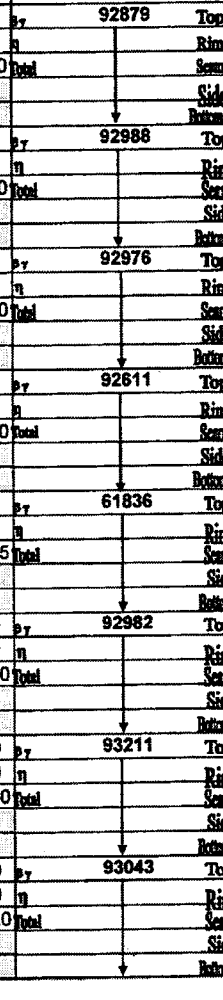
Survey Number: 2013-02322 | **Date/Time:** 4/9/2013 1700

Location: TA-54-Dome 49 | **Surveyor:** M. Wairaven

Item	Alpha		Beta		Dose Rate			Location
#	Removable (dpm/100cm²)	Total (dpm/100cm²)	Removable (dpm/100cm²)	Total (dpm/100cm²)	Contact	30 cm	1 Meter	
91	NDA	N/A	NDA	N/A	5.00	2.50	0.80	
92	NDA	N/A	NDA	N/A	1.20	0.50	0.25	
93	NDA	N/A	NDA	N/A	6.20	3.00	1.05	
94	NDA	N/A	NDA	N/A				
95	NDA	N/A	NDA	N/A				
96	NDA	N/A	NDA	N/A	15.00	8.00	2.40	
97	NDA	N/A	NDA	N/A	13.20	4.00	2.20	
98	NDA	N/A	NDA	N/A	28.20	12.00	4.60	
99	NDA	N/A	NDA	N/A				
100	NDA	N/A	NDA	N/A				
101	NDA	N/A	NDA	N/A	7.00	3.00	0.80	
102	NDA	N/A	NDA	N/A	1.20	0.50	0.25	
103	NDA	N/A	NDA	N/A	8.20	3.50	1.05	
104	NDA	N/A	NDA	N/A				
105	NDA	N/A	NDA	N/A				
106	NDA	N/A	NDA	N/A	18.00	8.00	2.80	
107	NDA	N/A	NDA	N/A	4.00	2.00	1.00	
108	NDA	N/A	NDA	N/A	22.00	10.00	3.80	
109	NDA	N/A	NDA	N/A				
110	NDA	N/A	NDA	N/A				
111	NDA	N/A	NDA	N/A	10.00	3.00	1.00	
112	NDA	N/A	NDA	N/A	4.00	1.60	0.50	
113	NDA	N/A	NDA	N/A	14.00	4.60	1.50	
114	NDA	N/A	NDA	N/A				
115	NDA	N/A	NDA	N/A				
116	NDA	N/A	NDA	N/A	19.00	4.00	1.30	
117	NDA	N/A	NDA	N/A	3.50	1.50	0.50	
118	NDA	N/A	NDA	N/A	22.50	5.50	1.80	
119	NDA	N/A	NDA	N/A				
120	NDA	N/A	NDA	N/A				
121	NDA	N/A	NDA	N/A	10.00	2.50	0.80	
122	NDA	N/A	NDA	N/A	3.50	1.00	0.50	
123	NDA	N/A	NDA	N/A	13.50	3.50	1.30	
124	NDA	N/A	NDA	N/A				
125	NDA	N/A	NDA	N/A				
126	NDA	N/A	NDA	N/A	4.00	1.00	0.50	
127	NDA	N/A	NDA	N/A	1.80	0.70	0.50	
128	NDA	N/A	NDA	N/A	5.80	1.70	1.00	
129	NDA	N/A	NDA	N/A				
130	NDA	N/A	NDA	N/A				



Item	Alpha		Beta		Dose Rate			Location
#	Removable (dpm/100cm²)	Total (dpm/100cm²)	Removable (dpm/100cm²)	Total (dpm/100cm²)	Contact	30 cm	1 Meter	
131	NDA	N/A	NDA	N/A	20.00	10.00	4.00	
132	NDA	N/A	NDA	N/A	2.00	1.00	0.50	
133	NDA	N/A	NDA	N/A	22.00	11.00	4.50	
134	NDA	N/A	NDA	N/A				
135	NDA	N/A	NDA	N/A				
136	NDA	N/A	NDA	N/A	8.00	4.00	1.00	
137	NDA	N/A	NDA	N/A	4.00	2.00	1.00	
138	NDA	N/A	NDA	N/A	12.00	6.00	2.00	
139	NDA	N/A	NDA	N/A				
140	NDA	N/A	NDA	N/A				
141	NDA	N/A	NDA	N/A	8.00	7.00	5.00	
142	NDA	N/A	NDA	N/A	6.30	5.80	2.90	
143	NDA	N/A	NDA	N/A	14.30	12.80	7.90	
144	NDA	N/A	NDA	N/A				
145	NDA	N/A	NDA	N/A				
146	NDA	N/A	NDA	N/A	9.00	3.00	1.00	
147	NDA	N/A	NDA	N/A	3.20	1.70	0.50	
148	NDA	N/A	NDA	N/A	12.20	4.70	1.50	
149	NDA	N/A	NDA	N/A				
150	NDA	N/A	NDA	N/A				
151	NDA	N/A	NDA	N/A	0.80	0.40	0.10	
152	NDA	N/A	NDA	N/A	1.00	0.50	0.25	
153	NDA	N/A	NDA	N/A	1.80	0.90	0.35	
154	NDA	N/A	NDA	N/A				
155	NDA	N/A	NDA	N/A				
156	NDA	N/A	NDA	N/A	1.50	0.50	0.10	
157	NDA	N/A	NDA	N/A	4.00	2.50	1.50	
158	NDA	N/A	NDA	N/A	5.50	3.00	1.60	
159	NDA	N/A	NDA	N/A				
160	NDA	N/A	NDA	N/A				
161	NDA	N/A	NDA	N/A	60.00	14.00	2.00	
162	NDA	N/A	NDA	N/A	2.40	1.10	0.60	
163	NDA	N/A	NDA	N/A	62.40	15.10	2.60	
164	NDA	N/A	NDA	N/A				
165	NDA	N/A	NDA	N/A				
166	NDA	N/A	NDA	N/A	25.00	14.00	7.00	
167	NDA	N/A	NDA	N/A	4.20	3.00	2.20	
168	NDA	N/A	NDA	N/A	29.20	17.00	9.20	
169	NDA	N/A	NDA	N/A				
170	NDA	N/A	NDA	N/A				



CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0033
Examination Date:	2/27/2013
Waste Container ID:	93043
Video/Audio Recorded Media Number:	LA-RTR2-13-0033 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 78.5 kg Tare Wt.: 33.4 kg Net Wt.: 45.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 93043

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Metal cans with material, metal hardware, metal lids
AM:	
OM:	Scrap lead
OI:	Broken glass
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	10.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	2.5
Other Inorganic Materials (OI)	14.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	13.6
Soils (S):	
Total WMP Weight:	45.1

CCP Radiography Data Sheet

Waste Container ID: 93043

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	
RTR Operator: Eric Lyles (Print Name) / [signature] (Signature) / 2/27/2013 (Date)	

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	15247	Batch Number:	2LANDA1115
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	93043	Analysis Date:	3/11/2013

Net Weight	45100.0 g
Pu mass	2.13E+002 +- 3.26E+001 g
TRU Alpha Activity	1.77E+001 +- 2.20E+000 Ci
TRU Activity Concentration	3.93E+005 +- 4.87E+004 nCi/g
Pu-239 Equivalent Activity	1.82E+001 +- 2.20E+000 Ci
Pu-239 FGE	2.01E+002 +- 3.05E+001 g
Decay heat	5.55E-001 +- 6.92E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	3.32E-002	2.37E-005	3.00E-006	3.28E-006
PU238	1.96E-002	3.39E-001	5.17E-002	3.61E-005
PU239	2.00E+002	1.26E+001	1.92E+000	1.34E-003
PU240	1.28E+001	2.94E+000	4.49E-001	3.14E-004
AM241	5.31E-001	1.84E+000	9.67E-001	3.89E-002
PU241	2.53E-001	2.63E+001	4.01E+000	2.80E-003
PU242	4.27E-002	1.69E-004	2.59E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	4.12E-007
U233	<LLD	<LLD	0.00E+000	6.24E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.78E-006
U238	<LLD	<LLD	0.00E+000	1.68E-005
AM243	1.86E-004	3.75E-005	5.09E-006	7.01E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 3-15-13

ITR: _____ Date: 3-18-13

NDA 2000 Assay Report

Item Information

Item ID:	93043		Count Sequence Number:	15247	
Operator:	DCLTD231\Operator				
Assay Start:	3/11/2013 3:59:08 PM				
Description 1:	2LANDA1115				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Debris S5000				
Container Type:	55 gal Drum				
Weight:	Net:	45.1 kg	Net:	45.1 kg	
Container:	Volume:	208.0 l	Full:	65.0 %	
Density:		0.330 kg /l			

System Configuration

Counter:	HENC #2
Count Type:	Item Count
Collimator/Geometry Setting:	All Banks on GEO - 0

Errors quoted at 1.000 sigma

Attachment 4 – Flammable Gas Analysis Form

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **93043**

BDR Number: **LA13FG2037**

Sampling Date: **4/9/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	5843.34	
74-82-8	Methane	142.14	U
67-56-1	Methanol	35.23	U
60-29-7	Ethyl Ether	0.96	U
75-35-4	1,1-Dichloroethylene	6.38	U
67-64-1	Acetone	18.08	U
75-34-3	1,1-Dichloroethane	4.08	U
156-59-2	cis-1,2-Dichloroethene	0.76	U
78-93-3	Methyl ethyl ketone	11.73	U
110-82-7	Cyclohexane	5.10	U
71-43-2	Benzene	1.77	U
107-06-2	1,2-Dichloroethane	3.66	U
71-36-3	1-Butanol	1.84	U
108-10-1	Methyl isobutyl ketone	9.82	U
108-88-3	Toluene	8.02	U
108-90-7	Chlorobenzene	4.10	U
100-41-4	Ethylbenzene	3.57	U
108-38-3/106-42-3	m- and p-Xylene	1.92	U
95-47-6	o-Xylene	2.10	U
108-67-8	1,3,5-Trimethylbenzene	1.96	U
95-63-6	1,2,4-Trimethylbenzene	2.13	U

CAS Number	IDENTIFIED TIC COMPOUND	Est. Amount ppmv
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

BDR Number: LA13FG2037

	Waste Container ID	8 Filter Model Number	9 Hydrogen Diffusivity of Filter (mol/s/mf)	10 Package Configuration Group Number	11 Closure Date	12 Vent Date	13 Required DAC Value (in days)	14 Drum Age (in days)	15 Can this container be sampled?
1	92688	NucFil-019DS	1.85E-05	3	1/24/2013	1/24/2013	12	75	Y
2	92727	NucFil-019DS	1.85E-05	3	1/27/2013	1/27/2013	12	72	Y
3	92879	NucFil-019DS	1.85E-05	3	2/8/2013	2/8/2013	12	60	Y
4	92988	NucFil-019DS	1.85E-05	3	2/18/2013	2/18/2013	12	50	Y
5	92976	NucFil-019DS	1.85E-05	3	2/18/2013	2/18/2013	12	50	Y
6	92611	NucFil-019DS	1.85E-05	3	1/17/2013	1/17/2013	12	82	Y
7	93211	NucFil-019DS	1.85E-05	3	3/10/2013	3/10/2013	12	30	Y
8	93043	NucFil-019DS	1.85E-05	3	2/22/2013	2/22/2013	12	46	Y
9	92620	NucFil-019DS	1.85E-05	3	1/17/2013	1/17/2013	12	82	Y
10	92584	NucFil-019DS	1.85E-05	3	1/14/2013	1/14/2013	12	85	Y
11	92644	NucFil-019DS	1.85E-05	3	1/21/2013	1/21/2013	12	78	Y
12	92838	NucFil-019DS	1.85E-05	3	2/5/2013	2/5/2013	12	63	Y
13	92582	NucFil-019DS	1.85E-05	3	1/14/2013	1/14/2013	12	85	Y
14	92969	NucFil-019DS	1.85E-05	3	2/17/2013	2/17/2013	12	51	Y
15	92589	NucFil-019DS	1.85E-05	3	1/15/2013	1/15/2013	12	84	Y
16	92923	NucFil-019DS	1.85E-05	3	2/12/2013	2/12/2013	12	56	Y
17	92850	NucFil-019DS	1.85E-05	3	2/6/2013	2/6/2013	12	62	Y
18	92863	NucFil-019DS	1.85E-05	3	2/7/2013	2/7/2013	12	61	Y
19	93073	NucFil-019DS	1.85E-05	3	2/24/2013	2/24/2013	12	44	Y
20	92924	NucFil-019DS	1.85E-05	3	2/12/2013	2/12/2013	12	56	Y

Operator: Nathan Wales
Printed Name

Nathan Wales
Signature

4-10-13
Date

Working Copy

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 1 of 80

3. Organization Unit (Creating or Custodial Unit)	4. Date
Nuclear Waste Partnership (NWP)/Central Characterization Project (CCP)Contact Handled (CH) for All Sites **4021 National Parks Highway GSA 212** **Carlsbad, New Mexico 88220**	07/01/2014

5. Signatures (of Appropriate Personnel)

Sheila Pearcy	7/30/14	N/A	
Prepared By Sheila Pearcy	Date	Records Liaison Officer	Date
A.J. FISHER for A.J. Fisher	7/30/14	[signature]	7/30/14
Approved By Ed Gulbranson	Date	Records Officer Approval Michael Fox	Date

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
1	**CCP TRAINING DOCUMENTATION FILES** Documentation pertaining to the training and qualification of CCP Personnel.		COPY	

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 2 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
1a	CCP CH Employee Individual Training/Qualification Documentation Contractor employee individual folders that contain item 1.29.1a records AND also contain: attendance/completion records of training courses or sessions that include subjects dealing with hazardous materials directly applicable to the employee's job or position. Documents the training and qualification and requalification of CCP CH Personnel. May include but not limited to the following: appointment letters; qualification letters; correspondence; On-the-Job (OJT) records; completed exams; completed qualification cards; certificates of completion; test drum data sheets; training drum evaluation data sheets; resumes; and Waste Acceptance Plan (WAP) briefings. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **PRIVACY ACT** **Quality Assurance (QA) Records/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alphabetically Inclusive Dates: 2000 to Present Location: CCP Records – Skeen Whitlock Building (SWB) and/or Waste Isolation Pilot Plant (WIPP) Records Archive (WRA)	ADM 1.29.1.b	Cut off at the time of separation or transfer of the employee. Screen out and destroy all item 1.29.1a(4) records. Transfer folders with remaining documents to the local Federal Records Center. Destroy 75 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 3 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
1b	Employee Individual Medical Examination Contractor employee individual folders that contain ONLY the following documents: Results of medical examination (only pass/fail and restrictions); balance of results are to be retained in the medical file. Documentation pertaining to the eye examinations performed on the Nondestructive Examination (NDE), Helium Leak Detector (HLD), and Pressure Change Leak Testing (PCLT) personnel on an annual basis. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **EPIDEMIOLOGICAL** **PRIVACY ACT** **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alphabetically Inclusive Dates: 2000 to Present Location: CCP Records – SWB and/or WRA	ADM 1.29.1a.(4)	Cut off at the time of separation or transfer of the employee. Screen out and destroy all item 1.29.1a(4) records. Transfer folders with remaining documents to the local Federal Records Center. Destroy 4 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 4 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
1c	<u>CCP Test Drum Audio/Video Media of Test Drum Qualification</u> Contractor employee individual folders that contain item 1.29.1a records AND also contain: attendance/completion records of training courses or sessions that include subjects dealing with hazardous materials directly applicable to the employee's job or position. Documents CCP audio/video media of qualification test performed by NDE personnel. This audio/video media of qualification test is performed by NDE personnel and is the second piece of the qualification. It supports the documentation captured on the supporting hard copy record(s). May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **PRIVACY ACT** **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Audio/Video Tape or DVD (Primary and Backup) Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ADM 1.29.1.b	Cut off at the time of separation or transfer of the employee. Screen out and destroy all item 1.29.1a.(4) records. Transfer folders with remaining documents to the local Federal Records Center. Destroy 75 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 5 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
1d	CCP NDE Test Drum Inventories Documentation pertaining to the assembly of NDE test and training drums which are used to qualify radiography operators per CCP-PO-001, CCP Transuranic (TRU) Waste Characterization QA Project Plan (QAPjP) and CCP-QP-002, CCP Qualification and Training Plan. The drum assembly is representative of the Waste Matrix Codes (WMCS) for Waste Stream Profile Forms. CCP NDE Test Drum Inventory Sheet has the Test Drum Identification Number, Date, Summary Category Group, if it has a plastic liner and the contents of the drum. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronologically Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending National Archives and Records Administration (NARA) Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
1e	List of Qualified Individuals (LOQI) LOQI is a document that confirms and establishes to the field personnel who is to perform different areas of operations. It is updated each time there is a change to the qualifications of the project personnel. No longer generated as record see Item No.1f. **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronologically Inclusive Dates: January 2003 to September 2008 Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval	UNSCHEDULED -Do not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 6 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
1f	LOQI LOQI is a document that confirms and establishes to the field personnel who is to perform different areas of operations. It is updated each time there is a change to the qualifications of the project personnel. Record is captured in the individual personnel's training files. Media Type: Electronic Filing Order: Chronologically Inclusive Dates: September 2008 to Present Location: CCP Records - SWB and/or WRA	Non-Record	Not Applicable	Retain in Office until completion of characterization process for each site or when no longer needed in project files to support daily functions. Screen and purge as needed.
2	**QA SUMMARY REPORTING, ASSESSMENT/AUDIT, AND SURVEILLANCE DOCUMENTATION** QA documentation pertaining to the reporting, assessment/audit, and surveillance activities of the CCP QA program. Includes the identification, classification, control, and correction of conditions adverse to quality and nonconforming items, activities, and processes associated with the CCP – all sites.			

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 7 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
2a	CCP CH Nonconformance Reports (NCRs) Audit and investigative case files and reports that pertain to environmental, health, and safety topics, cases or concerns but ARE NOT covered by items ADM 1a(1) or ADM 2a(1) above. NCRs created for the CCP CH sites which document the process for identifying, documenting, controlling, evaluating, and dispositioning nonconforming items. May include Carlsbad Field Office (CBFO) notifications and supporting documentation such as copies of applicable procedures, etc. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ADM 22.4	Cut off upon completion of audit or investigation. Destroy when 75 years old.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 8 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
2b	NCR Log Reconciliation Report NCR Log Reconciliation Report documents and verifies that all NCR numbers at the end of each calendar year are reconciled against the Master Log and in the Nonconformance Report Module (NCRM). Includes as attachment the information from NCR logs. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronologically Inclusive Dates: 2004 to Present Location: CCP Records – SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 9 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
2c	CCP Corrective Action Reports (CARs) Audit and investigative case files and reports that pertain to environmental, health, and safety topics, cases or concerns but ARE NOT covered by items ADM 1a(1) or ADM 2a(1) above. CARs created for All CH Sites which document the process for identifying, documenting, controlling, evaluating, dispositioning, and verifying completion of corrective actions for conditions adverse to quality related to failures, malfunctions, deficiencies, and technical inadequacies. May include but not limited to supporting documentation such as copies of applicable procedures and/or Deficiency Evaluation Form if applicable, as well as the CAR Logs. May also include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ADM 22.4	Cut off upon completion of audit or investigation. Destroy when 75 years old.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 10 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
2d	CCP Surveillance Program Documentation Audit and investigative case files and reports that pertain to environmental, health, and safety topics, cases or concerns but ARE NOT covered by items ADM 1a(1) or ADM 2a(1) above. Documentation pertaining to the planning, performing, documenting, and reporting independent surveillances of TRU CCP all sites waste characterization activities. Includes but not limited to surveillance plan formats, surveillance reports, surveillance checklists and surveillance logs. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ADM 22.4	Cut off upon completion of audit or investigation. Destroy when 75 years old.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 11 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
2e	QA Trend Reports Audit and investigative case files and reports that pertain to environmental, health, and safety topics, cases or concerns but ARE NOT covered by items ADM 1a(1) or ADM 2a(1) above. QA Trend Reports document trending and analyses of item characteristics and reliability, process implementation, and other quality-related information. It is used to identify items, services, activities, and processes that need improvements. **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	ADM 22.4	Cut off upon completion of audit or investigation. Destroy when 75 years old.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 12 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
3	**TEST PLAN/PROCEDURE DOCUMENTATION** Test plan/procedure documentation provides the method for test control of items that are considered to impact the quality of the characterization, certification, packaging, or transportation of waste for the CCP. The documents address requirements and responsibilities for testing activities performed to ensure items related to CCP activities meet established design, performance, and quality requirements. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2003 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 13 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
4	**CCP CH TRU SOFTWARE QA (SQA) Documentation** Environmental administration records include program or project management records, reports, and records documenting protection and preservation of natural resources. Any electronic or manual system that tracks and produces records of wastes, from cradle to grave, from generator, storage or transported locations, including laboratory processing. Database system development records and documentation records which support the maintenance and operation of tracking systems. CCP CH TRU SQA documentation pertains to the development, procurement, maintenance, and use of computer software that is important to the waste characterization and certification for the CCP CH. Includes but not limited to the following documentation for: Exempt Software; Commercial Off the Shelf (COTS) Software; Application within COTS; Qualified Supplier Software; Non-Qualified Supplier Software; and CCP Software. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Site and Alphabetically by Software Name Inclusive Dates: 2000 to Present Location: CCP Records – SWB and/or WRA	ENV 1.g.(3)(b)	Destroy or delete upon authorized deletion of related system.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 14 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
5	**OPERATION LOGBOOKS** Logbooks/fieldbooks that document a chronological history which provides a summary of shift and daily activities related to program and functions. Logbooks may support calibration activities, problem resolution, sampling, monitoring, and reporting. Records may include, but are not limited to results, notes, drawings/sketches, and field information. Logbooks listing significant action, daily surveillances and maintenance activities occurring during normal operations of applicable facility. Logbooks, log sheets (data record sheets) which are used for CCP personnel to document technical work processes and that are obtained during gathering activities. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/ Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ENV 1.e.(6)	Destroy when 75 years old.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
6	**CCP CH NONDESTRUCTIVE ASSAY (NDA) DOCUMENTATION** NDA is a series of measurement techniques that are applied to nuclear fuel and nuclear weapons materials. The techniques measure radiation induced or emitted spontaneously from the nuclear material. The measurements are nondestructive in that they do not alter the physical or chemical state of the material.			

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 15 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
6a	CCP CH NDA Batch Data Reports (BDRs) Records indicating type (classification) and degree of contamination date of disposal, method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. NDA BDRs are the documentation that pertains to a series of measurement techniques that are applied to nuclear fuel and nuclear weapons materials. The techniques measure radiation induced or emitted spontaneously from the nuclear material. The measurements are nondestructive in that they do not alter the physical or chemical state of the material. The documentation in each BDR is from data generation level through the project level Verification & Validation (V&V) and includes Project Level Checklists. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 16 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
6b	CCP CH NDA – Analytical Raw Data Analytical raw data generated during the NDA process on the systems software. It is captured on CDs and a primary and back up CD is created. This includes the Radioassay Raw Data Sheet Information. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Electronic – CDs Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval	UNSCHEDULED - Do Not Destroy -	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 17 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
6c	NDA Total Measurement Uncertainty (TMU) Reports TMU reports estimate the potential error in measurements taken by an assay system on a waste container within the waste stream. An NDA measurement of a waste container may deviate from the true value as a result of bias, random error, or a combination of the two. The TMU is composed of bias and random errors and is typically expressed as an interval extending below and above the measured value. TMU is used to determine whether the radioactivity of individual waste containers may exceed specific criteria. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 18 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
6d	<u>NDA Calibration Verification and Calibration and Validation Reports</u> NDA Calibration and Validation Reports document the results of qualification testing of the Mobile Assay System for all CH sites. New active and passive calibrations are described together with results of testing using uranium, californium and plutonium sources. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 19 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
6e	NDA Six-Month Interfering Matrix Reports Environmental administration records include program or project management records, reports, and records documenting protection and preservation of natural resources. Environmental, safety and health administrative program reports prepared, formulated, or consolidated in formally organized field office, contractor, or sub-contractor files that specify or document compliance, achievements, status, deliverables, progress or development of departments, programs, projects, organizations, etc.; that pertain to the mission or functions for which the field office, contractor, or subcontractor has primary oversight or responsibility; or that document opinions and decisions which set policy or precedent. Reports documenting waste management activities for required compliance reports, dumpster violations, dangerous waste reports, and decay heat reports. The Six Month Summary of Weekly Interfering Matrix Report documents the requirements of the CH TRU Waste Acceptance Criteria (WAC) for the WIPP. It demonstrates that over the past six-month period, the operating range of the assay system has been tested in each applicable surrogate waste matrix and the instrument performance has been acceptable. The report is done every six months. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **EPIDEMIOLOGICAL** **QA Record/Nonpermanent/Validated by authorized signature and date** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ENV 1.d.(10)(c)	Destroy 5 years after final closure of facility.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 20 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
6f	NDA Hardware and Software Settings Form(s) NDA Hardware and Software Settings Form are used to document the hardware and software settings for the Drum Waste Assay System. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2006 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 21 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
6g	NDA Performance Demonstration Plan (PDP) Documentation Waste management reports documenting waste management activities including hazardous waste reports, hazardous substance reports, waste characterization reports and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)/Resource Conservation and Recovery Act (RCRA) unit reports. Documentation pertaining to the CCP NDA PDP is to demonstrate the capability of each participating measurement facility to meet the data quality objectives stated in Department of Energy (DOE)/WIPP-02-3122, CH TRU WAC for the WIPP for assay of TRU waste. The PDP is used by CBFO to assess and approve characterization services for TRU waste. This is an annual requirement. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric for Cycle Inclusive Dates : 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 22 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
6h	Detector Dewar Fill Log Logbooks/fieldbooks that document a chronological history which provides a summary of shift and daily activities related to program and functions. Logbooks may support calibration activities, problem resolution, sampling, monitoring, and reporting. Records may include, but are not limited to results, notes, drawings/sketches, and field information. Operating logbooks listing significant action, daily surveillances and maintenance activities occurring during normal operations of applicable facility. Detector Dewar Fill Log is used to document each time that the detector dewar is filled with Liquid Nitrogen (LN) as required. Fill date, initials of operator and comments if applicable are noted on the log. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized initials and date.** Media Type: Hard Copy Filing Order: Chronologically Inclusive Dates: 2006 to Present Location: CCP Records - SWB and/or WRA	ENV 1.e.6	Destroy when 75 years old.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 23 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
6i	Mobile Imaging Passive Action Neutron (IPAN)/Gamma Energy Assay (GEA) Maintenance Checklist Logbooks/fieldbooks that document a chronological history which provides a summary of shift and daily activities related to program and functions. Logbooks may support calibration activities, problem resolution, sampling, monitoring, and reporting. Records may include, but are not limited to results, notes, drawings/sketches, and field information. Operating logbooks listing significant action, daily surveillances and maintenance activities occurring during normal operations of applicable facility. Maintenance record CCP mobile IPAN/GEA Checklist is used to document weekly and/or monthly maintenance checks on the IPAN/GEA system which performs the NDA process. No longer generated at this time. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Equipment and Date Inclusive Dates: 2001 to 2006 Location: CCP Records - SWB and/or WRA	ENV 1.e.6	Destroy when 75 years old.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
7	**CCP CH NDE** NDE (Radiography) is a nondestructive qualitative and quantitative technique that involves x-ray scanning of waste containers to identify and verify waste container contents. NDE is used to examine every waste container to verify its physical form. It can detect prohibited items. NDE is also used to confirm that the physical form of the waste matches its waste stream description.			

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 24 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
7a	CCP CH NDE BDRs Records indicating type (classification) and degree of contamination, date of disposal, method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. CCP NDE BDRs processed on the Real Time Radiography (RTR) systems. NDE (Radiography) is a nondestructive qualitative and quantitative technique that involves x-ray scanning of waste containers to identify and verify waste container contents. NDE is used to examine every waste container to verify its physical form. It can detect prohibited items. NDE is also used to confirm that the physical form of the waste matches its waste stream description. BDR may include but not limited to the following: Cover Sheet, Batch Narrative, Independent Technical Review (ITR) Checklist, Independent Technical Supervisor (TS) Checklist, Radiography Data Sheet, Measurement Control Report, copies of NCR(s) if applicable and Site Project Manager (SPM) Checklists. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 25 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
7b	Audio/Visual Media of The Radiography Scans Audio/Visual Media captured on DVDs while performing NDE of CH TRU waste containers using the RTR system. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date on supporting BDR.** Media Type: Audio/Visual VHS Tapes or DVDs Filing Order: Alpha-Numeric Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
7c	CCP Radiography System Safety Checks CCP Radiography System Safety checks or Pre-Operational Checklists are completed during the actions for startup, daily operational safety checks, operations, and shutdown of RTR System that is used to perform RTR. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 26 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
7d	NDE Fast Scanning Documentation NDE fast scanning documentation is done to screen candidate containers to determine if they qualify for the extensive formal certification process. Screening is defined as a preliminary check to determine if a drum contains obvious prohibited items such as free liquids. This process is not used to certify waste. Includes both the RTR Measurement Control Report and the RTR Drum Quick Screening Log Sheet. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
7e	RTR Batch Weight Records CCP RTR Batch Weight record is used to document the drum numbers, gross weight, tare weight, net weight, and percent fill of each drum being processed in a BDR in the NDE operations. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2002 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 27 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
7f	CCP CH NDE Quarterly Reports Environmental, safety and health administrative program reports prepared, formulated, or consolidated in formally organized field office, contractor, or sub-contractor files that specify or document compliance, achievements, status, deliverables, progress or development of departments, programs, projects, organizations, etc.; that pertain to the mission or functions for which the field office, contractor, or subcontractor has primary oversight or responsibility; or that document opinions and decisions which set policy or precedent. Environmental monitoring reports provided to identify the progress on the environmental monitoring plans or on other related subjects. NDE quarterly reports pertain to the quarterly review performed on randomly selected data completed through SPM review, within the last 3 months time frame. The reports give information regarding the report of data generation level review, V&V performed on a minimum of one randomly chosen waste container each quarter. The SPM uses this information to document that the data generation level data review is being performed according to procedures. This includes the request and results correspondence. **QA Record/Lifetime/Validated by authorized signature and date on memorandum.** Media Type: Hard Copy Filing Order: Chronological and Quarter Number Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	ENV 1.d.8.a	Destroy when 75 years old. Cutoff when reports are superseded, obsolete, or canceled.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 28 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
8	**HEADSPACE GAS (HSG) BDRs** HSG BDRs are combined information derived from the HSG sampling process and preliminary sampling preparation activities, or from the HSG analytical process and post-analytical activities. Each BDR is for a batch of up to 20 HSG samples and may also include QA/Quality Control (QC) samples analytical only.			
8a	CCP HSG BDRs – Online Records indicating type (classification) and degree of contamination, date of disposal, method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. CCP HSG Sampling and analytical BDRs are derived from the HSG sampling or analytical processes and include preliminary sampling preparation activities (sampling only) or follow-up data processing activities for the Online system. CCP HSG BDRs are for combined information of analytical data from the analysis of TRU-mixed waste for a batch of up to 20 HSG or homogenous waste samples. These BDRs may include but are not limited to the following: Cover page, Table of Contents, Case Narrative, Operator's Checklist, ITR Checklist, TS Checklist, Form 1A Volatile Organic Analysis Data Sheet, Form 1A Duplicate Volatile Organic Analysis Data Sheet, Form 1E Volatile Organic Analysis Data Sheet Tentatively Identified Compounds (TIC), Form 3A On-line Control Sample (OCS) Accuracy Form, Form 3A Duplicate OCS Accuracy Form, Form 3B OCS/OCS Duplicate Precision Form, Form 3C Sample/Sample Duplicate Precision Form, Form 4A Volatile Organic Method Blank Summary, Form 5A Volatile Instrument Performance Check Bromofluorobenzene (BDB), Form 6A Volatile Organic Initial Calibration (ICAL) Data, Form 7A Volatile Organic Continuing Calibration Check, Form 8A Volatile Organic Internal Standard Report Area and Retention Time (RT) Summary, CCP HSG Drum Age Criteria (DAC) Form,	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 29 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
	Temperature Log, Freezer Temperature Data Log, and SPM Project Level Checklists. No longer generating new online data. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2001 to 2007 Location: CCP Records - SWB and/or WRA			
8b	CCP HSG ICAL Documentation ICAL documentation pertaining to both Gas Analysis and Solid Analysis processes in an analysis of analytical standards for series of different specified concentrations; used to define the linearity and dynamic range of instruments. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 30 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
8c	CCP HSG Method Detection Limits (MDL) Documentation MDL documentation for both Gas Analysis and Solids Analysis processes which documents the data defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 31 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
8d	CCP HSG Method Performance Documentation (MPD) These data packages consist of documentation generated during transport and receipt of field samples (e.g., chain of custody) , sample movement in the laboratory, preparation for analysis, laboratory analyses output, raw and processed data, analytical results (analysis reports), reanalysis, QC sample results and instrument calibration data, plus a summary of final results for each batch. May include validation and/or verification documentation. CCP HSG MPD is an analytical method that demonstrates through documented system and instrument tests, and participation in the HSG instrument tests and HGS PDP analysis of blind samples. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ENV 5.c.(1)	Destroy in 75 years.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 32 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
8e	CCP Needle Blank Documentation These records consist of control records pertaining to work performed in analytical laboratories. Records include, but are not limited to Sample Receiving Logs, analysis requests, analytical assay records, and comparative analysis logs. Documentation pertains to the process of taking 10 percent of the needles and performing a check to assure cleanliness. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	ENV 5.d	Destroy when 10 years old.	Retain in CCP Records. Destroy when 10 years old. Screen and purge annually.
8f	CCP Equipment Blanks Documentation These records consist of control records pertaining to work performed in analytical laboratories. Records include, but are not limited to Sample Receiving Logs, analysis requests, analytical assay records, and comparative analysis logs. Documentation pertains to the process of taking 10 percent of the equipment and performing a check to assure cleanliness. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	ENV 5.d	Destroy when 10 years old.	Retain in CCP Records. Destroy when 10 years old. Screen and purge annually.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 33 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
8g	HSG – Analytical Raw Data Analytical raw data generated during the HSG process on the Online System software. It is captured on CDs - primary and backup CD is created. **QA Record/Nonpermanent/Validated by authorized signature/initial and date.** Media Type: CD Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
8h	Container Filter Change Out Forms Container Filter Change Out Forms are used to document when a filter is replaced on a characterization drum. It identifies the container number, filter install date, filter model number, filter manufacturer date, filter serial number, filter torque value, and calibration information of torque wrench used to perform replacement. This form used to be called Drum Filter Change Out Form. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 34 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
8i	CCP CH HSG BDRs – Summa Sampling Records indicating type (classification) and degree ofcontamination, date of disposal, method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. CCP CH HSG – Summa BDRs are reports that document the manual sampling of HSG in TRU waste containers. The sampling is done using a side port needle attached to a SUMMA canister. After sampling the canisters are sealed and prepared for shipment/transport to a laboratory for analysis. The BDR may include but is not limited to the following: Cover Sheet, Table of Contents, ITR Checklist, TS Review Checklist, Facility Quality Assurance Officer (FQAO) Review Checklist, 72-Hour Temperature Equilibration Plots, copies of NCRs if applicable, Chain of Custody/Canister Tag, Sample Drum Data Form, Shipment Request (or equivalent), and SPM Project Level Checklist. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 35 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
8j	CCP CH Analysis of Gas Samples BDRs – Environmental Chemistry Laboratory (ECL) Records indicating type (classification) and degree of contamination, date of disposal, method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. CCP CH Analysis of Gas Samples BDRs are reports that document the analysis of gas samples of Volatile Organic Compound (VOC) in HSG samples contained in SUMMA® canisters. May include but not limited to the following: Data Report cover page and Table of Contents, Sample Identification Table/Analysis Request Form, Sample Custody Documents and Sample Tags, Sample Results, QA Measurement Results, Calibration Results, and Data Review Checklists and SPM Project Level Checklist. This includes BDRs for external sites such as Hanford and Advanced Mixed Waste TRU Program (AMWTP). May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 36 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
8k	<u>CCP CH Analysis of Gas Samples BDRs – Raw Data Supporting Data Packages – ECL</u> CCP CH Analysis of Gas Samples BDRs raw data supporting data packages that document the analysis of gas samples of VOC HSG samples contained in SUMMA® canisters. These packages may contain but are not limited to the following: Raw Data/Instrument Printouts and copies of applicable pages of logbooks. This includes supporting documents to BDRs for external sites such as Hanford and AMWTP. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 37 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
81	CCP CH HSG Quarterly Reports Environmental administration records include program or project management records, reports, and records documenting protection and preservation of natural resources. Environmental, safety and health administrative program reports prepared, formulated, or consolidated in formally organized field office, contractor, or sub-contractor files that specify or document compliance, achievements, status, deliverables, progress or development of departments, programs, projects, organizations, etc.; that pertain to the mission or functions for which the field office, contractor, or subcontractor has primary oversight or responsibility; or that document opinions and decisions which set policy or precedent. Environmental monitoring reports provided to identify the progress on the environmental monitoring plans or on other related subjects. HSG quarterly reports pertain to the quarterly review performed on randomly selected data completed through SPM review, within the last 3 months time frame. The reports give information regarding the repeat of data generation level review, V&V performed on a minimum of one randomly chosen waste container each quarter. The SPM uses this information to document that the data generation level data review is being performed according to procedures. This includes the request and results correspondence. **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological and Quarter Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	ENV 1.d.(8)(a)	Destroy when 75 years old. Cutoff when reports are superseded, obsolete, or canceled.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 38 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
8m	HSG PDP Documentation Hazardous waste reports, hazardous substance reports, waste characterization reports, CERCLA/RCRA unit reports. Documentation pertaining to the CCP HSG PDP is to demonstrate the capability of each participating measurement facility to meet the data quality objectives stated in DOE/WIPP-02-3122, CH TRU WAC for the WIPP for assay of TRU waste. The PDP is used by CBFO to assess and approve characterization services for TRU waste. This is an annual requirement. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: PDP Number and Process Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
8n	HSG Random Sample Selection Memorandums HSG Random Sample Memorandums document the random selection for HSG sampling and analysis. It includes at a minimum a memorandum identifying the random selection with attached HSG Random Sample Selection Listing. **QA Record/Nonpermanent/Validated by authorized signature and date on memorandum.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 39 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
9	**FLAMMABLE GAS ANALYSIS (FGA) DOCUMENTATION** FGA documentation pertains to the process to establish the concentration of flammable gas/ VOCs, hydrogen and methane in a waste container intended for shipment.			
9a	FGA BDRs Records indicating type (classification) and degree of contamination, date of disposal, method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. FGA BDRs are generated at all CH sites to establish the concentration of flammable gas/VOCs, hydrogen, and methane in a waste container intended for shipment. Procedure used is DOE/WIPP-06-3345. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2005 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 40 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
9b	CCP FGA ICAL Documentation CCP FGA ICAL documentation is an analysis of analytical standards for series of different specified concentrations; used to define the linearity and dynamic range of the response of the mass spectrometer or electron capture detector to the target compounds. Procedure used is DOE/WIPP-06-3345. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2005 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
9c	CCP FGA MDL Documentation CCP FGA MDL documentation pertains to and is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero. Procedure used is DOE/WIPP-06-3345. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2005 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
10	**SOLIDS SAMPLING BDRs** Documentation pertaining to the process of Solids Sampling which is the random sample collection and sample data collection.			

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 41 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
10a	Solids Sampling BDRs Records indicating type (classification) and degree of contamination, date of disposal, method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. Documentation pertaining to the process of Solids Sampling which is the random sample collection and sample data collection. The BDR may include but is not limited to the following: Sample Tracking Form, Sample Chain-of-Custody Form, Sampling ITR Checklist, Sampling TS Review Checklist, Sampling FQAO Review Checklist, Sampling BDR – Table of Contents, Solids Sampling BDR – Cover Sheet, Copy of CCP Waste Visual Examination (VE) Technique Data Form, Copy of NCR(s) if applicable, Temperature Data Logger Sheets, Certification of Cleanliness for Sampling Equipment, and V&V Checklists. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 42 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
10 b	Solids Analysis BDRs – Analytical Laboratories Department (ALD) Data packages consisting of documentation generated during transport and receipt of field samples, sample movement in the laboratory, preparation for analysis, laboratory analyses output, raw and processed data, analytical results, reanalysis, QC sample results and instrument calibration data, plus a summary of final results for each batch. CCP CH Analysis of Solid Sample BDRs are reports that document the analysis of solid samples of VOC, non-halogenated volatile compounds (NHVOC), semi-volatile compounds (SVOC), and Metals. May include but not limited to the following: Data Report, Cover Page, Table of Contents, Sample Custody Documents, Sample Results, QC Results, Calibration Results, Data Review Checklists and SPM Project Level Checklist. This includes BDRs for external sites. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	ENV 5.c.(1)	Destroy in 75 years.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 43 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
10c	<u>CCP Solid Analysis BDRs – Raw Data Supporting Data Package (ALD)</u> CCP CH Solid Analysis BDRs raw data supporting data packages that document the analysis of VOC, NHVOC, SVOC and Metals in solid analysis. These packages may contain but are not limited to the following: Raw Data/Instrument Printouts, copies of applicable pages of Digestion Record and copies of applicable pages of logbooks. This is supporting documents to all solids analysis BDRs for external sites such as Hanford and AMWTP. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
10d	<u>Solids Sampling Random Selection Memorandum</u> Solids Sampling Random Selection Memorandums document the random selection for solids sampling and analysis. It includes at a minimum a memorandum identifying the random selection with attached Solids Random Sample List/Waste Stream Container List. **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 44 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
10e	Instrument Detection Limit (IDL) Determination Files IDL determination files pertain to the documentation of the detection limits of the equipment. It is performed every six months. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2007 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
10f	Interelement Interference Correction Factor (IECF) Determination Files IECF determination files document that Inductively Coupled Plasma (ICP) wavelengths of the metal is used to determine the concentration of metals. Metals have several wavelengths and overlap/interfere with other metals; therefore a correction factor must be determined. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2007 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 45 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
10g	Documented Linear Range (DLR) Determination Files DLR Determination Files pertain to the concentration of the high calibration standard and are applicable only for a specific analyte, instrument, and set of operating conditions. A DLR may be used for up to six months after its determination date. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2007 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 46 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
10h	Completed Chain-of-Custody Forms Data packages consisting of documentation generated during transport and receipt of field samples, sample movement in the laboratory, preparation for analysis, laboratory analyses output, raw and processed data, analytical results, reanalysis, QC sample results and instrument calibration data, plus a summary of final results for each batch. Chain-of-Custody Forms which have been completed document all transfers of sample custody from collection to disposal. The form contains at a minimum, the sample numbers, the date and times of transfers, and the signatures of the relinquishing and accepting parties. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2007 to Present Location: CCP Records - SWB and/or WRA	ENV 5.c.(1)	Destroy in 75 years.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 47 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
10i	Solid PDP Documentation Hazardous waste reports, hazardous substance reports, waste characterization reports, CERCLA/RCRA unit reports. Documentation pertaining to the CCP solid PDP is to demonstrate the capability of each participating measurement facility to meet the data quality objectives stated in DOE/CBFO-95-1077 Performance Program Plan for RCRA Constituent Analysis of Solidified Waste. The PDP is used by CBFO to assess and approve characterization services for TRU waste. This is an annual requirement. Procedure used is DOE/CBFO-95-1077. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: PDP Number and Process Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
11	**PRECISION and ACCURACY (P&A) DEMONSTRATION FILES** P&A Demonstration Files pertain to the demonstration of the method performance before analyzing any samples. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 48 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
12	**RT WINDOW DETERMINATION FILES** The RT window is crucial to the identification of target compounds. The window is determined by using +/- three times the standard deviation of the mean RT. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2007 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
13	**GAS GENERATION TESTING (GGT) DOCUMENTATION** Documentation on the GGT which is used to collect off-gases generated from a waste drum, and to analyze the Hydrogen/Methane (H_2/CH_4) generation rate and the total gas generation of the drum.			

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 49 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
13 a	GGT BDRs Records indicating type (classification) and degree of contamination, date of disposal, method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. GGT BDRs are data compiled to generate characterization data and data reviews on the GGT process of collecting off-gases generated from the waste drums being processed through the characterization process. Includes Cover Sheet, Table of Contents, Case Narrative, Continuing Calibration Verification (CCV) Report, Sample Duplicate Report, Blank Report, Drum Data Sheets, Gas Generation Testing Program (GGTP), ITR Form, Raw Data, GGTP Drum Selection and Batching, GGTP Isolation Checklist, Copy of NCRs – if applicable, and the SPM Checklist Form. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2005 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 50 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
13b	GGT Hydrogen ICAL GGT ICAL is documentation of analysis of analytical standards for series of different specified concentrations; used to define the linearity and dynamic range of the response of the mass spectrometer or electron capture detector to the target compounds. Includes but not limited to the following: Raw Data printouts and Calibration Report. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2005 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
13c	GGT MDL Documentation GGT MDL is documentation that pertains and is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero. Includes but is not limited to the following: Raw Data print outs and Determination of MDLs, Corresponding %R and %RSD form Attachment 1. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2005 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 51 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
13d	GGT CCP Unified Flammable Gas Test Procedure (UFGTP) Reports GGT CCP UFGTP Report pertains to whether a test category payload container demonstrates compliance with the FG/VOC limits. The long-term objective of the UFGTP is to improve waste shipability for specific populations of waste arriving at more realistic gas generation rates based on the results of measurement and testing. Includes the following: Cover page, Long-Term Objective Population Identification Report or equivalent, Long-Term Objective Subpopulation Selection Report or equivalent, Long-Term Objective Subpopulation Data Compilation Report or equivalent, Long-Term Objective Subpopulation Data Evaluation Report or equivalent, and Long-term Objective Summary Report. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2005 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
14	**VE BDRs** VE constitutes opening a container and physically examining its contents and verifying its physical form. VE is also used to confirm that the physical form of the waste matches its waste stream description. Removal of prohibited items can be performed in this process.			

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 52 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
14a	CCP CH VE BDRs Records indicating type (classification) and degree of contamination, date of disposal, method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. CCP CH VE BDRs is documentation regarding the process of opening a container and physically examining its contents and verifying its physical form. VE is also used to confirm that the physical form of the waste matches its waste stream description. Removal of prohibited items can be performed in this process. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 53 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
14b	Audio/Visual Recording Tapes or DVDs of VE Audio/Visual recordings created while performing VE of CH TRU waste containers. These Audio/Visual recordings are matched to an associated VE BDR. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date on associated BDR.** Media Type: Audio/Visual Tapes and DVDs Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
14c	Prohibited Items Removal Checklist Prohibited Items Removal Checklist is a form utilized to document the removal of prohibited items found in characterization drums. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Date Inclusive Dates: 2003 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 54 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
14d	Remediation Data Forms Remediation Data Forms used during the CCP Standardized Prohibited Item Remediation process performed in CCP-TP-036. This is a VE activity. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2005 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 55 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
14e	CCP CH VE Quarterly Reports Environmental, safety and health administrative program reports prepared, formulated, or consolidated in formally organized field office, contractor, or sub-contractor files that specify or document compliance, achievements, status, deliverables, progress or development of departments, programs, projects, organizations, etc.; that pertain to the mission or functions for which the field office, contractor, or subcontractor has primary oversight or responsibility; or that document opinions and decisions which set policy or precedent. Environmental monitoring reports provided to identify the progress on the environmental monitoring plans or on other related subjects. VE quarterly reports pertain to the quarterly review performed on randomly selected data completed through SPM review, within the last 3 months. The reports give information regarding the repeat of data generation level review, V&V performed on a minimum of one randomly chosen waste container each quarter. The SPM uses this information to document that the data generation level data review is being performed according to procedures. This includes the request and results correspondence. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date on memorandum.** Media Type: Hard Copy Filing Order: Chronological and Quarter Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	ENV 1.d.(8)(a)	Destroy when 75 years old. Cutoff when reports are superseded, obsolete, or canceled.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 56 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
15	**CCP ACCEPTABLE KNOWLEDGE (AK) DOCUMENTATION** AK documentation supports the knowledge used for waste characterization, which is based on the materials and processes used to generate waste. AK includes information about the physical form of the waste, the base materials composing the waste (especially hazardous and radioactive materials) and the process that generated the waste. AK is used to define waste streams, assign summary categories, assign United States Environmental Protection Agency (EPA) hazardous waste numbers, estimate the weight fraction of cellulose, plastic, and rubber (CPR), and estimated isotopic ratios.			
15a	CCP CH AK Documentation Records indicating type (classification) and degree of contamination, date of disposal method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. AK documentation is compiled, reviewed, evaluated, confirmed and reported. It supports the related AK Summary Report. The following documentation may include but is not limited to: AK Documentation Checklist; Record of Communication; AK Source Document Summary - Attachments 3- may included attached CCP generated source documents – prior to 11/01/2010 the Attachment 3's included as attachment both the site generated and CCP generated source documents; AK Source Document Reference List; Hazardous Constituents Waste Form(s); Waste Form, Waste Material Parameters, Prohibited Items and Packaging Forms with Waste Material Parameter Evaluation Memorandum; Radionuclides Forms – may include Nondestructive Assay (NDA) Memorandum; Waste Containers List – may have additional Memorandums as addendums to the Attachment 8; Acceptable Knowledge Re-evaluation Checklist; AK Source Document Discrepancy Resolution – includes AK Source	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 57 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
	Document Source Summary Forms as attachments; CCP Waste Stream Characterization Checklist; CCP TRU Waste Correlation and Surrogate Summary Form; AK Sufficiency Determination Request - memorandum and SPM notifications (emails, letters, memorandums, etc.), as applicable. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature/initial and date.** Media Type: Hard Copy Filing Order: Site and AK Report or AK Library and/or Waste Stream Inclusive Dates: 2006 to Present Location: CCP Records - SWB and/or WRA			

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 58 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
15b	AK Historical Source Documents Records indicating type (classification) and degree of contamination, date of disposal method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. AK historical source documents are external records that have been generated by the waste generating sites. Copies are collected and submitted to support the listing of AK source documents referenced in the correlating AK Summary Report. They may be categorized as follows: Correspondence; Documents; Miscellaneous; Procedures and Published Documents; Discrepancy Resolution; and Unpublished Documents. These records must be maintained in parallel to the correlating AK Document Summaries and CCP source documents. Media Type: Electronic - PDF files, databases, video Filing Order: Site, AK Report or AK Library Inclusive Dates: November 2010 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer with related AK Record Set. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 59 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
15c	Reconciliation with Data Objective Reports Records indicating type (classification) and degree of contamination, date of disposal method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. Reconciliation with Data Objective Reports includes the Data Reconciliation and Reporting Routing Sheet, Reconciliation with Data Objective, WIPP Waste Stream Profile, and Characterization Information Summary. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Site, AK Report and Waste Stream Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b.	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 60 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
15d	HSG Summary Data Report Records indicating type (classification) and degree of contamination, date of disposal method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. HSG Summary Data Report includes the Correlation of Container ID Numbers to HSG Sample ID Number Form, UCL_{90} Evaluation Form, Data Evaluation Narrative, Waste Stream Lot TIC and SPM Narrative. It may also include the Radiography/VE Comparison Report (with copy of trending chart) and Miscertification Rate Calculations. **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Site AK Report and Waste Stream Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 61 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
15e	Solids Summary Data Reports Records indicating type (classification) and degree of contamination, date of disposal method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. Solids Summary Data Report include but are not limited to the Inter-Office Correspondence, Correlation of Container ID Numbers to Solid Sample ID Numbers, CCP Totals analysis VOC UCL_{90} Evaluation Form, CCP Totals Analysis SVOC, UCL_{90} Evaluation Form, CCP Totals Analysis Metals UCL_{90} Evaluation Form, CCP Data Evaluation Narrative (VOC), CCP Data Evaluation Narrative (SVOC), CCP Data Evaluation Narrative (Metals), Waste Stream Lot TIC and SPM Evaluation Narrative. **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Site and Waste Stream Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 62 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
15f	Miscertification Rate Calculations Records indicating type (classification) and degree of contamination, date of disposal method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. Miscertification Rate Calculations documentation pertains to data from the VE that is used to determine the percentage of miscertified waste containers from radiographic examination. The miscertification rate is used to calculate the number of waste containers that shall be visually examined. The site-specific miscertification rate is applied to each Summary Category Group. The site-specific miscertification rate is reassessed annually. **This is no longer performed in the program since the permit change of November 16, 2006.** **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Site and Waste Stream Inclusive Dates: 2001 to 2006 Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 63 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
15g	VE Random Selections Records indicating type (classification) and degree of contamination, date of disposal method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. VE random selection documentation pertains to a statistically selected portion of the certified waste containers that will be opened and visually examined as a QC check on the radiographic examination of waste containers. Data obtained from VE is used to verify the matrix parameter category, waste material parameter weights, and absence of prohibited items determined by radiography. Random selection is reassessed annually. **This is no longer performed in the program since the permit change of November 16, 2006.** **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Site and Waste Stream Inclusive Dates: 2001 to 2006 Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 64 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
15h	AK Summary Reports Hazardous waste reports, hazardous substance reports, waste characterization reports, CERCLA/RCRA unit reports. AK Summary Reports are documentation which supports the knowledge used for waste characterization, which is based on the materials and processes used to generate a waste. AK reports include information about the physical form of the waste, the base materials composing the waste (especially hazardous and radioactive materials) and the process that generated the waste. AK reports define waste streams, assign summary categories, assign EPA hazardous waste numbers, estimate the weight fraction of CPR, and estimated isotopic ratios. May include but is not limited to the following record: Final document; Documentation that demonstrates approval by designated individuals; Comments and comment resolution (attachments, Document Review Resolution (DRR), emails, letter, etc.); Document revision requests (i.e., initial markup) and DOE/CBFO submittal email within five days of project level review. **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Site and Waste Stream Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ENV 1.d.10.a	Permanent. Cutoff when waste is disposed of. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 65 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
15i	AK Accuracy Report Records indicating type (classification) and degree of contamination, date of disposal method of disposal (burial, landfill, etc.), volume, and disposal location. Records may include engineering studies, reports of unusual problems encountered during removal or treatment. AK Accuracy Reports document that the AK accuracy is evaluated either on a lot or waste stream basis. The report documents the results of the evaluation for containers in a waste stream. It may include but is not limited to Inter-Office Correspondence with attached CCP AK Accuracy Report and CCP Correlation of Container Identification Numbers to BDR Numbers. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Site, AK Report and Waste Stream Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ENV 6.b	Permanent. Cutoff 5 years after disposal. Transfer to NARA 25 years after cutoff.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 66 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
15j	CCP CH AK Container Tracking Spreadsheet Environmental administration records include program or project management records, reports, and records documenting protection and preservation of natural resources. Waste management system which tracks waste from creation through transportation, processing, storage; and reporting tracking records. AK Container Tracking Spreadsheet is a spreadsheet that identifies the following minimum criterion for each container listed in the waste stream: Container ID, Waste Stream ID, generation date, vent date, change reason, new closure date, new vent date, container type. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Electronic Filing Order: N/A Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	ENV 1.g.(3)(a)	Delete or destroy when related records are destroyed, or 75 years from creation, whichever occurs later.	Print out after completion of waste stream shipment to WIPP. Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
16	**WASTE DATA SYSTEM (WDS) FORMERLY WIPP WASTE INFORMATION SYSTEM (WWIS) DOCUMENTATION** The WDS is an on-line database system used to document information pertaining to waste, including but not limited to waste container characterization and certification data, produce reports, record shipment configuration details, disposal locations and disposal dates.			

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 67 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
16a	CCP WDS Documentation CCP WDS packages are created during the process of entering data into the WDS and reporting data on TRU waste. The WDS is a database system that requires input from waste generator sites for shipment of TRU waste payload containers and payload assemblies that are intended for disposal at WIPP. CCP represents the generator sites as the generator and provides input to WDS on behalf of generator sites. These CCP WDS packages contain, but are not limited to, spreadsheets, reports, and correspondence associated with data CCP submits to WDS electronically. **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Site and Batch Number Inclusive Dates: 2008 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 68 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
16b	Overpack Loading Forms Documentation pertaining to 55 gallon drums that are overpacked in ten-drum overpack (TDOP)'s and standard waste boxes. Forms include information such as container ID's, surface dose rates, and filter information. Data from these forms is required for data input into WDS. The forms are the TDOP Loading form and the standard waste boxes Loading Form. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Site and Batch Number Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
16c	Radiological Surveys Radiological Surveys are performed to document levels of radiation, contamination conditions of the containers going through the characterization process for CCP CH. These are external records generated by the generator sites. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Lifetime/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Drum or Rad Survey Number Inclusive Dates: 2006 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 69 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
17	**CCP TRANSPORTATION DOCUMENTATION** Transuranic shipment records includes records prepared by the waste generator and other related documentation. CCP transportation packages created during the preparation and transport of drums for burial at the WIPP. May include but not limited to: Payload Container Transportation Certification Document, Uniform Hazardous Waste Manifest, Public Burden Statement, Straight Bill of Lading – Short Form, Land Disposal Restriction Exemption Notification, Dunnage Certification Statement, Container Integrity Checklist, and Varian Porta-Test Leak Detector Calibration Record or CCP-WCS Monthly Inventory review Checklists. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **EPIDEMIOLOGICAL** **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2008 to Present Location: CCP Records - SWB and/or WRA	ENV 2.d.(4)	Destroy after 5 years.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 70 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
18	**CCP PROCEDURES, PLANS and REPORTS** CCP Procedures, plans, and reports document record packages may include but is not limited to the following record: Final document; Documentation that demonstrates approval by designated individuals; Comments and comment resolution (attachments, DRR, emails, letter, etc.); Document revision requests (i.e., initial markup) and DOE/CBFO submittal email within five days of project level review. This line item is separate from AK Summary Reports. **QA Record/Nonpermanent/Validated by authorized signature and date for hard copy file and login and password of authorized personnel.** Media Type: Hard Copy/Electronic Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
19	**CONFIGURATION MANAGEMENT DOCUMENTATION for EQUIPMENT** Configuration management documentation for equipment pertains to the control and oversight of all CCP Mobile Characterization Equipment (MCE) and transportation equipment.			

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 71 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
19a	Measuring and Test Equipment (M&TE) Documentation M&TE pertains to documents that ensure equipment used for inspection and testing are properly controlled, calibrated, and maintained. This includes but is not limited to the following: Notice of Deficiency; Manufacturer's Certificate of Calibrations; Calibration Interval Documentation – Calibration Interval/Tolerance Adjustments Evaluation; Exemptions/Temporary Extension Evaluations; Evaluations/Impact Studies with Out-of-Tolerance (OOT) Evaluations – as applicable; Closing/Exit Calibrations; and pertinent emails as applicable. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Equipment and Date Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 72 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
19b	EPA Tier 1 and Tier 2 Documentation Tier 1 and Tier 2 documentation pertains to the characterization change authorization of the EPA approved waste characterization processes for NDA and VE. Tier changes are documented by memorandum which is the notification of the required change to the waste characterization process. May include various documents. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by appropriate authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: 2006 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 73 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
19c	Radioactive Sources Certificates of Compliance Radioactive Material Packing and Shipping Records. Shipping packaging records include the Certificates of Compliance. Certificates of Compliance for radioactive sources used to calibrate the NDA systems or when performing a function where a source is required to be used in the process. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **EPIDEMIOLOGICAL** **QA Record/Nonpermanent/Validated by Manufacturer's signature and date.** Media Type: Hard Copy Filing Order: Equipment and Date Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	ADM 18.48	Destroy 5 years after Certificate of Compliance has terminated, unless information is received indicating that renewed use is definitely anticipated.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
20	**CCP CH PROCUREMENT RECORDS** Procurement records generated in the acquisition of goods and non-personnel services.			

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 74 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
20a	CCP CH Procurement Documentation CCP procurement records that were generated in the acquisition of goods and non-personnel services for CH generator sites. Includes but not limited to the following: Purchase Requisitions/Change Notices; Purchase Orders/Change Notices; Statements of Work; Specifications/Drawings; Qualified Suppliers List (QSL) and attachments; Approval/Variation Requests, and copies of the QA Grading Level Determination Checklist. This is for Quality Level 1 and 2 procurement only. This is held by NWP until completion. **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Purchase Order Number Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA and NWP Procurement	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 75 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
20b	CCP CH Receipt Inspection Verification Sheets (RIVS) RIVS and supporting documentation (certificates of analysis/conformance/compliance, calibration certificates, etc.) pertaining to quality source and receipt activities in support of the CCP CH's waste characterization mission. This was named Source Receipt Inspection Verification Sheets (SRIVS) but is now called as titled above (RIVS). May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric - Purchase Order Inclusive Dates: 2002 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 76 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
21	**STANDING ORDERS** Documentation that is a means for management to communicate short-term direction to operators and the documented quarterly review of standing orders. Information such as special operations, data collection, plotting process parameters and other similar short-term matters may be included in standing orders. Standing orders are not used to deviate from procedures but supplement procedures until the procedure can be revised. Includes Standing Order Log. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in office until completion of characterization process for each site. Transmit to CCP Records to be maintained until no longer needed to support audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 77 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
22	**OPERATOR AIDS** Documentation that is used to provide information useful to operators in performing their duties and the semi-annual review of operator aids are still necessary and current. Operator aids may be in many forms such as the latest revision pages out of procedures, handwritten notes, and information tags. Operator aids are viewed as a convenience to the operator, not administrative/technical requirements and or direction. Operator aids that are assigned unique numbers may supplement approved procedures, but shall not be used in lieu of approved procedures. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in office until completion of characterization process for each site. Transmit to CCP Records to be maintained until no longer needed to support audits. Transfer to the WRA within one year for storage and retention.
23	**CONTAINER MANAGEMENT DOCUMENTATION** Container management documentation pertains to the CCP management control and tracking of TRU waste containers during the characterization process.			

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 78 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
23a	CCP Daily Container Management Forms Documentation which helps in the CCP management, control and tracking of TRU waste containers during the characterization process. Daily Container Management Forms pertain to the inspection of a TRU waste container to determine if the drum can be safety handled and whether repackaging will be required prior to CCP waste characterization or shipment. These forms may have different titles such as Container Inspection Reports, Container Integrity Reports and Daily Production Reports. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronologically Inclusive Dates: 2000 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.
23b	CCP Scale Calibration Check and Container Weight Information Documentation used to perform a check on the scale used during handling of the drum to acquire the weight of each drum to be processed through the characterization process. Also captures the drums weight and who performed the task. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronologically Inclusive Dates: 2001 to Present Location: CCP Records - SWB and/or WRA	Disposition Authority Pending NARA Approval.	UNSCHEDULED -Do Not Destroy-	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 79 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
23c	CCP Container Travelers Supporting documentation includes but is not limited to miscellaneous worksheets, recorder sheets, other data sheets, and correspondence from where applicable information has been transcribed or summarized in other documentation. CCP Container Travelers are a form that shows the management, control and tracking of waste containers during the characterization process. Form shows the container ID number, waste stream, weight, external temperature and the initials and dates of various NDE, NDA, HSG, VE and GGT personnel. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **EPIDEMIOLOGICAL** **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Alpha-Numeric Inclusive Dates: 2004 to Present Location: CCP Records - SWB and/or WRA	ENV 6.c	Destroy when 1 year old.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

Waste Isolation Pilot Plant RECORDS INVENTORY AND DISPOSITION SCHEDULE (RIDS)	1. ☐ DOE X Contractor	2. Page 80 of 80

6. Item No.	7. Filing Series Title, Description, Any Special Categories, Media Types, Filing Order, Inclusive Dates and Location:	8. Disposition Authority	9. Authorized Disposition Instructions	10. Transfer Instructions
24	**WEEKLY CONDUCT of OPERATIONS – WALK-DOWN CHECKLIST** Environmental administration records include program or project management records, reports, and records documenting protection and preservation of natural resources. Records associated with Safety and Health related documentation required by CERCLA/RCRA, other than CERCLA-funded cooperative agreements. Records which notify or support worker protection and safety including but not limited to safety incident, safety analysis, safety meetings, safety awards, and safety assessments.. Weekly Conduct of Operations – Walk-Down Checklists are performed on a weekly basis to provide a walk-down of the equipment and area around the equipment. Documents general safety, housekeeping, procedures, radiological controls, basic and conduct of operations. This is done for all characterization equipment at the Idaho National Laboratory (INL) Site. May include Attachment 2, CCP Records Transmittal/Receiving Form(s). **EPIDEMIOLOGICAL** **QA Record/Nonpermanent/Validated by authorized signature and date.** Media Type: Hard Copy Filing Order: Chronological Inclusive Dates: February 2008 to Present Location: CCP Records - SWB and/or WRA	ENV 1.b.(5)(a)	Destroy after 5 years.	Retain in CCP Records until completion of characterization process for each site or when no longer needed in project files to support daily functions or audits. Transfer to the WRA within one year for storage and retention.

CCP - Los Alamos National Labs (LANL)
List of Qualified Individuals
8/18/2014 4:15 PM

	Name	Position	CCP Next Training Due Date	Host Site Next Training Due Date
VE	Archuleta, Levie	Operator/ITR	01/2015	10/10/14
	Ausmus, Peggy	Operator/ITR **SME/OJT** **Expert**	10/2014	09/20/14
	Bustos, Dino	Operator/ITR	09/2015	10/10/14
	Candelaria, Joseph	Operator/ITR	11/2015	09/11/14
	Clemons, Duane	Operator/ITR	07/2015	11/05/14
	Geyer, Robert	Operator/ITR	07/2016	10/10/14
	Gutierrez, Gilbert	Operator/ITR **SME/OJT** **Expert**	10/2014	09/05/14
	Hemsing, David	Operator/ITR **SME/OJT** **Expert**	10/2015	06/03/15
	Krylowicz, Jason	Operator/ITR	01/2015	09/25/14
	Minton, R. Scott	Operator/ITR	12/2015	10/08/14
	Mojica, Tommy	Operator/ITR **SME/OJT** **Expert** NCR "K" Code Designee	07/2015	10/16/14
	Robida, Peter	Operator/ITR	11/2015	10/21/14
	Romero, Luis	Operator/ITR	09/2015	09/17/14
	Salazar, Kenneth	Operator/ITR	07/2015	10/09/14
	Stepzinski, Joseph	Operator/ITR	02/2015	09/20/14
	Thompson, James	Operator/ITR **SME/OJT** **Expert**	07/2015	09/25/14
	Trujillo, Michael	Operator/ITR	01/2015	11/05/14

	Name	Position	CCP Next Training Due Date	Host Site Next Training Due Date
CMR VE	Ortega, Loretta	Operator/ITR	07/2016	09/10/14
	Potter, David	Operator/ITR	07/2016	01/14/15

CCP - Los Alamos National Labs (LANL)
List of Qualified Individuals
8/18/2014 4:15 PM

	Name	Position	CCP Next Training Due Date	Host Site Next Training Due Date
RTR	**Elliott, Aaron**	Operator/ITR **SME/OJT** NCR "K" Code Designee	Eye Exam – 02/2015 Requal – 11/2014 SNT-TC-1A – 01/25/2015 Training Cont. – 10/2014	**08/28/14**
	Hasselstrom, Thaddeus	Operator/ITR NCR "K" Code Designee	Eye Exam – 02/2015 Requal – 05/2016 SNT-TC-1A – 04/05/15 Training Cont. – 10/2014	02/25/15
	Maestas, Benito	Operator/ITR	Eye Exam – 06/2015 Requal – 09/2014 SNT-TC-1A – 06/28/15 Training Cont. – 10/2014	04/03/15
	Rios, Eddie	Operator/ITR	Eye Exam – 11/2014 Requal – 10/2015 SNT-TC-1A – 08/29/16 Training Cont. – 01/2015	09/12/14
	Simmons, Michael	Operator/ITR	Eye Exam – 12/2014 Requal –10/2014 SNT-TC-1A – 04/05/15 Training Cont. – 10/2014	10/09/14
	Simpson, Kenneth Dale	Operator/ITR **SME/OJT** NCR "K" Code Designee	Eye Exam – 01/2015 Requal – 04/2015 SNT-TC-1A – 02/27/16 Training Cont. – 10/2014	09/24/14

	Name	Position	CCP Next Training Due Date	Host Site Next Training Due Date
NDA MILCC	**Aragon, Israel**	Operator/ITR **SME-OJT** NCR "K" Code Designee	05/2015	05/06/15
	Archuleta, Dominic	Operator/ITR NCR "K" Code Designee	06/2015	10/08/14
	Barton, Tim	Operator/ITR **SME-OJT** NCR "K" Code Designee	05/2015	09/26/14
	Baumann, Richard	Operator/ITR **SME-OJT** Expert Analyst NCR "K" Code Designee	05/2015	Cannot perform operations until site training is complete.
	Chambers, Sheri	Expert Analyst NCR "K" Code Designee	N/A	N/A
	Escarcega, Maria	Operator/ITR NCR "K" Code Designee	06/2015	11/27/14
	Francis, Jared	Operator/ITR Expert Analyst NCR "K" Code Designee	05/2015	09/19/14
	Hammon, Ryan	Operator/ITR **SME-OJT** NCR "K" Code Designee	05/2015	10/07/14
	Lucchini, Pete	Operator/ITR NCR "K" Code Designee	03/2016	10/09/14
	Templeton, Bret	Operator/ITR NCR "K" Code Designee	12/2015	02/11/15

CCP - Los Alamos National Labs (LANL)
List of Qualified Individuals
8/18/2014 4:15 PM

	Name	Position	CCP Next Training Due Date	Host Site Next Training Due Date
NDA SuperHENC	Aragon, Israel	Operator/ITR **SME/OJT** NCR "K" Code Designee	08/2015	05/06/15
	Archuleta, Dominic	Operator/ITR NCR "K" Code Designee	03/2015	10/08/14
	Barton, Tim	Operator/ITR **SME/OJT** NCR "K" Code Designee	05/2015	09/26/14
	Baumann, Richard	Operator/ITR Expert Analyst NCR "K" Code Designee	07/2015	Cannot perform operations until site training is complete.
	Chambers, Sheri	Expert Analyst NCR "K" Code Designee	N/A	N/A
	Escarcega, Maria	Operator/ITR NCR "K" Code Designee	04/2015	11/27/14
	Francis, Jared	Expert Analyst NCR "K" Code Designee	N/A	N/A
	Gallegos, Adam	Operator/ITR NCR "K" Code Designee	03/2015	10/03/14
	Hammon, Ryan	Operator/ITR **SME/OJT** NCR "K" Code Designee	08/2015	10/07/14
	Lucchini, Pete	Operator/ITR NCR "K" Code Designee	03/2016	10/09/14
	Morales, Bart	Expert Analyst	N/A	N/A
	Sager, David	Operator/ITR NCR "K" Code Designee	11/2015	04/08/15
	Stanfield, Sean	Expert Analyst NCR "K" Code Designee	N/A	N/A
	Templeton, Bret	Operator/ITR NCR "K" Code Designee	07/2015	02/11/15

	Name	Position	CCP Next Training Due Date	Host Site Next Training Due Date
NDA HENC 3	Gallegos, Adam	Operator/ITR **SME/OJT** NCR "K" Code Designee	04/2016	**08/24/14**
	Hammon, Ryan	Operator/ITR **SME/OJT** NCR "K" Code Designee	08/2016	**08/24/14**
	Sager, David	Operator/ITR NCR "K" Code Designee	08/2016	Escort Required to perform site operations.
	Wachter, Joe	Expert Analyst	N/A	N/A

CCP - Los Alamos National Labs (LANL)
List of Qualified Individuals
8/18/2014 4:15 PM

	Name	Position	CCP Next Training Due Date	Host Site Next Training Due Date
NDA HENC 1 & 2	**Aragon, Israel**	Operator/ITR **SME/OJT** NCR "K" Code Designee	07/2015	05/06/15
	Archuleta, Dominic	Operator/ITR NCR "K" Code Designee	01/2015	10/08/14
	Barton, Tim	Operator/ITR **SME/OJT** NCR "K" Code Designee	05/2015	09/26/14
	Baumann, Richard	Operator/ITR **SME/OJT** Expert Analyst NCR "K" Code Designee	04/2015	Cannot perform operations until site training is complete.
	Chambers, Sheri	Expert Analyst NCR "K" Code Designee	N/A	N/A
	Escarcega, Maria	Operator/ITR NCR "K" Code Designee	01/2015	11/27/14
	Francis, Jared	Operator/ITR Expert Analyst NCR "K" Code Designee	03/2016	09/19/14
	Gallegos, Adam	Operator/ITR NCR "K" Code Designee	01/2015	10/03/14
	Hammon, Ryan	Operator/ITR **SME/OJT** NCR "K" Code Designee	07/2015	10/07/14
	Lucchini, Pete	Operator/ITR NCR "K" Code Designee	08/2016	10/09/14
	Morales, Bart	Expert Analyst	N/A	N/A
	Sager, David	Operator/ITR NCR "K" Code Designee	07/2015	04/08/15
	Stanfield, Sean	Expert Analyst NCR "K" Code Designee	N/A	N/A
	Templeton, Bret	Operator/ITR NCR "K" Code Designee	04/2015	02/11/15

CCP - Los Alamos National Labs (LANL)
List of Qualified Individuals
8/18/2014 4:15 PM

	Name	Position	CCP Next Training Due Date	Host Site Next Training Due Date
FGA	Aragon, Sara	Operator/ITR NCR "K" Code Designee	12/2015	09/04/14
	Eisele, Douglas	Operator/ITR	01/2016	01/03/15
	Jagielski, Richard	Operator/ITR **SME/OJT** NCR "K" Code Designee	07/2016	01/28/15
	Loechell, Erik	Operator/ITR **SME/OJT** NCR "K" Code Designee	05/2015	01/15/15
	Wales, Nathan	Operator/ITR	04/2016	01/29/15

	Name	Position	CCP Next Training Due Date	Host Site Next Training Due Date
Filter Change-Out	Aragon, Sara	Operator NCR "K" Code Designee	01/2016	09/04/14
	Eisele, Douglas	Operator	02/2016	01/03/15
	Jagielski, Richard	Operator **SME/OJT** NCR "K" Code Designee	05/2015	01/28/15
	Loechell, Erik	Operator **SME/OJT** NCR "K" Code Designee	09/2015	01/15/15
	Wales, Nathan	Operator	05/2016	01/29/15

	Name	Position	CCP Next Training Due Date	Host Site Next Training Due Date
GGT	Dover, Dale	Operator/ITR **SME/OJT** NCR "K" Code Designee	11/2015	Cannot perform operations until site training is complete.
	Jagielski, Richard	Operator/ITR **SME/OJT** NCR "K" Code Designee	07/2015	01/28/15
	Loechell, Erik	Operator/ITR NCR "K" Code Designee	08/2015	01/15/15

CCP - Los Alamos National Labs (LANL)
List of Qualified Individuals
8/18/2014 4:15 PM

	Name	Position	CCP Next Training Due Date	Host Site Next Training Due Date
OSRP Radiological Characterization	Day, Rick	Operator/ITR **SME/OJT**	04/2016	08/07/15
	Fanning, Michael	Operator/ITR	10/2014	08/06/16
	Feldman, Alex	Operator/ITR **SME/OJT**	02/2015	09/19/14
	Griffin, Justin	Operator/ITR	04/2016	06/13/15
	Manzanares, Leo	Operator/ITR	06/2016	03/13/16
	McAlpin, Jerry	Operator/ITR	02/2016	03/06/16
	Witkowski, Ioana	Operator/ITR **SME/OJT**	04/2016	12/17/15
OSRP VE	Abeyta, Christy	Operator/ITR	03/2015	11/28/14
	Cocina, Frank	Operator/ITR	08/2015	03/13/16
	Day, Rick	Operator/ITR	01/2015	08/07/15
	Drypolcher, Katherine	Operator/ITR	02/2015	02/19/15
	Fanning, Michael	Operator/ITR	09/2014	08/06/16
	Feldman, Alex	Operator/ITR **SME/OJT** **Expert**	01/2016	09/19/14
	Griffin, Justin	Operator/ITR **SME/OJT** **Expert**	03/2015	06/13/15
	Gurley, Michael	Operator/ITR	12/2014	06/05/16
	Hauschild, Lorraine	Operator/ITR	09/2014	11/28/14
	Manzanares, Leo	Operator/ITR	07/2015	03/13/16
	Martinez, Adam	Operator/ITR	09/2014	10/28/15
	McAlpin, Jerry	Operator/ITR	06/2016	03/06/16
	Stewart, William	Operator/ITR	09/2015	02/06/16
	Streeper, Charles	Operator/ITR	09/2014	02/13/15
	Witkowski, Ioana	Operator/ITR	12/2014	12/17/15
	Zarling, John	Operator/ITR	07/2015	03/16/16

LANL NDE Personnel Waste Streams Qualified List

8/18/2014 4:15 PM

		VE Expert									AK-4			AK-6				AK-8			AK-9			AK-10		AK-12	AK-13
		CMR	OSRP	Radioactive and Mixed Waste Management Facility at TA-4	TA-54 Bldg 375	TA-54 Bldg 412	TA-54 Permacon 231	TA-55 Bldg PF4	WCRRF	Z Machine Building	LA-CIN02.001	LA-MHD09.001	LA-MIN03-NC.001	LA-CIN01.001	LA-MHD01.001	LA-MIN02-V.001	LA-MIN04-S.001	LA-OS-00-01.001	LA-OS-00-03	LA-OS-00-04	LA-CIN03.001	LA-MHD03.001	LA-MIN05-V.001	LA-MHD04.001	LA-MSG04.001	LA-MHD08.001	LA-MHD05-ITRI.001
RTR	Elliott, Aaron										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Hasselstrom, Thad										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Maestas, Benito										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Rios, Eddie										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Simmons, Michael										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Simpson, Kenneth Dale										X	X	X	X	X	X	X				X	X	X	X	X	X	X
VE	Archuleta, Levie										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Ausmus, Peggy								E		X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Bustos, Dino										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Candelaria, Joseph										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Clemons, Duane										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Geyer, Robert										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Gutierrez, Gilbert				E	E	E		E		X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Hemsing, David	E		E	E	E	E	E	E	E	X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Krylowicz, Jason										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Minton, R. Scott										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Mojica, Tommy	E		E	E	E	E	E	E	E	X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Ortega, Loretta																				X	X	X				
	Potter, David																				X	X	X				
	Robida, Peter										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Romero, Luis										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Salazar, Kenneth										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Stepzinski, Joseph										X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Thompson, James	E			E	E	E	E	E		X	X	X	X	X	X	X				X	X	X	X	X	X	X
	Trujillo, Michael										X	X	X	X	X	X	X				X	X	X	X	X	X	X

LANL NDE Personnel Waste Streams Qualified List

8/18/2014 4:15 PM

		CMR	OSRP	Radioactive and Mixed Waste Management Facility at TA-4	TA-54 Bldg 375	TA-54 Bldg 412	TA-54 Permacon 231	TA-55 Bldg PF4	WCRRF	Z Machine Building	LA-CIN02.001	LA-MHD09.001	LA-MIN03-NC.001	LA-CIN01.001	LA-MHD01.001	LA-MIN02-V.001	LA-MIN04-S.001	LA-OS-00-01.001	LA-OS-00-03	LA-OS-00-04	LA-CIN03.001	LA-MHD03.001	LA-MIN05-V.001	LA-MHD04.001	LA-MSG04.001	LA-MHD08.001	LA-MHD05-ITRI.001
		VE Expert									AK-4			AK-6				AK-8			AK-9			AK-10		AK-12	AK-13
OSRP VE	Abeyta, Cristy																	X	X	X							
	Cocina, Frank																	X	X	X							
	Day, Rick																	X	X	X							
	Drypolcher, Katherine																	X	X	X							
	Fanning, Michael																	X	X	X							
	Feldman, Alex		E															X	X	X							
	Griffin, Justin		E															X	X	X							
	Gurley, Michael																	X	X	X							
	Hauschild, Lorraine																	X	X	X							
	Manzanares, Leo																	X	X	X							
	Martinez, Adam																	X	X	X							
	McAlpin, Jerry																	X	X	X							
	Stewart, William																	X	X	X							
	Streeper, Charles																	X	X	X							
	Witkowski, Ioana																	X	X	X							
	Zarling, John																	X	X	X							

Central Characterization Project Effective Date: 06/08/2011	COPY	AKE-01, Rev. 7 Page 1 of 2

Acceptable Knowledge Expert (AKE) Qualification Card

Name: Randy Fitzgerald	Badge Number: [redacted]
Email Address: [redacted]	

Education / Experience		
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Michele Billett CCP Training	6/9/11 Date

Job Specific Training	
Qualification Limit	There is no qualification time limit for this position. It is a one-time only requirement. Upon completion of this qualification card, the Trainee is qualified to perform all Acceptable Knowledge Expert duties, including the development of acceptable knowledge reports. If necessary, additional training may be required by the CCP Lead Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to re-establish qualification.
Requalification Requirements	Not required. See above statement.

Indoctrination		
WAP/QAPjP Briefing and Test. 9/5/3	Michele Billett CCP Training	6/9/11 Date

Initial/Indoctrination Reading:

1. NM4890139088, *Waste Isolation Pilot Plant Hazardous Waste Facility Permit*
2. DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*
3. DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
4. DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document*
5. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
6. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
7. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
8. CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)*
9. CCP-QP-004, *CCP Corrective Action Management*
10. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
11. CCP-QP-006, *CCP Corrective Action Reporting and Control*
12. CCP-QP-008, *CCP Records Management*
13. CCP-QP-036, *CCP Qualification of Acceptable Knowledge for Remote-Handled Transuranic Waste Through a Quality Assurance Equivalency Demonstration*

Acceptable Knowledge Expert (AKE) Qualification Card

Name: Randy Fitzgerald | **Badge Number:** [redacted]

Email Address: [redacted]

	14. CCP-TP-001, *CCP Project Level Data Validation and Verification* 15. CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data* 16. CCP-TP-005, *CCP Acceptable Knowledge Documentation* 17. CCP-TP-506, *CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report*
I have read the listed initial/indoctrination reading and understand my responsibilities as applicable to the procedures above.	R Fitzgerald 6/8/2011 Trainee Signature — Date

Formal Training Requirements	
RCRA Training Documentation	Michelle Billett 6/13/11 CCP Training — Date

Approvals	
I have completed formal training and received on-the-job training for this position. I fully understand my responsibilities as an AKE.	RANDY FITZGERALD R Fitzgerald 6/8/2011 Trainee *(printed name and signature)* — Date
This individual has shown proficiency in the implementation of the requirements for the preparation of Acceptable Knowledge Summary Reports as required by CCP-TP-005.	Trey Greenwood 6/16/11 AK Cognizant Manager *(printed name and signature)* — Date
I have monitored the training of this individual and believe they are ready to perform the duties of an AKE. I approve this employee to perform the duties of an AKE.	LAURA NELSON Laura Nelson 6/16/11 CCP Site Project Manager *(printed name and signature)* — Date

Approved for Content & Format: **Trey Greenwood (Approval on File)** — **06/08/2011**
Cognizant Engineer — Date

Approved for Content: **Richard Kantrowitz (Approval on File)** — **06/08/2011**
CCP Lead or Alternate SPM — Date

Approved for Use: **A.J. Fisher (Approval on File)** — **06/08/2011**
CCP Manager Responsible for Training — Date

DIVIDER

PAGE

DIVIDER

PAGE

COPY

Acceptable Knowledge Expert (AKE) Qualification Card

Name: Amy Johns **Badge Number:** [redacted]

Email Address: [redacted]

Education / Experience

Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Michele Billett 6/14/11 CCP Training Date

Job Specific Training

Qualification Limit	There is no qualification time limit for this position. It is a one-time only requirement. Upon completion of this qualification card, the Trainee is qualified to perform all Acceptable Knowledge Expert duties, including the development of acceptable knowledge reports. If necessary, additional training may be required by the CCP Lead Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to re-establish qualification.
Requalification Requirements	Not required. See above statement.

Indoctrination

WAP/QAPjP Briefing and Test.	Michele Billett 6/14/11 CCP Training Date

Initial/Indoctrination Reading:

1. NM4890139088, *Waste Isolation Pilot Plant Hazardous Waste Facility Permit*
2. DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*
3. DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
4. DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document*
5. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
6. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
7. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
8. CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)*
9. CCP-QP-004, *CCP Corrective Action Management*
10. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
11. CCP-QP-006, *CCP Corrective Action Reporting and Control*
12. CCP-QP-008, *CCP Records Management*
13. CCP-QP-036, *CCP Qualification of Acceptable Knowledge for Remote-Handled Transuranic Waste Through a Quality Assurance Equivalency Demonstration*

Acceptable Knowledge Expert (AKE) Qualification Card

Name: Amy Johns	**Badge Number:** [redacted]
Email Address: [redacted]	

	14. CCP-TP-001, *CCP Project Level Data Validation and Verification* 15. CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data* 16. CCP-TP-005, *CCP Acceptable Knowledge Documentation* 17. CCP-TP-506, *CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report*
I have read the listed initial/indoctrination reading and understand my responsibilities as applicable to the procedures above.	Amy Johns 6/14/11 Trainee Signature Date

Formal Training Requirements	
RCRA Training Documentation	Michele Billett 6/14/11 CCP Training Date

Approvals	
I have completed formal training and received on-the-job training for this position. I fully understand my responsibilities as an AKE.	Amy Johns Amy Johns 6/14/11 Trainee *(printed name and signature)* Date
This individual has shown proficiency in the implementation of the requirements for the preparation of Acceptable Knowledge Summary Reports as required by CCP-TP-005.	Trey Greenwood 6/16/11 AK Cognizant Manager *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of an AKE. I approve this employee to perform the duties of an AKE.	Laura Nelson Laura Nelson 6-16-11 CCP Site Project Manager *(printed name and signature)* Date

Approved for Content & Format: **Trey Greenwood (Approval on File)** **06/08/2011**
Cognizant Engineer Date

Approved for Content: **Richard Kantrowitz (Approval on File)** **06/08/2011**
CCP Lead or Alternate SPM Date

Approved for Use: **A.J. Fisher (Approval on File)** **06/08/2011**
CCP Manager Responsible for Training Date

DIVIDER PAGE

DIVIDER PAGE

COPY

Acceptable Knowledge Expert (AKE) Qualification Card

Name: Michael Papp	**Badge Number:** [redacted]
Email Address: [redacted]	

Education / Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Michele Billett 6/8/11 CCP Training Date
Job Specific Training	
Qualification Limit	There is no qualification time limit for this position. It is a one-time only requirement. Upon completion of this qualification card, the Trainee is qualified to perform all Acceptable Knowledge Expert duties, including the development of acceptable knowledge reports. If necessary, additional training may be required by the CCP Lead Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to re-establish qualification.
Requalification Requirements	Not required. See above statement.
Indoctrination	
WAP/QAPjP Briefing and Test. 12/15/06	Michele Billett 6/8/11 CCP Training Date
	Initial/Indoctrination Reading: 1. NM4890139088, *Waste Isolation Pilot Plant Hazardous Waste Facility Permit* 2. DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* 3. DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan* 4. DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document* 5. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan* 6. CCP-PO-002, *CCP Transuranic Waste Certification Plan* 7. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)* 8. CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)* 9. CCP-QP-004, *CCP Corrective Action Management* 10. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control* 11. CCP-QP-006, *CCP Corrective Action Reporting and Control* 12. CCP-QP-008, *CCP Records Management* 13. CCP-QP-036, *CCP Qualification of Acceptable Knowledge for Remote-Handled Transuranic Waste Through a Quality Assurance Equivalency Demonstration*

Acceptable Knowledge Expert (AKE) Qualification Card

Name: Michael Papp	Badge Number: [redacted]
Email Address: [redacted]	

	14. CCP-TP-001, *CCP Project Level Data Validation and Verification* 15. CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data* 16. CCP-TP-005, *CCP Acceptable Knowledge Documentation* 17. CCP-TP-506, *CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report*
I have read the listed initial/indoctrination reading and understand my responsibilities as applicable to the procedures above.	Michael J. Papp Trainee Signature — Date: 6/8/11

Formal Training Requirements	
RCRA Training Documentation	Michele Billett — CCP Training — Date: 6/8/11

Approvals	
I have completed formal training and received on-the-job training for this position. I fully understand my responsibilities as an AKE.	Michael J. Papp Trainee *(printed name and signature)* — Date: 6/8/11
This individual has shown proficiency in the implementation of the requirements for the preparation of Acceptable Knowledge Summary Reports as required by CCP-TP-005.	Trey Greenwood AK Cognizant Manager *(printed name and signature)* — Date: 6/16/11
I have monitored the training of this individual and believe they are ready to perform the duties of an AKE. I approve this employee to perform the duties of an AKE.	LAURA NELSON Laura Nelson CCP Site Project Manager *(printed name and signature)* — Date: 6-16-11

Approved for Content & Format: **Trey Greenwood (Approval on File)** — Cognizant Engineer — Date: **06/08/2011**

Approved for Content: **Richard Kantrowitz (Approval on File)** — CCP Lead or Alternate SPM — Date: **06/08/2011**

Approved for Use: **A.J. Fisher (Approval on File)** — CCP Manager Responsible for Training — Date: **06/08/2011**

DIVIDER

PAGE

DIVIDER

PAGE

COPY

Acceptable Knowledge Expert (AKE) Qualification Card

Name: Jim Schoen	Badge Number: [redacted]
Email Address: [redacted]	

Education / Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Michele Billett 6/9/11 CCP Training Date

Job Specific Training	
Qualification Limit	There is no qualification time limit for this position. It is a one-time only requirement. Upon completion of this qualification card, the Trainee is qualified to perform all Acceptable Knowledge Expert duties, including the development of acceptable knowledge reports. If necessary, additional training may be required by the CCP Lead Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to re-establish qualification.
Requalification Requirements	Not required. See above statement.

Indoctrination	
WAP/QAPjP Briefing and Test. 9/20/07	Michele Billett 6/9/11 CCP Training Date
	Initial/Indoctrination Reading: 1. NM4890139088, *Waste Isolation Pilot Plant Hazardous Waste Facility Permit* 2. DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* 3. DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan* 4. DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document* 5. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan* 6. CCP-PO-002, *CCP Transuranic Waste Certification Plan* 7. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)* 8. CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)* 9. CCP-QP-004, *CCP Corrective Action Management* 10. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control* 11. CCP-QP-006, *CCP Corrective Action Reporting and Control* 12. CCP-QP-008, *CCP Records Management* 13. CCP-QP-036, *CCP Qualification of Acceptable Knowledge for Remote-Handled Transuranic Waste Through a Quality Assurance Equivalency Demonstration*

Acceptable Knowledge Expert (AKE) Qualification Card

Name: Jim Schoen	Badge Number: [redacted]
Email Address: [redacted]	

	14. CCP-TP-001, *CCP Project Level Data Validation and Verification* 15. CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data* 16. CCP-TP-005, *CCP Acceptable Knowledge Documentation* 17. CCP-TP-506, *CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report*
I have read the listed initial/indoctrination reading and understand my responsibilities as applicable to the procedures above.	Trainee Signature 6/8/2011 Date

Formal Training Requirements	
RCRA Training Documentation	Michele Billetts 6/9/11 CCP Training Date

Approvals	
I have completed formal training and received on-the-job training for this position. I fully understand my responsibilities as an AKE.	James M. Schoen 6/8/2011 Trainee *(printed name and signature)* Date
This individual has shown proficiency in the implementation of the requirements for the preparation of Acceptable Knowledge Summary Reports as required by CCP-TP-005.	Trey Greenwood 6/16/11 AK Cognizant Manager *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of an AKE. I approve this employee to perform the duties of an AKE.	LAURA Nelson Laura Nelson 6-16-11 CCP Site Project Manager *(printed name and signature)* Date

Approved for Content & Format: **Trey Greenwood (Approval on File)** **06/08/2011**
Cognizant Engineer Date

Approved for Content: **Richard Kantrowitz (Approval on File)** **06/08/2011**
CCP Lead or Alternate SPM Date

Approved for Use: **A.J. Fisher (Approval on File)** **06/08/2011**
CCP Manager Responsible for Training Date

DIVIDER

PAGE

DIVIDER

PAGE

COPY

Site Project Manager (SPM) Qualification Card

Name: Terri-Anne Groover | **Badge Number:** [redacted]

Email Address: [redacted]

The requirements of this document are the result of an evaluation as described in CCP-QP-002, *CCP Training and Qualification Plan.*

Education / Experience

Trainee has been selected for this position based on their education, prior-experience, additional certifications, training, etc., as documented in the CCP training files.	Mark Pearcy Mark Pearcy 4/15/09 08 MP CCP Program Manager Date 1-24-12

Job Specific Training

Qualification Limit	There is no qualification limit for this position. This qualification is a one-time-only requirement. Upon completion of this core qualification card, the Trainee is qualified to perform SPM duties. Site specific qualification (i.e., BDR review) is valid for the site(s) with completed addenda. Unsatisfactory performance will result in disqualification. If unsatisfactory performance is determined, the qualification card and OJT process must be completed to re-establish qualification.
Requalification Requirements	Not required. See above statement.

Indoctrination

1. WAP/QAPjP Briefing and Test 1/28/02	Michele Billett 5/11/09 CCP Training Date
2. Hazardous Waste Code Assignments Briefing and Test	Alyca Atwood 5/11/09 CCP Training Date
3. Solid and Soils Sampling and Analysis for Site Project Managers (SPM) Briefing	5/13/09 Site Project Manager Date
4. NCR / CAR Briefing (Provided by CCP/QA Organization)	R Czyrewski R Czyrewski 4/30/09 CCP/QA Organization Date
5. Statistical Sampling Briefing	THOMAS R. GOTLIEB 5/11/09 Site Project Manager Date

Site Project Manager (SPM) Qualification Card

Name: Terri Anne Groover **Badge Number:** [redacted]

Email Address: [redacted]

6.	Contact-Handled Waste VE and RTR Training	Site Project Manager — Date: 5/13/09
7	Incompatibles Determination Training Module	Site Project Manager — Date: 5/13/09

Required Reading:

1. WP 08.NT.03, *Waste Stream Profile form*
2. CCP-CM-001, *CCP Equipment Change Authorization and Documentation*
3. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
4. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
5. CCP-PO-003, *CCP TRU PCT-II Authorized Methods for Payload Control (TRAMPAC)*
6. CCP-PO-005, *CCP Conduct of Operations*
7. CCP-PO-008, *CCP Quality Assurance Interface with the WTS Quality Assurance Program*
8. CCP-QP-002, *CCP Training and Qualification Plan*
9. CCP-QP-004, *CCP Corrective Action Management*
10. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
11. CCP-QP-006, *CCP Corrective Action Reporting and Control*
12. CCP-QP-008, *CCP Records Management*
13. CCP-QP-010, *CCP Document Preparation, Approval and Control*
14. CCP-QP-011, *CCP Notebooks & Logbooks*
15. CCP-QP-015, *CCP Procurement*
16. CCP-QP-016, *CCP Control of Measuring, Testing, and Data Collection Equipment*
17. CCP-QP-018, *CCP Management Assessment*
18. CCP-QP-022, *CCP TRU Software Quality Assurance*
19. CCP-QP-023, *CCP Handling, Storage, and Shipping*
20. CCP-QP-027, *CCP Test Control*
21. CCP-QP-028, *CCP Records Filing, Inventory, Scheduling, and Dispositioning*
22. CCP-QP-030, *CCP Written Practice for the Qualification of CCP Helium Leak Detection*
23. CCP-TP-001, *CCP Project Level Data Validation and Verification*
24. CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*
25. CCP-TP-003, *CCP Sampling Design and Data Analysis for RCRA Characterization*
26. CCP-TP-005, *CCP Acceptable Knowledge Documentation*
27. CCP-TP-028, *CCP Radiographic Test and Training Drum Requirements*
28. CCP-TP-030, *CCP TRU Waste Certification and WWIS Data Entry*
29. CCP-TP-056, *CCP HSO Performance Demonstration Plan*
30. CCP-TP-058, *CCP VOA Performance Demonstration Plan*
31. CCP-TP-160, *CCP Random Selection of Containers for Headspace Gas Sampling and Analysis*

Site Project Manager (SPM)
Qualification Card

Name: Terri-Anne Groover **Badge Number:** [redacted]

Email Address: [redacted]

I have read the listed required reading and understand my responsibilities as applicable to the procedures above.	Terri A Groover 5/11/09 Trainee Signature Date

CCP-PO-005 - Conduct of Operations Comprehensive Exam 12/4/08 Michael Billett 5/11/09
CCP Training Date

Formal Training		On-the-job Training Knowledge Requirements	SME Signature / Date
CCP-PO-001	1.	Define the term "prohibited item" and give two examples of prohibited items.	5/11/09
	2.	Identify the document that permits WIPP to receive and store hazardous mixed TRU waste.	5/11/09
	3.	Identify the four major methods used by CCP to characterize TRU waste and briefly describe each method.	5/11/09
	4.	State three (3) instances when an NCR is required for non-destructive examination (NDE).	5/11/09
	5.	State when an NCR is written for visual examination (VE).	5/11/09
	6.	State when an NCR is written for headspace gas (HSG).	5/11/09
	7.	State the difference between a "J" qualifier and a "J" qualifier.	5/11/09
	8.	State when a "B" qualifier is used.	5/11/09
	9.	Describe the definition of VE of record according to New Mexico Environment Department (NMED). Provide an example.	5/11/09
	10.	State when a duplicate waste drum is run.	5/11/09

Site Project Manager (SPM) Qualification Card

Name: Terri Anne Greever **Badge Number:** [redacted]

Email Address: [redacted]

CCP-PO-002	11. State when an NCR is written for non-destructive assay (NDA).	[redacted] 5/11/09
	12. State which document is the driver for NDA.	[redacted] 5/11/09
	13. Describe the information to look for in an NDA control chart during V & V review of an NDA batch data report.	[redacted] 5/11/09
CCP-QP-005	14. State one major purpose for the nonconformance control program	[redacted] 5/11/09
	15. Identify who can initiate a non-conformance report (NCR).	[redacted] 5/11/09
CCP-TP-005	16. Define the term "acceptable knowledge" and state one use purpose for acceptable knowledge.	[redacted] 5/11/09
	17. State where acceptable knowledge information is documented	[redacted] 5/11/09
	18. Discuss the AK sufficiency elements.	[redacted] 5/11/09
	On-the-job Training Practical Requirements	**SME Signature / Date**
CCP-TP-001	1. Demonstrate proficiency in the review of headspace gas batch data (BDR) reports	[redacted] 5/14/09
	2. Demonstrate proficiency in the review of non-destructive examination (NDE) BDRs.	Larry Porta 6/18/09
	3. Demonstrate proficiency in the review of non-destructive assay (NDA) BDRs	Larry Porta 6/18/09
	4. Demonstrate proficiency in the review of visual examination (VE) BDRs	Larry Porta 6/18/09
CCP-TP-002	5. Complete a Characterization Information Summary (CIS)	Larry Porta 6/18/09

Site Project Manager (SPM) Qualification Card

Name: Terri - Anne Groover **Badge Number:** [redacted]

Email Address: [redacted]

Approvals

I have completed formal training and received on-the-job training for this position. I fully understand my responsibilities as an SPM.	Terri - Anne Groover & A Brown Trainee *(printed name and signature)*	6/18/09 Date
Validation by the SME OJT instructor(s) involved in the training of this individual.	Michael Wlentin SME OJT Instructor *(printed name and signature)*	6/24/09 Date
	Adela M. Cantu Adela M Cantu SME OJT Instructor *(printed name and signature)*	5/14/09 Date
	Larry Porter Larry Porter SME OJT Instructor *(printed name and signature)*	6/18/09 Date
I approve this employee to perform the duties of an SPM.	Mark Pearcy Mark Pearcy CCP Site Project Manager *(printed name and signature)*	6/24/09 Date
	Mark Pearcy Mark Pearcy CCP Program Manager *(printed name and signature)*	6/24/09 Date
This qualification card has been reviewed for completeness and signature verification by CCP Training.	Michell Billett Michell Billett CCP Training *(printed name and signature)*	6/24/09 Date

Approved for Format:	**Alyca Atwood** *(original signature on file)* CCP Training	**02-23-09** Date
Approved for Content:	**Craig Simmons** *(original signature on file)* CCP Site Project Manager	**02-23-09** Date
Approved for Use:	**R. A. Billett** *(original signature on file)* CCP Program Manager	**02-23-09** Date

DIVIDER PAGE

DIVIDER

PAGE

COPY

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Joshua Houghton	Badge Number: [redacted]
Email Address: [redacted]	

Education/Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Michele Billett 5/31/11 CCP Training — Date

Job Specific Training	
Qualification Limit	There is no qualification limit for this position. This qualification is a one-time-only requirement. Upon completion of this core qualification card, the Trainee is qualified to perform Site Project Manager (SPM) duties for Contact Handled (CH) Waste. Unsatisfactory performance will result in disqualification. If unsatisfactory performance is determined, the qualification card and on-the-job training (OJT) process must be completed to re-establish qualification.
Requalification Requirements	Not required. See above statement.

Indoctrination

Initial/Indoctrination Reading:

1. CCP-CM-001, *CCP Equipment Change Authorization and Documentation*
2. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
3. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
5. CCP-PO-008, *CCP Quality Assurance Interface with the WTS Quality Assurance Program*
6. CCP-QP-002, *CCP Training and Qualification Plan*
7. CCP-QP-004, *CCP Corrective Action Management*
8. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
9. CCP-QP-006, *CCP Corrective Action Reporting and Control*
10. CCP-QP-008, *CCP Records Management*
11. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
12. CCP-QP-011, *CCP Laboratory Logbooks*
13. CCP-QP-014, *CCP Quality Assurance Trend Analysis and Reporting*
14. CCP-QP-015, *CCP Procurement*
15. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
16. CCP-QP-018, *CCP Management Assessment*
17. CCP-QP-019, *CCP Quality Assurance Reporting to Management*
18. CCP-QP-022, *CCP Software Quality Assurance Plan*
19. CCP-QP-027, *CCP Test Control*
20. CCP-QP-028, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*
21. CCP-TP-001, *CCP Project Level Data Validation and Verification*

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Joshua Houghton	Badge Number: [redacted]
Email Address: [redacted]	

	22. CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data* 23. CCP-TP-003, *CCP Data Analysis for S3000, S4000, and S5000 Characterization* 24. CCP-TP-005, *CCP Acceptable Knowledge Documentation* 25. CCP-TP-030, *CCP TRU Waste Certification and WWIS/WDS Data Entry* 26. CCP-TP-056, *CCP HSG Performance Demonstration Plan* 27. CCP-TP-058, *CCP NDA Performance Demonstration Program*
I have read the listed initial/indoctrination reading and understand my responsibilities as applicable to the procedures above.	Joshua Houghton [signature] 5-25-11 Trainee Date

Document	Additional Training Requirements	
	1. WAP/QAPjP Briefing and Test	[signature] 5/25/11 CCP Training Date
	2. Hazardous Waste Identification Self-Paced Module	[signature] 5/25/11 CCP Training Date
	3. Visual Examination (VE) TRU Waste Characterization Briefing, CCP-VE-101	[signature] 5/25/11 CCP Training Date
	4. Real-Time Radiography TRU Waste Characterization Briefing, CCP-RTR-101	[signature] 5/25/11 CCP Training Date

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Joshua Houghton	Badge Number: [redacted]
Email Address: [redacted]	

Formal Training	OJT Knowledge Requirements	Subject Matter Expert (SME) Signature/Date
CCP-PO-001	1. Define the term "prohibited item" and give five examples of prohibited items.	RLH KTH 5/31/11
	2. Identify the document allowing WIPP to receive and store TRU-mixed waste.	RLH KTH 5/31/11
	3. Identify and describe the four major methods used by CCP to characterize TRU waste.	RLH KTH 5/31/11
	4. State three (3) instances when an NCR is required for Real-Time Radiography (RTR).	RLH KTH 5/31/11
	5. State when an NCR is written for Visual Examination (VE).	RLH KTH 5/31/11
	6. State when an NCR is written for Headspace Gas (HSG).	RLH KTH 5/31/11
	7. State the difference between a "Z" qualifier and a "J" qualifier.	RLH KTH 5/31/11
	8. State when a "B" qualifier is used.	RLH KTH 5/31/11
	9. State when a replicate waste drum is run in RTR.	RLH KTH 5/31/11
CCP-PO-002	10. State when an NCR is written for Non-Destructive Assay (NDA).	RLH KTH 5/31/11
	11. State which document is the driver for NDA.	RLH KTH 5/31/11
	12. Describe the information to look for in an NDA control chart during a V&V review of an NDA batch data report (BDR).	RLH KTH 5/31/11

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Joshua Houghton | **Badge Number:** [redacted]

Email Address: [redacted]

CCP-QP-005	13. State one major purpose for the nonconformance control program.	5/31/11
	14. Identify who can initiate a non-conformance report (NCR).	5/31/11
CCP-TP-005	15. Define the term "acceptable knowledge" and state one use/purpose for acceptable knowledge.	5/31/11
	16. State where acceptable knowledge information is documented.	5/31/11
	17. Discuss the AK sufficiency elements.	5/31/11
	18. Discuss the components of statistical sampling.	5/31/11
	19. Discuss the components of solids and soils sampling and analysis.	5/31/11
	20. Discuss the components of the NCR and CAR process.	5/31/11
Formal Training	**OJT Practical Requirements**	**SME Signature/Date**
CCP-TP-001	1. Demonstrate proficiency in the review of headspace gas batch data (BDR) reports.[1]	5/12/11
	2. Demonstrate proficiency in the review of non-destructive examination (NDE) BDRs.[1]	5/12/11
	3. Demonstrate proficiency in the review of non-destructive assay (NDA) BDRs.[1]	5/25/11
	4. Demonstrate proficiency in the review of visual examination (VE) BDRs.[1]	5/12/11
CCP-TP-002	5. Discuss the components of a Characterization Information Summary (CIS).	3/10/11

[1] Proficiency will be demonstrated after the completion of BDR reviews in each discipline under the supervision of a qualified SPM SME.

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Joshua Houghton Badge Number: [redacted]

Email Address: [redacted]

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a SPM.	Joshua Houghton 5/31/2011 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of a SPM. *(Validation by the SME/OJT instructor(s) involved in the training of this individual).*	Adela M Canez 5/31/11 SME/OJT Instructor *(printed name and signature)* Date Richard Kantrowitz 5/31/11 SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of a SPM.	Mark Pearcy 5/31/2011 CCP Lead or Alternate SPM *(printed name and signature)* Date

Approved for Content & Format: Approval on file — SPM SME *(printed name and signature)* — 8/10/2010 Date

Approved for Content: Approval on file — CCP Lead or Alternate SPM *(printed name and signature)* — 8/10/2010 Date

Approved for Use: Approval on file — CCP Manager Responsible for Training *(printed name and signature)* — 8/10/2010 Date

DIVIDER

PAGE

COPY

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Carolina Soaterna	**Badge Number:** [redacted]
Email Address: [redacted]	

Education/Experience

Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	5/31/11 CCP Training — Date

Job Specific Training

Qualification Limit	There is no qualification limit for this position. This qualification is a one-time-only requirement. Upon completion of this core qualification card, the Trainee is qualified to perform Site Project Manager (SPM) duties for Contact Handled (CH) Waste. Unsatisfactory performance will result in disqualification. If unsatisfactory performance is determined, the qualification card and on-the-job training (OJT) process must be completed to re-establish qualification.
Requalification Requirements	Not required. See above statement.

Indoctrination

Initial/Indoctrination Reading:

1. CCP-CM-001, *CCP Equipment Change Authorization and Documentation*
2. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
3. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
5. CCP-PO-008, *CCP Quality Assurance Interface with the WIS Quality Assurance Program*
6. CCP-QP-002, *CCP Training and Qualification Plan*
7. CCP-QP-004, *CCP Corrective Action Management*
8. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
9. CCP-QP-006, *CCP Corrective Action Reporting and Control*
10. CCP-QP-008, *CCP Records Management*
11. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
12. CCP-QP-011, *CCP Laboratory Logbooks*
13. CCP-QP-014, *CCP Quality Assurance Trend Analysis and Reporting*
14. CCP-QP-015, *CCP Procurement*
15. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
16. CCP-QP-018, *CCP Management Assessment*
17. CCP-QP-019, *CCP Quality Assurance Reporting to Management*
18. CCP-QP-022, *CCP Software Quality Assurance Plan*
19. CCP-QP-027, *CCP Test Control*
20. CCP-QP-028, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*
21. CCP-TP-001, *CCP Project Level Data Validation and Verification*

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Carolina Soaterna **Badge Number:** [redacted]

Email Address: [redacted]

	22. CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data* 23. CCP-TP-003, *CCP Data Analysis for S3000, S4000, and S5000 Characterization* 24. CCP-TP-005, *CCP Acceptable Knowledge Documentation* 25. CCP-TP-030, *CCP TRU Waste Certification and WWIS WDS Data Entry* 26. CCP-TP-056, *CCP HSO Performance Demonstration Plan* 27. CCP-TP-058, *CCP NDA Performance Demonstration Program*

I have read the listed initial indoctrination reading and understand my responsibilities as applicable to the procedures above.	Carolina Soaterna 5/31/11 Trainee Date

Document	Additional Training Requirements	
	1. WAP QAPjP Briefing and Test 12/9/9	Michele Billett 5/31/11 CCP Training Date
	2. Hazardous Waste Identification Self-Paced Module 5/31/11	Michele Billett 5/31/11 CCP Training Date
	3. Visual Examination (VE) TRU Waste Characterization Briefing, CCP-VE-101	Michele Billett 5/31/11 CCP Training Date
	4. Real-Time Radiography TRU Waste Characterization Briefing, CCP-RTR-101	Michele Billett 5/31/11 CCP Training Date

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Carolina Soaterna **Badge Number:** [redacted]

Email Address: [redacted]

Formal Training	OJT Knowledge Requirements	Subject Matter Expert (SME) Signature/Date
CCP-PO-001	1. Define the term "prohibited item" and give five examples of prohibited items.	[redacted] 5/31/11
	2. Identify the document allowing WIPP to receive and store TRU-mixed waste.	[redacted] 5/31/11
	3. Identify and describe the four major methods used by CCP to characterize TRU waste.	[redacted] 5/31/11
	4. State three (3) instances when an NCR is required for Real-Time Radiography (RTR).	[redacted] 5/31/11
	5. State when an NCR is written for Visual Examination (VE).	[redacted] 5/31/11
	6. State when an NCR is written for Headspace Gas (HSG).	[redacted] 5/31/11
	7. State the difference between a "Z" qualifier and a "J" qualifier.	[redacted] 5/31/11
	8. State when a "B" qualifier is used.	[redacted] 5/31/11
	9. State when a replicate waste drum is run in RTR.	[redacted] 5/31/11
CCP-PO-002	10. State when an NCR is written for Non-Destructive Assay (NDA).	[redacted] 5/31/11
	11. State which document is the driver for NDA.	[redacted] 5/31/11
	12. Describe the information to look for in an NDA control chart during a V&V review of an NDA batch data report (BDR).	[redacted] 5/31/11

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Carolina Soaterna **Badge Number:** [redacted]

Email Address: [redacted]

CCP-QP-005	13. State one major purpose for the nonconformanee control program.	5/31/11
	14. Identify who can initiate a non-conformanee report (NCR).	5/31/11
CCP-TP-005	15. Define the term "acceptable knowledge" and state one use/purpose for acceptable knowledge.	5/31/11
	16. State where acceptable knowledge information is documented.	5/31/11
	17. Discuss the AK sufficiency elements.	5/31/11
	18. Discuss the components of statistical sampling.	5/31/11
	19. Discuss the components of solids and soils sampling and analysis.	5/31/11
	20. Discuss the components of the NCR and CAR process.	5/31/11
Formal Training	**OJT Practical Requirements**	**SME Signature/Date**
CCP-TP-001	1. Demonstrate proficiency in the review of headspace gas batch data (BDR) reports.	5/25/11
	2. Demonstrate proficiency in the review of non-destructive examination (NDE) BDRs.	5/25/11
	3. Demonstrate proficiency in the review of non-destructive assay (NDA) BDRs.	5/25/11
	4. Demonstrate proficiency in the review of visual examination (VE) BDRs.	5/25/11
CCP-TP-002	5. Discuss the components of a Characterization Information Summary (CIS).	5/31/11

Proficiencies will be demonstrated after the completion of BDR reviews in each discipline under the supervision of a qualified SPM SME

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Carolina Soaterna | **Badge Number:** [redacted]

Email Address: [redacted]

Approvals

I have completed formal training and received OJT for this position. I fully understand my responsibilities as a SPM.	Carolina Soaterna Carolina Soaterna 5/31/11 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of a SPM. *(Validation by the SME/OJT instructor(s) involved in the training of this individual)*	Adela M Conti 5/31/2011 SME/OJT Instructor *(printed name and signature)* Date
	Richard Kantrowitz 5/31/11 SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of a SPM.	Mark Pearcy Mark Pearcy 5/31/11 CCP Lead or Alternate SPM *(printed name and signature)* Date

Approved for Content & Format: Approval on file — 8/10/2010
SPM SME *(printed name and signature)* Date

Approved for Content: Approval on file — 8/10/2010
CCP Lead or Alternate SPM *(printed name and signature)* Date

Approved for Use: Approval on file — 8/10/2010
CCP Manager Responsible for Training *(printed name and signature)* Date

DIVIDER

PAGE

COPY

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Daniel Wade

Education/Experience	
Resume documenting education and experience on file with National TRU Program Certification (NTPC) Training.	Cheryl Kruger 10-23-13 NTPC Training Date

Job Specific Training	
Qualification Limit	There is no qualification limit for this position. This qualification is a one-time-only requirement. Upon completion of this core qualification card, the Trainee is qualified to perform Site Project Manager (SPM) duties for Contact Handled (CH) Waste. Unsatisfactory performance will result in disqualification. If unsatisfactory performance is determined, the complete qualification card, including the On-the-Job Training (OJT) portions, must be completed to re-establish qualification.
Requalification Requirements	Not required. See above statement.

Indoctrination

Initial/Indoctrination Reading:

1. WP 15-GM1002, *Issues Management Processing of WIPP Forms*
2. CCP-CM-001, *CCP Equipment Change Authorization and Documentation*
3. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
4. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
5. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
6. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
7. CCP-PO-050, *CCP TRUPACT-III TRU Waste Authorized Methods for Payload Control (CCP TRUPACT-III TRAMPAC)*
8. CCP-QP-002, *CCP Training and Qualification Plan*
9. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
10. CCP-QP-008, *CCP Records Management*
11. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
12. CCP-QP-015, *CCP Procurement*
13. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
14. CCP-QP-018, *CCP Management Assessment*
15. CCP-QP-022, *CCP Software Quality Assurance Plan*
16. CCP-QP-023, *CCP Handling, Storage, and Shipping*
17. CCP-QP-027, *CCP Test Control*
18. CCP-QP-028, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*
19. CCP-TP-001, *CCP Project Level Data Validation and Verification*
20. CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*
21. CCP-TP-005, *CCP Acceptable Knowledge Documentation*
22. CCP-TP-028, *CCP Radiographic Test Drum and Training Container Construction*
23. CCP-TP-030, *CCP CH TRU Waste Certification and WWIS/WDS Data Entry*

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Daniel Wade

24. CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*
25. CCP-TP-058, *CCP NDA Performance Demonstration Program*
26. CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	Daniel Wade 10/21/13 Trainee Date

Additional Training Requirements

CCP-PO-001	1. WAP/QAPjP Briefing and Test	Michele Billett 10/21/13 NTPC Training Date
Haz-Waste-101	2. Hazardous Waste Identification (Self-Paced Module)	Cheryl Arroyo 10-21-13 NTPC Training Date
CCP-VE-101	3. Visual Examination (VE) TRU Waste Characterization Briefing	Cheryl Arroyo 10-09-13 NTPC Training Date
CCP-RTR-101	4. Real-Time Radiography (RTR) TRU Waste Characterization Briefing	Cheryl Arroyo 10-09-13 NTPC Training Date

Formal Training	OJT Knowledge Requirements	Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. State the regulator who governs hazardous waste.	10/9/13
	2. Define the term "prohibited item" and give five examples of prohibited items.	10/9/13
	3. Identify the document allowing Waste Isolation Pilot Plant (WIPP) to receive and store TRU-mixed waste.	10/9/13
	4. Identify and describe the three major methods used to characterize TRU waste.	10/9/13
	5. State the Data Quality Objectives (DQOs) for VE RTR.	10/9/13
	6. Name at least 2 DQOs for Acceptable Knowledge (AK).	10/9/13
	7. State the five (5) Quality Assurance Objectives (QAOs).	10/9/13

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Daniel Wade

	8. Define waste stream.	10/9/13
	9. Define waste matrix code.	10/9/13
	10. Describe the three (3) summary category groups.	10/9/13
CCP-PO-002	11. Define TRU waste.	David W Moody 9 Oct 13
	12. Define TRU-mixed waste.	David W Moody 9 Oct 13
	13. List the 10 radionuclides that must be reported.	David W Moody 9 Oct 13
	14. List the agency which governs radiological waste.	David W Moody 9 Oct 13
	15. State which document is the driver for non-destructive assay (NDA).	David W Moody 9 Oct 13
	16. State which type of radioactive waste is accepted at the WIPP (limited by The Land Withdrawal Act, as stated in the WIPP Waste Acceptance Criteria (WAC)).	David W Moody 9 Oct 13
CCP-QP-005	17. State one major purpose for the nonconformance control program.	Mark Peacey 10/22/2013
	18. Identify who can initiate a non-conformance report (NCR).	Mark Peacey 10/22/2013
	19. Explain the difference between a final disposition of 'Use As Is' and 'Rework.'	Mark Peacey 10/22/2013
	20. Describe the process if an NCR generated at Project Level is determined to be "reportable."	Mark Peacey 10/22/2013
WP 15-GM1002	21. Describe the purpose of the WIPP Form process.	Mark Peacey 10/22/2013
	22. State the person responsible for originating a WIPP Form.	Mark Peacey 10/22/2013
	23. Describe how WIPP Forms are documented.	Mark Peacey 10/22/2013
	24. Describe who has responsibility for processing WIPP Forms, approving Corrective Action Plans, and approving closure of WIPP Forms.	Mark Peacey 10/22/2013

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Daniel Wade

CCP-TP-001	25. Describe actions personnel may take when conditions adverse to quality are discovered.	Mark Pearcy 10/22/2013
	26. State which characterization data requires SPM review and validation and verification.	Mark Pearcy 10/22/2013
	27. State the percentage of Batch Data Reports (BDRs) that must undergo SPM review.	10/23/13
	28. Explain when it is allowed to review BDRs with containers not on the AK Tracking Spreadsheet.	10/23/13
	29. State when an SPM must provide comments or justifications when completing an SPM checklist.	10/23/13
	30. Explain the differences between "editorial" changes and "data affecting" changes.	Mark Pearcy 10/22/2013
	31. State how the SPM documents the data generation level (DGL) data review, validation, and verification is being performed in accordance with applicable procedures.	10/23/13
CCP-TP-002	32. Discuss the components of a Characterization Information Summary (CIS).	10-14-13
CCP-TP-005	33. Define the term "acceptable knowledge" and state one use/purpose for acceptable knowledge.	10/23/13
	34. State where acceptable knowledge information is documented.	10/23/13
	35. Discuss the AK sufficiency elements.	10/23/13
	36. State the purpose of the NDA Memo and who assists in its generation.	Mark Pearcy 10/22/2013
Formal Training	**OJT Practical Requirements**	**SME/OJT Signature/Date**
CCP-TP-001	1. Demonstrate proficiency in the review of RTR BDRs.[1]	LA-HERTR-13 0107 10/23/13
	2. Demonstrate proficiency in the review of NDA BDRs.[1]	LRLBC 1053 10/23/13
	3. Demonstrate proficiency in the review of VE BDRs.[1]	IN-TRP-VE-002815 10/23/13

[1] Proficiency will be demonstrated after the completion of BDR reviews in each discipline under the supervision of a qualified SPM-SME.

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Daniel Wade

Approvals		
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a CH SPM.	Daniel Wade Trainee *(printed name and signature)*	10/23/13 Date
I have monitored the training of this individual and believe they are ready to perform the duties of a CH SPM. *(Validation by the SME/OJT instructor(s) involved in the training of this individual.)*	David W Moody Sim Vernon SME/OJT Instructor *(printed name and signature)*	9 Oct 13 10/9/13 Date
	Richard Kantrowitz SME/OJT Instructor *(printed name and signature)*	10/23/13 Date
	Mark Pearcy Mark Pearcy SME/OJT Instructor *(printed name and signature)*	10/22/2013 Date
I approve this employee to perform the duties of a CH SPM.	Mark Pearcy Mark Pearcy SPM *(printed name and signature)*	10/23/2013 Date

Approved for Content & Format: **Richard Kantrowitz** *(Approval on File)* — SME/OJT — **10/07/2013** — Date

Approved for Content: **Mark Pearcy** *(Approval on File)* — SPM — **10/07/2013** — Date

Approved for Applicability, Content, Format, & Use: **A.J. Fisher** *(Approval on File)* — Manager Responsible for Training — **10/07/2013** — Date

DIVIDER

PAGE

COPY

Site Project Manager (SPM) Qualification Card

Name: Veronica Waldram | **Badge Number:** [redacted] *

Email Address: [redacted]

The requirements of this document are the result of an evaluation as described in CCP-QP-002, *CCP Training and Qualification Plan*.

Education / Experience

Trainee has been selected for this position based on their education, prior-experience, additional certifications, training, etc., as documented in the CCP training files.	Mark Peaney Mark Peaney CCP Program Manager	6/5/09 Date

Job Specific Training

Qualification Limit	There is no qualification limit for this position. This qualification is a one-time-only requirement. Upon completion of this core qualification card, the Trainee is qualified to perform SPM duties. Site specific qualification (i.e., BDR review) is valid for the site(s) with completed addenda. Unsatisfactory performance will result in disqualification. If unsatisfactory performance is determined, the qualification card and OJT process must be completed to re-establish qualification.
Requalification Requirements	Not required. See above statement.

Indoctrination

WAP/QAPjP Briefing and Test	Alyca Atwood CCP Training	6/3/09 Date
Hazardous Waste Code Assignments Briefing and Test	Alyca Atwood CCP Training	6/4/09 Date
Solid and Soils Sampling and Analysis for Site Project Managers (SPM) Briefing	[signature] Site Project Manager	6/8/09 Date
NCR / CAR Briefing (Provided by CCP/QA Organization)	[signature] CCP/QA Organization	6/3/09 Date
Statistical Sampling Briefing	Thomas R. Gatliffe THOMAS R. GATLIFFE Site Project Manager	6/3/09 Date

* This condition where the correction was made to the correction of the badge number was noted during review of the qualification packages in response to CBFO CAR 11-007. It has been evaluated and a decision has been made not to modify the existing entries, since we cannot be sure who made the correction to the correction. [signature] 1-3-11

Site Project Manager (SPM) Qualification Card

Name: Veronica Waldram **Badge Number:** [redacted]

Email Address: [redacted]

Contact-Handled Waste VE and RTR Training	Site Project Manager	Date: 6/8/09
Incompatibles Determination Training Module	Site Project Manager	Date: 6/8/09

Required Reading:

1. WP 08.NT.03, *Waste Stream Profile form*
2. CCP-CM-001, *CCP Equipment Change Authorization and Documentation*
3. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
4. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
5. CCP-PO-003, *CCP TRUPACT-II Authorized Methods for Payload Control (TRAMPAC)*
6. CCP-PO-005, *CCP Conduct of Operations*
7. CCP-PO-008, *CCP Quality Assurance Interface with the WTS Quality Assurance Program*
8. CCP-QP-002, *CCP Training and Qualification Plan*
9. CCP-QP-004, *CCP Corrective Action Management*
10. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
11. CCP-QP-006, *CCP Corrective Action Reporting and Control*
12. CCP-QP-008, *CCP Records Management*
13. CCP-QP-010, *CCP Document Preparation, Approval and Control*
14. CCP-QP-011, *CCP Notebooks & Logbooks*
15. CCP-QP-015, *CCP Procurement*
16. CCP-QP-016, *CCP Control of Measuring, Testing, and Data Collection Equipment*
17. CCP-QP-018, *CCP Management Assessment*
18. CCP-QP-022, *CCP TRU Software Quality Assurance*
19. CCP-QP-023, *CCP Handling, Storage, and Shipping*
20. CCP-QP-027, *CCP Test Control*
21. CCP-QP-028, *CCP Records Filing, Inventory, Scheduling, and Dispositioning*
22. CCP-QP-030, *CCP Written Practice for the Qualification of CCP Helium Leak Detection*
23. CCP-TP-001, *CCP Project Level Data Validation and Verification*
24. CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*
25. CCP-TP-003, *CCP Sampling Design and Data Analysis for RCRA Characterization*
26. CCP-TP-005, *CCP Acceptable Knowledge Documentation*
27. CCP-TP-028, *CCP Radiographic Test and Training Drum Requirements*
28. CCP-TP-030, *CCP TRU Waste Certification and WWIS Data Entry*
29. CCP-TP-056, *CCP HSG Performance Demonstration Plan*
30. CCP-TP-058, *CCP NDA Performance Demonstration Plan*
31. CCP-TP-160, *CCP Random Selection of Containers for Headspace Gas Sampling and Analysis*

Site Project Manager (SPM) Qualification Card

Name: Veronica Waldram **Badge Number:** [redacted]

Email Address: [redacted]

I have read the listed required reading and understand my responsibilities as applicable to the procedures above.	Veronica Waldram 23 Jun 09 Trainee Signature Date
CCP-PO-005 - Conduct of Operations Comprehensive Exam 6/5/09	Michele Billett 6-5-09 CCP Training Date

Formal Training	On-the-job Training Knowledge Requirements	SME Signature / Date
CCP-PO-001	1. Define the term "prohibited item" and give two examples of prohibited items.	7/7/09
	2. Identify the document that permits WIPP to receive and store hazardous mixed TRU waste.	7/7/09
	3. Identify the four major methods used by CCP to characterize TRU waste and briefly describe each method.	7/7/09
	4. State three (3) instances when an NCR is required for non-destructive examination (NDE).	7/7/09
	5. State when an NCR is written for visual examination (VE).	7/7/09
	6. State when an NCR is written for headspace gas (HSG).	7/7/09
	7. State the difference between a "Z" qualifier and a "J" qualifier.	7/7/09
	8. State when a "B" qualifier is used.	7/7/09
	9. Describe the definition of VE of record according to New Mexico Environment Department (NMED). Provide an example.	7/7/09
	10. State when a duplicate waste drum is run.	7/7/09

Site Project Manager (SPM) Qualification Card

Name: Veronica Waldram **Badge Number:** [redacted]

Email Address: [redacted]

CCP-PO-002	11. State when an NCR is written for non-destructive assay (NDA).	7/7/09
	12. State which document is the driver for NDA.	7/7/09
	13. Describe the information to look for in an NDA control chart during V & V review of an NDA batch data report.	7/7/09
CCP-QP-005	14. State one major purpose for the nonconformance control program.	7/7/09
	15. Identify who can initiate a non-conformance report (NCR).	7/7/09
CCP-TP-005	16. Define the term "acceptable knowledge" and state one use/purpose for acceptable knowledge.	7/7/09
	17. State where acceptable knowledge information is documented.	7/7/09
	18. Discuss the AK sufficiency elements.	7/7/09
	On-the-job Training Practical Requirements	**SME Signature / Date**
CCP-TP-001	1. Demonstrate proficiency in the review of headspace gas batch data (BDR) reports.[2]	7/7/09
	2. Demonstrate proficiency in the review of non-destructive examination (NDE) BDRs.[2]	7/28/09
	3. Demonstrate proficiency in the review of non-destructive assay (NDA) BDRs.[2]	7/22/09
	4. Demonstrate proficiency in the review of visual examination (VE) BDRs.[2]	7/28/09
CCP-TP-002	5. Complete a Characterization Information Summary (CIS).	7/30/09

[2] Proficiency will be demonstrated after the completion of BDR reviews in each discipline under the supervision of a qualified SPM

Site Project Manager (SPM) Qualification Card

Name: Veronica Waldram **Badge Number:** [redacted]

Email Address: [redacted]

Approvals	
I have completed formal training and received on-the-job training for this position. I fully understand my responsibilities as an SPM.	Veronica Waldram Veronica Waldram 3 Aug 09 Trainee *(printed name and signature)* Date
Validation by the SME/OJT instructor(s) involved in the training of this individual.	Richard Kantrowitz 8/4/09 Michael Valentine 6/8/09 SME/OJT Instructor *(printed name and signature)* Date
	Adela M Canto 7/7/09 SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of an SPM.	Mark Pearcy 8/3/09 CCP Site Project Manager *(printed name and signature)* Date
	Mark Pearcy 8/3/09 CCP Program Manager *(printed name and signature)* Date
This qualification card has been reviewed for completeness and signature verification by CCP Training.	A. Atwood Alyca Atwood 8/4/09 CCP Training *(printed name and signature)* Date

Approved for Format: **Alyca Atwood** *(original signature on file)* **02-23-09**
CCP Training Date

Approved for Content: **Craig Simmons** *(original signature on file)* **02-23-09**
CCP Site Project Manager Date

Approved for Use: **R. A. Billett** *(original signature on file)* **02-23-09**
CCP Program Manager Date

DIVIDER PAGE

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Rick Whiteley

Education/Experience	
Resume documenting education and experience on file with National TRU Program Certification (NTPC) Training.	Michele Billett 10/21/13 NTPC Training Date

Job Specific Training	
Qualification Limit	There is no qualification limit for this position. This qualification is a one-time-only requirement. Upon completion of this core qualification card, the Trainee is qualified to perform Site Project Manager (SPM) duties for Contact Handled (CH) Waste. Unsatisfactory performance will result in disqualification. If unsatisfactory performance is determined, the complete qualification card, including the On-the-Job Training (OJT) portions, must be completed to re-establish qualification.
Requalification Requirements	Not required. See above statement.

Indoctrination

Initial/Indoctrination Reading:

1. WP 15-GM1002, *Issues Management Processing of WIPP Forms*
2. CCP-CM-001, *CCP Equipment Change Authorization and Documentation*
3. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
4. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
5. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
6. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
7. CCP-PO-050, *CCP TRUPACT-III TRU Waste Authorized Methods for Payload Control (CCP TRUPACT-III TRAMPAC)*
8. CCP-QP-002, *CCP Training and Qualification Plan*
9. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
10. CCP-QP-008, *CCP Records Management*
11. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
12. CCP-QP-015, *CCP Procurement*
13. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
14. CCP-QP-018, *CCP Management Assessment*
15. CCP-QP-022, *CCP Software Quality Assurance Plan*
16. CCP-QP-023, *CCP Handling, Storage, and Shipping*
17. CCP-QP-027, *CCP Test Control*
18. CCP-QP-028, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*
19. CCP-TP-001, *CCP Project Level Data Validation and Verification*
20. CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*
21. CCP-TP-005, *CCP Acceptable Knowledge Documentation*
22. CCP-TP-028, *CCP Radiographic Test Drum and Training Container Construction*
23. CCP-TP-030, *CCP CH TRU Waste Certification and WWIS/WDS Data Entry*

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Rick Whiteley

24. CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*
25. CCP-TP-058, *CCP NDA Performance Demonstration Program*
26. CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	Rick E Whiteley 10-16-13 Trainee Date

Additional Training Requirements

CCP-PO-001	1. WAP/QAPjP Briefing and Test	Michele Billett 10/21/13 NTPC Training Date
Haz-Waste-101	2. Hazardous Waste Identification (Self-Paced Module)	Cheryl Adams 10-21-13 NTPC Training Date
CCP-VE-101	3. Visual Examination (VE) TRU Waste Characterization Briefing	Michele Billett 10/17/13 NTPC Training Date
CCP-RTR-101	4. Real-Time Radiography (RTR) TRU Waste Characterization Briefing	Michele Billett 10/17/13 NTPC Training Date

Formal Training	OJT Knowledge Requirements	Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. State the regulator who governs hazardous waste.	10-17-13
	2. Define the term "prohibited item" and give five examples of prohibited items.	10-17-13
	3. Identify the document allowing Waste Isolation Pilot Plant (WIPP) to receive and store TRU-mixed waste.	10-17-13
	4. Identify and describe the three major methods used to characterize TRU waste.	10-17-13
	5. State the Data Quality Objectives (DQOs) for VE/RTR.	10-17-13
	6. Name at least 2 DQOs for Acceptable Knowledge (AK).	10-17-13
	7. State the five (5) Quality Assurance Objectives (QAOs).	10-17-13

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Rick Whiteley

	8. Define waste stream.	10-17-13
	9. Define waste matrix code.	10-17-13
	10. Describe the three (3) summary category groups.	10-17-13
CCP-PO-002	11. Define TRU waste.	10/22/13
	12. Define TRU-mixed waste.	10/22/13
	13. List the 10 radionuclides that must be reported.	10/22/13
	14. List the agency which governs radiological waste.	10/22/13
	15. State which document is the driver for non-destructive assay (NDA).	10/22/13
	16. State which type of radioactive waste is accepted at the WIPP (limited by The Land Withdrawal Act, as stated in the WIPP Waste Acceptance Criteria (WAC)).	10/22/13
CCP-QP-005	17. State one major purpose for the nonconformance control program.	10/23/13
	18. Identify who can initiate a non-conformance report (NCR).	10/23/13
	19. Explain the difference between a final disposition of 'Use As Is' and 'Rework.'	10/23/13
	20. Describe the process if an NCR generated at Project Level is determined to be "reportable."	10/23/13
WP 15-GM1002	21. Describe the purpose of the WIPP Form process.	10/25/13
	22. State the person responsible for originating a WIPP Form.	10/25/13
	23. Describe how WIPP Forms are documented.	10/25/13
	24. Describe who has responsibility for processing WIPP Forms, approving Corrective Action Plans, and approving closure of WIPP Forms.	10/25/13

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Rick Whiteley

CCP-TP-001	25. Describe actions personnel may take when conditions adverse to quality are discovered.	10-25-13
	26. State which characterization data requires SPM review and validation and verification.	10-25-13
	27. State the percentage of Batch Data Reports (BDRs) that must undergo SPM review.	10-25-13
	28. Explain when it is allowed to review BDRs with containers not on the AK Tracking Spreadsheet.	10-25-13
	29. State when an SPM must provide comments or justifications when completing an SPM checklist.	10-25-13
	30. Explain the differences between "editorial" changes and "data affecting" changes.	10-25-13
	31. State how the SPM documents the data generation level (DGL) data review, validation, and verification is being performed in accordance with applicable procedures.	10-25-13
CCP-TP-002	32. Discuss the components of a Characterization Information Summary (CIS).	10-23-13
CCP-TP-005	33. Define the term "acceptable knowledge" and state one use/purpose for acceptable knowledge.	10-25-13
	34. State where acceptable knowledge information is documented.	10-25-13
	35. Discuss the AK sufficiency elements.	10-25-13
	36. State the purpose of the NDA Memo and who assists in its generation.	10-25-13
Formal Training	**OJT Practical Requirements**	**SME/OJT Signature/Date**
CCP-TP-001	1. Demonstrate proficiency in the review of RTR BDRs.[1]	10/30/13
	2. Demonstrate proficiency in the review of NDA BDRs.[1]	10/28/13
	3. Demonstrate proficiency in the review of VE BDRs.[1]	10/29/13 10-29-13 10/29/13

[1] Proficiency will be demonstrated after the completion of BDR reviews in each discipline under the supervision of a qualified SPM SME.

Contact Handled (CH)
Site Project Manager (SPM)
Qualification Card

Name: Rick Whiteley

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a CH SPM.	Rick Whiteley 10-30-13 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of a CH SPM. *(Validation by the SME/OJT instructor(s) involved in the training of this individual.)*	Barbara Broomfield 10/30/13 SME/OJT Instructor *(printed name and signature)* Date Richard Kantrowitz 10/31/13 Jim Vernon 10-30-13 SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of a CH SPM.	Mike Ramirez 10-31-13 SPM *(printed name and signature)* Date

Approved for Content & Format: **Richard Kantrowitz *(Approval on File)*** **10/07/2013**
SME/OJT Date

Approved for Content: **Mark Pearcy *(Approval on File)*** **10/07/2013**
SPM Date

Approved for Applicability, Content, Format, & Use: **A.J. Fisher *(Approval on File)*** **10/07/2013**
Manager Responsible for Training Date

GEN13

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM0890010515
2. Page 1 of: 1
3. Emergency Response Phone: (505) 667-6211
4. Manifest Tracking Number: 010784270 JJK

5. Generator's Name and Mailing Address
LOS ALAMOS NATIONAL SECURITY, LLC ON BEHALF OF U.S. DOE
TA-64 WEST, BLDG. 38
LOS ALAMOS NM 87545
Generator's Phone: (505)665-8037

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: LANS, LLC FOR DOE
U.S. EPA ID Number: NM0890010515

7. Transporter 2 Company Name: CAST SPECIALTY INC.
U.S. EPA ID Number: COR000206722

8. Designated Facility Name and Site Address
U.S. DEPT. OF ENERGY C/O NUCLEAR WASTE PARTNERSHIP, LLC
30 MILES EAST OF CARLSBAD ON JAL HWY
CARLSBAD NM 88221
Facility's Phone: (575)234-8457
U.S. EPA ID Number: NM4890139088

9a HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
RQ	1. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu239 Pu240, 2.082 TBq Solid Elemental, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-127	1	CM	1072	K	F001 F002 F005 D004 D005 D006
RQ	2. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239 Pu240, 1.917 TBq Solid Elemental, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-197	1	CM	868	K	F001 F002 F005 D004 D005 D006
RQ	3. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239 Pu240, 1.671 TBq Solid Elemental, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-205	1	CM	798	K	F001 F002 F005 D004 D005 D006
	4.					

GENERATOR

14. Special Handling Instructions and Additional Information
SHIPMENT # LA140019, LANL POC: ONESIMO A. MARTINEZ (505)-231-5153, ERG #165, TRACTOR # C-36, TRAILER # V-329
GROSS WEIGHT IN KILOGRAMS: TP#127 = 6775 KG, TP#197 = 6502 KG, TP#205 = 6517 KG
EMERGENCY RESPONSE INFORMATION PROVIDER: LOS ALAMOS NATIONAL LABORATORY

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: ONESIMO A. MARTINEZ
Signature: [signature]
Month: 01 Day: 30 Year: 14

INT'L

16. International Shipments
Import to U.S. Export from U.S. Port of entry/exit
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Greg Grimm
Signature: [signature]
Month: 01 Day: 31 Year: 14

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space: Quantity Type Residue Partial Rejection Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Signature: Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	NM0890010515	1	(505) 667-6211	010784276 JJK

GENERATOR

5. Generator's Name and Mailing Address
LOS ALAMOS NATIONAL SECURITY, LLC ON BEHALF OF U.S. DOE
TA-64 WEST, BLDG. 38
LOS ALAMOS NM 87545
Generator's Phone: (505)665-6037

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
LANS, LLC FOR DOE
U.S. EPA ID Number
NM0890010515

7. Transporter 2 Company Name
VISIONARY SOLUTIONS LLC
U.S. EPA ID Number
NMR000013086

8. Designated Facility Name and Site Address
WASTE CONTROL SPECIALISTS LLC, TSD FACILITY
9998 W. STATE HWY 176
ANDREWS TX 79714
Facility's Phone: (432)525-8500
U.S. EPA ID Number
TXD988088464

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
RQ	1. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239 Pu240, 0.09536 TBq Solid ~~Elemental~~, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-198 EH 4-1-14	1	CM	1245	K	0UTS 319H F001 F002 F004 F005
RQ	2. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239 Pu240, 0.05701 TBq Solid ~~Elemental~~, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-171 EH 4-1-14	1	CM	1202	K	0UTS 319H F001 F002 F004 F005
RQ	3. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239, 0.03623 TBq Solid ~~Elemental~~ Oxide Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-166 EH 4-1-14	1	CM	987	K	0UTS 319H F001 F002 F004 F005
	K					

14. Special Handling Instructions and Additional Information
6 4-1-14 01 EH 3-31-14
SHIPMENT #LW140001; LANL POC: LANCE LACKAS 505-699-7526; WP-019747; #ERG #165; TRACTOR #V-29; TRAILER #V-370; GROSS WEIGHT (KG): TP#198 = 7007 KG, LA00000068268 / LA00000068283; TP#171 = 7018 KG, LA00000068286 / LA00000068272; TP#166 = 6793 KG, LA00000068269 / LA00000068275; EMERGENCY RESPONSE INFORMATION PROVIDER: LOS ALAMOS NATIONAL LABORATORY

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
LANCE LACKAS		03	31	14

INTL

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
Tommy Cash		04	01	14
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name	Signature	Month	Day	Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Table C6-2 Acceptable Knowledge (AK) Checklist
LANL/CCP Recertification Audit A-14-19
August 19 – 21, 2014

(This page intentionally blank)

Acceptable Knowledge (AK) Checklist[1]

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	GENERAL REQUIREMENTS					
134	Are the primary document(s) required in Permit Attachment C4 containing acceptable knowledge information available? (Section C4-2)	CCP-TP-002 S. 4.2-4.6 CCP-TP-005 S. 4.4	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9 **(AK-3)** QMIS Approval Screenshots for AK Summaries for waste streams LA-MHD09.001, LA-MSG04.001, and LA-OS-00-01.001 **(AK-4)** Waste Stream Profile Form and attachments for waste stream LA-MDH09.001 **(AK-5)** Waste Stream Profile Form and attachments for waste stream LA-MSG04.001	Y	During the week of August 18th, the CTAC AK audit team participated in an audit at LANL for CH S4000 soils and CH S5000 debris Summary Category Groups. The AK record was examined for S4000 waste stream LA-MSG04.001, a soils stream associated with activities in and around the TA-21 DP West Facility; and S5000 debris waste stream, LA-MHD09.001. In addition, the audit team reviewed selected portions of the AK record for the OSRP sealed source waste stream LA-OS-00-01.001 including the AK Summary Report, the Waste stream Profile Form and AK attachments.

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				(AK-6) Waste Stream Profile Form and attachments for waste stream LA-OS-00-01.001 **(AK-7)**		
135	Has the generator developed a methodology whereby a logical sequence of acceptable knowledge information that progresses from general facility to more detailed waste-specific information can be acquired? (Section C4-2	CCP-TP-005, S. 4.0	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2**) AK Source Document Summaries for waste stream LA-MHD09.001, **(AK-29)** AK Source Document Summaries for waste stream LA-MSG04.001 **(AK-30)**	Y	
136	Does the site have adequate procedures in place to ensure that the Acceptable Knowledge process is adequately implemented? Do these procedures facilitate the mandatory traceability analysis performed for each Summary Waste Category Group examined during the audit? (Section C4-2)	CCP-TP-005, S. 4.0	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2**)	Y	The WAP required traceability exercise was conducted for the two waste streams for which a full AK audit was conducted. The containers were <u>LA-MHD09.001</u> SB10157 53889 68710 <u>LA-MSG04.001</u> 66128

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9 **(AK-3)** Waste Stream Profile Form and attachments for waste stream LA-MDH09.001 **(AK-5)** Waste Stream Profile Form and attachments for waste stream LA-MSG04.001 **(AK-6)** Waste Stream Profile Form and attachments for waste stream LA-OS-00-01.001 **(AK-7)** <u>RTR BDRs</u> LA-HERTR-13-0103 **(AK-22)** LA-HERTR-13-0123 **(AK-23)** LA-RTR2-14-0017 **(AK-24)** LA-HERTR-14-0039 **(AK-25)** LA-HERTR-14-0054 **(AK-26)** LA-HERTR-12-0111 **(AK-27)**		66140 56537

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				Waste Stream Characterization Checklists **(AK-28)** IDC database screenshots **(AK-16)** AK Tracking Spreadsheet for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-17)** AK Attachment 8 container list for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-12)** Container input forms **(AK-18)**		
137	Does the generator site's TRU mixed waste management program information clearly define (or provide a methodology for defining) waste categorization schemes and terminology, provide a breakdown of the types and quantities of TRU mixed waste generated/stored at the site, and describe how waste is tracked and managed at the generator site (including historical and current operations? Do procedures ensure that waste streams are adequately identified? (Section C4-2a)	CCP-TP-005 S. 4.4, S. 4.2.2-S. 4.2.5, S. 4.11, Att. 8 CCP-TP-001 S. 2.7 S. 4.1 S. 4.2	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				(AK-3) IDC database screenshots **(AK-16)** AK Tracking Spreadsheet for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-17)** AK Attachment 8 container list for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-12)**		
138	Does site documentation procedures indicate that the site will document, justify, and consistently define waste streams and assign EPA hazardous waste numbers? (Section C4-2b)	CCP-TP-005, S. 4.4.16 – S. 4.4.21, Att. 5	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.3, tables 21, 22 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3, tables 11, 15 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3 **(AK-3)** AK Att. 5, Hazardous	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				Constituents for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-10)**		

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	REQUIRED AND ADDITIONAL INFORMATION					
140	Does the generator site document that the following must be included in the acceptable knowledge record: • Map of the site with the areas and facilities involved in TRU waste generation, treatment, and storage identified • Facility mission description as related to TRU waste generation and management (e.g., nuclear weapons research may involve metallurgy, radiochemistry, and nuclear physics operations that result in specific waste streams) • Description of the operations that generate TRU waste at the site (e.g., plutonium recovery, weapons design, or weapons fabrication) • Waste identification or categorization schemes used at the facility (e.g., item description codes, content codes) • Types and quantities of TRU mixed waste generated, including historical generation through future projections • Correlation of waste streams generated from the same building and process, as appropriate (e.g., sludge, combustibles, metals, and glass) • Waste certification procedures for retrievably stored and newly generated wastes to be sent to the WIPP facility (Section C4-2a)	**Bullets 1-7:** CCP-TP-005 S. 4.2.2 S. 4.4.5 Att. 1	Y	CCP-AK-LANL-004 R11 **(AK-1)** CCP-AK-LANL-010 R6 **(AK-2**) B1-CCP-AK-LANL-004 R11 S. 4.1, figures 1, 2 **(AK-1)** CCP-AK-LANL-010 R6 S. 4.1, figures 1-3 **(AK-2)** B2-CCP-AK-LANL-004 R11 S. 4.2.1, 4.2.2, 4.4 **(AK-1)** CCP-AK-LANL-010 R6 S. 4.2.1, 4.2.2, 4.4 **(AK-2)** B3-CCP-AK-LANL-004 R11 S. 4.4 **(AK-1)** CCP-AK-LANL-010 R6 S. 4.4 **(AK-2)** B4-CCP-AK-LANL-004 R11 S. 4.3.1 **(AK-1)** CCP-AK-LANL-010 R6 S. 4.3.2 **(AK-2)** B5-CCP-AK-LANL-004 R11 S. 4.3.5 **(AK-1)**	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				CCP-AK-LANL-010 R6 S. 4.3.4 **(AK-2)** B6-CCP-AK-LANL-004 R11 S. 4.3.6 **(AK-1)** CCP-AK-LANL-010 R6 S. 4.3.5 **(AK-2)** B7-CCP-AK-LANL-004 R11 S. 4.5 **(AK-1)** CCP-AK-LANL-010 R6 S. 4.5 **(AK-2)**		
141	. Does the generator site document that the following shall be collected for each waste stream: A. Area(s) and/or building(s) from which the waste stream was or is generated B. Waste stream volume and time period of generation (e.g., 100 standard waste boxes of retrievable stored waste generated from June 1977 through December 1977) C. Waste generating process described for each building (e.g., batch waste stream generated during decommissioning operations of glove boxes), including processes associated with U134 waste generation, if applicable. D. Documentation demonstrating how the site has historically managed the waste, including the historical regulatory status of the waste (i.e., TRU mixed versus TRU non-mined waste) E. Process flow diagrams (e.g., a diagram illustrating glove boxes from a specific building to a size reduction facility to a container storage area). In the case of research/development, analytical laboratory waste, or the	**A-F:** CCP-TP-005 S. 4.2.4 S. 4.4.5 Att. 1	Y	CCP-AK-LANL-004 R11 **(AK-1)** CCP-AK-LANL-010 R6 **(AK-2**) A. CCP-AK-LANL-004 R11 S. 7.1 **(AK-1)** CCP-AK-LANL-010 R6 S. 6.1 **(AK-2)** B. CCP-AK-LANL-004 R11 S. 7.2 **(AK-1)** CCP-AK-LANL-010 R6 S. 6.2 **(AK-2)** C. CCP-AK-LANL-004 R11 S.7.3 **(AK-1)**	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	similar processes where process flow diagrams cannot be created, a description of the waste generating processes, rather than a formal process flow diagram, may be included if this modification is justified and the justification is placed in the auditable record F. Material inputs or other information that identifies the chemical content of the waste stream and the physical waste form (e.g., glove box materials and chemical handled during glove box operations, events or processes that may have modified the chemical or physical properties of the waste stream after generation, data obtained through visual examination of newly generated waste that later undergoes radiography; information demonstrating neutralization of U134 [hydrofluoric acid] and waste compatibility. (Section C4-2b)			CCP-AK-LANL-010 R6 S. 6.3 **(AK-2)** D. CCP-AK-LANL-004 R11 S.7.4.3 **(AK-1)** CCP-AK-LANL-010 R6 S. 6.4.3 **(AK-2)** E. CCP-AK-LANL-004 R11 Figures 6, 7 **(AK-1)** CCP-AK-LANL-010 R6 Figures 11-13 **(AK-2)** F. CCP-AK-LANL-004 R11 S. 7.4.1, 7.4.3, tables 19, 21, 22 **(AK-1)** CCP-AK-LANL-010 R6 S. 6.4.1, 6.4.3, tables 13, 15 **(AK-2)**		
142	Do site documents/procedures require that the facility will provide a summary to the Permittees that summarizes all information collected, including basis and rationale for all waste stream designations? Is an example of this summary available for audit review? If discrepant hazardous waste data exist in required information, do sites consider applying all hazardous waste numbers, but assess and evaluate the information to determine the appropriate hazardous waste number consistent with RCRA requirements? (Section C4-2b)	CCP-TP-005, S. 4.4 S. 4.9	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2)**	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9 **(AK-3)** AK Discrepancy Resolutions in the AK Record **(AK-14)**		
143	Do site procedures indicate that if the required AK information is not available for a particular waste stream, that the waste stream will not be eligible for an AK Sufficiency Determination? (Section C4-2)	CCP-TP-005, S. 4.2 S. 4.4 S. 4.7	Y	AK Documentation Checklist, Attachment 1, for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-8)**	Y	No AK Sufficiency Determinations are being sought for the waste streams audited

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
144	Have the following procedures been prepared?: A. Procedures for identifying and assigning the physical waste form of the waste B. Procedures for delineating waste streams and assigning Waste Matrix Codes C. Procedures for resolving inconsistencies in acceptable knowledge documentation D. Procedures for visual examination and/or radiography, if applicable E. For newly generated waste, procedures describing process controls used to ensure prohibited items (specified in the WAP, Permit Attachment C) are documented and managed F. Procedures to ensure radiography and visual examination include a list of prohibited items that the operator shall verify are not present in each container (e.g. liquid exceeding TSDF-WAC limits, corrosives, ignitables, reactives, and incompatible wastes G. Procedures to document how changes to Waste Matrix Codes, waste stream assignment, and associated Environmental Protection Agency hazardous waste numbers based on material composition are documented for any waste H. Procedures that ensure the assignment of EPA hazardous waste numbers is appropriate, consistent with RCRA requirements, and adequately considers site historical waste management I. Procedures for estimating waste material parameter weights (Section C4-2b)	**AK** A. CCP-TP-005, S. 4.4.13 S. 4.4.14 B. CCP-TP-005, S. 4.4.11 NOTE above S. 4.4.12 C. & G. CCP-TP-005, S. 4.9 E. N/A H. CCP-TP-005, S. 4.4.16 -4.4.21 I. CCP-TP-005, S. 4.4.26	Y	CCP-AK-LANL-004 R11 **(AK-1)** CCP-AK-LANL-010 R6 **(AK-2**) A. CCP-AK-LANL-004 R11 S. 7.4.1, table 19 **(AK-1)** CCP-AK-LANL-010 R6 S. 6.4.1, table 13 **(AK-2)** B. CCP-AK-LANL-004 R11 S. 2.3, 7.4.1.1 **(AK-1)** CCP-AK-LANL-010 R6 S. 2.2, 6.4.1.1 **(AK-2)** C. AK Discrepancy Resolutions in the AK record **(AK-14)** E. N/A G. AK Discrepancy Resolutions in the AK record **(AK-14)** AK Discrepancy Resolutions at Characterization **(AK-15)** H. AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11,	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				S. 7.4.3, tables 21, 22 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3, tables 11, 15 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3 **(AK-3)** AK Att. 5, Hazardous Constituents for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-10)** I. AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.1.2, table 19 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.1.2, table 13 **(AK-2)** AK Summary Report for LANL OSRP Sealed		

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.1.2, table 5-1 **(AK-3)** Memos attached to AK Att. 6, Waste Form, Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-11)**		
		RTR **D, E, F, & I:** CCP-TP-053, (All)	Y	**RTR** **D, E, F & I:** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
		VE **D, E, & F** CCP-TP-069, (ALL) CCP-TP-113, (ALL)	Y	**VE** **D, E, & F** LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**		
145	Does the generator provide procedures or written commitment to collect additional acceptable knowledge information, as available and as necessary to augment mandatory information? (Section C4-2c)	CCP-TP-005, S. 4.2.5 Att.1	Y	AK Documentation Checklist, Attachment 1, for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-8)**	Y	
146	Does the generator site document that all additional specific, relevant information used in the acceptable knowledge process will be identified and its use explained? Is all necessary information assembled and has it been appropriately used? (Section C4-2c)	CCP-TP-005, S. 4.2.5 Att. 1	Y	AK Documentation Checklist, Attachment 1, for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-8)**	Y	
147	Does the generator site discrepancy analysis documentation (for acceptable knowledge additional and required documentation) indicate that if discrepancies are detected, the site may consider applying all hazardous waste numbers indicated in the required and additional information, but must assess and evaluate the information to determine the appropriate hazardous waste numbers consistent with RCRA requirements? (Section C4-2c)	CCP-TP-005 S. 4.9	Y	AK Discrepancy Resolutions in the AK record **(AK-14)**	Y	
	TRAINING					
148	Does the generator site have procedures to ensure that all personnel involved with acceptable knowledge waste characterization have the following training, and is this training documented? A. WIPP WAP in Permit Attachment C and the TSDF-WAC specified in this permit B. State and Federal RCRA regulations associated with solid and hazardous waste characterization C. Discrepancy resolution and reporting D. Site-specific procedures associated with waste characterization using acceptable knowledge (Section C4-3a)	CCP-QP-002 S. 4.3.1	Y	Acceptable Knowledge Expert (AKE) and Site Project Manager (SPM) Training files **(GEN-12)**	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	PROCEDURES					
149	Has the generator site developed the following procedures, and are these procedures technically sufficient? A. Sites must prepare and implement a written procedure outlining the specific methodology used to assemble acceptable knowledge records, including the origin of the documentation, how it will be used, and any limitations associated with the information (e.g., identify the purpose and scope of a study that included limited sampling and analysis data). B. Sites must develop and implement a written procedure to compile the required acceptable knowledge record. C. Sites must develop and implement a written procedure that ensures unacceptable wastes (e.g., reactive, ignitable, corrosive) are identified and segregated from TRU mixed waste populations sent to WIPP. D. Sites must prepare and implement a written procedure to evaluate acceptable knowledge and resolve discrepancies. For example, if different sources of information indicate different hazardous wastes are present, then sites must include all sources of information in its records and may choose to either conservatively assign hazardous waste numbers, or assign only those numbers deemed appropriate and consistent with RCRA requirements. All information used to justify assignment of hazardous waste numbers must be placed in the auditable record. Further, the assignment of hazardous waste numbers shall be tracked in the auditable record to all required documentation.	**A-D:** CCP-TP-005, S. 4.2, 4.3, 4.4 & 4.9, Att. 5 CCP-TP-001 S. 2.7, 4.1 & 4.2 CCP-TP-120, S. 4.1, Atts. 2,4 S. 4.0 note 3, S. 4.2.4(A.3)	Y	A. AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2**) AK Source Document Summaries for waste stream LA-MHD09.001, **(AK-29)** AK Source Document Summaries for waste stream LA-MSG04.001 **(AK-30)** B. AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2**) C. AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001,	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				CCP-AK-LANL-004 R11, S. 7.4.5 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.5 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.5 **(AK-3)** AK Att. 6, Waste Form, Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-11)** NCRs for prohibited items: NCR-LANL-0553-14, R0; NCR-LANL-0704-08, R1; NCR-LANL-0208-14, R0; NCR-LANL-0625-12, R0; NCR-LANL-0422-13, R0; NCR-LANL-0698-12, R0 **(AK-13)** IDC screenshot for container “hold” **(AK-16)**		

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				"Hold" tag **(AK-18)** D. AK Discrepancy Resolutions in the AK record **(AK-14)** AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.3, tables 21, 22 **(AK-1)** CCP AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3, tables 11, 15 **(AK-2)** CCP AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3 **(AK-3)** AK Att. 5, Hazardous Constituents for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-10)**		
149a	E. Sites must prepare and implement a written procedure to identify hazardous wastes and assign the appropriate hazardous waste numbers to each waste stream. The following are minimum baseline requirements/standards that site-specific procedures must include to ensure comparable and consistent characterization of hazardous waste:	**E.1 - E.6** CCP-TP-005, S. 1.1, 4.2, 4.3 & 4.4	Y	E1. AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, **(AK-1)**	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	1. Compile all of the required information in an auditable record. 2. Review the compiled information and delineate waste streams. Delineation of waste streams must comply with the WAP definition in Permit Attachment C, Section C-0a, and justify combining waste historically managed separately as TRU mixed and TRU non-mixed waste streams into a single waste stream. 3. Review the compiled information to determine if the waste stream is compliant with the TSDF-WAC 4. Review the required information to determine if the waste is listed under 20.4.1.200 NMAC (incorporating 40 CFR 261), Subpart D. Assign all listed hazardous waste numbers, unless the site chooses to justify an alternative assignment and document the justification in the auditable record. 5. Review the required information to determine if the waste exhibits a hazardous characteristic or may contain hazardous constituents included in the toxicity characteristics specified in 20.4.1.200 NMAC (incorporating 40 CFR 261, Subpart C. If a toxicity characteristic contaminant is identified and is not included as a listed waste, sites may evaluate available data and assign the toxicity characteristic hazardous waste number consistent with RCRA requirements. All data examined to reach the hazardous waste number determination must be placed in the auditable record and must present a clear justification for the hazardous waste number analyses. 6. Review the compiled information to provide an estimate of the material parameter weights for each container to be stored or disposed of at WIPP. For newly generated waste, procedures shall be developed and implemented to characterize hazardous waste using acceptable knowledge prior to packaging.			AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, **(AK-3)** E2. AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 2.3 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 2.2 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 2.1 **(AK-3)** E3. AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11,		

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				S. 7.4.3.3, 7.4.4, 7.4.5 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3.3, 6.4.4, 6.4.5 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3.5, 5.4.4, 5.4.5 **(AK-3)** AK Att. 6, Waste Form, Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-11)** NCRs for prohibited items: NCR-LANL-0553-14, R0; NCR-LANL-0704-08, R1; NCR-LANL-0208-14, R0; NCR-LANL-0625-12, R0; NCR-LANL-0422-13, R0; NCR-LANL-0698-12, R0 **(AK-13)** E4&5. AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11,		

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				S. 7.4.3, tables 21, 22 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.3, tables 11, 15 **(AK-2)** AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3 **(AK-3)** AK Att. 5, Hazardous Constituents for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-10)** E6. AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.1.2, table 19 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6, S. 6.4.1.2, table 13 **(AK-2)** AK Summary Report for LANL OSRP Sealed		

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.1.2, table 5-1 **(AK-3)** Memos attached to AK Att. 6, Waste Form, Waste Material Parameters, Prohibited Items and Packaging for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-11)**		
149b	F. Sites shall ensure that results of audits of the TRU mixed waste characterization programs at the site are available in the records. G. Sites shall identify all process controls (implemented to ensure that the waste contains no prohibited items and to control hazardous waste content and/or physical form) that have been applied to retrievably stored waste and/or may presently be applied to newly generated waste. Process controls are applied at the time of waste generation/packaging to control waste content, whereas any activities performed after waste generation/packaging to identify prohibited items, hazardous waste content, or physical form are waste characterization activities, not process controls. The AK record must contain specific process control and supporting documentation identifying when these process controls are used to control waste content. See Permit Attachment C, Section C-2 for programmatic requirements related to process controls. (Section C4-3b)	**F.)** CCP-PO-001, S. C4-3f, C4-3b CCP-QP-021, (All) WP 13-QA.03, (All) **G.)** CCP-TP-005, S. 4.2 - 4.4 & Att. 1	Y Y	F. CCP Internal Audit **(AK-20)** G. AK Source Document Summaries for waste stream LA-MHD09.001, D073, P008 **(AK-29)** AK Source Document Summaries for waste stream LA-MSG04.001, D026, D081 **(AK-30)**	Y Y	
150	Does the site have implemented procedures which comply with the following criteria to establish acceptable knowledge records: A. Acceptable knowledge information shall be compiled in an auditable record, including a road map for all applicable information. B. The overview of the facility and TRU mixed waste management operations in the context of the facility's mission shall be correlated to specific waste stream information. C. Correlations between waste streams, with regard to time of generation, waste generating processes, and site-specific facilities shall be clearly described. For newly generated wastes, the rate and quantity of waste to be generated shall be defined. D. A reference list shall be provided that identifies documents, databases, Quality Assurance protocols, and other sources of information that support	**A-E:** CCP-TP-005 S. 1.1, 4.2, 4.3, 4.4, 4.10, 4.11 & Atts. 1, 4 & 8 CCP-TP-001 S. 2.7	Y	CCP-AK-LANL-004 R11 **(AK-1)** CCP-AK-LANL-010 R6 **(AK-2**) A. AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)**	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	the acceptable knowledge information. E. Container inventories for TRU mixed waste in retrievable storage shall be delineated into waste streams by correlating the container identification to all of the required and additional AK information. (Section C4-3c)			AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2)** AK Documentation Checklist, Attachment 1, for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-8)** B. CCP-AK-LANL-004 R11 S. 4.3, 4.2.2, 7.4 **(AK-1)** CCP-AK-LANL-010 R6 S. 4.3, 4.2.2,6.4 **(AK-2)** C. CCP-AK-LANL-004 R11 S. 4.3.6, 4.4 7.1, 7.2, 7.3 **(AK-1)** CCP-AK-LANL-010 R6 S. 4.3.5, 4.4, 6.1, 6.2, 6.3 **(AK-2)** D. AK Information Checklist for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-9)** E. IDC database screenshots **(AK-16)** AK Tracking Spreadsheet		

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-17)** AK Attachment 8 container list for waste streams LA-MHD09.001, LA-MSG04.001 and LA-OS-00-01.001 **(AK-12)**		
151	If the generator site submitted an AK Sufficiency Determination Request for a specific waste stream, did the site provide all of the requisite information for which approval is sought? (Section C-0b)	CCP-TP-005 S. 4.7	Y	N/A	N/A	An AK Sufficiency Determination is not being sought for any LANL waste streams at this time.
	RE-EVALUATING ACCEPTABLE KNOWLEDGE					
152	Does the generator site have written procedures for the augmentation of all acceptable knowledge information using testing. Testing consists of radiography and visual examination. Do site procedures indicate that the following testing will be conducted based upon the results of the Determination Request AKSD denied - 100% RTR or VE (Section C4-1, C-0b)	CCP-TP-005 S. 4.4, 4.5 & 4.7	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11 **(AK-1)** AK Summary Report for LANL TA-21 DP West Facility, waste stream LA-MSG04.001, CCP-AK-LANL-010 R6 **(AK-2)** Traceability BDRs RTR LA-HERTR-13-0103 **(AK-22)** LA-HERTR-13-0123 **(AK-23)** LA-RTR2-14-0017 **(AK-24)** LA-HERTR-14-0039	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				(AK-25) LA-HERTR-14-0054 **(AK-26)** LA-HERTR-12-0111 **(AK-27)**		
155	Does the generator site have procedures for reevaluating acceptable knowledge if the results of the waste characterization indicate that the waste to be shipped does not match the approved waste stream or if the data from radiography or visual examination for waste streams without an AK Sufficiency Determination exhibit this discrepancy? Does this procedure describe how the waste is reassigned, acceptable knowledge reevaluation, and appropriate hazardous waste numbers are assigned? (Section C4-3e)	CCP-TP-005 S. 4.8 S. 4.9 Att. 10	Y	AK Discrepancy Resolutions at Characterization **(AK-15)**	Y	
156	Do site procedures indicate that debris wastes are assigned toxicity characteristic EPA numbers based on AK regardless of the quantity or concentration? (C4-3e)	CCP-TP-005, S. 4.4.17 Att. 5	Y	AK Summary Report for LANL TA-50 Mixed TRU Waste, waste stream LA-MHD09.001, CCP-AK-LANL-004 R11, S. 7.4.3.2, tables 21, 22 **(AK-1)** CCP AK Summary Report for LANL OSRP Sealed Sources, waste stream LA-OS-00-01.001, CCP-AK-LANL-008 R9, S. 5.4.3.2 **(AK-3)** AK Att. 5, Hazardous Constituents for waste streams LA-MHD09.001 and LA-OS-00-01.001 **(AK-10)**	Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	CRITERIA FOR ASSEMBLING AN ACCEPTABLE KNOWLEDGE RECORD DELINEATING THE WASTE STREAM					
158	If wastes are reassigned to a different waste matrix code based on site visual examination or radiography or Permittee confirmation activities, does the generator site have written documentation to ensure that the following steps are followed: A. Review existing information based on the container identification number and document all differences in hazardous waste number assignments B. If differences exist in the hazardous waste numbers that were assigned, reassess and document all required acceptable knowledge information (Section C4-3b) associated with the new designation C. Reassess and document all testing data associated with the waste D. Verify and document that the reassigned waste matrix code was generated within the specified time period, area and buildings, waste generating process, and that the process material inputs are consistent with the waste material parameters identified during radiography or visual examination E. Record all changes to acceptable knowledge records F. If discrepancies exist in the acceptable knowledge information for the revised waste matrix code, document the segregation of the affected portion of the waste stream, and define the actions necessary to fully characterize the waste (Section C4-3e)	CCP-TP-005 S. 4.8 S. 4.9 Att. 10	Y	AK Discrepancy Resolutions at Characterization **(AK-15)**	Y	
	DATA QUALITY REQUIREMENTS					
168	Are acceptable knowledge processes consistently applied among all generator sites, and does each generator site comply with the following data quality requirements for acceptable knowledge documentation: A. Precision - The qualitative determinations, such as compiling and assessing acceptable knowledge documentation, do not lend themselves to statistical evaluations of precision. However, the acceptable knowledge information will be addressed by the independent review of acceptable knowledge information during internal and external audits. B. Accuracy - The percentage of waste containers which require reassignment to a new waste matrix code and/or designation of different hazardous waste numbers based on testing data and discrepancies identified by the Permittees during waste confirmation will be reported as a measure of acceptable knowledge accuracy.	A. CCP-PO-001, S. C4-3f CCP-QP-021, (All) WP 13-QA.03, (All) B. CCP-TP-005, S. 4.6 C. CCP-TP-005, S. 4.0, Att. 1	Y Y Y	A. CCP Internal Audit **(AK-20)** B. AK Accuracy Reports **(AK-21)** C. AK Documentation Checklist, Attachment 1, for waste streams LA-MHD09.001, LA-MSG04.001 and	Y Y Y	

	WAP Requirement[2] LANL CCP Audit A-14-19 Table C6-2 Acceptable Knowledge (AK) Checklist[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	C. Completeness - The acceptable knowledge record must contain 100 percent of the information (Permit Attachment C4-3). The usability of the acceptable knowledge information will be assessed for completeness during audits.			LA-OS-00-01.001 **(AK-8)**		
168a	D. Comparability - Comparability is ensured through sites meeting the training requirements and complying with the minimum standards outlined for procedures that are used to implement the acceptable knowledge process. All sites must assign hazardous waste numbers in accordance with Permit Attachment C4-4 and provide this information regarding its waste to other sites who store or generate a similar waste stream. E. Representativeness - Representativeness is a qualitative parameter that will be satisfied by ensuring that the process of obtaining, evaluating, and documenting acceptable knowledge information is performed in accordance with the minimum standards established in Permit Attachment C4. Sites also must assess and document the limitations of the acceptable knowledge information used to assign hazardous waste numbers (e.g., purpose and scope of information, date of publication, type and extent to which waste parameters are addressed). (Section C3-3)	D. CCP-TP-005 S. 2.2 S. 4.0 CCP-QP-002 S. 4.2.1 E. CCP-TP-005 S. 2.2 S. 4.0 CCP-QP-002 S. 4.2.1	Y	D. Acceptable Knowledge Expert (AKE) and Site Project Manager (SPM) Training files **(GEN-12)** E. Acceptable Knowledge Expert (AKE) and Site Project Manager (SPM) Training files **(GEN-12)** AK Source Document Summaries for waste stream LA-MHD09.001, **(AK-29)** AK Source Document Summaries for waste stream LA-MSG04.001 **(AK-30)**	Y Y	
169	Does the generator site address quality control by tracking its performance with regard to the use of acceptable knowledge by: 1) assessing the frequency of inconsistencies among information, and 2) documenting the results of waste discrepancies identified by the generator/storage site during waste characterization or the Permittees during waste confirmation using radiography, review of radiography audio/video recordings, or visual examination, or review of visual examination records. In addition, the acceptable knowledge process and waste stream documentation must be evaluated through internal assessments by generator/storage site quality assurance organizations. (Section C4-3e)	CCP-TP-005, S. 4.6 S. 4.9 CCP-QP-021, (All) WP 13-QA.03, (All) CCP-PO-001, S. C4-3f	Y	CCP Internal Audit **(AK-20)** AK Accuracy Reports **(AK-21)** AK Discrepancy Resolutions in the AK record **(AK-14)** AK Discrepancy Resolutions at Characterization **(AK-15)**	Y	

1. NMED expects a traceability analysis to be performed, the results of which should be presented on this checklist under the "Examples of Implementation" column. Further, the

traceability analysis process and results should be discussed in the Final Audit Report.

2. The WAP requirements should be presented in documents, such as procedures. Each of the questions posed under WAP requirements are meant to determine whether procedures are in place or whether documents are evident which demonstrate that the specific WAP requirement is or can be met.

Controlled
Copy

AK1

P2010-3433

CCP-AK-LANL-004

Central Characterization Program
Acceptable Knowledge Summary Report

For

LOS ALAMOS NATIONAL LABORATORY
TA-50 MIXED TRANSURANIC WASTE

WASTE STREAMS:
LA-MIN03-NC.001
LA-CIN02.001
LA-MHD09.001

Revision 11

April 08, 2013

Mike Ramirez
Printed Name
APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	02/24/2004	Initial Issue.
1	04/04/2005	Revised to implement new Beryllium and payload management requirements of the WIPP WAC, and address comments from freeze file.
2	06/23/2006	Revised to address freeze file changes and findings from the Carlsbad Field Office (CBFO) Recertification Audit A-06-11 (CAR No. 06-025).
3	11/16/2006	Revised to implement the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/Remote-Handled (RH) Permit Modification Request (PMR) by including the Waste Material Parameter Assessment for waste stream LA-MIN03-NC.001.
4	01/04/2007	Revised to include new cemented inorganic homogeneous solid waste stream number LA-CIN02.001 generated by the pretreatment operation at Technical Area (TA)-50. The pretreatment operation treats and solidifies liquid process waste from TA-55 Plutonium Facility Building (PF-4). This new waste stream is explained in detail in Section 6.0.
5	03/27/2007	Revised to update waste volumes and generation dates for waste streams LA-MIN03-NC.001 and LA-CIN02.001 to update affected sections/tables, and to incorporate miscellaneous editorial changes.
6	09/05/2007	Revised to incorporate container remediation and repackaging information, to correct inconsistencies in waste stream LA-CIN02.001 chemical table (Table 17) and subsequent characterization, and to address other miscellaneous editorial changes.
7	10/22/2007	Revised to address the potential presence and expected concentrations of flammable volatile organic compounds in waste streams LA-MIN03-NC.001 and LA-CIN02.001 containers and to address other miscellaneous editorial changes.

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
8	03/10/2009	Revised to clarify historical and current Los Alamos National Laboratory (LANL) waste management practices; to address repackaging and below-grade retrieval operations; to include additional containers to waste streams LA-MIN03-NC.001 and LA-CIN02.001 and to update the affected sections (types and quantities of waste generated, estimated radionuclide distributions); to properly identify chemicals in Table 8, Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary, and Table17, Waste Stream LA-CIN02.001 Chemical Identification and Use Summary, as ignitable, corrosive, and/or reactive in their pure form; and to incorporate miscellaneous editorial changes.
9	08/26/2009	Revised to include new heterogeneous debris Waste Stream LA-MHD09.001 generated during facility and equipment maintenance, decontamination and decommissioning, and waste repackaging activities at TA-50. This new Waste Stream is explained in detail in Section 7.0. This revision also includes miscellaneous changes identified during the 2009 recertification audit to Sections 2.0, 4.0, 5.0, and 6.0.
10	11/28/2011	Revised to incorporate changes required by the Waste Isolation Pilot Plant (WIPP) Permit renewal dated November 30, 2010; to update the Annual Transuranic Waste Inventory Report identification numbers; to expand the waste stream correlation section; to add below-grade containers to Waste Streams LA-MIN03-NC.001, LA-CIN02.001, and LA-MHD09.001; to clarify the waste packaging configurations; and to delete the Supplemental Waste Stream Information section. This revision also includes miscellaneous changes made throughout the report.

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
11	04/08/2013	Revised to incorporate Nuclear Waste Partnership (NWP) transition changes; to expand/modify Sections 1.0, 2.0, and 3.0; to update the waste stream LA-MHD09.001 radiological characterization section; to clarify the waste packaging configurations; and to incorporate various freeze file changes.

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 11

2.0 WASTE STREAM IDENTIFICATION SUMMARY 12
2.1 Waste Stream LA-MIN03-NC.001 (Homogeneous Inorganic Solids) 13
2.2 Waste Stream LA-CIN02.001 (Cemented TRU Waste) 15
2.3 Waste Stream LA-MHD09.001 (Heterogeneous Debris) 16

3.0 ACCEPTABLE KNOWLEDGE DATA AND INFORMATION 19

4.0 REQUIRED PROGRAM INFORMATION 20
4.1 Facility Location 20
4.2 LANL Operational History 20
4.2.1 LANL Site Mission 21
4.2.2 TA-50 Facility Mission 21
4.2.3 Defense Waste Assessment 21
4.2.4 Spent Nuclear Fuel and High-Level Waste Assessment 23
4.3 TRU Waste Management 23
4.3.1 Waste Identification and Categorization 24
4.3.2 Historical TRU Waste Management Practices 25
4.3.3 Present-Day TRU Waste Management Practices 26
4.3.4 LANL Treatment, Storage and Disposal Facilities (TSDFs) for TRU Waste 27
4.3.5 Types and Quantity of TRU Waste Generated 28
4.3.6 Correlation of Waste Streams Generated from the Same Facility and Process 29
4.4 Description of Waste Generating Process 30
4.4.1 Main Treatment Operation in the RLWTF 31
4.4.2 TA-55 Pretreatment Operation in the RLWTF 33
4.4.3 Facility and Equipment Maintenance, D&D, and Waste Repackaging Operations 34
4.4.4 Facilities Contributing Liquid and Solid Waste to the TA-50 Facility 35
4.4.5 Waste Repackaging and Prohibited Item Disposition 47
4.4.6 Below-Grade Retrieval Project 48
4.5 Waste Certification Procedures 48

5.0 REQUIRED WASTE STREAM INFORMATION: LA-MIN03-NC.001 49
5.1 Area and Building of Generation 49
5.2 Waste Stream Volume and Period of Generation 49
5.3 Waste Generating Activities 50
5.4 Type of Wastes Generated 50
5.4.1 Material Input Related to Physical Form 50
5.4.2 Radiological Characterization 52
5.4.3 Chemical Content Identification – Hazardous Constituents 61
5.4.4 Prohibited Items 94

5.5 Waste Packaging 94

6.0 REQUIRED WASTE STREAM INFORMATION: LA-CIN02.001 97
6.1 Area and Building of Generation 97
6.2 Waste Stream Volume and Period of Generation 97
6.3 Waste Generating Activities 98
6.4 Type of Wastes Generated 98
6.4.1 Material Input Related to Physical Form 98
6.4.2 Radiological Characterization 99
6.4.3 Chemical Content Identification – Hazardous Constituents 106
6.4.4 Prohibited Items 121
6.5 Waste Packaging 122

7.0 REQUIRED WASTE STREAM INFORMATION: LA-MHD09.001 123
7.1 Area and Building of Generation 123
7.2 Waste Stream Volume and Period of Generation 123
7.3 Waste Generating Activities 123
7.4 Types of Wastes Generated 124
7.4.1 Material Input Related to Physical Form 124
7.4.2 Radiological Characterization 125
7.4.3 Chemical Content Identification – Hazardous Constituents 129
7.4.4 Polychlorinated Biphenyls 133
7.4.5 Prohibited Items 133
7.5 Waste Packaging 134

8.0 CONTAINER SPECIFIC INFORMATION 136

9.0 REFERENCES 137

10.0 AK SOURCE DOCUMENTS 139

LIST OF TABLES

Table 1. LA-MIN03-NC.001 Waste Stream Volume 49
Table 2. Waste Material Parameter Estimates for LA-MIN03-NC.001 51
Table 3. LA-MIN03-NC.001 Waste Stream Volume Estimate on an Annual Basis 52
Table 4. Available Radiological Data for Waste Stream LA-MIN03-NC.001 53
Table 5. Radiological Contaminants from Facilities Other Than TA-55 56
Table 6. Radionuclides Potentially Present in LA-MIN03-NC.001 59
Table 7. Waste Stream LA-MIN03-NC.001 Hazardous Waste Characterization Summary 62
Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary 63
Table 9. LA-CIN02.001 Waste Stream Volume 97
Table 10. Waste Material Parameter Estimates for LA-CIN02.001 99
Table 11. LA-CIN02.001 Waste Stream Volume Estimate on an Annual Basis 100
Table 12. Average Isotopic Content of Plutonium Material Types and Enrichments 102
Table 13. Average Isotopic Content of Uranium Material Types and Enrichments 102
Table 14. Estimated Radionuclide Distribution in LA-CIN02.001 105
Table 15. Estimated Radionuclide Distribution in LA-CIN02.001 from February 1990 to Present 106
Table 16. Waste Stream LA-CIN02.001 Hazardous Waste Characterization Summary 107
Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary 107
Table 18. Waste Stream LA-MHD09.001 Volume 123
Table 19. Waste Material Parameter Estimates for LA-MHD09.001 125
Table 20. Estimated Radionuclide Distribution in LA-MHD09.001 128
Table 21. Waste Stream LA-MHD09.001 Hazardous Waste Characterization Summary 129
Table 22. Waste Stream LA-MHD09.001 Additional Chemical Identification and Use Summary 130

LIST OF FIGURES

Figure 1. Location of the LANL Site 151
Figure 2. TA-50 Facility Map 152
Figure 3. Main Treatment Operation Process Flow Diagram 153
Figure 4. Pretreatment Operation Process Flow Diagram 154
Figure 5. Liquid Radioactive Waste Flow to the RLWTF 155
Figure 6. TA-50 Waste Management Flow Diagram 156
Figure 7. Waste Repackaging and Prohibited Item Disposition Flow Diagram 157
Figure 8. Below-Grade Drum Retrieval Flow Diagram 158
Figure 9. Below-Grade Crate Retrieval Flow Diagram 159

LIST OF ACRONYMS AND ABBREVIATIONS

AEC	Atomic Energy Commission
AK	acceptable knowledge
AKIR	Acceptable Knowledge Isotopic Ratios
AKIS	Acceptable Knowledge Information Summary
ALARA	as low as reasonably achievable
ARIES	Advanced Recovery and Integrated Extraction System
ATWIR	*Annual Transuranic Waste Inventory Report*
CAI	Controlled Air Incinerator
CCP	Central Characterization Program
CFR	Code of Federal Regulations
CH	contact-handled
CH-TRAMPAC	*Contact-Handled Transuranic Waste Authorized Methods for Payload Control*
Ci	curie
Ci/yr	curies per year
CMP	corrugated metal pipes
CMR	Chemistry and Metallurgy Research
CWA	Clean Water Act
CWSR	Certified Waste Storage Record
D&D	decontamination and decommissioning
DAC	drum age criteria
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DVRS	Decontamination and Volume Reduction System
EPA	U.S. Environmental Protection Agency
FGE	fissile gram equivalent
FRP	fiberglass-reinforced plywood
FVOC	flammable volatile organic compound
GC/MS	gas chromatography/mass spectrometry
g	gram
H	hydrogen
HEPA	high-efficiency particulate air
HWN	Hazardous Waste Number
IDC	Item Description Code
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

LIG	Laboratory Implementation Guidance
LIR	Laboratory Implementation Requirement
LPR	Laboratory Performance Requirement
LWD	Legacy Waste Disposition
m^3	cubic meters
MASS	LANL Material Accountability and Safeguards System
mCi/l	millicuries per liter
mCi/yr	millicuries per year
MSDS	material safety data sheet
MT	Material Type
nCi/g	nanocuries per gram
NDA	nondestructive assay
NPDES	National Pollutant Discharge Elimination System
NWPA	Nuclear Waste Policy Act
OWR	Omega West Reactor
ppm	parts per million
P/S	Process/Status Code
PCB	polychlorinated biphenyl
PN	property number
PPE	personal protective equipment
POC	pipe overpack container
QA	quality assurance
R&D	Research and Development
R/hr	Roentgen per hour
RC	Radiochemistry
RCRA	Resource Conservation and Recovery Act
RH	remote-handled
RLWTF	Radioactive Liquid Waste Treatment Facility
RSWD	Radioactive Solid Waste Disposal Record
RTR	Real-Time Radiography
SNM	Special Nuclear Material
SRF	Size Reduction Facility
STTP	WIPP Source-Term Test Program
SVOC	semi-volatile organic compound
SWB	standard waste box
TA	Technical Area
TRU	transuranic
TRUCON	TRUPACT-II Content Code
TRU WM	Transuranic Waste Management
TSCA	Toxic Substances Control Act
TSDF	treatment, storage, and disposal facility
TWBIR	Transuranic Waste Baseline Inventory Report
TWCP	TRU Waste Certification Program
TWISP	Transuranic Waste Inspectable Storage Project

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

TWSR	TRU Waste Storage Record
UC	University of California
UCNI	Unclassified Controlled Nuclear Information
VE	visual examination
WCRR	Waste Characterization, Reduction, and Repackaging
WDS	Waste Data System
WEF	Waste Acceptance Criteria Exception Form
wt%	weight percent
WIPP	Waste Isolation Pilot Plant
WIPP-WAC	*Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*
WIPP-WAP	*WIPP Hazardous Waste Facility Permit Waste Analysis Plan*
WMP	waste material parameter
WPF	Waste Profile Form
WWIS	WIPP Waste Information System

1.0 EXECUTIVE SUMMARY

This acceptable knowledge (AK) summary report has been prepared for the Central Characterization Program (CCP) for contact-handled (CH) transuranic (TRU) waste generated at Technical Area (TA)-50 of the Los Alamos National Laboratory (LANL). This report was prepared in accordance with CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 8), to implement the AK requirements of the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan* (WIPP-WAP) (Reference 1) and the DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP-WAC) (Reference 3).

The WIPP-WAP AK requirements are addressed in CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (Reference 7). The WIPP-WAC AK requirements are addressed in CCP-PO-002, *CCP Transuranic Waste Certification Plan* (Reference 10). Additionally, this report provides the AK information required by CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)* (Reference 20).

The CCP is tasked with certification of CH TRU waste for transportation to and disposal at the Waste Isolation Pilot Plant (WIPP). This report was developed in accordance with CCP-TP-005 (Reference 8), which describes how AK is collected, reviewed, and managed by the CCP. The CCP is responsible for collection, review, and management of AK documentation in accordance CCP-TP-005 and reviews and approves this AK Summary Report. CCP maintains responsibility for this AK Summary Report and all CCP-TP-005 generated forms and records as quality assurance (QA) records. In addition, CCP maintains a copy of the "historical source documents" as Non-QA records.

This report, along with referenced supporting documents, provides a defensible and auditable record of AK for waste streams LA-MIN03-NC.001, LA-CIN02.001, and LA-MHD09.001. The references and AK sources used to prepare this report are listed in Sections 9.0 and 10.0. The AK sources cited throughout this report are identified by alphanumeric designations corresponding to a unique CCP Source Document Tracking Number (e.g., C001, D001, DR001, M001, and P001).

This report presents the required characterization information for the mixed homogeneous solid waste streams LA-MIN03-NC.001 and LA-CIN02.001, and mixed heterogeneous debris waste stream LA-MHD09.001. This AK report includes information relating to the facility's history, configuration, equipment, process operations, and waste management practices. Information contained in this report was obtained from numerous sources, including facility safety basis documentation, historical document archives, generator and storage facility waste records and documents, material safety data sheets (MSDSs), and interviews with cognizant personnel. Referenced source documents include Unclassified Controlled Nuclear Information (UCNI). No classified documents were reviewed.

This report and supporting source documentation, provide the mandatory waste program and waste stream-specific- information required by the WIPP-WAP (Reference 1).

2.0 WASTE STREAM IDENTIFICATION SUMMARY

Site Where TRU Waste Was Generated:

Los Alamos National Laboratory
P.O. Box 1663
Los Alamos, New Mexico 87545

Facility Where TRU Waste Was Generated:

TA-50 Facility
Building TA-50-01, Radioactive Liquid Waste Treatment Facility (RLWTF)
Building TA-50-37, Controlled Air Incinerator (CAI)
Building TA-50-69, Waste Characterization, Reduction, and Repackaging (WCRR) Facility (formally known as the Size Reduction Facility [SRF])

Los Alamos National Laboratory U.S. Environmental Protection Agency (EPA) Hazardous Waste Generator Identification Number:

NM0890010515

Facility Mission:

The primary mission of LANL has been nuclear weapons research and development (R&D). LANL's current central mission is to enhance global security by ensuring the safety and reliability of the U.S. nuclear stockpile, developing technologies to reduce threats from weapons of mass destruction, and solving problems related to energy, environment, infrastructure, health and national security concerns. This mission supports disciplines that enable LANL to contribute to defense, civilian, and industrial needs, including the research, design, development, and analysis of nuclear weapons components; support to research programs in the national interest; energy and environmental research; and environmental management.

The primary mission of TA-50 is radioactive waste treatment. The mission of the RLWTF is to treat radioactive liquid generated during site operations in a manner to ensure protection of workers, the public, and the environment. The mission of the CAI was to evaluate production-scale treatment for the reduction of TRU solid wastes. The CAI was used to test the reduction and stabilization of radioactively contaminated wastes by incineration. The WCRR Facility was originally designed for the size reduction of non-routine waste items (e.g., gloveboxes, equipment) that were too large to fit into standard waste containers, such as 55-gallon drums and standard waste

boxes (SWBs). The facility's current mission is to perform visual examination (VE), repackaging, and prohibited item dispositioning of TRU waste.

Waste Streams:

The waste streams delineated in this report are presented in Sections 2.1, 2.2, and 2.3.

2.1 Waste Stream LA-MIN03-NC.001 (Homogeneous Inorganic Solids)

Summary Category Group: S3000 – Homogeneous Solids

Waste Matrix Code Group: Solidified Inorganics

Waste Matrix Code: S3120

TRUPACT-II Content Code (TRUCON): LA211

Annual Transuranic Waste Inventory Report (ATWIR) Identification Numbers (Reference 6): LA-TA-50-19, LA-MIN03-NC.001

Layers of Confinement: Maximum of one layer

Waste Stream Description:

Waste stream LA-MIN03-NC.001 consists of homogeneous dewatered sludge generated by the main treatment process. The main treatment process removed particulate and heavy metals as a sludge that settled out of the clariflocculation tanks. Dewatered sludge was also generated during the cleanout of the clariflocculation tanks. The first step of the main treatment process was the addition of flocculants to produce a precipitate. The chemicals used during this step were primarily calcium carbonate and ferric hydroxide. The precipitate or sludge was then dewatered and contained approximately 25 to 40 percent inorganic solids with a "wet clay" consistency. Perlite or diatomaceous earth was used after dewatering to further filter and absorb liquids present in the sludge. Finally, Portland cement was added to the bottom and top of the sludge during packaging. This waste may also contain debris, including but not limited to containers (e.g., unpunctured aerosol cans, vials), metal, personal protective equipment (PPE), plastic, and secondary waste from repackaging (Refer to Section 5.4.4). Any payload container consisting of more than 50 percent by volume of debris waste will be excluded from this waste stream. Refer to Section 5.0 for specific details about this waste stream.

The two most prevalent radionuclides by mass for the waste stream are uranium (U)-235 and U-238, as described in Section 5.4.2. The waste stream was determined to contain Resource Conservation and Recovery Act (RCRA)-regulated constituents and is assigned the following EPA Hazardous Waste Numbers (HWN): F001, F002, F004,

F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D028, and D037. Refer to Section 5.4.3 for the rationale for assignment of these codes.

Based on the review of container documentation and documented waste management practices, no prohibited items were specifically identified in the waste stream, except the potential for liquids due to dewatering or incomplete absorption was identified in AK source documents. Additionally, CCP real-time radiography (RTR) characterization activities have identified drums in this waste stream with prohibited quantities of liquid including liquids below the surface of the sludge (i.e., layers of liquid) and internal containers of liquid (e.g., vials). CCP RTR has also identified drums with sealed containers greater than four liters. Waste packages containing prohibited items or prohibited quantities of liquid identified during characterization activities will be segregated then dispositioned appropriately and/or repackaged to remove the items prior to certification and shipment. Refer to Section 5.4.4 for specific waste stream prohibited items information.

The dewatered sludge was packaged in a 5-mil to 12-mil plastic liner bag in a 90-mil/125-mil rigid polyethylene liner in a 55-gallon U.S. Department of Transportation (DOT) 7A, Type A drum. The plastic liner bag was twisted and taped closed. At some point during the early 1980s, the plastic liners were typically folded instead of taped over the waste material prior to installing the rigid liner lid. The final 55-gallon payload container package configuration will result in either one layer of confinement if the plastic liner is twisted and taped closed, or no layers of confinement if the plastic liner is folded over the waste. If the 55-gallon payload container is remediated and/or repackaged, then one layer of confinement will be present if the outer plastic liner bag (liner thickness can vary from 4- to 12-mil) located between the drum and the rigid liner is twisted and taped closed. Zero layers of confinement will be present if the outer plastic liner bag is folded over or an outer plastic liner bag was not used between the drum and the rigid liner. Waste may also be repackaged into a pipe overpack container (POC). Waste placed into a POC may be packaged into a single filtered plastic bag which may include a fiberboard liner/sleeve inside the plastic bag. POCs contain a pipe component in a 55-gallon drum that is lined with a punctured rigid liner with packing material between the pipe component and liner. During waste management and drum storage activities following initial waste generation, 55-gallon drums may be overpacked into larger drums (i.e., 85-gallon drums or larger) or SWBs. Refer to Section 5.5 for detailed waste packaging information.

Waste stream LA-MIN03-NC.001 meets the definition of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity. This waste stream was generated by the TA-50-01 RLWTF main treatment process. Refer to Section 4.3.6 for detailed waste stream delineation information.

2.2 Waste Stream LA-CIN02.001 (Cemented TRU Waste)

Summary Category Group:	S3000 – Homogeneous Solids
Waste Matrix Code Group:	Solidified Inorganics
Waste Matrix Code:	S3150
TRUCON Code:	LA211
ATWIR Identification Numbers (Reference 6):	LA-TA-50-18, LA-CIN02.001
Layers of Confinement:	Maximum of three layers

Waste Stream Description:

Waste stream LA-CIN02.001 consists of homogeneous cemented inorganics generated by the pretreatment process. The pretreatment process concentrates and removes radioactive components from liquid wastes that are piped to TA-50 from PF-4 located at TA-55. The liquid waste includes acidic and caustic wastes generated by plutonium recovery, R&D, and facility and equipment operations and maintenance. Liquid waste from TA-55 may also include low pH solutions used during decladding of plutonium-beryllium sources, contaminated electrolyte and water solutions, analytical samples, and evaporator distillates. The radioactive components are contained in a thin sludge that is subsequently cemented. This waste may also contain debris, including but not limited to containers (e.g., unpunctured aerosol cans, vials), metal, PPE, plastic (e.g., plastic sleeve), and secondary waste from repackaging (Refer to Section 6.4.4). Any payload container consisting of more than 50 percent by volume of debris waste will be excluded from this waste stream. Refer to Section 6.0 for specific details about this waste stream.

The two most prevalent radionuclides by mass for this waste stream are plutonium (Pu)-239 and U-235, while over 95 percent of the total activity is from Pu-238, Pu-239, and americium (Am)-241. The radiological characterization information is presented in Section 6.4.2. The waste stream was determined to contain RCRA-regulated constituents and is assigned the following EPA HWNs: F001, F002, F005, D004, D005, D006, D007, D008, D009, D010, D011, and D022. Refer to Section 6.4.3 for the rationale for assignment of these codes.

Based on the review of container documentation and documented waste management practices, no prohibited items were specifically identified in the waste stream, except for liquids due to dewatering or incomplete absorption. Waste packages containing prohibited items or prohibited quantities of liquid identified during characterization activities will be segregated then dispositioned appropriately and/or repackaged to remove the items prior to certification and shipment. Refer to Section 6.4.4 for specific waste stream prohibited items information.

The pretreatment process cemented sludge into monoliths by tumbling 55-gallon DOT 7A, Type A drums containing measured quantities of sludge, Portland cement, vermiculite, and sodium silicate. A 5-mil plastic sleeve may or may not be installed in the 55-gallon drum for contamination control during the adding of sludge. The 55-gallon drum will include one of the following liner configurations depending on the date of generation: no liner, up to two 5-mil to 12-mil plastic liner bags, a baked-on 90-mil/125-mil rigid polyethylene liner, or a standard 90-/125-mil rigid polyethylene liner with or without a lid. Waste may also be repackaged into a POC. Waste placed into a POC may be packaged into a single filtered plastic bag which may include a fiberboard liner/sleeve inside the plastic bag. POCs contain a pipe component in a 55-gallon drum that is lined with a punctured rigid liner with packing material between the pipe component and liner. During waste management and drum storage activities following initial waste generation, 55-gallon drums have been overpacked into larger drums (i.e., 85-gallon drums or larger) or SWBs. If drums are overpacked into an SWB (up to four 55-gallon drums), up to two liner bags may be present. The final payload container package configuration will result in up to three layers of confinement. Refer to Section 6.5 for detailed waste packaging information.

Waste stream LA-CIN02.001 meets the definition of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity. This waste stream was generated by the TA-50-01 RLWTF pretreatment process. Refer to Section 4.3.6 for detailed waste stream delineation information.

2.3 Waste Stream LA-MHD09.001 (Heterogeneous Debris)

Summary Category Group:	S5000 – Debris Waste
Waste Matrix Code Group:	Heterogeneous Debris Waste
Waste Matrix Code:	S5400
TRUCON Codes:	LA225*

*RTR and/or VE will confirm the primary TRUCON Code LA225; however, TRUCON Codes LA154, LA215, LA216, LA217, LA218, LA219, LA220, LA223, and SQ154 may be used pending further evaluation by the Waste Certification Official of container-specific information.

ATWIR Identification Numbers (Reference 6):	LA-MHD09.001
Layers of Confinement:	Maximum of six layers

Waste Stream Description:

Waste Stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris. Examples of combustible waste materials include cardboard, cellulosics, cheesecloth, cloth, filter media/paper, Kimwipes, leaded gloves, mops, paper, plastics (e.g., bags, bottles, piping, wrap), PPE, prefilters, rags, rubber (e.g., gaskets), sandpaper, Styrofoam, tape, wood, and wood-based high-efficiency particulate air (HEPA) filters. Examples of non-combustible waste materials include aluminum foil, cans (e.g., tin), equipment and instruments (e.g., balance, pump, scale, smoke detector, vacuum gage), flanges, glass (e.g., jar, vials, windows), graphite, lead (e.g., bricks, shielding), quartz tubes, platinum metal, piping, scrap metal, size reduced gloveboxes and tanks, sources, stainless-steel, tools, and valves. The waste may also include small amounts of homogeneous solids such as absorbent/solidification material (e.g., Portland cement, vermiculite, Waste Lock 770) used to solidify liquids (e.g., grease, oils), oxides (e.g., source material), and sand. Any payload container consisting of more than 50 percent by volume of homogeneous solids will be excluded from this waste stream. Refer to Section 7.0 for specific details about this waste stream.

The two most prevalent radionuclides by mass for this waste stream are Pu-239 and U-238, while over 95 percent of the total activity is from Am-241, Pu-238, Pu-239, and Pu-241. The radiological characterization information is presented in Section 7.4.2. The waste stream was determined to contain RCRA-regulated constituents and is assigned the following EPA HWNs: F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. Refer to Section 7.4.3 for the rationale for assignment of these codes.

Based on the review of container documentation, no prohibited items have been identified in this waste stream. However, historical procedures allowed containers greater than four liters, sealed with tape, to be used for waste packaging until WIPP certification procedures were implemented. In addition, other LANL debris waste streams have identified prohibited quantities of liquid (both containerized and uncontainerized) and aerosol cans have also been observed. Lead shielding is often used to increase handling safety, and thick shielding can obscure RTR observations. All drums in this waste stream will be evaluated through RTR or VE to ensure there are no prohibited items prior to shipment to WIPP. Waste packages containing prohibited items identified during characterization activities will be segregated then dispositioned appropriately and/or repackaged to remove the items prior to certification and shipment. Refer to Section 7.4.4 for detailed waste stream prohibited items information.

Waste drum packaging procedures for LANL waste streams have been modified several times and drums in this waste stream include a variety of configurations with up to six layers of confinement. RTR and/or VE will confirm TRUCON Code LA225. LA225 describes the broadest type of materials and bounds all waste packages in this waste stream. However, TRUCON Codes LA215, LA216, LA217, LA218, LA219, LA220, and LA223 have also been identified as suitable for individual containers in this waste

stream. These TRUCON Codes may be assigned for the eventual certification and transportation of payload containers in this waste stream pending further evaluation. LA154 or SQ154 may be used for high wattage drums subject to the conditions and controls specified in Appendix 6.12 of the *Contact-Handled Transuranic Waste Authorized Methods for Payload Control* (CH-TRAMPAC) (Reference 17). Refer to Section 7.5 for detailed waste packaging information.

Waste stream LA-MHD09.001 meets the definition of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity. This waste stream was generated during TA-50 waste treatment and associated facility and equipment maintenance, decontamination and decommissioning (D&D), and waste repackaging operations. Refer to Section 4.3.6 for detailed waste stream delineation information.

3.0 ACCEPTABLE KNOWLEDGE DATA AND INFORMATION

TRU waste destined for disposal at the WIPP must be characterized prior to shipment. The WIPP-WAP (Reference 1) permits use of knowledge of the materials and processes that generate and control the waste, provided a clear and convincing argument about the characteristics of the waste is achieved. The AK characterization documented herein complies with the requirements of the WIPP-WAP and was developed in accordance with CCP-PO-001, (Reference 7), and CCP-TP-005 (Reference 8).

The references and AK sources used to prepare this report are listed in Sections 9.0 and 10.0, respectively. The AK sources referenced within this report by alphanumeric designations (e.g., C001, D001, DR001, M001, and P001) correspond to the Source Document Tracking Number using the following convention:

- C – Correspondence
- D – Documents
- DR – Discrepancy Resolution
- M – Miscellaneous
- P – Procedures

4.0 REQUIRED PROGRAM INFORMATION

This section presents the waste management program information required by the WIPP-WAP (Reference 1). Included is a brief operational history of the TA-50 Facility, summaries of the missions, discussions of waste generating operations, and descriptions of the site's waste management program as it relates to these waste streams. Attachment 1, Acceptable Knowledge Documentation Checklist, of CCP procedure CCP-TP-005 (Reference 8), provides a list of TRU waste management program information required to be developed as part of the AK record.

4.1 Facility Location

LANL is located in Los Alamos County in north-central New Mexico, approximately 60 miles north-northeast of Albuquerque, and 25 miles northwest of Santa Fe. The LANL site encompasses 43 square miles subdivided into 49 TAs. The TA-50 Facility is located on Pecos Drive and Aries at the LANL site. Figure 1, Location of the LANL Site, shows the location of LANL and the TAs. Figure 2, TA-50 Facility Map, shows the location of Buildings TA-50-01 RLWTF, TA-50-37 CAI, and TA-50-69 WCRR Facility (References D024 and D078).

4.2 LANL Operational History

In 1942, the U.S. Army Manhattan Engineer District established Project Y to develop the atomic bomb. The research quickly progressed to a point that necessitated a remote site for experimental work, and the Army selected the Los Alamos Ranch School for Boys as an appropriate location. The Undersecretary of War directed acquisition of the school site, which consisted of a group of approximately 50 log buildings on a 790-acre site northwest of Santa Fe. The project ultimately acquired an additional 3,120 privately owned acres and 45,666 acres of public land managed by the U.S. Forest Service. In 1943, this land became known as the Los Alamos Site, later as the Los Alamos Scientific Laboratory. It is now named LANL. With the end of World War II and the growth of international competition, a national policy of maintaining superiority in the field of atomic energy was established. Congress chose to sustain the Los Alamos Site and the Atomic Energy Commission (AEC) received control of LANL from the Army. During subsequent years, LANL continued to expand at a steady rate, first under the AEC and later under the Energy Research and Development Administration. Since 1978, LANL has operated under the control of the U.S. Department of Energy (DOE). Currently, the National Nuclear Security Administration, a quasi-autonomous agency within DOE, manages the Los Alamos National Security, LLC (LANS) contract. Since its inception until 2006, the University of California (UC) operated LANL for the federal government. In 2006, a consortium of Bechtel, UC, BWX Technologies, and URS Energy and Construction (URS acquired Washington Group International in 2007) formed LANS to operate LANL (References 12 and D078).

4.2.1 LANL Site Mission

The primary mission of LANL has been nuclear weapons R&D since its inception. LANL's current mission supports disciplines that enable LANL to contribute to defense, civilian, and industrial needs. Included in this mission are the research, design, development, and analysis of nuclear weapons components; support to research programs in the national interest; energy and environmental research; and environmental management. In achieving mission objectives, LANL used, and continues to use, hazardous and radioactive materials. Liquid and solid wastes containing TRU contamination that may be commingled with RCRA hazardous waste has been, and continues to be, generated as a result of plutonium R&D, processing and recovery operations, and D&D projects (Reference D078).

4.2.2 TA-50 Facility Mission

The primary mission of TA-50 is radioactive waste treatment. LANL's primary facility for treating radioactive liquid waste is the RLWTF. The RLWTF receives untreated liquid wastes through gravity-fed pipelines from various LANL facilities (refer to Section 4.4.4). In the past, liquid wastes were also trucked to the RLWTF. The primary waste form produced at the RLWTF is sludge and cemented sludge from wastewater treatment. The RLWTF treats radioactive liquid generated during site operations in a manner to ensure protection of workers, the public, and the environment. Maintenance and D&D operations at the RLWTF also generate solid debris wastes. The CAI was used to test the reduction and stabilization of contaminated TRU wastes by incineration. The primary objectives in the CAI facility were to assemble and operate a state of-the-art production incinerator system using commercially available incineration and pollution-control components, meet radioactive health and safety standards, and determine the advantages and limitations of the technology. The WCRR Facility was originally designed for the size reduction of non-routine waste items (e.g., gloveboxes, equipment) that were too large to fit into standard waste containers, such as 55-gallon drums and SWBs. The facility's current mission is to perform VE, repackaging, and prohibited item dispositioning of TRU waste (References D006, D022, and D078).

4.2.3 Defense Waste Assessment

DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP-WAC) (Reference 3) requires generator sites to use AK to determine if the TRU waste streams to be disposed at the WIPP meet the definition of TRU defense waste. Based on guidance from DOE, a TRU waste is eligible for disposal at the WIPP if it has been generated in whole or part by one of the atomic energy defense activities listed in Section 10101(3) of the *Nuclear Waste Policy Act of 1982* (NWPA) (Reference 13).

As stated above, the primary mission of LANL has been nuclear weapons R&D since its inception. The primary mission of TA-50 is radioactive waste treatment. Section 4.4 of this report identifies specific buildings and operations that contributed process liquid waste to the TA-50-01 RLWTF for treatment, TRU waste to the TA-50-37 CAI for

incineration, and solid TRU waste to the TA-50-69 WCRR Facility for size reduction and repackaging. Although these buildings and operations performed both defense and non-defense related activities, liquid wastes generated from these operations were inseparably commingled in pipelines or within the influent holding tanks at the RLWTF prior to treatment. In addition, solid TRU wastes incinerated at the CAI and repackaged at the WCRR Facility originated from facilities performing defense related activities, including TA-3, TA-21, TA-35, TA-43, TA-48, TA-55, and TA-59. Waste repackaged at the WCRR Facility also originated from the RLWTF and the CAI. Liquid wastes from both the CAI and the WCRR Facility are discharged to the RLWTF in a dedicated pipeline for treatment. Therefore, liquid and solid wastes are commingled prior to and during TA-50 waste generating and treatment operations (References C096, D005, D013, D022, D025, D028, D078, and M227).

As one example of commingling, the PF-4 operations at TA-55 contributed aqueous liquid waste to the main treatment operation of the RLWTF during the time period of generation for Waste Stream LA-MIN03-NC.001. In addition, TA-55 waste has been pretreated in Room 60 of the RLWTF since 1983, and effluent from the TA-55 pretreatment process is discharged to the main treatment operations of the RLWTF for further processing. Solid TRU wastes from TA-55 were incinerated in the CAI and they continue to be repackaged in the WCRR Facility. Section 4.4.4 identifies specific TA-55 operations that generate liquid and solid wastes treated and processed/repackaged at TA-50 facilities, most of which are defense related activities, including plutonium recovery and purification operations for defense programs. It should also be noted that a defense determination has previously been accepted for debris waste originating from many of the same TA-55 operations, and these TA-55 debris wastes are currently eligible for shipment to WIPP (References 12, C014, D001, D002, D003, D005, D007, D018, D046, D076, D077, D078, and D079).

Waste Stream LA-MHD09.001 includes eight containers from Exxon Nuclear shipped to LANL in 1974. In the 1970s, Exxon Nuclear was involved in the development of nuclear energy technology, specifically the manufacturing of fuel. However, the program(s) that generated this waste has not been identified. In addition, the Exxon Nuclear Corporation or division contacts are no longer available. This waste was repackaged in the WCRR Facility in 1997 and its contents were examined. It was determined the material from Exxon Nuclear was consistent with debris waste generated during plutonium processing operations (e.g., flanges, HEPA filters, PPE, paper, plastic, piping, rags, rubber, scrap metal, tools, valves, and wood). Prior to repackaging, the waste was also managed by the TA-55 TRU solid waste management operation in Room 432. This room is where processing and packaging of TRU waste is performed. Therefore, it is assumed that this waste was contaminated by or commingled with defense waste from TA-50 and/or TA-55 (References 18, C098, and M227).

Based on the review of the AK, the waste containers in LA-MIN03-NC.001, LA-CIN02.001, and LA-MHD09.001 meet the WIPP-WAC (Reference 3) definition of TRU defense waste and can be categorized as defense nuclear waste and materials by-products management (References 4 and 13).

4.2.4 Spent Nuclear Fuel and High-Level Waste Assessment

The Waste Isolation Pilot Plant Land Withdrawal Act (Reference 5) prohibits the disposal of spent nuclear fuel and high-level waste as defined by the NWPA (Reference 13) at WIPP. According to the NWPA, spent nuclear fuel is "fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing." The *DOE Radioactive Waste Management Manual* (Reference 14) expands on this definition to clarify that "test specimens of fissionable material irradiated for research and development only, and not production of power or plutonium, may be classified as waste, and managed in accordance with the requirements of this Order when it is technically infeasible, cost prohibitive, or would increase worker exposure to separate the remaining test specimens from other contaminated material." High-level waste is defined by the NWPA as "the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation." These waste streams consist of homogeneous and debris waste contaminated with radioactive material from the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and repackaging operations. These operations did not involve separation or reprocessing of constituent elements from reactor fuel. These waste streams do not contain irradiated fuel elements withdrawn from a reactor or pieces thereof. Therefore, the waste is not a spent nuclear fuel, not high-level waste, nor a waste historically managed as high-level waste, and is eligible for disposal at WIPP as TRU waste (References 5, 12, 13, D070, D078, D079, and D102).

4.3 TRU Waste Management

The LANL waste management goal is that all waste generated is stored, transported, treated, and disposed of in a manner that protects the environment, workers, and the public. The overall requirements for managing waste are summarized in the Laboratory Performance Requirement (LPR) document, Environmental Protection (Reference D107). Currently, LANL TRU Programs and waste management personnel are responsible for establishing waste management programs that are consistent with applicable DOE orders and state and federal regulations (References 12 and D078).

The following sections discuss TRU waste identification systems used at LANL; historical and present-day TRU waste management practices; LANL treatment, storage, and disposal facilities (TSDFs) for TRU mixed waste; and correlation of waste streams generated from the same facility and process.

4.3.1 Waste Identification and Categorization

Several waste identification and categorization conventions have been used as part of waste management operations for TRU mixed waste generated at LANL. The waste identification system used for a particular waste container depends largely upon the date of placement into storage. Specific waste identification conventions at LANL include the assignment of Radioactive Solid Waste Disposal (RSWD) Codes, Item Description Codes (IDCs), Process/Status (P/S) Codes, Special Nuclear Material (SNM) Matrix Codes, nuclear Material Type (MT), and TRUCON Codes to containers of TRU waste. Based on a review of available AK, TA-50 facilities employed RSWD Codes, IDCs, and TRUCON Codes as waste identification conventions. Therefore, these methods of categorization are described in the text below (References 12, C083, D078, D106, M026, M217, M218, and P001).

RSWD Codes

RSWD Codes were first used at LANL in January 1971 and were discontinued in 1992. The RSWD Codes are a two-digit code preceded by the letter "A." The RSWD Codes were used to categorize TRU waste forms generated by the various on-site facilities. The code associated with individual containers in Waste Stream LA-MIN03-NC.001 is the RSWD waste code A75 (Chemical Treatment Sludge). The codes associated with Waste Stream LA-CIN02.001 are RSWD waste codes A25 (Leached Process Residues), A26 (Evaporator Bottoms/Salts), and A76 (Cement Paste). The codes associated with final waste packages in Waste Stream LA-MHD09.001 are RSWD waste codes A14 (Combustible Decon Waste), A16 (Plastics), A18 (Combustible Lab Trash), A19 (Combined Combustible/Non-Combustible Lab Trash), A30 (Property Number [PN] Equipment), A31 (Non-PN Equipment), A51 (Precious Metals), A55 (Filter Media), A75 (Chemical Treatment Sludge), and A95 (Glass). RSWD code A75 was associated with LANL generated homogeneous containers that were determined to be debris during characterization activities. Other RSWD waste codes including A35 (Combustible Building Debris), A41 (Noncombustible Hot-Cell Waste), A52 (Scrap Metal), A60 (Other Combustibles), A80 (Irradiation Sources), and A85 (Firing Point Residues) were also identified in parent containers of repackaged waste (References 12, C083, C096, D078, D106, DR004, M026, M217, M218, M219, M220, and M227).

IDCs

IDCs were first used at LANL in July 1984 and discontinued in 1992. The IDCs generally consist of a three-digit number representing the most general descriptions of TRU waste. The IDCs associated with Waste Stream LA-MIN03-NC.001 are IDC 003 (Dewatered sludges – caustic sludge from liquid waste treatment facility using dry Portland cement to stabilize any liquids that may separate) and IDC 006 (Cemented process residues – process-leached solids, filter cakes, evaporator bottoms, etc., stabilized in Portland cement). The IDC associated with Waste Stream LA-CIN02.001 is IDC 002 (Cemented sludges – caustic sludge stabilized with Portland cement). The

IDC associated with Waste Stream LA-MHD09.001 is IDC 001 (Mixed metal scrap and combustibles) (References 12, C083, C096, D078, M218, M219, M220, and M227).

TRUCON Codes

TRUCON codes were first used at LANL in October 1992, and are presently in use. The system of TRUCON codes was developed by the DOE to provide a consistent waste description for TRU waste generated throughout all of DOE's facilities. The TRUCON codes are intended to assist DOE in establishing the characteristics of TRU waste to be certified for transportation to WIPP. The code associated with containers in waste stream LA-MIN03-NC.001 is the TRUCON code LA111. The codes associated with containers in waste stream LA-CIN02.001 are the TRUCON codes LA111 and LA114. The codes associated with containers in waste stream LA-MHD09.001 are the TRUCON codes LA116, LA117, and LA125. Detailed definitions of the LANL TRUCON Codes are found in DOE/WIPP 01-3194, *CH-TRU Waste Content Codes (CH-TRUCON)* (References 9, 12, C083, C096, D078, D106, M026, M217, M218, M219, M220, and M227).

4.3.2 Historical TRU Waste Management Practices

In 1970, the AEC, a predecessor of the DOE, directed its facilities to begin storing TRU waste in such a way that it could eventually be retrieved for shipment to WIPP. LANL then began segregating TRU waste from other wastes and dedicating specific areas within the Material Disposal Area G (Area G) at TA-54 for management (References 12 and D078).

Until 1983, all treatment sludge generated at the RLWTF was classified as TRU due to the higher level of TRU isotopes introduced to the process primarily from TA-55. During 1983, LANL began to pretreat waste water from TA-55 to remove the majority of the TRU isotopes from the waste water before it entered the main treatment process, reducing the amount of TRU sludge generated by a factor of 10. After the installation of the pretreatment unit, only occasional batches of TRU sludge were generated until the cleanout of the clariflocculation tanks which began in the late 1990s. LANL segregated the low-level from TRU waste based on sample results for the dewatered sludge on a batch basis prior to the dewatering process (References C013, C086, and D029).

During the initial generation time period for these waste streams (i.e., the 1970s), TA-50 waste was packaged and labeled, and a RSWD record form was completed for each waste package according to *Administrative Requirements 7-1: Radioactive Solid Waste Management, dated October, 1979* (Reference P001). Among other data, the RSWD form documented the date of generation, generator group and location, waste code, packaging, and radionuclide content information. In 1984, a lab-wide TRU Waste Certification Plan was adopted for newly generated TRU waste. Waste Content Codes (later known as IDCs) were assigned by the LANL Waste Management Group, Health, Safety and Environment Division (HSE-7 at that time). Each LANL waste generator was required to develop an attachment to this plan to define the details of the waste

certification functions and controls that applied to their specific operations and waste streams. The RSWD form was also replaced by the Certified Waste Storage Record (CWSR). The CWSR documented waste packaging information, including the type of packaging, generating organization and location, radionuclide content, dose rates, presence of toxic or corrosive materials, and storage site information. The CWSR was modified in the early 1990s and changed to the TRU Waste Storage Record (TWSR), which is discussed in the following section (References 12, D073, D074, and D103).

Each TRU waste package has a unique form number (container identification number) that is referenced on the RSWD/CWSR/TWSR form and stored in the electronic data record. An electronic data record for each container is stored in the Transuranic Waste Management (TRU WM) database. The TRU WM database data was used, in part, to create the CONCERT database and the Acceptable Knowledge Isotopic Ratios (AKIR) report. Various data fields in the CONCERT and AKIR databases were initially used to identify specific containers generated from TA-50 operations (References D018, D074, D078, M026, M217, M218, M219, and M220).

4.3.3 Present-Day TRU Waste Management Practices

Current LANL radioactive waste management practices follow DOE Order 435.1, *Radioactive Waste Management* (Reference 14). LANL waste management requirements applicable to TRU mixed and non-mixed waste are addressed in three Laboratory Implementation Requirements (LIRs) as follows (References 12, D062, D078, and P003):

- General Waste Management Requirements (References D108 and D109)
- Managing Radioactive Waste (Reference D110)
- Hazardous and Mixed Waste Requirements (References D111 and D112)

The LANL waste analysis plan for storage of TRU mixed waste is contained in Attachment A.2 to the LANL Hazardous Waste Permit (Reference D113).
TRU waste generators at LANL are required to complete forms that document the physical, chemical, and hazardous nature of waste and provide substantial AK information. LANL has used a Waste Profile Form (WPF) system since May 1991. Waste generators must complete a WPF for waste-stream specific information. This form documents the process that generated the waste, the location of waste generation, the physical form of the waste, the RCRA-regulated constituents present, and the radionuclides present. Guidance to generators for completion of the WPF is given in the Laboratory Implementation Guidance (LIG) document *Waste Profile Form Guidance* (References 12, D062, D078, D114, D115, and P003).

Generators must provide new WPFs when a process change results in a change in waste composition or when a new waste is generated. For routinely generated waste (i.e., routine operations waste), the WPF must be re-evaluated annually to ensure the information is current and correct. The WPF includes the Land Disposal Restrictions notification, which further documents the RCRA-regulated nature of waste. Specific

information that is requested on the WPF includes point of generation, method of characterization, waste categories and descriptions, presence of toxic metals and an estimate of concentration, presence of organic compounds and an estimate of concentration, identification of RCRA listed hazardous constituents, identification of RCRA hazardous characteristics (i.e., ignitability, corrosivity, reactivity, toxicity), and identification of the radiological characteristics of the waste. The information on the WPF must be certified as complete and accurate, as evidenced by the signature of the waste generator (References 12, D062, D078, D114, D115, and P003).

Waste generation information for individual TRU waste containers is required to be documented on the TWSR. The TWSR is reviewed and approved in accordance with *Review and Completion of the TWSR* (Reference D116) and is not approved unless the waste is associated with a valid, active WPF. The TWSR documents the type of packaging, generating organization, radionuclide and hazardous material content of the waste, dose rates, TRUCON code, and storage site information (e.g., building number, location, date of receipt). Guidance to generators for completion of the TWSR is provided in LIG document *Waste Generator Guidance for Completing the TRU Waste Storage Record* (Reference D117). The TWSR form is completed in the Waste Management System database and reviewed by facility and waste management personnel electronically. For wastes that violate the Area G waste acceptance criteria for packaging, weight, or materials, a Waste Acceptance Criteria Exception Form (WEF) must be completed to request an exception (References 12, D078, D114, D118, and P003).

The TRU WM Oracle database consists of a listing for all TRU waste containers in storage at TA-54, Area G, including the containers in these waste streams. Figure 1 is a map identifying the location of TA-54, Area G. Along with the unique waste container identification number, the database contains AK information for each container, which includes (References 11, 12, D018, and D078):

- Generator organization and location
- Site-based waste identifiers, including IDC, RSWD, and TRUCON codes
- Generator assay results
- Container type, volume, and gross weight
- CH/RH flag
- Closure and package dates
- Current storage location.

4.3.4 LANL Treatment, Storage and Disposal Facilities (TSDFs) for TRU Waste

LANL's inventory of TRU waste destined for disposal at WIPP is stored at TA-54, Area G, which has been in operation since 1957. TRU waste management at Area G includes drum venting, decontamination and volume reduction, and bermed waste retrieval operations (References 12, D074, D078, and D103).

In the late 1970s, facilities throughout the DOE complex recognized the need to upgrade the retrievability of TRU waste. As a result, LANL constructed three asphalt storage pads for TRU and TRU mixed waste storage at Area G, referred to as Storage Pads 1, 2, and 4. The waste containers were configured in densely packed arrays and subsequently covered with earth to provide protection from weather and be consistent with DOE's principle of maintaining exposure as low as reasonably achievable (ALARA) (References 12, D074, D078, and D103).

The Transuranic Waste Inspectable Storage Project (TWISP) was initiated in 1997 to retrieve waste from earthen covered storage at Area G and place the waste in an inspectable configuration in above ground storage domes. Retrieved containers were vented and fitted with filters; thus, the completion date of the TWISP (December 31, 2001) can be used to establish the drum age criteria (DAC) if RTR verifies that the drum liner lid, if present, has been punctured. The TWISP was executed in three campaigns. The first campaign, Pad 1, began in March 1997 and was completed in November 1998. The second campaign, Pad 4, was completed in December 1999, and the third campaign, Pad 2 was completed in December 2001 (References 12, D078, D103, and D105).

Waste containers that fail to meet WIPP criteria are sent to the TA-50-69 WCRR Facility; the TA-54 Building 412 facility formerly known as the Decontamination and Volume Reduction System (DVRS) facility; the TA-54 Dome 231 Permacon; or the TA-54 Dome 375 TRU Oversized Waste Processing Capability Project, also referred to as the Box Line Process, to be safely remediated. Figure 1 identifies the general location of these facilities (References 12, C090, C092, C093, C100, D078, D103, D104, D106, P014, P015, P016, P018, P019, P021, P022, P023, P024, P025, and P026).

4.3.5 Types and Quantity of TRU Waste Generated

The waste streams described by this report have been characterized as TRU mixed waste. The characterization information presented in this report is based on the review of container specific documentation for those containers listed in the most current AK Tracking Spreadsheet containers list.

Waste stream LA-MIN03-NC.001, mixed inorganic homogeneous solids, consists of approximately 5,325 55-gallon drums (1,118 cubic meters [m^3]), 283 85-gallon drums (91 m^3), and three 110 gallon drums (1 m^3) totaling 1,210 m^3. No additional containers of this waste stream are expected to be generated in the future (References C094, C101, DR007, M026, and M217).

Waste stream LA-CIN02.001, mixed cemented TRU waste, consists of approximately 351 55-gallon drums (74 m^3), 392 85-gallon drums (125 m^3), 12 110-gallon drums (5 m^3), and 149 SWBs (280 m^3) totaling approximately 484 m^3. The future projection of additional generation for this waste stream is approximately 4 m^3 per year and there is no projected end date (References C082, C083, C094, C101, DR007, and M218).

Waste stream LA-MHD09.001, mixed heterogeneous debris, consists of approximately 40 55-gallon drums (includes POCs) (8.4 m^3), 6 85-gallon drums (1.9 m^3), 15 SWBs (28.2 m^3), and 11 other containers (30.3 m^3), totaling 68.8 m^3. The future projection of additional generation for this waste stream is approximately 0.2 m^3 per year and there is no projected end date (References C096, C097, C101, C106, and M227).

4.3.6 Correlation of Waste Streams Generated from the Same Facility and Process

The WIPP-WAP defines a waste stream as waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity (Reference 1). Based on a review of the AK documentation, waste streams LA-MIN03-NC.001 mixed inorganic homogeneous solids, LA-CIN02.001 mixed cemented TRU waste, and LA-MHD09.001 mixed heterogeneous debris were generated during TA-50 waste treatment operations. Container specific records have been reviewed to verify the physical composition and origin of the individual waste stream inventories. It has been determined that every container included in the most current AK Tracking Spreadsheet from these waste streams was generated from the operations described in Section 4.4. In addition, each of these waste streams has been categorized into a single Waste Matrix Code (as described in Sections 5.4.1, 6.4.1, and 7.4.1) and all have been classified entirely as TRU mixed waste (as described in Sections 5.4.3, 6.4.3, and 7.4.3). The following subsections provide further basis for the waste stream delineations (References 1, C083, C094, C096, M026, M217, M218, M219, M220, and M227).

Evaluation of Homogeneous Waste Containers

As described in Section 4.4, numerous buildings and operations contribute process liquid waste to the TA-50-01 RLWTF for treatment. Although these buildings and operations performed a multitude of activities (many unrelated), liquid wastes generated from these operations are inseparably commingled in pipelines or within the influent holding tanks at the RLWTF prior to processing at the main treatment operation. The pretreatment operation received liquid waste exclusively from PF-4 operations at TA-55 and does not include main treatment operation hazardous constituents 1,2-dichloroethane (D028), pentachlorophenol (D037), cresols (F004), nitrobenzene (F004), and cyanides (F006, F007, and F009). An evaluation of the main treatment and pretreatment processes also confirms that the final physical form of each homogeneous waste stream is the same regardless of the liquid wastes treated. The processes convert the aqueous or organic material into an inorganic matrix. In addition, both the main treatment and pretreatment processes are performed in a closed system, which prevents any introduction of extraneous material (References 12, C013, C018, D004, D005, D025, D078, DR001, and DR006).

Evaluation of Debris Waste Containers

As described in Section 4.4, numerous buildings and operations contributed liquid and solid waste to TA-50 for treatment. The debris waste described by this report was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. TA-50-01 RLWTF and TA-50-37 CAI debris originated from maintenance and D&D of treatment equipment. Waste from various facilities (e.g., TA-55) was sent to the CAI for incineration; consequently, debris from the CAI contains similar contaminants as other debris waste from TA-50. The TA-50-69 WCRR Facility repackaged waste from all over the site including RLWTF and CAI waste (reference container 53877 that includes waste from both facilities). In addition, liquid waste from both the WCRR Facility and the CAI were discharged to the RLWTF for treatment. Contaminated enclosure wash down water from the WCRR Facility was collected in 55-gallon drums and transferred to a holding tank, which when full was moved to the RLWTF for treatment. It is also assumed that some quantities of chemical contaminants in incinerator feed material were contained in the scrub solution that, according to applicable procedures, was discharged to the RLWTF. Based on both the commingling of liquid and solid waste from contributing buildings and TA-50's internal interconnected waste treatment operations, the debris waste described by this report contains the same or similar material, physical form, and hazardous constituents. The debris waste from TA-50 does include additional hazardous constituents 1,4-dichlorobenzene (D027), 1,1-dichloroethylene (D029), 2,4-dinitrotoluene (D030), and vinyl chloride (D043) because it contains debris waste from the Chemistry and Metallurgy Research (CMR) Building (Refer to Section 7.4.3) (References C013, C018, C096, D005, D013, D022, D028, D056, D078, DR001, DR010, and M227).

Based on the rationale above, waste streams LA-MIN03-NC.001, LA-CIN02.001, and LA-MHD09.001 meet the WIPP-WAP waste stream definition, and further delineation of these waste streams is either unfeasible or unnecessary (Reference 1).

4.4 Description of Waste Generating Process

Numerous LANL buildings and operations contribute liquid and solid waste to the TA-50 waste treatment operations for treatment. The main treatment operation concentrated and removed radioactive components from liquid wastes that were piped or trucked to RLWTF from various locations at LANL. The pretreatment operation treats aqueous process wastes piped or trucked directly from the Plutonium Facility located at TA-55. The CAI was used to test the reduction and stabilization of radioactively contaminated wastes by incineration. The WCRR Facility was originally designed for the size reduction of non-routine waste items (e.g., gloveboxes, equipment) that were too large to fit into standard waste containers, such as 55-gallon drums and SWBs. The facility currently performs VE, repackaging, and prohibited item dispositioning of TRU waste. Descriptions for each waste generating activity described in the AK record are provided in the following subsections. Included are descriptions of the LANL buildings and operations that contribute liquid and solid waste to TA-50 for treatment/repackaging, repackaging facilities located in TA-54, and the below-grade retrieval project. Figures 3 through 9 provide general waste generation and

management process flow diagrams for TA-50 wastes (References C004, D005, D018, D030, D074, D078, and P013).

4.4.1 Main Treatment Operation in the RLWTF

Radioactively contaminated liquid meeting the TA-50 waste acceptance criteria was sent to the TA-50-1 RLWTF for treatment. The pH of radioactive liquid waste entering RLWTF was initially adjusted by the addition of sodium hydroxide, and flowed by gravity to one of the two underground influent holding tanks. These tanks are part of the large underground structure known as TA-50-2. From the influent tanks, the liquid waste was pumped into TA-50-01 (References D005 and D025).

Liquid waste from the influent tanks flowed to a flash mixer where it was mixed with floc-forming chemicals and discharged to the first clariflocculator. Floc-forming chemicals, calcium hydroxide and ferric sulfate, were delivered to the flash mixer from overhead hoppers by vibratory feeders. Trisodium phosphate was also used as a floc-forming chemical during the 1980s. Mixing chambers mixed the dry chemical from a given feeder with water by mechanical agitation. Each chamber was equipped with a small, motor-driven mixer. Solution from each mixing chamber flowed by gravity into a flow splitter box (one per mixing chamber) which split the flow between the two flash mixers. If operators found (from visual inspection of the liquid in the clariflocculator) that proper floc formation was not occurring, an additional coagulant was added to the stream to aid in floc formation in the clariflocculators. The coagulant used was Betz Polymer 1110. This polymer was manually mixed with water in a 30 cubic foot plastic tank and added directly to one of the flow splitter boxes using a small pump (References C014, D005, and D025).

Inside the clariflocculator, calcium carbonate and ferric hydroxide floc particles form as the waste was gently mixed by rotating paddles moving between fixed baffle plates. The heavy floc particles incorporating waste contaminants fell through the bottom of the flocculation tank and settled in the bottom of the outer (clarifier) tank, forming sludge. A sludge rake collected the sludge in a conical central sump of the clarifier tank, from where it could be drained to the sludge holding tank at TA-50-2 by opening a manually operated valve. The tank was equipped with a mixer, and it had draw-off taps at six different elevations to allow separation of the supernatant and the settled sludge. The supernatant was pumped back to the influent tanks (Reference D005).

Because of reduced volumes of influent and the requirement for removing greater amounts of alpha radioactivity, the plant has operated the dual clariflocculators in series since the late 1980s. Clarified liquid from the first clariflocculator was pumped to the flash mixer where additional floc-forming chemicals were added. The mixture then flowed to the second clariflocculator where additional contaminants are removed from the waste. Sludge from the second clariflocculator was periodically drained to the sludge tank at TA-50-2. Clarified liquid from the second clariflocculator flowed by gravity to the gravity filter. The filter media consisted of anthracite and sand supported by a 9-inch bed of silica gravel. The clarified liquid flowed into the inlet plenum at the

bottom of the filter. Carbon dioxide gas was bubbled into the liquid at the bottom of the inlet plenum to lower the pH to below 9 and limit formation of carbonate scale in the filter media. The rate of carbon dioxide addition was set manually by the operator on the basis of visual inspection of the liquid in the filter (the liquid turned milky white if precipitate was forming). Liquid waste rose through the inlet plenum of the gravity filter, overflowed the walls, and then flowed down through the filter media. Periodically, the gravity filter unit was backwashed to remove collected particles that could cause excessive head losses. Backwashing was accomplished by pumping industrial water upward through the filter beds. The backwash water flowing out the tops of the filter beds overflowed into the filter unit's inlet plenum and was directed to the influent tanks at TA-50-2. Treated liquid waste exiting the gravity filter unit flowed by gravity to one of the two effluent tanks at TA-50-2. When an effluent tank was full, personnel discharged the tank's contents to the plant National Pollutant Discharge Elimination System (NPDES)-permitted outfalls to Mortandad Canyon (References D005, D018, and D025).

From 1979 to approximately 1984, four ion exchange columns were used to improve the removal of positive ions such as strontium and cesium from the liquid waste. Upon exhaustion, the resins were regenerated with nitric acid. The spent regenerate was collected, neutralized, reacted with trisodium phosphate, and further treated with other flocculant sludges in the main treatment operation vacuum filter. Four new ion exchange columns were installed after 1984; however, since waste generators that once constituted the major sources of cesium and strontium were no longer generating waste, the new ion exchange columns were not tested or put into operation (References C017, D005, and D018).

Sludge collected in the TA-50-2 sludge tank contained about 5 percent – 10 percent solids. The sludge was dewatered to about 25 percent to 40 percent solids via a vacuum filtering operation conducted in Room 116B of TA-50-01. Sludge from the TA-50-2 sludge tank was pumped to the vacuum filter basin. The vacuum filter consisted of a 3-foot long steel drum covered with stainless steel screen that rotated inside a covered steel basin. The filter basin was equipped with a steel, paddle-type agitator. A mixture of perlite (lava particles) or diatomaceous earth and water was introduced to the filter basis to precoat the filter. Then, sludge was pumped into the filter basin. As the drum rotated, a vacuum was created inside it by a vacuum pump. The internal vacuum removed the water from the sludge that clung to the outside of the drum. The removed liquid was collected and discharged to the influent tanks at TA-50-2 (References C017, D005, and D018).

Precoat was supplied to the filter basin from a precoat mixing tank. Perlite or diatomaceous earth was introduced to the mixing tank through a hopper located in the penthouse above the mixing area, and was mixed with water to form the filter precoat (References C017 and D005).

The dewatered sludge was removed from the drum surface by a manually retractable knife scraper and discharged into a 55-gallon drum through a manually retractable discharge chute that clamped to the top of the drum. The 55-gallon drum was prepared

with a 5-mil plastic liner bag in a 90-mil/125-mil rigid polyethylene liner. Approximately 10 pounds of dry Portland cement was placed under the sludge and another 10 pounds on top of the sludge for moisture absorption. A manually operated sliding gate valve in the discharge chute allowed the operator to stop the discharge of dewatered sludge when a drum was full (References D005, D018, D074, DR003, and P002).

4.4.2 TA-55 Pretreatment Operation in the RLWTF

The pretreatment process in the RLWTF concentrates and removes radioactive components from liquid wastes that are piped to TA-50 from the Plutonium Facility (Building PF-4) located at TA-55. Caustic process liquid from chloride operations was cemented directly in drums in Rooms 60 and 116B of the RLWTF. This process was performed from 1979 to 1983. For several years beginning in 1979, acidic process liquids from nitrate operations were introduced into the main treatment operations of the RLWTF. The inclusion of the acidic process liquids contaminated the sludge with high enough concentrations of actinides to render it TRU waste (References C086, D004, and M218).

After 1983, TA-55 caustic and acidic process liquids have been fed into two holding tanks located in underground vault TA-50-66 and then into Room 60 of the RLWTF where the pretreatment process is performed. Prior to pretreatment, the caustic and acidic liquids are sampled for pH, americium, and plutonium content while in their respective holding tanks. Based on the analytical results, the approximate fissile content of the liquid waste is known as is the appropriate amount of materials needed for neutralization. A thin sludge is generated from treating blended acidic and caustic process liquids by either of two batch methods. One method uses calcium hydroxide (lime), ferric sulfate, a flocculation aid, and enough sodium hydroxide to bring the pH to 11.5 or greater. The other method uses a mixture of ferrous sulfate, ferric sulfate, sodium hydroxide, and water. This method also increases the pH to 11.5 or greater and adds a flocculation aid. Either method produces a thin sludge containing approximately 5 percent to 25 percent solids that is always alkaline and compatible with Portland cement (References D004, D005, D020, and P013).

The thin sludge is subsequently cemented to form TRU cement monoliths. Prior to cementation, the sludge is recirculated to assure that all the sludge in the batch has the same composition. The cemented monoliths are produced by tumbling 55-gallon drums containing measured quantities of sludge, Portland cement, vermiculite, and sodium silicate. A 5-mil plastic liner/sleeve is installed in the 55-gallon drum for contamination control during the adding of sludge. The dry ingredients are typically placed in the drums prior to cementation. The cementation process uses three pre-packaged 94-pound bags of Portland cement. Approximately 4.5-pounds of vermiculite is added to the 55-gallon drum to serve as an absorbent and as an aggregate. A premeasured amount of sodium silicate (2.5-gallons) is added to the dry ingredients to assure incorporation of sludge components that may not be compatible with Portland cement. Between 22- to 23-gallons of sludge is then added to the drum, and the drum lid is installed. During the sludge addition step, aqueous sources (radionuclides in an

aqueous solution) from various facilities were also known to be cemented in this waste stream. However, the addition of these items is identified on the RSWD or TWSR forms. The assembled drum is slowly tumbled end-over-end while an operator watches for leaks. The drum is then allowed to cure for at least two days (References C082, D004, D005, and P013).

The effluent from the pretreatment process fed into the headworks of the main treatment operations of the RLWTF. After the pretreatment operation began, the amount of TRU sludge produced by the main treatment operation decreased until it eventually reached zero beginning in 1990 (References D004 and D005).

4.4.3 Facility and Equipment Maintenance, D&D, and Waste Repackaging Operations

Facility and equipment maintenance, D&D, and waste repackaging operations described in the AK record are provided in the following paragraphs.

Facility and Equipment Maintenance Operations

Facility and equipment maintenance operations conducted in the TA-50 facilities include cleaning and decontamination, equipment inspection and replacement, and general housekeeping. Cleaning and decontamination includes physical wiping and the use of cleaning solutions (e.g., Fantastik or water) to remove potential contamination and to restore work areas and equipment to their original condition. Paper, plastic, and rags with a cleaning solution are used to remove or contain the spread of contamination. Equipment inspection, calibration, and replacement operations are performed to ensure continued operability and process efficiency. General housekeeping includes cleaning, repair, and organization of the facility/infrastructure. Debris waste generated from these operations is disposed of as TRU or low-level waste (References D005, D013, D020, D056, D067, D078, M227, P003, and P005).

D&D Operations

D&D operations are undertaken to remove contaminated portions of buildings and processes. These buildings and processes house the equipment and material used to perform the TA-50 operations described in this report, and the waste generated during D&D operations contains the same chemical and radiological contaminants. Decontamination operations are used to accomplish several goals, such as reducing occupational exposures, limiting potential releases of radioactive materials, permitting the reuse of components, and reducing the amount of TRU waste generated. Decontamination operations include the use of mechanical and chemical cleaning techniques such as brushing, stripping, washing, and wiping to remove contamination. Commercially available, non-hazardous cleaning products, such as Fantastik, were used to remove loose contaminants. Decommissioning operations include the physical removal of contaminated equipment, furnishings, machinery, tanks, and support systems. This includes the removal and size reduction of glovebox internals, process piping and supports, tanks and ancillary equipment, and other fixed equipment such as

ducting, wires, conduits, electrical panels, and cabinets. Tanks and equipment are size reduced as necessary and packaged for disposal (size reduction was often performed at the WCRR Facility). Secondary waste such as combustibles, metal, and plastic generated during D&D is expected to be part of the waste (References 16, C086, D005, D017, D018, D028, D050, D056, D070, D078, and M227).

Waste Repackaging Operations

The TA-50-69 WCRR Facility was established in 1979 as the SRF to size reduce non-routine items such as decommissioned gloveboxes, ductwork, and process equipment to fit in 55-gallon drums or SWBs. A plasma torch was commonly used during size reduction operations to cut up these large items into manageable pieces. The SRF historically combined waste from multiple facilities including waste from the RLWTF and the CAI, and these containers are included in the TA-50 debris waste stream. As LANL TRU waste characterization and certification activities increased, the mission of the SRF was expanded to include various operations to support TRU waste characterization. In 1993, the name of the SRF was changed to the WCRR Facility to reflect the expanded remediation and repackaging mission. Size reduction operations at the WCRR Facility were discontinued around 1997 (References C090, D055, D056, D070, D074, D078, M227, and P015).

The WCRR Facility is used to perform VE, repackaging, and prohibited item dispositioning of TRU waste. VE is performed to provide information that is used to 1) confirm the waste stream delineation by AK, 2) ensure the absence of prohibited items, and 3) characterize retrievably stored waste with inadequate AK, in lieu of RTR. Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new drums, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items (e.g., unpunctured aerosol cans) are removed and segregated, prior to certification and shipment. Current repackaging procedures ensure that waste items placed into a new container originate from a single parent container, although, some secondary waste generated during remediation/repackaging operations may be added to the waste containers. Therefore if repackaging is necessary, the original characterization is retained (References C090, C099, P014, P015, P016, and P025).

4.4.4 Facilities Contributing Liquid and Solid Waste to the TA-50 Facility

Numerous facilities at LANL generated liquid and solid waste that was either piped or trucked to the TA-50 Facility for treatment since the 1970s. This section provides a brief summary of the facilities and operations identified in the AK documentation; however, it may not encompass all historical facilities and activities that sent waste since the 1970s to TA-50 for treatment.

TA-55, Plutonium Facility

Since 1979, the Plutonium Facility (Building PF-4) located at TA-55 has been used for the extraction and recovery of plutonium from residues and scraps generated from

operations at various LANL facilities and other DOE sites in the defense complex. Most operations at TA-55 that generate waste sent to TA-50 for treatment are solely defense related. Although non-defense related operations are also conducted at TA-55, any waste from non-defense work is commingled with defense waste prior to being treated at the TA-50 Facility (References 12, C014, D001, D002, D003, D007, D046, D077, D079, and D082).

TA-55 has conducted more than 170 individual operations; each associated with a P/S code. The LANL Material Accountability and Safeguards System (MASS) and associated P/S codes were developed to track nuclear materials throughout TA-55 plutonium recovery operations, and now provide information to associate waste materials with a specific operation of origin. Review of the TA-55 process documentation identified numerous P/S codes that are associated with operations that generate liquid and solid waste. The following operations and associated P/S codes provide examples of former and current operations contributing waste to TA-50 (Reference D079).

Chloride Operations at TA-55

- Chloride Operations Pretreatment; P/S codes PB, PUB: Pretreatment includes primarily physical operations used to prepare scrap and residues for dissolution. Pretreatment may include sorting, crushing, and pulverizing. Liquid waste sent to the RLWTF included low pH solutions used to extract beryllium sources during the decladding of Pu-Be sources (References D007, D082, M069, M075, and M076).

- Hydroxide Precipitation; P/S codes CLS, CW, CX, CXL, PRR: Potassium, magnesium, or sodium hydroxide is added to solutions originating from Purification operations (i.e., solvent extraction, ion exchange, and oxalate precipitation) to precipitate Pu-rich hydroxide salts. The resulting enriched cakes go to nitrate operations for further processing. Caustic liquid wastes are disposed through the caustic waste line to the RLWTF (References D007, D082, M068, and M073).

Metal Operations at TA-55

- Advanced Recovery and Integrated Extraction System (ARIES); P/S code ARI: The ARIES Electrolytic Can Decontamination System decontaminates the external surfaces of canned plutonium using an electrolytic decontamination system. An electrolyte (sodium sulfate) and water are used in the system in a recycle mode. Sodium hydroxide is used for pH control. Wastes include electrolyte and water solutions contaminated with plutonium. This liquid waste is sent either to cement fixation or to the RLWTF (References D077 and D100).

- Burst Testing; P/S code BT: Hemi-shells are placed on a test stand and a buffered test solution is pumped into the shell and pressurized until it bursts.

Strain gauges monitor the deformation of the shell. The test solution is sodium tetraborate and sodium hydroxide and is filtered and reused. The solution is eventually discarded in the caustic waste line to the RLWTF (References C035, D077, and D082).

Miscellaneous Operations at TA-55

- Analytical Chemistry Laboratory; P/S code ACL: Includes all analytical techniques performed in Room 124 of the TA-55. Operations involve the analysis of plutonium and americium, RCRA metals, and trace metals. Unused liquid samples are returned to the originator, sent to radiochemistry (RC) for counting, sent to aqueous recovery operations, or sent to the RLWTF (References D003 and D101).

- Actinide Processing Demonstration; P/S code APD: A hydrothermal processing technique that involves the reaction of aqueous/organic mixtures, pure organic liquids, solvents, explosives, salts, sludges or contaminated combustible solids (e.g., ion exchange resins, plastic filters, and cellulose rags) with water under supercritical or near-supercritical (elevated temperature and/or pressure) conditions. Acidic and caustic effluents generated during this process are sent to the RLWTF (References 12 and D003).

- Electrochemistry; P/S code ECHM: This operation examines the electrochemical behavior of actinide or actinide contaminated metal samples and compounds in aqueous and non-aqueous solutions. Once the examination process is complete, the residual solution is made more basic to precipitate the actinide. After settling, the liquid is decanted and the precipitate is filtered and dried. The filtrate is sent to TA-55 aqueous recovery or to the RLWTF (Reference 12).

- Metallography Operations; P/S code ME: This operation characterizes the microstructure of metallic or ceramic pieces and establishes the quality and effectiveness of welds. Materials examined consist of plutonium and uranium carbides, nitrides, and oxides, as well as zirconium and tantalum alloys, and stainless-steel. The materials are cleaned, polished, and etched with several different chemical compounds. The spent acids and bases are sent to aqueous recovery or to the RLWTF (References D003 and D101).

- Electrolytic Decontamination; P/S code EDC: Electrochemistry methodologies are designed to decontaminate items, replace operations that produce large amounts of waste, or enhance chemical reactions. The process involves uranium decontamination of disassembled weapon components from various sites with various levels of surface contamination with plutonium. Rinse water generated during this process is discarded to the RLWTF (References D003 and D101).

Nitrate Operations at TA-55

- Nitrate Operations Pretreatment; P/S codes BL, BM, BU, CR, DP, ETD, GMS, HGMS, IS, MAG, MAS, MF, OH, OY, PA, PAF, PTS, RC, RO, TDC, TSC, VP2, VUL: Pretreatment primarily includes physical operations used to prepare scrap and residues for the dissolution, and may include any or all of the following process: calcinations, caustic leaching, chemical separation (hydroxide or oxalate precipitation), crushing and pulverizing, distillation, filtering of liquids or oils, incineration, magnetic separation, passivation, scraping, and sorting. As materials are received from various operations within TA-55, they are sorted and sent to pretreatment operations or directly to dissolution depending on the physical nature of the scrap. Caustic solutions from the caustic scrubber and from the leach process, along with other aqueous liquid wastes from pretreatment operations were sent to the RLWTF (References D046, D082, M046, M193, M201, and M204).

- Dissolution; P/S codes AL, AS, AT, ATL, BAC, CD, COD, COL, CPOD, ED, HCD, HD, LC, LG1, LG2, MB, MELL, ML, MPD, NC, NL, NR, OD, PS, PT, SC, SP, SSD, UPS, US, US2, VC, VP1, ZD: Dissolution is comprised of numerous operations that generate a plutonium-nitrate solution for feed to a purification process. Solutions from a silica-removal process using a hydrofluorinator with potassium hydroxide scrubber were sent to the RLWTF. Solutions from a caustic leach process used to pretreat electrorefining furnace scrapings from the Rocky Flats Plant and other residues high in chlorides were also sent to the RLWTF (References D046, D082, M043, and M201).

- Purification and Oxide Conversion; P/S codes AO, AP, CC, CH, DF, DS, FA, FC, HC, LR, OH, OY, PR, RB, RBJ, RCM, RFX, RR, SX, VP3: Purification consists of both ion exchange and precipitation process. Intermediate solutions used to condition the ion exchange feed, such as caustic solutions to "kill" the peroxide, are filtered and then sent to the RLWTF. Additionally, distillates from the evaporator are also sent the RLWTF (References D046, D082, and M216).

- Evaporator; P/S code EV: Plutonium-poor ion exchange effluents and oxalate precipitation filtrates are sent to the evaporator to re-concentrate plutonium, if possible, and reduce the volume of disposed wastes. The resulting distillate is sent to the RLWTF (References C064, D046, D082, M111, M112, and M198).

Pyrochemical Operations at TA-55

- Direct Oxide Reduction; P/S codes OR, MCDOR, SCB: Prior to the multiple-cycle DOR process, a single pass DOR process was used for plutonium oxide. Plutonium oxide and calcium metal are reacted in molten calcium chloride (or a mixture of calcium chloride and calcium fluoride) to produce plutonium metal. The chloride off-gas is passed through a caustic scrubber, with the caustic solution going to the RLWTF (References D002, D082, and M165).

- Metal Purification Operations; P/S codes ER, MSE: Purification operations are used to separate americium and the more reactive elements such as rare earth elements, alkali metals, and alkaline earth metals from plutonium metal. In addition, these operations take impure metal and produce high purity plutonium metal. Caustic solution from the chlorine off-gas scrubbers used in these operations is sent to chloride operation or the RLWTF (References D002 and D100).

- Plutonium Trichloride Preparation; P/S code PTP): Plutonium Trichloride Preparation was an intermediate process used in Pu metal production. Carbon Tetrachloride was used to prepare plutonium trichloride by bubbling a carrier gas through plutonium oxide. The scrubber solution went in the caustic waste line to the RLWTF (References D002, D082, and M114).

Special Processing at TA-55

- Nitrate Anion Exchange; P/S codes IX and NP: Nitrate anion exchange is the primary method used at LANL for the aqueous concentration of plutonium. Effluents from nitrate ion exchange, when discardable, are sent to the evaporator, where they are reduced in volume by evaporation. Similar to ion exchange operations in nitrate operation, distillate is sent to the RLWTF (References 12, D001, D082, M035, and M036).

- Separation and Purification by Precipitation; P/S codes CP, DO, POSM, PPD: The separation of plutonium from aqueous solutions or dissolution of plutonium contaminated materials make use of many different precipitation reactions, the most common are reactions involving oxalate, peroxide, hydroxide, and fluoride anions. Precipitation of plutonium and americium hydroxides from waste solutions such as oxalate or peroxide filtrates produced alkaline filtrate discarded to the caustic waste line for treatment at the RLWTF (References 12, D001, D082, M038, M153, M154, M155, M156, M158, and M164).

- Metal Purification and Recovery Operations; P/S codes PX, RM, SBB: The purification and recovery operations generate pure plutonium metal from molten salt, impure metals, and plutonium scrap. The molten material is regenerated by sparging the calcium chloride – calcium oxide mixture with chlorine gas between plutonium metal production runs. The chlorine off-gas is passed through a caustic scrubber, with the caustic solution going to the RLWTF (References C040, D001, D082, and M166).

Pu-238 Operations

- Heat Source Fabrication; P/S codes GPHS and P1: Pu-238 heat sources that are routinely fabricated at TA-55 include the General Purpose Heat Source, Lightweight Radioisotope Heater Unit, and Milliwatt Generator Program.

Radioactive liquids sent to the RLWTF include waste water from cleaning and acid solutions used for decontamination (References C020 and D076).

- Routine Pu-238 Waste Solidification; P/S code R8: The process of solidifying Pu-238 solutions has been conducted since 1978. Solutions are treated with sodium hydroxide, ferric nitrate, and phenolphthalein in ethanol to precipitate Pu-238. Caustic filtrate is discarded into the caustic drain for treatment at the RLWTF (References D076 and P010).

- Aqueous Scrap Processing; P/S code ASP: This process involves the purification of Pu-238 oxide in a nitric acid stream, similar to the recovery operations already established for Pu-239 as part of TA-55 nitrate operations. During the process soluble Pu-238 is recovered with ferric nitrate and sodium hydroxide, and the filtrate resulting from the solidification process is discarded into the caustic waste line to the RLWTF (References 12 and D076).

- Welding and Decontamination; P/S code WD: Heat source capsules were welded and a solution of nitric and hydrofluoric acid was used for decontaminating the fuel clads. The TRU acid solutions generated by the decontamination steps were neutralized to precipitate plutonium, and the filtrate was discarded into the caustic waste line to the RLWTF (References 12 and D076).

In addition to the aqueous liquid waste sent to the RLWTF through the acid and caustic waste lines, industrial waste water utilized in laboratory sinks, decontamination showers, and janitor sinks was discharged to the RLWTF through the TA-55 industrial waste line. Debris waste contaminated with or generated by TA-55 Chloride, Metal, Miscellaneous, Nitrate, Pyrochemical, Special, and Pu-238 operations discussed above is also sent to the WCRR Facility for size reductions and repackaging. The debris waste would contain or be contaminated with the same chemical and radiological constituents present in the liquid waste discharged to the RLWTF for treatment (References C096, D005, and D028). The remaining identified facilities that contributed radioactive liquid and solid waste to the TA-50 Facility for treatment are identified below.

TA-2, Omega Site

Primary facilities located at the Omega Site were the Omega West Reactor (OWR) and an equipment building. The OWR was a water-cooled uranium-fueled reactor facility used for research and irradiation studies. The equipment building housed the ion-exchange columns used for cleanup of primary circulating cooling water and makeup water. Waste water was collected in tanks and later transported by vehicle to the RLWTF for final treatment. At some point prior to 1992, a pipeline from TA-2 was connected to deliver effluent discharge from TA-2 to the RLWTF for treatment (References D005, D018, D025, D027, and D040).

TA-3-16, Van de Graff Facility

Building TA-3-16 had one radioactive liquid waste pipeline connection to the RLWTF. Small amounts of tritium, iodine-125, and sulfur-35 were discharged. Rooms discharging include labs, mechanical rooms, a dark room, target preparation areas, workrooms, and assembly areas. Specific sources of discharge originated from film developer rinse water, a condensed water drain, radioactive pipe strainer discharge, emergency showers, floor washings, and hand washing (Reference D041).

TA-3-29, Chemistry and Metallurgy Research (CMR) Building

The CMR Building, located in TA-3, was an R&D facility composed of six interconnected, but different experimental areas. Wing 9 housed an irradiated-fuel examination facility. Five other wings (Wings 2, 3, 4, 5, and 7) housed numerous and varied R&D and analytical chemistry operations. Liquid wastes were discharged to holding tanks that drained to an underground pipeline system terminating at the RLWTF. Debris waste from this facility, including gloveboxes removed during D&D, was also sent to the WCRR Facility for size reduction and repackaging (References 11, C096, D018, D033, and D035).

TA-3-34, Cryogenics "B"

Building TA-3-34 had one drainage source to the radioactive liquid waste system that flowed into the RLWTF from sinks in laboratories and shops that may have been radioactively contaminated (Reference D043).

TA-3-35 (Press Building), TA-3-40 (Physics Building), TA-3-66 (Sigma Building), and TA-3-141 (Rolling Mill Building), Sigma Complex

The function of the Sigma Complex was to develop and fabricate materials for LANL programs. The Sigma Building housed seven specific sections where development work on both radioactive and non-radioactive materials was performed. The Press Building housed a portion of the Nuclear Fuels Section and was the facility where all enriched uranium-loaded graphite or carbide fuel elements were manufactured. The Rolling Mill Building housed parts of the Nuclear Fuels Section, Coatings Section, and Metal Processing Section (Reference D018).

Electrochemistry wastes were generated in two buildings, TA-3-40 and TA-3-66. The Print Circuit Board Shop, located in the Physics Building, generated significant quantities of acid/base wastes heavily contaminated with copper. The Electrochemistry Section, located in the Sigma Building, performed electropolishing and acid etching. U-238 and thorium (Th)-232 were processed in the standard cleaning and plating tanks in the Electrochemistry Section. Spent concentrated plating solutions were transferred to 55-gallon drums, which were trucked to TA-50 for treatment in the Batch Treatment process. The resulting sludge and liquid from the cyanide destruction process were discharged to the treatment tanks at TA-54, Area L, were allowed to evaporate, and

were subsequently managed in a different waste stream. However, if the liquid fraction met discharge limits, it could have also been released to the RLWTF. Debris waste from these facilities has also been sent to the WCRR Facility for repackaging (References C096, D005, D068, and D103).

Although concentrated cyanide plating bath solutions were treated separately, several other liquid wastes from the plating operations were sent to the main treatment operations of the RLWTF, including liquids from the hot water rinse; lead rinse tank; gold rinse tank; copper rinse tank; nickel rinse tank; electropolishing rinse tank; anodizing line (15 percent sulfuric acid); cleaning line (sodium hydroxide); copper strike and nitric acid pickling baths, and from steam condensate. Additionally, facility personnel confirmed minor spills of concentrated cyanide plating bath were collected in the facility sump and pumped to the RLWTF. Major spills (i.e., greater than 200 milliliters) were contained in the facility sump and removed for separate cyanide treatment (References C078, D034, and M010).

A sink and drain connection to the industrial waste sewer system was provided for disposal of radioactive and/or chemical waste at the Press Building. Debris waste from the Press Building has also been sent to the WCRR Facility for repackaging (References C096 and D018).

TA-3-39 and TA-3-102, Tech Shops

Building TA-3-39 had two drainage sources to the site radioactive liquid waste treatment system. Sources include floor drains, equipment drain, floor sinks, condensate from a small calibration lab test furnace, a trench drain, and oil interceptor. Rooms involved are storage areas, machine shops, battery charging room, and a steam cleaning room. Drains from a steam cleaning area went to Building TA-3-102, as verified by dye tests. Debris waste from Building TA-3-102 has also been sent to the WCRR Facility for repackaging (References C096 and D044).

TA-3-65, Source Storage

Building TA-3-65 discharged radioactive liquid waste to the RLWTF. At the time of the referenced report (1992), the building was not occupied. Rooms connected to the discharge included a source storage vault, work rooms, a utility room, leak test room, cart storage room, change rooms, storage rooms, and restrooms. Specific discharge locations include floor drains (although some were plugged at the time of the referenced report), water heater drain, floor washings, hand washing, a lavatory, and sinks. Miscellaneous TA-3 facilities including TA-3-130 (Calibration Building), TA-3-521 (Morgan Shed), and TA-3-1518 (a former trailer) also generated or used radioactive sources during normal operations. Debris waste from these facilities, specifically sources, has also been sent to the WCRR Facility for repackaging (References C096 and D041).

TA-3-154

Building TA-3-154 had one discharge from liquid waste storage tanks to the RLWTF. This drainage source drained liquid waste from underground storage tanks outside of the CMR Building TA-3-29. The liquid waste in the storage tanks is from the CMR building, and it is pumped out "periodically" (Reference D035).

TA-3-216, Weapons Test Support

Building TA-3-216 has one drainage source to the RLWTF consisting of discharges from sink and floor drains, although the referenced source document dated 1992 states that "industrial waste is no longer generated in this building." Five sink drains located in non-lab areas were recommended to be re-routed to the sanitary sewer, but six were expected to continue to be connected to the radioactive liquid waste system. Liquid waste was identified from equipment rooms, a conference room, lounges, offices, labs, and restrooms. Identified sources were floor washings, steam traps, hand washing (most common), Heliarc system cooling water, a hood cup and lab sinks in an equipment room, water chiller drains, condensed water, steam trap drains, vacuum pump drains, and floor washings in the restroom (Reference D038).

TA-3-1264

Building TA-3-1264 had three drainage sources to the RLWTF. The building was a storage/maintenance building with an exterior underground radioactive liquid waste holding tank. One drainage source was a trench drain in the truck bay of the building designed to catch any spills that might occur during radioactive liquid waste transfers to transport trucks. The second drainage source is a connection to a standpipe for pumping out the underground holding tank. The third is the discharge from the site radioactive liquid waste system to the discharge point of the holding tank (Reference D045).

TA-3-2009

Building TA-3-2009 had one radioactive liquid waste connection, a fume hood cup drain that discharged daily to the RLWTF from a work room (Reference D041).

TA-16-205, S Site

Building TA-16-205 had one drain to a waste holding tank that was ultimately disposed at the RLWTF. The drainage source waste tank in question "receives flow from the drains in the tritium processing area" that was later trucked to the RLWTF for treatment. The liquid waste originated from recovery and process rooms, with the bulk of the flow from a sink in a process room. The remaining identified liquids were from floor washing (References D037 and D048).

TA-21, DP-West and DP-East

TA-21 was known as DP Site and is on DP Mesa immediately southeast of the Los Alamos town site. DP-West began operations in 1945 to produce metal and alloys of plutonium from nitrate feedstock from other production facilities using several acid dissolution and chemical precipitation steps. A major research objective at DP-West was to develop new purification techniques for plutonium and reprocess waste to enhance recovery. The DP-West included the site's main plutonium facility until the work was transferred to TA-55 in 1978. Debris waste from this facility, specifically D&D waste generated after the transfer of operations to TA-55, was sent to the WCRR Facility for size reduction and repackaging. DP-West conducted nondestructive examinations involving uranium and mixed oxide irradiated reactor-fuel elements, and also housed uranium recovery operations. DP-East performed R&D work on tritiated compounds from early 1975 and generated only small quantities of waste. Note: At both DP West and TA-55, U-235/Pu-239 carbide fuel was prepared. In MTs 51 and 52 (i.e., > 93.78 weight percent Pu-239) there was an upper limit ratio of 0.001 U-235 (0.1 percent). That is, the ratio of the mass of U-235 to the total plutonium mass was small. In MT 12, (i.e., U-238 as the primary isotope), the amount of U-235 was depleted to a range of 0.21 percent to 0.24 percent (References 16, C096, D018, and D050).

Liquid waste from the DP-West and DP-East facilities was treated in TA-21-257. TA-21 waste was not processed at TA-50-1 until 1984, when it began to be pumped there by the cross-country sewer line. Since the treated liquid from TA-21 required no additional treatment (other than occasional pH adjustment), the TA-21 effluent could have been piped directly to the TA-50 effluent tanks prior to discharge from the NPDES-permitted drainage sources to Mortandad Canyon. This option was never used, and all of the liquid waste received from TA-21 was processed through the main treatment operations of the RLWTF. As stated above, D&D waste (e.g., gloveboxes) from TA-21 was size reduced and repackaged in the WCRR Facility. Since wash down water from WCRR Facility operations was sent to the RLTWF facility for treatment, radiological, and chemical contamination from TA-21 plutonium operations may have been present/discharged (References 16, C017, C096, D005, D018, and M227).

TA-35, Ten Site

TA-35 Ten Site housed research operations including a hot cell for preparing Lanthanum-140 in kilo curie (Ci) sources for plutonium research, as well as a facility for handling lithium tritide components. TA-35 also was home to the Target Fabrication Facility used for processing deuterium and tritium microsphere targets for laser operations and for processing beryllium. TA-35 had a wastewater treatment facility that operated until 1963. Later, radioactive liquid waste was sent to the RLWTF. Debris waste from this facility has also been sent to the WCRR Facility for repackaging (References C096 and D019).

TA-43, HRL1, Health Research

Building TA-43-1 was the Health Research Laboratory. The building housed animal research programs. Roughly 40 percent of the facility conducted radiological work in "controlled" areas. Radiological studies produced liquid waste that was containerized and transported to the RLWTF. Debris waste from this facility has also been sent to the WCRR Facility for repackaging (References C096 and D036).

TA-48 Radiochemistry (RC) Site

Building RC-1 (TA-48-01) housed nuclear and RC operations. This work was concerned with the application of radioactivity measurements to laboratory programs and with the study of nuclear reactions and structure. The facility's primary function was to obtain information on the yield and other performance parameters of nuclear test devices by the analysis of debris samples collected after underground testing at the Nevada Test Site. Some radiochemical preparations, such as the production of a variety of purified radioisotopes for medical applications, were also conducted. Liquid waste was collected, neutralized if necessary, and pumped to the TA-50-01 pipeline. Small volumes of gamma-active liquid waste (from 5-50 roentgen per hour [R/hr] on contact) were transported in shielded containers for decay and subsequent fixation in cement. Debris waste from this facility has also been sent to the WCRR Facility for repackaging (References C096, D018, D049, and D051).

Building RC-45 (TA-48-45) was a controlled atmosphere laboratory facility for performing very precise analyses at very low concentrations in small samples. Most of the facility was in a carefully controlled clean room environment. All aqueous liquid wastes generated in this facility were sent to the RLWTF (References D049 and D051).

TA-50-37, Controlled Air Incinerator

LANL began a study of TRU waste treatment in 1973, selecting a CAI that was tested with TRU and low-level waste beginning in 1980. The primary objective of incineration was to reduce the volume of TRU wastes, followed by chemical stabilization of waste and destruction of hydrogen (H) gas. A high-energy aqueous scrubber was selected to provide off-gas cleanup. Construction began in 1976 and the first radioactive test was conducted in 1979 using solid TRU waste from the TA-55 Plutonium facility. Other waste processed had an average 20 nanocuries per gram (nCi/g) Pu-239 and Am-241. Resin combustion studies were to be completed in 1982, as were tracer-level studies to track cesium (Cs), iodine, iron, and cobalt (Co) isotopes (References D013, D015, D022, and D074).

Scrub solution acidity was controlled by adding caustic solution at the process sump tank. Scrub solution specific gravity and volume was also controlled at the process sump tank. As the specific gravity increased or the tank volume exceeded set limits, the rate of flow to the RLWTF increased (Reference D022).

RLWTF operations personnel do not believe that liquid wastes from the CAI were ever treated at the RLWTF since the CAI never went into full production. However, it is assumed that some quantities of chemical contaminants in incinerator feed material were contained in the scrub solution that may have been discharged to the RLWTF. This facility also generated debris waste from maintenance and D&D operations, including the ash glovebox that was sent to the WCRR Facility for size reduction and repackaging (References C017 and C096).

TA-50-69, Waste Characterization, Reduction, and Repackaging Facility (formerly known as the Size Reduction Facility)

The SRF reduced bulky metallic waste to meet WIPP criteria. It was used to develop volume reduction and repackaging techniques for TRU-contaminated metallic waste items. Waste equipment was brought into an enclosure, positioned, cut by a plasma-arc cutting tool, and bagged out in pieces. In 1993, the name of the SRF was changed to the WCRR Facility to reflect the expanded TRU waste remediation and repackaging mission (refer to Section 4.4.3 for a detailed discussion of the WCRR Facility's current operation). Prior to the dedicated pipeline, contaminated enclosure wash-down water was collected in 55-gallon drums and transferred to a holding tank, which was moved to the RLWTF for treatment when full (References C096, D056, D074, and D078).

TA-53, Meson Physics Facility

The Clinton P. Anderson Meson Physics Facility was used to conduct experiments in medium-energy physics and nuclear chemistry for the production of radioisotopes for nuclear medicine, and for clinical experiments in the treatment of certain types of cancer with negative pi mesons. Radioactive liquids from these activities consisted of activated water in cooling systems, which was purified in ion-exchange columns and not sent to the RLWTF for treatment. The facility also contains a separate laboratory and several sample-handling facilities where a broad range of experiments are performed. Liquid wastes are fed to the basement storage tanks for pump transfer to a tank truck for delivery to the RLWTF; however, no waste is being sent from TA-53 to the RLWTF at this time (Reference D018 and D028).

TA-59, Occupational Health Center

Building TA-59-1 had one liquid stream that was transferred to the RLWTF. Building TA-59-19 also had a single discharge to the system. The drainage source from Building TA-59-1 received flow from labs in the basement and first floor of the building, with sources including 91 lab sinks, 9 floor drains, an ice machine drain, and 7 dishwashers. More specifically, contributors included janitor's closets, an electron microscopy lab, and floor washings from laboratories. The drainage source for Building TA-59-19 discharged water from two lab sinks in a portable lab trailer. Debris waste from this facility has also been sent to the WCRR Facility for repackaging (References C096 and D039).

4.4.5 Waste Repackaging and Prohibited Item Disposition

Waste repackaging and prohibited item disposition can be performed in three facilities/buildings outside of TA-50. The first repackaging facility operated for a short time in the early 2000s and resumed operations again in 2010. The TA-54 Building 412 facility performs sorting, segregating, size reduction, and repackaging operations on waste containers (e.g., 55-gallon drums) that contain WIPP nonconforming items. The TA-54 Building 412 facility also safely disassembles oversized containers (e.g., fiberglass-reinforced plywood [FRP] waste boxes), processes waste items located within, size reduces waste items (if necessary), and processes the original packaging (e.g., plywood sheathing). The facility then repackages these wastes in standard containers (e.g., 55-gallon drums, SWBs) that can be permanently disposed of at the appropriate disposal facilities. The original packaging materials (e.g., plywood sheathing) will be managed as either TRU or LLW waste. The second remediation and repackaging facility, where homogeneous waste from TA-50-01 with prohibited items is remediated, was established in 2006 at the TA-54 Dome 231 Permacon. At that time, CCP personnel began observing these operations. In 2012, the TA-54 Dome 231 Permacon began oversized container remediation operation. The third facility, the Box Line Process, began operations in 2012 at the TA-54 Dome 375. The TA-54 Dome 231 Permacon and Dome 375 facilities perform the same basic functions as the TA-54 Building 412 facility described above. Containers that fail to meet WIPP criteria are sent to these facilities to be safely remediated (References C092, C093, C100, D078, D103, D104, D106, P014, P016, P018, P019, P021, P022, P023, P024, P025, and P026).

Similar to the WCRR Facility discussed in Section 4.4.3, these facilities are used to perform, repackaging and prohibited item dispositioning of TRU waste. Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items (e.g., unpunctured aerosol cans) are removed and segregated, if necessary, prior to certification and shipment. Waste items with high dose rates may be repackaged into a POC. Current repackaging procedures ensure that waste items placed into a new container originate from a single parent container. Therefore, if repackaging is necessary, the original characterization is retained. Some secondary waste generated during remediation and repackaging operations may be added to the waste containers, including but not limited to absorbent (e.g., Waste Lock 770), Fantastik bottles used during decontamination, miscellaneous hand tools, paper/plastic tags and labels, plastic/metal wire ties, PPE, plastic sheeting used for contamination control, rags and wipes (Kimwipes), and original packaging material (e.g., plastic bags, plywood sheathing, rigid liner lids cut into pieces). Although these operations are performed outside of TA-50, there is no cross-contamination with waste from other LANL facilities for the containers covered in this report (References C090, C099, C100, P014, P016, P018, P019, P021, P022, P023, P024, P025, and P026).

4.4.6 Below-Grade Retrieval Project

Since 1970, TRU waste generated by LANL has been retrievably stored at TA-54, Area G in anticipation of disposal at WIPP. Some of this waste, generated between 1970 and 1998, has been stored below ground. The below ground TRU storage includes a trench containing corrugated metal pipes (CMPs), Pit 9, four trenches (A–D), and remote-handled (RH) shafts. Based on a review of available AK, only Pit 9 contains waste from TA-50. LANL has established the Legacy Waste Disposition (LWD) Project to ensure the safe retrieval of containerized TRU waste from below ground storage (References D119 and D120).

Pit 9 was excavated in the spring of 1974 and completed for use in November of 1974. Pit 9 is located in the central portion of TA-54, Area G. Pit 9 is approximately 400 feet long, 20 feet deep, and 30 feet wide. The south end was excavated to an almost vertical slope while the north end has a 6 to 1 slope for access to the pit. The pit was used for retrievable storage of 30-, 55-, and 85-gallon drums, crates, and FRPs containing TRU waste. The primary mission of the Pit 9 LWD Project is to retrieve and relocate 4,082 waste packages containing TRU waste into an inspectable storage configuration (References D119, D120, D121, D122, and M226).

The primary mission of the LWD Project at TA-54, Area G is to retrieve, characterize, repackage, as necessary, and dispose of below-grade TRU waste. Retrieval operations typically include workspace setup, removal of below ground storage material (e.g., soil, plastic, plywood), inspection of waste containers to be removed (i.e., evaluation of container integrity), radiological survey of the containers, physical removal of the containers using various mechanical means, and workspace cleanup. Retrieved containers that are intact may be washed with water and detergent to remove soil or contamination if found. The wash water is treated separately from the containerized waste. Depending on the type and condition of the retrieved container further repackaging or processing may be required. For instance, drums with integrity or prohibited item (e.g., liquids) issues may be repackaged or overpacked (i.e., 30-gallon drum placed into a 55-gallon drum) in the facilities/processes described in Section 4.4.5. The eventual number of 55-gallon drum equivalents generated will be dependent on the radiological characteristics of the waste containers, and the condition of the retrievably stored below-grade containers. Materials used during retrieval operations that may contaminate the waste include plastic sheeting, bags, and PPE (References C095, D119 and D120).

4.5 Waste Certification Procedures

TRU mixed homogeneous solid waste streams LA-MIN03-NC.001 and LA-CIN02.001 and mixed heterogeneous debris waste stream LA-MHD09.001, will be certified in accordance with CCP-PO-001 (Reference 7).

5.0 REQUIRED WASTE STREAM INFORMATION: LA-MIN03-NC.001

This section presents the mandatory waste stream AK required by the WIPP-WAP (Reference 1). Attachment 1 of procedure CCP-TP-005 (Reference 8) provides a list of the TRU waste stream information required to be developed as part of the AK record.

5.1 Area and Building of Generation

All of the waste containers included in waste stream LA-MIN03-NC.001 were generated by the main treatment operations of the RLWTF. Container specific records and database information were reviewed for each container to verify that each container originated from the RLWTF.

5.2 Waste Stream Volume and Period of Generation

Waste stream LA-MIN03-NC.001 consists of homogeneous dewatered sludge generated from March 1973 to February 2000. The main treatment process removed particulate and heavy metals as a sludge that settled out of the clariflocculation tanks until approximately June 1990. Dewatered sludge was also generated during the cleanout of the clariflocculation tanks from October 1997 to February 2000. Of the current population of 5,611 containers, 300 are currently stored below-grade at Area G. Table 1, LA-MIN03-NC.001 Waste Stream Volume, summarizes the volume of this waste stream. The projection is no additional containers of this waste stream will be generated in the future. The list of containers included in this stream is included in the current Waste Containers List (References C094, C101, M026, and M217).

Table 1. LA-MIN03-NC.001 Waste Stream Volume

Containers	Volume (m^3)
5,325 55-gallon drums	1,118
283 85-gallon drums	91
3 110-gallon drums	1
5,611 Total	1,210

According to generator reported radionuclide quantities on a drum basis, a portion of the hazardous waste from TA-50 main treatment operations may contain less than 100 nCi/g TRU alpha contamination but is managed by the site as TRU mixed waste. The percentage of the waste stream that is above 100 nCi/g is approximately 96 percent, and the percentage of the waste stream that is below 100 nCi/g is approximately four percent based on reported radionuclide quantities and drum net weights. However, the CCP is not performing load management at this time (References C017, C080, C086, DR007, M026, and M217).

Each payload container shipped to WIPP will be certified in accordance with CCP-PO-002, *CCP Transuranic Waste Certification Plan* (Reference 10) as containing more than 100 nCi/g of alpha-emitting isotopes with half-lives greater than 20 years.

5.3 Waste Generating Activities

As described in Section 4.4, effluent aqueous liquid waste was piped or trucked to TA-50-01 from various LANL site locations. The liquid was pH-adjusted with sodium hydroxide, and clarified by the addition of calcium hydroxide and ferric sulfate flocculant-forming chemicals. Trisodium phosphate was used during the 1980s and a non-hazardous polymer, Betz Polymer 1110 was also used as needed. The flocculation process removed particulate radioactivity and heavy metals as a sludge that settled out of the clariflocculation tanks. This sludge was further treated by rotary drum vacuum filtration in a filter precoated with perlite or diatomaceous earth, which dewaters it (References C014, D005, D018, and D025).

5.4 Type of Wastes Generated

This section describes the process inputs, Waste Matrix Code assignment, waste material parameters, radionuclide contaminants, and RCRA hazardous waste determinations for waste stream LA-MIN03-NC.001. The waste stream is characterized based on knowledge of the materials, knowledge of the operations generating the waste, and physical descriptions of the waste.

5.4.1 Material Input Related to Physical Form

Waste stream LA-MIN03-NC.001 consists of homogeneous dewatered sludge generated by the main treatment process. The main treatment process removed particulate and heavy metals as a sludge that settled out of the clariflocculation tanks. Dewatered sludge was also generated during the cleanout of the clariflocculation tanks. The first step of the main treatment process was the addition of flocculants to produce a precipitate. The chemicals used during this step were primarily calcium carbonate and ferric hydroxide. The precipitate or sludge was then dewatered and contained approximately 25 to 40 percent inorganic solids with a "wet clay" consistency. Perlite or diatomaceous earth was used after dewatering to further filter and absorb liquids present in the sludge. Finally, Portland cement was added to the bottom and top of the sludge during packaging. This waste may also contain debris, including but not limited to containers (e.g., unpunctured aerosol cans, vials), metal, PPE, plastic, and secondary waste from repackaging (Refer to Section 5.4.4). Any payload container consisting of more than 50 percent by volume of debris waste will be excluded from this waste stream (References C017, D005, D018, D025, DR004, and DR005).

5.4.1.1 Waste Matrix Code

The waste matrix code was assigned to this waste stream based on the evaluation of AK information relating to the physical form of the waste, such as packaging procedures, waste generating activities, and the container specific records completed by the waste generator for each container. The waste stream is comprised mostly of vacuum filter sludge and Portland cement, and no other materials greater than trace quantities are expected on a waste stream basis; therefore, waste matrix code S3120, inorganic sludge, is assigned to this waste stream (References 2, D074, M026, and M217).

5.4.1.2 Waste Material Parameters

To estimate the waste material parameters (WMP) for waste stream LA-MIN03-NC.001, WMP data were obtained from the Waste Data System (WDS), formerly known as the WIPP Waste Information System (WWIS) database, as of October 3, 2006. The WMP data were derived from RTR and VE of this waste stream by the CCP TRU Waste Certification Program (TWCP) at the LANL for this waste stream. In cases where WDS data included both RTR and VE data for the same container, only the VE data was included in this assessment.

The WMPs for waste stream LA-MIN03-NC.001 were estimated by reviewing WDS WMP data for 1,135 drums packaged from November 1979 to December 1987. The 1,135 containers included in this assessment represent over 20 percent of the current waste stream. Average, minimum, and maximum WMP weight percentages were calculated using the WDS data. The results of this analysis are presented in Table 2, Waste Material Parameter Estimates for LA-MIN03-NC.001 (References C086, C094, and DR007).

The statistical analysis of the data is documented in a memorandum (included with Attachment 6) as required by CCP-TP-005 (Reference 8).

Table 2. Waste Material Parameter Estimates for LA-MIN03-NC.001

WMP Description	Average Weight Percent	Weight Percent Range
Iron-Based Metals/Alloys	0.01%	0 - 3.01%
Aluminum-Based Metals/Alloys	0.00%	0 - 0.00%
Other Metals	0.00%	0 - 0.00%
Other Inorganic Materials	<0.01%	0 - 0.75%
Cellulosics	0.00%	0 - 0.00%
Rubber	0.00%	0 - 0.00%
Plastics (waste materials)	0.53%	0 - 9.17%
Organic Matrix	0.00%	0 - 0.00%
Inorganic Matrix	99.46%	90.83% - 100.00%
Soils/Gravel	0.00%	0 - 0.00%
TOTAL INORGANIC	**99.5%**	
TOTAL ORGANIC	**0.5%**	

5.4.2 Radiological Characterization

As described in Section 5.2, waste stream LA-MIN03-NC.001 includes approximately 5,611 containers of homogeneous dewatered sludge originally generated from March 1973 to February 2000. This information can be further subdivided on an annual basis, which is summarized in Table 3, LA-MIN03-NC.001 Waste Stream Volume Estimate on an Annual Basis (References C086, C094, C101, DR007, M026, and M217).

Table 3. LA-MIN03-NC.001 Waste Stream Volume Estimate on an Annual Basis

Year Packaged	No. of Containers
1973	5
1974	2
1975	31
1977	8
1978	5
1979	340
1980	723
1981	1,336
1982	916
1983	824
1984	392
1985	584
1986	103
1987	19
1988	138
1989	73
1990	30
1997	5
1999	26
2000	51

A wide variety of different radionuclides contaminate the LA-MIN03-NC.001 waste stream due to the more than 20 different facilities discharging or shipping waste to the RLWTF. Although predominant radionuclides appear to be U-235, U-238, and Pu-239, many other radionuclides are expected to be present in the waste stream.

5.4.2.1 Sludge Data

Total curies of Am-241, Pu-238, and Pu-239 in vacuum filter sludge were tracked by the RLWTF for the years 1982 - 1990 (see below note), as well as U-235 starting in 1985, although in most cases it is unclear how many of the drums were TRU and how many were low-level. Numbers for these isotopes were reported on facility documentation such as annual reports from this time period. The TRU radionuclides were reported quantitatively in sludge drums on the RSWD and TWSR forms, in TA-50 facility reports, or site databases, but only for Am-241, Pu-238, and Pu-239 in most cases. U-235 only began to be reported in 1985 because that is when the RLWTF began to treat TA-21 wastewater, which had U-235 contamination. The available data were compiled based on sampling and gamma spectroscopy of sludge; they are summarized in Table 4, Available Radiological Data for Waste Stream LA-MIN03-NC.001. It should be noted that when U-235 began to be reported, it was by far the most prevalent radionuclide by mass, neglecting the effect of any unreported radionuclides. Other minor radionuclides reported in the sludge were strontium (Sr)-90, Sr-89, and Cs-137, which may have come from cutting of reactor fuel elements at CMR. U-234 and tritium were also known to be present (References C017, D004, D005, D074, M007, M026, M117, and M217).

Note – Sludge data was also available for drums generated prior to 1982, but was not summarized on an annual basis and therefore not included in the following table.

Table 4. Available Radiological Data for Waste Stream LA-MIN03-NC.001[2]

Year	Am-241		Pu-239		Pu-238		U-235	
	Curie	Wt%[1]	Curie	Wt%[1]	Curie	Wt%[1]	Curie	Wt%[1]
1982	132.7	1.15	206.4	98.8	44.0	0.08	NR	NA
1983	68.535	2.87	41.975	97.1	5.1987	0.04	NR	NA
1984	4.35	2.69	2.84	97.1	1.96	0.24	NR	NA
1985	7.457	0.10	5.72	4.06	2.98	0.01	0.0047	95.8
1986	2.355	0.05	3.686	3.90	1.169	0.00	3.16e-3	96.0
1987	1.06	0.02	2.48	2.45	0.909	0.00	3.44e-3	97.5
1988	1.72	0.05	5.96	10.4	0.834	0.01	1.78e-3	89.5
1989	2.50	0.38	1.42	12.0	0.49	0.02	3.6e-4	87.6
1990	1.07	0.20	1.61	16.6	0.79	0.03	2.8e-4	83.1
Totals	221.7		272.1		58.3		0.014	

[1] Mass calculated assuming negligible contributions from other radionuclides.
[2] Not all of this activity was in TRU drums – some was in LLW containers.
NR = Not Reported, NA = Not Applicable
(References D004 and M007)

Totaled across all reported years (and assuming no U-235 in sludge prior to 1985), the above data translate to 58.8 weight percent (wt%) U-235, 40.6 percent Pu-239, 0.60 percent Am-241, and 0.03 percent Pu-238. Influent data on U-234 indicates that U-235 was present prior to 1985. In both 1982 and 1991 influent data, the mass

(converted from reported activity) of U-234 is greater than Pu-238. Because U-238 was not reported, although it is expected to be present where U-235 is present based on descriptions of waste generating activities and material types, its effect on these calculations cannot be determined (References C019, D004, D005, D006, D075, and M007).

The container specific records on which generators were required to document the radionuclide content of each container show that, in practice, the facility only reported Pu-238, Pu-239, and Am-241. The facility recognized these three radionuclides as the most important contributors to total TRU activity. U-235 was also reported on RSWD Forms, but not until 1990. The values reported on RSWDs for each container were based on process knowledge of liquids being sent for treatment and analytical data for the sludge. In order to quantify the radionuclide content of each batch, the facility tracked sludge transfers from the clarifier into its sludge tank, recorded the date of the transfer, and periodically dewatered the sludge into a batch of drums. One drum from each batch was sampled to confirm the radionuclide content. In 1986, Pu-239 replaced Am-241 as the predominant isotope reported by activity. For the waste stream as a whole, the following radionuclide composition based on container specific data was reported in wt% (ranges are on a container basis) (References C017, D074, M018, M026, and M217):

- Pu-239: Average 94.9%, Range 0 – 99.97%
- Am-241: Average 4.5%, Range 0 – 100%
- U-235: Average 0.38%, Range 0 – 69.9%
- Pu-238: Average 0.13%, Range 0 – 100%

Note that U-235 appears to be a very minor contaminant, because no U-235 was reported on container specific records until 1990. Data obtained from the TA-54 personnel and the database are reasonably consistent with the above information. This data is believed to be directly from the container specific records completed by generators. This data set shows the following isotopic distribution for the stream, as well as the wt% range for each isotope that was calculated on a container basis (References M015, M026, and M217):

- Pu-239: 98.0 wt%, Range 0 – 100%
- Am-241: 1.6 wt%, Range 0 – 100%
- Pu-238: 0.06 wt%, Range 0 – 100%
- U-235: 0.45 wt%, Range 0 – 69.9%
- Pu-241: < 0.01 wt%

In this data set, the Pu-239 contribution is slightly relatively higher with respect to all other isotopes.

For both container specific data sets, U-235 was reported for only a few individual containers (a total of 56 out of 5,285 containers). Where present, U-235 wt% in these

data sets ranged from 66.9 percent - 69.9 percent. This data for U-235 conflicts somewhat with data available for the sludge on an annual basis, as shown in Table 4. U-235 values in Ci may not have been reported for individual containers because U is not a TRU isotope and because the activity values, as for the sludge data, would have been very low (on the order of magnitude of 10^{-5}) relative to other isotopes. Due to their relatively low magnitude in comparison with other isotopes, except in a few cases, these values were unlikely to be reported for individual containers. It is, therefore, not surprising to see U-235 values not listed on container specific records. Also, facility personnel believe that in those few cases, additional U material may have been placed in the containers. Therefore, the sludge data described previously is most reliable for determining whether U-235 was a prevalent radionuclide for this waste stream (References C017, D004, M007, M015, and M018).

5.4.2.2 Sources of Various Radionuclides

Principle nuclear materials used in the TA-55 facility are Pu-238, Pu-239, and U-235, although a variety of other isotopes are also used or processed. Almost all liquid waste is contaminated with various Pu isotopes and their daughters, primarily Pu-239. In addition to Pu contaminants, liquid waste from TA-55 operations is expected to contain the following radionuclides: Am (including Am-241 and Am-243), cerium (Ce)-144, curium (Cm)-244, Cs-137, neptunium (Np)-237, protactinium (Pa)-231, Th-232, U-233, U-234, U-235, U-236, U-238, Pu-236, and Pu-244. Trace contaminants in the Pu materials processed and thus in waste generated are expected to include the following (References C016, C019, C028, and D082):

- Am-241 ingrowing at about 50 parts per million (ppm)/yr
- Np-237 from decay of Am-241, possibly up to 100 ppm
- U-237 at a few ppm from alpha decay of Pu-241
- Am-243 at a few ppm as a contaminant in purified Pu
- Am-242m at parts per billion levels or lower, along with lesser quantities of its daughters Am-242, Cm-242, and Np-237, which quickly decay to Pu-238
- U-234, U-235, and U-238 from decay of Pu alpha-emitting isotopes, at less than 10-20 ppm

Table 5, Radiological Contaminants from Facilities Other Than TA-55, identifies possible radiological contaminants from other contributing facilities, and the facilities from which they may have come. Some additional isotopes are possible. For example, at CMR, neutron-activated samples, actinides, lanthanides, and other TRU isotopes were used. In Building RC-1 at TA-48, prevalent radionuclides in the dissolver area included transplutonium actinides, and the lanthanide lutetium. At TA-53, by 1995, the

majority of waste was contaminated by activation and spallation products, including various hafnium, lutetium, and europium isotopes. All of these could be present in sludge waste in minor quantities. However, most of the isotopes expected, based on information regarding influent flows, have short half-lives such that they are significantly decayed from their original concentrations. This includes some isotopes described as major contributors to total discharged activity, such as vanadium-49, selenium-75, niobium-95, sodium-24, nitrogen-16, and manganese-54. Therefore, only the isotopes shown in Table 5, liquid waste from TA-55, and any daughters of relatively short-lived isotopes (such as californium [Cf]-252 that do not themselves quickly decay), are anticipated to still be present in potentially measurable concentrations in sludge waste generated before 1991 (References C019, D031, D033, and D051).

Table 5. Radiological Contaminants from Facilities Other Than TA-55

Radionuclide	Half Life	Source Facility	Document Source
Am-241	430 y	CMR, TA-21, TA-48, TA-50-69	D031, D033, D047, D051, D056
Am-243	7.4×10^3 y	CMR, TA-48	D033, D051
C-14	5,715 y	CMR, TA-21	D047, M002
Cf-249	351.0 y	TA-48	D049, D051
Cf-252	2.6 y	TA-48	D051
Cm-244	18.1 y	TA-48	D049, D051
Cs-137	30.3 y	TA-2, CMR, TA-35, TA-48	C014, D009, D026, D031, D049, D051, D054
Co-60	5.3 y	TA-2, TA-35, TA-48	D009, D023, D026, D049, D051
Eu-152	13.5 y	TA-2, TA-35, TA-48	D009, D023, D051
Fe-55	2.7 y	TA-53	D031
Gd-148	75.0 y	TA-48	D051
H-3	12.3 y	TA-2, TA-3-16, Sigma, CMR, TA-16-205, TA-21, TA-35, TA-48, TA-53, TA-59-1	D009, D018, D026, D031, D033, D047, D048, D049, D051, D071, M002
Na-22	2.6 y	TA-48, TA-53	D031, D049, D051
Np-237	2.1×10^6 y	CMR, TA-48	D031, D033, D049, D051
Pm-145	17.7 y	TA-48	D049, D051
Pu-238	87.7 y	CMR, TA-21, TA-48, TA-50-69	D031, D033, D047, D054, D056
Pu-239	2.4×10^4 y	CMR, TA-21, TA-48, TA-50-69	D031, D033, D047, D051, D054, D056
Pu-240	6500 y	CMR, TA-48, TA-50-69	D031, D051, D056
Pu-241	14.4 y	CMR, TA-50-69	D031, D056
Pu-242	3.8×10^5 y	TA-48, TA-50-69	D051, D056
Sb-125	2.8 y	CMR, TA-48	D031, D049, D051
Si-32	160 y	TA-48	D051
Sr-90	29.1 y	TA-2, CMR, TA-35, TA-48	C014, D009, D023, D049, D051, D054
Tc-97	2.6×10^6 y	TA-48	D049, D051
Tc-98	4.2×10^6 y	TA-48	D049, D051
Tc-99	2.1×10^5 y	TA-2, CMR, TA-21, TA-48	D026, D047, D049, D051, M002
Th-232	1.4×10^{10} y	Sigma, CMR, TA-21	D018, D033, D047

Table 5. Radiological Contaminants from Facilities Other Than TA-55 (Continued)

Tl-204	3.8 y	TA-48	D049, D051
U-232	68.9 y	TA-48	D051
U-233	1.59×10^5 y	TA-21	Reference 16
U-235	7.0×10^8 y	Sigma, CMR, TA-21, TA-35, TA-48	D009, D018, D033, D047, D051
U-238	4.5×10^9 y	Sigma, CMR, TA-21, TA-48	D018, D033, D047, D051

5.4.2.3 Prevalent Radionuclides

Prevalent radionuclides have been determined for this waste stream based on available quantitative data and a few key assumptions described herein.

Uranium

Several uranium material types could be present in the sludge. The following are three examples of uranium material types (Reference M025):

Isotope	Material Type U10	Material Type U36	Material Type U38
U-234	0.006 wt%	0.740 wt%	1.100 wt%
U-235	0.720 wt%	62.500 wt%	93.300 wt%
U-236	0.000 wt%	0.150 wt%	0.200 wt%
U-238	99.274 wt%	36.610 wt%	5.400 wt%

U material types listed for TA-55 debris containers included those listed above, as well as the following: MT 12, with 99.8 wt% U-238 and 0.23 wt% U-235; MT 35, with 61.9 wt% U-238 and 37.6 wt% U-235; and MT 39, with 97.5 wt% U-235 and 1.32 wt% U-234. Another U MT, MT 72, was listed for some containers in site documentation. This MT primarily contained U-233, with some U-232 (References C021 and M014).

As discussed previously, based on available sludge data for the years 1982-1990, U-235 is the most prevalent radionuclide at 58.8 wt%. However, since data were not provided for U-238, its influence on this distribution cannot be quantified. While some source documents suggest prevalence of U-235 and associated material types, others suggest that U-238 is also important. The source of the U in many cases is fuel fabrication or reactor operations. Some of these operations used highly enriched U while others used depleted U or U-238-dominated compositions. For purposes of calculating prevalent radionuclides on a mass basis, the mass of U-238 in the sludge waste was assumed to be the same as that of U-235. This is based on the known presence of both and the range of reported material types for both sludge and solid waste containers. Revisiting the sludge data in Table 4, and adding a mass of U-238 equivalent to that of U-235, the following isotopic composition for the waste stream, as a whole, results: U-235 – 37 wt%; U-238 – 37 wt%; Pu-239 – 25.6 wt%; Am-241 – 0.38 wt%; and Pu-238 – 0.02 wt%. The presence of tritium and other Pu isotopes such as Pu-240 would tend to decrease all of these values by a small amount (References C017, C019, D001, D003, D009, D018, D047, D051, D082, M007, M015, and M018).

Plutonium

Pu MTs listed for sludge containers and TA-55 debris waste included MT 42 (predominantly Pu-242), MTs 51-57 (75-96 percent Pu-239), and MT 83, with 83.9-89.3 wt% Pu-238 and 10.1-13.8 wt% Pu-239. Based solely on sludge data, Pu-239 is clearly prevalent by mass over other Pu isotopes, although the reported U-234 values indicate the presence of U isotopes, as described previously (References C019, C021, M007, M014, and M025).

Tritium

In the late 1970s, managers believed that releases of tritium oxide were inadvertent, infrequent, and so minor as to not be worth controlling in the TA-50-1 process. However, tritium was definitely present in RLWTF discharges, with a maximum of 100 curies per year (Ci/yr) discharged in 1987. By 1995, eight different facilities were identified as discharging tritium liquid wastes to the RLWTF. Based on 1993 data, 120 millicuries per year (mCi/yr) of tritium was also discharged from the CMR facility (TA-3-29). Other generators of tritium-contaminated liquid waste are shown in Table 5. The treatment facility effluent shows Pu-239 and H-3 as predominant radionuclides by mass, with Pu-239/240 at 96.4 wt% (assumed to be all Pu-239) and H-3 at 1.75 percent. Many of the radionuclides, particularly Pu and Am isotopes, are present in the liquid waste as particulates and are thus substantially removed in the flocculation treatment, unlike tritium, which is a dissolved species that passes through the treatment process with the bulk of the water. Therefore, the concentration of tritium in the treated sludge is assumed to be lower than that of the RLWTF effluent (lower than 1.75 wt%) (References C007, C017, C019, D033, and D054).

5.4.2.4 Summary

Considering all of the above data, the prevalent radionuclides for the waste stream are shown in Table 6, Radionuclides Potentially Present in LA-MIN03-NC.001. U-235 and U-238 are the two most prevalent radionuclides by mass, followed by Pu-239. This conclusion is based on generator-supplied data, material type prevalence, and contributions from both TA-55 and other generators, as well as the assumption that U-238 is present in the waste stream at roughly the same mass as U-235. Am-241 is assumed to be the next most prevalent radionuclide. Although tritium is expected to be present in the waste in small quantities, its relative closeness by weight to Am-241 quantities in effluent samples suggests that Am-241 is more prevalent in sludges because it is removed from the wastewater by flocculation much more efficiently than tritium. As reported on container specific records, U-235 may be present in quantities up to 94 wt% in a small percentage of individual waste containers. It should be noted that significant variability is possible on a container basis, depending on whether projects such as Special Processing at TA-55 made large discharges that comprised a significant portion of the volume of a treated batch of wastewater. This variability is shown in the "Range of Wt%" column in Table 6 (References C019, C102, M026, and M217).

Table 6. Radionuclides Potentially Present in LA-MIN03-NC.001

Radionuclide	Average Wt%	Range of Wt%
Required Radionuclides		
Pu-238	0.02	0 – 100%
Pu-239	25.6	0 – 100%
Am-241	0.38	0 – 100%
Pu-240	Trace	0 – 16%
Pu-242	Trace	0 – 96%
U-233	Trace	NA
U-234	Trace	0 – 1.4%
U-238	37.0	0 – 99.8%
Sr-90	Trace	NA
Cs-137	Trace	0 – 0.34%
Other Potential Radionuclides		
U-235	37.0	0 – 94%
H-3	< 1.75%	0 – 1.75%
Am-242	Trace	NA
Am-243	Trace	NA
C-14	Trace	NA
Cf-249	Trace	NA
Cf-252	Trace	NA
Cm-244	Trace	NA
Co-60	Trace	NA
Cs-134	Trace	NA
Eu-152	Trace	NA
Fe-55	Trace	NA
Gd-148	Trace	NA
Na-22	Trace	NA
Np-237	Trace	NA
Pa-231	Trace	NA
Pm-145	Trace	NA
Pu-236	Trace	NA
Pu-241	Trace	0 – 6.26%
Pu-244	Trace	NA
Sb-125	Trace	NA
Si-32	Trace	NA
Tc-97	Trace	NA
Tc-98	Trace	NA
Tc-99	Trace	NA
Th-228	Trace	NA
Th-230	Trace	NA
Th-232	Trace	NA
Tl-204	Trace	NA
U-232	Trace	NA
U-236	Trace	NA

Trace = < 1 wt%
The following radionuclides are not anticipated due to very short half-lives: Sr-89, Ce-144, U-237, Cm-242, and Am-242m.

5.4.2.5 Determination of 95% of the Radiological Hazard

The radioisotopes that contribute 95 percent of the activity in the waste stream may vary depending on when the sludge was generated. There are two sources of information regarding sludge waste activity. In one data set previously summarized in Table 4, only Am-241, Pu-238, and Pu-239 data were available (as well as U-235 data after 1984). In the second data set, influent and effluent data were available for Sr-89 and -90, Cs-137, U-234, Am-241, Pu-238, and Pu-239, allowing the residual activity in the sludge waste to be calculated. Based on the 1982 influent data, Am-241 will be the prevalent isotope in the sludge because it was generated before the pre-treatment of TA-55 waste began. The more detailed sludge data confirm that Am-241 was prevalent by activity for the years 1982-1984. Pu-239 and Pu-241 are the other isotopes that contribute significant activity to the sludge from this time period. This is consistent with the prevalence of Pu MTs listed in site documentation, which show 53.5-94 percent Pu-241 by activity except for MT 83, which had 98.7 activity percent Pu-238. An evaluation of the 1991 influent data also indicates that Pu-241 (although not an alpha emitting TRU isotope) will be the prevalent isotope in the sludge. Pu-238, Pu-239, and Am-241 will also contribute up to 95 percent of the activity and account for most of the TRU alpha activity. For the waste stream as a whole, the calculated sludge activities show about 53 activity percent Pu-239, 39.5 percent Am-241, 6.3 percent Pu-238, 1.0 percent U-234, and smaller quantities of the fission products Cs and Sr. Accounting for the predominance of Pu-241 relative to Pu-239 and the fact that it is not reported in this data set, only Pu-241, Pu-239, Am-241, and Pu-238 are expected to contribute significantly to the radiological hazard of the waste stream (References C021, D005, M007, M014, M025, and M117).

Assuming a U composition consistent with the U MT 36, given the 50/50 relative mass assumed for U-235 and U-238 isotopes (about 0.7 wt% but 95.9 activity percent U-234), U-235, and U-238 combined are not expected to exceed 5 activity percent of the total U present. Because the calculated activity percent of U-234 in the sludge is 1 percent, U-235 and U-238 are not expected to represent 95 percent of the radiological hazard (Reference M025).

Tritium is not expected to be a significant contaminant by activity because facility personnel assume that tritium is essentially not removed from the influent wastewater by the flocculation process. The maximum tritium wastewater concentration was approximately 0.004 millicuries per liter (mCi/l) in 1987. Conservatively assuming that 75 percent of the weight of a sludge drum was water and an average sludge drum weighs 461 pounds, the water would weigh 346 pounds, which is about 157 liters of water. This results in about 0.63 mCi per drum of tritium. Over the approximately 5000 containers in this waste stream, this would amount to about 3,140 total mCi of tritium, or 3.1 Ci, clearly far less than 5 percent of the total activity in the waste stream, given that the activity of Pu-239 alone was approximately 300 Ci (References C017, M007, M015, and M117).

To investigate this question on a container basis, then, a very conservative estimate for the per drum tritium content in this waste stream is 0.63 mCi x 10^6 nCi/mCi=6.3 x 10^5 nCi per drum. Based on LANL database information, the average weight of a drum in this waste stream is 461 pounds, or 2.1 x 10^5 grams (g). The most conservative weight for calculation purposes is 300 pounds, or 1.36 x 10^5 g. Based on these estimates, the highest tritium activity per drum would be about 4.6 nCi/g. If the waste is TRU waste, it must have at least 100 nCi/g of TRU alpha activity; again conservatively assuming no activity contributed by any other non-TRU isotopes, the maximum possible contribution of tritium on a drum basis would be 4.4 percent of 104.6 nCi/g. In reality, because at least some of the water in a sludge drum is tritium-free makeup water added during the vacuum filtration process, rather than original feed water, this number should be much lower (Reference M015).

References used in Section 5.4.2 and/or are part of source document C019 include: C004, C005, C007, C014, C016, C017, C021, C022, C023, C024, C025, C026, C027, C028, C029, C030, C031, C032, D001, D002, D003, D004, D005, D006, D007, D008, D009, D010, D017, D018, D019, D023, D026, D027, D028, D030, D031, D033, D037, D046, D047, D048, D049, D050, D051, D054, D056, D058, D059, D060, D064, D067, D071, D074, D075, D076, D077, D080, D081, D082, D083, DR002, M002, M004, M007, M014, M015, M018, M025, M026, M029, M030, M031, M032, M033, M034, M035, M036, M037, M038, M039, M040, M041, M042, M043, M044, M045, M046, M047, M048, M049, M050, M051, M052, M053, M054, M055, M056, M057, M058, M059, M060, M061, M062, M063, M217, P011, and P012.

5.4.3 Chemical Content Identification – Hazardous Constituents

The TA-50-01 RLWTF is a wastewater treatment facility subject to regulation under the Clean Water Act (CWA); therefore, the effluent discharge is not subject to regulation as a solid waste. However, the exclusion from being a solid waste under 40 Code of Federal Regulations (CFR) 261.4(a)(2) applies only to the actual point source discharge, and it does not exclude industrial waste waters while they are being collected, stored or treated before discharge, nor does it exclude sludge generated by industrial wastewater treatment. Therefore, this waste stream is a solid waste (Reference 15).

Waste stream LA-MIN03-NC.001 has historically been managed in accordance with the generator site requirements and in compliance with the requirements of the New Mexico Environmental Department. Based on historical waste management and LANL's TRU Program (reference LANL waste stream LA-MIN03-NC), the containers in this waste stream were managed as hazardous and assigned EPA HWNs for arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), silver (D011), benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), chromium (D022), methyl ethyl ketone (D035), pyridine (D038), tetrachloroethylene (D039), trichloroethylene (D040), and F-listed solvents (F001, F002, F003, and F005). A review of available AK documentation has determined that this waste is hazardous for the above constituents; however, HWNs D018, D019, D021,

D035, D038, D039, D040, and F003 were not assigned. These HWNs were not included because the more specific F-listed HWNs have been assigned to the waste stream and the waste will not exhibit the characteristic of ignitability. In addition, the AK documentation indicates the waste may also be contaminated with hazardous constituents 1,2-dichloroethane (D028), pentachlorophenol (D037), cresols (F004), nitrobenzene (F004), and waste from cyanide plating operations (F006, F007, and F009). Table 7, Waste Stream LA-MIN03-NC.001 Hazardous Waste Characterization Summary, identifies the RCRA toxicity characteristic and listed HWNs identified in this waste stream. The HWN assignments have been applied on a waste stream basis; individual containers may not contain all of the hazardous materials listed for the waste stream as a whole (References C013, C018, D078, and DR001).

Table 7. Waste Stream LA-MIN03-NC.001 Hazardous Waste Characterization Summary

Waste Stream	EPA HWNs
LA-MIN03-NC.001	F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D028, and D037

To assign EPA HWNs, the available AK documentation was reviewed to identify chemical usage in the buildings contributing to the RLWTF influent and potentially hazardous materials (including commercially available products) that may have been introduced into the waste stream. In addition, MSDSs were obtained for the commercial products to determine the presence of potentially regulated compounds. As described below in Table 8, Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary, several of the HWNs were assigned due to lack of evidence that these constituents would have not exceeded the regulatory thresholds. It should be noted that several smaller research facilities such as TA-35 and TA-43 have historically contributed influent to the RLWTF for treatment. Although not clearly identified, the chemical contamination from these facilities is expected to be similar to the contamination received from TA-3. In addition, the majority of the chemicals identified in the TA-21 AK report originated from or are the same as those identified in the TA-55 AK report. The number of AK source documents relating to TA-21 DP-West, and the level of detail in these documents, was less than that available in the compilation of AK for the TA-55 Plutonium Facility. Therefore, only chemicals specific to TA-21 plutonium operations were included in Table 8 (References 11, 12, 16, C013, C018, C089, D001, D002, D003, D004, D007, D028, D029, D046, D076, D077, D083, D100, D101, DR001, and DR006).

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary

Chemical	Use/Source	Building	Document Source	EPA HWNs
1,1,1-Trichloroethane	Automated chemical analysis process in CMR. Detected in samples of influent and effluent liquids associated with RLWTF. Detected in 1986 sludge samples, but estimated value reported since less than detection limit. Filtering oils in pretreatment operations in the Plutonium facility.	TA-3-29 TA-50-1 TA-55	C063, D029, D033, D078, M011, M047, M196	F001, F002
1,1,2-Trichloroethane	Detected in samples collected from influents to RLWTF.	TA-50-1	C013, D029	F002
1,1,2-Trichloro-1,2,2-trifluoroethane/1,1,2-trichlorotrifluoroethane (Freon)	Plutonium transmission electron microscope and sample preparation process in CMR. Detected in samples of influent to RLWTF. Identified for the DOR and MCDOR, and separation and purification operations in the Plutonium Facility.	TA-3-29 TA-50-1 TA-55	C037, D029, D033, M145, M154	F001, F002
1,2,4-Trichlorobenzene	Semi-Volatile Organic Compound (SVOC) matrix spike standard used in CMR.	TA-3-29	Reference 11	NA
1,1-Dichloroethane	Gas Chromatography/Mass Spectrometry (GC/MS) sample preparation standard reagent used in CMR.	TA-3-29	Reference 11	NA
1,1-Dichloroethylene	GC/MS matrix spike standard used in CMR.	TA-3-29	C089, Reference 11	NA
1,2-Dichlorobenzene	Detected in samples of influent to RLWTF.	TA-50-1	D029	F002
1,2-Dichloroethane	RCRA contaminant assigned to containers generated in CMR. Detected in very low concentrations in wastewater samples collected from influents to RLWTF.	TA-3-29 TA-50-1	C013, Reference 11	D028
1,2-Dichloropropane	GC/MS sample preparation standard reagent used in CMR.	TA-3-29	Reference 11	NA
1,2-Dimethoxyethane	Organoactinide R&D reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
1,4-Dichlorobenzene	SVOC matrix spike standard used in CMR.	TA-3-29	C089, Reference 11	NA
1,4-Difluorobenzene	GC/MS sample standard used in CMR.	TA-3-29	Reference 11	NA
1,4 Dioxane	Ingredient of Hyprez lubricant (0-1%) used in CMR.	TA-3-29	Reference 11	NA
1-Propanol	Laboratory reagent used in CMR. Used in cold traps and cooling baths during plutonium fluorination in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
2,4,5-Tribromobiphenyl	Sample surrogate standard used in CMR.	TA-3-29	Reference 11	NA
2,4,6-Tribromophenol	SVOC surrogate standard used in CMR.	TA-3-29	Reference 11	NA
2,4-Dinitrotoluene	SVOC matrix spike standard used in CMR.	TA-3-29	C089, Reference 11	NA
2-Butoxyethanol (Dowanol EB)	Plutonium transmission electron microscope and sample preparation process in CMR. Sodium metal neutralization reagent used in the Plutonium Facility.	TA-3-29 TA-55	D033, Reference 12	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
2-Chlorophenol	SVOC matrix spike standard used in CMR.	TA-3-29	Reference 11	NA
2-Ethoxyethanol	Component of thinner and dye used in CMR.	TA-3-29	Reference 11	F005
2-Ethoxyethyl acetate	Component of thinner and dye used in CMR.	TA-3-29	Reference 11	NA
2-Fluorobiphenyl	SVOC surrogate standard used in CMR.	TA-3-29	Reference 11	NA
2-Fluorophenol	SVOC surrogate standard used in CMR.	TA-3-29	Reference 11	NA
2-Methoxyethyl acetate	Component of photoresist and developer chemical used in CMR.	TA-3-29	Reference 11	NA
2-Nitropropane	Sample and standard preparation used in CMR.	TA-3-29	Reference 11	F005
4-Bromofluorobenzene	GC/MS sample standard used in CMR.	TA-3-29	Reference 11	NA
4-Chloro-3-methylphenol	SVOC matrix spike standard used in CMR.	TA-3-29	Reference 11	NA
4-Methyl-2-pentanone	Plutonium chemistry reagent used in CMR.	TA-3-29	Reference 11	NA
4-Nitrophenol	SVOC matrix spike standard used in CMR.	TA-3-29	Reference 11	NA
Acenaphthene	SVOC matrix spike standard used in CMR.	TA-3-29	Reference 11	NA
Acetic acid	Plutonium transmission electron microscope and sample preparation process in CMR. Identified in the Sigma Building.	TA-3-29 TA-3-66	D028, D033	NA
Acetone	Various analysis operations in CMR. Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility. Reported in sampling data for the influent to the RLWTF and sludge. Detected in 1986 sludge samples, but estimated value reported since less than detection limit.	TA-3-29 TA-55 TA-50-1	C008, C012, C013, C032, C061, C063, D007, D033, D046, M011	NA
Acetonitrile	WIPP Source-Term Test Program (STTP) experiment reagent used in CMR. Non-aqueous dissolution/extraction reagent used in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
ALARA 1146 Strippable Coating	Used to remove loose contamination in the D&D process in DP-West.	TA-21	Reference 16	NA
Alconox	Detergent (blend of sodium linear alkylaryl sulfonate, alcohol sulfate, phosphates, and carbonates) used in several facilities. Heat source fabrication in the Plutonium Facility.	TA-3-16 TA-3-34 TA-48-1 TA-48-45 TA-55 TA-59-1	D028, D076, M178, M214	NA
Aluminum chloride	Chloride operations ion exchange reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Aluminum fluoride	Plutonium recovery operations reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Aluminum hydroxide	Metallurgy operations reagent used in CMR. Miscellaneous plutonium operations in DP-West	TA-3-29 TA-21	Reference 11, Reference 16	NA
Aluminum metal/oxide (alumina)	Metallography polishing agent. Fuel pin disassembly and sectioning in CMR. Metallographic sample polishing, ash fluorination gas trap, metal used in machining operations, and component of equipment/tools in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Aluminum nitrate	Sample and standard preparation used in CMR. Sample preparation reagent used in the Radiochemistry Site. Pretreatment, dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility.	TA-3-29 TA-48-1 TA-55	D001, D046, D051, D076, D089, M036, M042, M044, M059, M063, M086, M088, M089, M091, M092, M094, M095, M097, M098, M099, M100, M101, M103, M172, M198, M199, P012, Reference 11	NA
Amberlite LA-1	Extractant used to separate plutonium from zirconium in DP-West.	TA-21	Reference 16	NA
Ammonium bifluoride	Uranium conversion and dissolution chemistry in CMR. Metal etching reagent in DP-West.	TA-3-29 TA-21	D033, Reference 16	NA
Ammonium bisulfate	Wet chemistry sample preparation used in CMR.	TA-3-29	Reference 11	NA
Ammonium chloride	Thermochemistry and wet chemistry sample preparation reagent used in CMR. Separation and purification operations in the Plutonium Facility.	TA-3-29 TA-55	M038, Reference 11	NA
Ammonium fluoride	Uranium conversion and dissolution and thermochemistry reagent in CMR.	TA-3-29	Reference 11	NA
Ammonium hydroxide	Potential pollutant identified in the Radiochemistry Site. Actinide research and development and uranium conversion and dissolution chemistry operations in CMR. Hydrothermal processing reagent used in the Plutonium Facility.	TA-48-45 TA-3-29 TA-55	D033, D049, Reference 12	NA
Ammonium nitrate	Chemical used to extract/precipitate plutonium in DP-West.	TA-21	Reference 16	NA
Ammonium persulfate	Fuel dissolution in CMR.	TA-3-29	Reference 11	NA
Ammonium sulfate	Wet chemistry sample preparation in CMR.	TA-3-29	Reference 11	NA
Ammonium thiocyanate	WIPP STTP experiment chelator standard used in CMR.	TA-3-29	Reference 11	NA
Antimony pentafluoride	Organoactinide R&D reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Armeen 2-12 (Dodecylamine, Laurylamine)	Extractant used to separate plutonium from zirconium in DP-West.	TA-21	Reference 16	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Arsenic	Cold vapor atomic absorption analyte used in CMR. Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, as well as RLWTF filter cake and 1986 sludge samples. Contaminant in feed material to the pretreatment, evaporator, DOR and MCDOR, heat source fabrication, and routine Pu-238 waste solidification operations in the Plutonium Facility and as part of the influent design basis for the RLWTF. Potential pollutant identified in the Radiochemistry Site. EPA code assigned to TA-50-19 sludge by LANL Acceptable Knowledge Information Summary (AKIS).	TA-3-29 TA-50-1 TA-55 TA-48-1	C009, C013, C020, C032, C057, D004, D005, D046, D049, D051, D067, M007, M011, M211, Reference 11	D004
Asbestos	Material used in furnace operations in the MCDOR process in DP-West.	TA-21	Reference 16	NA
Ascarite	Carbon dioxide absorbent used during determination of oxygen in irradiated fuels in CMR. Carbon dioxide absorbent used in fuel fabrication process in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Ascorbic acid	Plutonium assay process in CMR. Dissolution, separation, and purification operations in the Plutonium Facility.	TA-3-29 TA-55	D033, D046, M158, M198	NA
Bab-O	Scouring cleaner (blend of silicon dioxide, sodium carbonate, and sodium dodecylbenzene sulfonate) used in CMR.	TA-3-29	Reference 11	NA
Barium	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, as well as RLWTF filter cake and 1986 sludge samples. Contaminant in feed material to the pretreatment, dissolution, evaporator, heat source fabrication, routine Pu-238 waste solidification, hydroxide precipitation, pyrochemical matrix studies, DOR or MCDOR operations in the Plutonium Facility and as part of the influent design basis for the RLWTF. EPA code assigned to TA-50-19 sludge by LANL AKIS. Component of superconductor samples prepared in the metallography section of the Sigma Building. Potential pollutant identified in the Radiochemistry Site.	TA-50-1 TA-55 TA-3-66 TA-48-1 TA-3-29	C009, C013, C020, C032, C041, C057, D001, D003, D004, D005, D034, D046, D049, D067, D085, M007, M011, M211	D005
Barium oxide	Thallium superconductor research sample preparation and processing in CMR.	TA-3-29	D033	D005

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Benzaldehyde	Component of dye used in CMR.	TA-3-29	Reference 11	NA
Benzene	Detected in samples of influent and effluent liquids associated with RLWTF. TC EPA code assigned to TA-50-19 sludge by LANL AKIS. Actinide research and development process in CMR.	TA-50-1 TA-3-29	C013, D004, D029, D033, M007	F005
Benzoic acid	WIPP STTP experiment reagent used in CMR.	TA-3-29	Reference 11	NA
Beryllium	Plutonium transmission electron microscope and sample preparation process in CMR. Component of samples prepared in the metallography section of the Sigma Building. Potential pollutant identified in the Radiochemistry Site. Contaminant identified as part of the influent design basis for, and detected in effluent from, RLWTF. Used in decladding of plutonium/beryllium sources in pretreatment process in the Plutonium Facility.	TA-3-29 TA-3-66 TA-48-1 TA-50-1 TA-55	D007, D033, D034, D049, D051, D060, D067	NA
Beryllium fluoride	Molten salt electrochemistry reagent salt used in CMR.	TA-3-29	Reference 11	NA
Betz Polymer 1110	Nonhazardous polymer coagulation agent in RLWTF.	TA-50-1	C014, D004, D005, M214	NA
Bis(2-ethylhexyl) Phosphate (HDEHP)	Separation of lanthanides reagent used in the Radiochemistry Site.	TA-48-1	D051	NA
Bis(2-ethylhexyl) Phthalate	Detected in 1986 sludge samples.	TA-50-1	M011	NA
Bismuth/bismuth-tin alloy	Superconductor research and standard used in CMR. Metal used in electrorefining and sample mounting in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Bismuth nitrate	Superconductor research in CMR.	TA-3-29	Reference 11	NA
Boric acid	Component of plating solutions used in the electroplating section of the Sigma Building. Fuel dissolution and fuel density preparation in CMR.	TA-3-66 TA-3-29	D034, Reference 11	NA
Bromine	Hazardous materials inventory from the Radiochemistry Site. Fluorination of ash and R&D reagent used in the Plutonium Facility.	TA-48-1 TA-55	D051, Reference 12	NA
Bromobenzene	Reagent used in CMR. Plutonium machining operations in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Bromocresol	Hydroxide precipitation indicator in the Plutonium Facility.	TA-55	M038	NA
Bromoethane	GC/MS sample preparation standard reagent used in CMR.	TA-3-29	Reference 11	NA
Bromoform	GC/MS sample preparation standard reagent used in CMR.	TA-3-29	Reference 11	NA
Bromo-Mandelic acid (4-Bromomandelic acid)	Precipitation reagent used to separate zirconium from plutonium in DP-West.	TA-21	Reference 16	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Bromophenol blue	Color indicator used during sampling in CMR.	TA-3-29	Reference 11	NA
Butyl acetate	Decontamination and cleanup reagent/contaminant and capsule disassembly reagent used in CMR.	TA-3-29	Reference 11	NA
Cadmium/cadmium oxide	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, effluent samples, as well as RLWTF filter cake and 1986 sludge samples. EPA code assigned to TA-50-19 sludge by LANL AKIS. Potential pollutant identified in the Radiochemistry Site. Contaminant in feed material to the pretreatment, dissolution, DOR and MCDOR, evaporator, heat source fabrication, routine Pu-238 waste solidification, pyrochemical matrix studies, or purification and oxide conversion operations in the Plutonium Facility, and as part of the influent design basis for the RLWTF. Upgrade to batch waste treatment system to treat this waste type. Contaminant and reagent in CMR.	TA-50-1 TA-55 TA-48-1 TA-3-29	C009, C013, C020, C032, C040, C041, C057, C066, C068, D001, D003, D004, D005, D007, D046, D049, D051, D060, D067, D068, D072, D075, D082, D085, D089, M007, M081, M101, M107, M211, Reference 11	D006
Calcium	Uranium conversion and dissolution reagent used in CMR. DOR and MCDOR operations in the Plutonium Facility.	TA-3-29 TA-55	C040, D002, D082, M115, M116, M121, M122, M145, M166, M173, Reference 11	NA
Calcium carbonate	Flocculation, clarification of liquid wastes in RLWTF. Separation and purification operations in the Plutonium Facility. Superconductor research in CMR.	TA-3-29 TA-50-1 TA-55	D025, D030, M038, M148, M158, M169, Reference 11	NA
Calcium chloride	DOR and MCDOR operations in the Plutonium Facility.	TA-55	C040, D001, D002, M006, M115, M116, M121, M145, M166, M173	NA
Calcium fluoride	Dissolution, nitrate anion exchange, DOR and MCDOR, separation, and purification operations in the Plutonium Facility.	TA-55	C032, C066, D002, D046, D089, M043, M059, M063, M087, M088, M089, M090, M091, M094, M095, M116, M148, M149, M153, M166, M172, M198, M199	NA
Calcium hydroxide	Precipitation, flocculation, clarification agent used in RLWTF. Neutralization of acids in the Plutonium Facility.	TA-50-1 TA-55	D005, D020, D059, Reference 12	NA
Calcium nitrate	Superconductor research in CMR. Identified as reagent in Nitrate Operations in the Plutonium Facility.	TA-3-29 TA-55	D046, Reference 11	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Calcium oxide (Lime)	Precipitation/flocculation/clarification in RLWTF. Thallium superconductor research sample preparation and processing in CMR. MCDOR process in the Plutonium Facility.	TA-50-1 TA-3-29 TA-55	C013, C014, C040, D001, D004, D006, D010, D018, D020, D021, D028, D030, D033, M006, M116, P004	NA
Camphor	Fuel fabrication reagent in DP-West.	TA-21	Reference 16	NA
Carbon disulfide	Solvent cleaning used in CMR. Detected in samples of influent and effluent liquids associated with RLWTF.	TA-3-29 TA-50-1	D029, Reference 11	F005
Carbon tetrachloride	Plasma spectroscopy process in CMR. Detected in samples of influent and effluent liquids associated with RLWTF. TC EPA code assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations, and reagent in MCDOR and plutonium trichloride preparation operations and plutonium trichloride preparation in the Plutonium Facility.	TA-3-29 TA-50-1 TA-55	C032, C061, C063, D002, D004, D007, D029, D033, D046, M007, M114, M165	F001
Cellulose tetranitrate	Hazardous materials inventory from the Radiochemistry Site.	TA-48-1	D051	NA
Ceric sulfate	Plutonium assay process in CMR.	TA-3-29	D033	NA
Cerium	Metal used in plutonium processing operations in DP-West.	TA-21	Reference 16	NA
Cerium nitrate	Dissolution operations in the Plutonium Facility.	TA-55	D046, M093	NA
Cesium chloride	Molten salt extraction and dissolution reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Chlorobenzene	GC/MS sample standard used in CMR. Detected in samples of influent to RLWTF. TC EPA code assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the dissolution, purification/oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility.	TA-3-29 TA-50-1 TA-55	C032, C061, C063, D004, D007, D029, D046, M007, Reference 11	F002
Chloroform	GC/MS sample preparation standard and solvent cleaning in CMR. EPA code assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility. Extraction and hazardous materials inventory from the Radiochemistry Site.	TA-3-29 TA-50-1 TA-55 TA-48-1 TA-48-45	C032, C061, C063, D004, D007, D046, D049, D051, M007, M011, Reference 11	D022

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Chromic acid/ chromium trioxide	Reagent in sample preparation process in CMR. Acid polishing, plating, anodizing and conversion solutions used in the electroplating section of the Sigma Building. Potential pollutant identified in the Radiochemistry Site.	TA-3-29 TA-3-66 TA-48-1	D033, D034	D007
Chromium	Contaminant and reagent in CMR. Chromate plating from TA-3-66 solutions treated in RLWTF. Potential pollutant identified in the Radiochemistry Site. Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, effluent samples, as well as RLWTF filter cake and 1986 sludge samples. EPA code assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, purification and oxide conversion, hydroxide precipitation, heat source fabrication, routine Pu-238 waste solidification, or pyrochemical matrix studies operations in the Plutonium Facility, and as part of the influent design basis for the RLWTF.	TA-3-29 TA-3-66 TA-48-1 TA-50-1 TA-55	C009, C013, C014, C017, C020, C032, C033, C036, C040, C041, C057, C063, C066, C068, D001, D003, D004, D005, D007, D046, D049, D060, D063, D067, D068, D072, D076, D077, D082, D085, D091, M007, M011, M060, M081, M104, M208, M211, Reference 11	D007
Citofix/Durofix	Epoxy used in the heat source fabrication and routine Pu-238 waste solidification operations in the Plutonium Facility.	TA-55	C020	NA
Citrapeel (orange peel based degreaser)	Used to strip paint in the Plutonium Facility.	TA-55	Reference 12	NA
Citric acid	Uranium conversion and dissolution reagent used in CMR.	TA-3-29	Reference 11	NA
Cobalt metal/oxide	Metallography sample preparation in CMR. Used in plutonium processing operations in DP-West.	TA-3-29	Reference 11, Reference 16	NA
Cobalt nitrate	Dissolution operations in the Plutonium Facility.	TA-55	D046, M093	NA
Copper cyanide	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034, M214	F007, F009
Copper/copper oxide	Thallium superconductor research sample preparation and processing in CMR. Measuring physical properties standard in Plutonium Facility. Contaminant of electrochemistry waste generated in Physics Building.	TA-3-29 TA-3-40 TA-55	D033, D103, Reference 12	NA
Copper sulfate	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Cresols (mixed isomers)	RCRA-listed contaminant of incoming sludge samples in CMR.	TA-3-29	Reference 11	F004
Cresylic acid	RCRA-listed contaminant of incoming sludge samples in CMR.	TA-3-29	Reference 11	F004

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Cyanides	Organic and actinide separations research and inorganic compound synthesis and characterization. Waste cyanide plating solutions from TA-3-66 treated in RLWTF. Contaminant identified as part of the influent design basis for the RLWTF. Upgrade to batch waste treatment system to treat this waste type. Identified contaminant in industrial waste.	TA-3-29 TA-3-66 TA-50-1	D024, D033, D034, D067, D068, D072, D075, M010	F007, F009
Cyclohexanone	Component of thinner used in CMR.	TA-3-29	Reference 11	NA
Decyl alcohol	Extractant used to separate plutonium from Zirconium in DP-West.	TA-21	Reference 16	NA
Diallyl phthalate	Metallography sample preparation in CMR.	TA-3-29	Reference 12	NA
Diammonium citrate	Formed as a result of early plutonium purification process in DP-West.	TA-21	Reference 16	NA
Diamond paste/powder	Fuel pin disassembly and sectioning reagent used in CMR. Metallographic polishing compound in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Diatomaceous earth	Silica-based absorbent and drying agent-component used in CMR. Added to RLWTF sludges to absorb liquids that might dewater from the sludge. Pretreatment operations in the Plutonium Facility.	TA-3-29 TA-50-1 TA-55	C014, C017, M047, M214, Reference 11	NA
Dibromofluoromethane	GC/MS surrogate sample standard used in CMR.	TA-3-29	Reference 11	NA
Dibutyl butyl-phosphonate (DBBP)	Actinide R&D reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Dicesium hexachloroplutonate (DCHP)	Residue precipitation reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Diethylenetriamine	Heat source fabrication and routine Pu-238 waste solidification operations in the Plutonium Facility.	TA-55	C020	NA
Diethyl oxalate	Identified as reagent in dissolution operations in the Plutonium Facility.	TA-55	D046, M198	NA
Diethyl phthalate	Detected in 1986 sludge samples, but estimated value reported since less than detection limit.	TA-50-1	M011	NA
Dihexyl N,N-diethylcarbamoylmethyl phosphonate (DHDCMP)	Liquid-liquid extraction solvent used in the Plutonium Facility.	TA-55	Reference 12	NA
Diisopropyl benzene	Liquid-liquid extraction solvent, diluents, and actinide R&D reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Dimethyl sulfoxide	Organoactinide R&D reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Dioxane	Organic and actinide separations research and inorganic compound synthesis and characterization.	TA-3-29	D033	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
DUCO cement	Acetone containing cement used in heat source fabrication operations in the Plutonium Facility.	TA-55	M178, M214	NA
Eastman 910 adhesive	Aqueous based adhesive used in CMR.	TA-3-29	Reference 11	NA
Ecobond 26 adhesive	Epoxy resin used in CMR.	TA-3-29	Reference 11	NA
Epon Resin (e.g., 815, 8132)	Metallurgical potting resin used in CMR. Epoxy resin used in heat source fabrication and routine Pu-238 waste solidification operations in the Plutonium Facility.	TA-3-29 TA-55	C020, M214, Reference 11	NA
Ethyl alcohol (ethanol)	Used in various operations in the CMR. Contaminant in feed material to the heat source fabrication and routine Pu-238 waste solidification operations in the Plutonium Facility. Hazardous materials inventory from the Radiochemistry Site.	TA-3-29 TA-55 TA-48-1	C054, C056, D033, D046, D049, D051, D076, M100, M177, P010	NA
Ethyl benzene	GC/MS sample preparation standard reagent used in CMR. Detected in 1986 sludge samples, but estimated value reported since less than detection limit.	TA-3-29 TA-50-1	M011, Reference 11	NA
Ethylenediaminetetra-acetic acid (EDTA)	Analytical sample and standard preparation reagent. Extraction reagent and decon solution in DP-West	TA-3-16 TA-3-29 TA-21	D028, Reference 11, Reference 16	NA
Ethylene glycol	Plutonium transmission electron microscope and sample preparation process in CMR. Heat source fabrication and routine Pu-238 waste solidification operations in the Plutonium Facility.	TA-3-29 TA-55	C020, C056, D033, D076, M178	NA
Ethyl ether	Contaminant identified in CMR. Super acid R&D, extraction, separation, and characterization studies solvent in the Plutonium Facility.	TA-3-29 TA-55	D003, D078, D079, Reference 11	NA
Extran 1000	Detergent containing sodium hydroxide used in RLWTF and Laboratory and Office Building.	TA-50-1 TA-55-2	D028, M214	NA
Fantastik	Ammonium based decontamination cleanser used in CMR. Heat source fabrication in the Plutonium Facility. Detergent in Weapons Engineering Tritium Facility and in the Radiochemistry Site. Decon chemical used in WCRR Facility.	TA-3-29 TA-55 TA-16-205 TA-48-1 TA-50-69	D028, D076, M178, M214, M227, Reference 11	NA
Ferric ammonium sulfate	Dissolution and purification and oxide conversion operations in the Plutonium Facility.	TA-55	D046, M044	NA
Ferric chloride powder	Metallography sample preparation in CMR.	TA-3-29	Reference 11	NA
Ferric hydroxide	Plutonium precipitation reagent in DP-West.	TA-21	Reference 16	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Ferric nitrate	Fuel dissolution and extraction in CMR. Identified as reagent in pretreatment, dissolution, routine Pu-238 waste solidification, nitrate anion exchange, purification and separation by precipitation, and purification and oxide conversion operations in the Plutonium Facility.	TA-3-29 TA-55	D046, D076, M036, M044, M062, M157, P010, Reference 11	NA
Ferric sulfate	Precipitation/flocculation/clarification agent.	TA-50-1	D004, D005, D018, D020, D021, D030	NA
Ferric sulfate hexahydrate	Precipitation/flocculation/clarification agent.	TA-50-1	D010	NA
Ferrous ammonium sulfate	Dissolution and nitrate anion exchange operation in the Plutonium Facility.	TA-55	D001, D046 ,D089, M036, M087, M098, M100, M198	NA
Ferrous sulfamate	Ion exchange process in the Plutonium Facility.	TA-55	D046, M094, M098	NA
Fiberlay P19	Polyester resin used in sample examination in CMR.	TA-3-29	Reference 11	NA
Fluoristan	Dissolution process in the Plutonium Facility	TA-55	M198	NA
Fluoroboric acid	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Fluorosulfonic acid	Organoactinide R&D reagent in the Plutonium Facility.	TA-55	Reference 12	NA
Formamide	Identified as reagent in dissolution operations in the Plutonium Facility.	TA-55	D046, M198	NA
Formic acid	Uranium processing reagent used in CMR. Dissolution and evaporator process in the Plutonium Facility.	TA-3-29 TA-55	C064, D046, M198, Reference 11	NA
Franklin 77	Detergent (blend of sodium dodecylbenzene sulfonate and nonylphenoxypoly [ethyleneoxy] ethanol).	TA-3-16 TA-3-66 TA-3-141	D028, M214	NA
Gallium	Metallography sample preparation in CMR. Actinide R&D and casting reagent. Metal used in electrorefining and compatibility testing in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Glyceregia etchant	Metallography sample preparation and etching in CMR. Contains a mixture of hydrochloric acid, nitric acid, and glycerol.	TA-3-29	Reference 11	NA
Glycerol (glycerine)	Metallography sample preparation and etching in CMR.	TA-3-29	Reference 11	NA
GoJo cleaner (kerosene derivative)	Parts cleaning solution in the Plutonium Facility.	TA-55	Reference 12	NA
Gold	Metal used in welding operations, coating material, and component of transfer boat used in plutonium fluoride reduction in the Plutonium Facility.	TA-55	Reference 12	NA
Graphite	Sample preparation and mounting in CMR. Graphite aeroshells, insulators, molds, and blocks in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Gypsum cement (e.g., Envirostone)	Particulate and liquid immobilization in CMR, Plutonium Facility, and WCRR Facility.	TA-3-29 TA-50-69 TA-55	D078, Reference 11, Reference 12	NA
Hafnium oxide	Metal used in plutonium processing operations in DP-West.	TA-21	Reference 16	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Heptane	Potential pollutant identified in the Radiochemistry Site.	TA-48-1	D049	NA
Hexane	Automated chemical analysis process in CMR. Miscellaneous processing contaminant and R&D solvent for actinide chemistry in the Plutonium Facility.	TA-3-29	D033	NA
Hydrazine	Hazardous materials inventory from the Radiochemistry Site.	TA-48-1	D051	NA
Hydrazine dihydrochloride	Actinide R&D and sensors/instrumentation development reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Hydrazine hydrochloride	Actinide R&D reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Hydriodic acid	Mass spectroscopy process in CMR. Metallographic sample etching and polishing in DP-West.	TA-3-29 TA-21	D033	NA
Hydrobromic acid	Mass spectroscopy process in CMR. Hazardous materials inventory from the Radiochemistry Site. Metallographic sample etching in the Plutonium Facility.	TA-3-29 TA-48-1 TA-55	D033, D051, P009	NA
Hydrochloric acid	Numerous chemical analysis operations in CMR. Acid pickling, plating, solutions used in the electroplating and metallography sections of the Sigma Building. Used in treatment of waste solutions in RLWTF. Sample dissolution and potential pollutant identified in the Radiochemistry Site. Dissolution, hydroxide precipitation, separation and purification by precipitation, MCDOR, metallographic sample etching, and evaporator operations in the Plutonium Facility.	TA-3-29 TA-3-66 TA-50-1 TA-55 TA-48-1 TA-48-45	C016, C032, C066, D001, D028, D033, D034, D046, D049, D051, D071, D082, D089, M054, M060, M087, M148, M149, M153, M158, M164, M169, M171, M198, P009	NA
Hydrofluoric acid	Numerous chemical analysis operations in CMR. Sample dissolution and potential pollutant identified in the Radiochemistry Site. Component of acid pickling and polishing solutions used in the electroplating and metallography sections of the Sigma Building. Pretreatment, nitrate anion exchange, separation and purification by precipitation, heat source fabrication, and dissolution operations in Plutonium Facility. Metallographic sample etching in the Plutonium Facility.	TA-3-29 TA-48-1 TA-48-45 TA-3-66 TA-55	C032, D028, D033, D034, D046, D049, D051, D071, D076, D082, D089, M006, M042, M043, M054, M057, M059, M060, M061, M062, M085, M090, M091, M092, M095, M096 M097, M098, M099, M100, M101, M105, M148, M149, M150, M153, M155, M157, M164, M172, M196, M198, M201, M203, M204, P009, P012	NA
Hydrofluorous acid	Chemical used to recover plutonium in DP-West.	TA-21	Reference 16	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Hydrogen peroxide	Uranium conversion and dissolution chemistry in CMR. Dissolution, pretreatment, nitrate ion exchange, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility. Identified in the Sigma Building. COD reduction for RLWTF influent. Hazardous materials inventory and potential pollutant identified in the Radiochemistry Site.	TA-3-29 TA-55 TA-3-66 TA-50-1 TA-48-1 TA-48-45	D001, D028, D033, D046, D049, D051, D089, M038, M044, M097, M098, M099, M100, M101, M104, M155, M156, M198, M205, M208	NA
Hydroquinone	Hazardous materials inventory from the Radiochemistry Site.	TA-48-1	D051	NA
Hydroxylamine hydrochloride	Plutonium assay process in CMR. Nitrate anion exchange, separation, and purification operations in the Plutonium Facility.	TA-3-29 TA-55	D033, M034, M158, M169, M171	NA
Hydroxylamine nitrate	Dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility.	TA-55	D001, D046, D076, D089, M006, M034, M035, M038, M041, M044, M097, M098, M099, M100, M101, M102, M155, M198	NA
Indium	Mass spectrometry sample preparation internal standard in CMR. Metal used in compatibility testing in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Iodine	Uranium conversion, dissolution, and extraction reagent used in CMR. Used with calcium to reduce plutonium fluoride in the Plutonium Facility.	TA-3-29 TA-55	M122, Reference 11	NA
Iodine-pentoxide	Silica gel reagent used in CMR.	TA-3-29	Reference 11	NA
Iridium	Metal used in plutonium including Pu-238 processing operations in DP-West.	TA-21	Reference 16	NA
Iron sulfate	Precipitation/flocculation/clarification of non TA-55 influents.	TA-50-1	C013, C014, D006, D059, M006	NA
Isobutyl alcohol (isobutanol)	Laboratory reagent used in CMR.	TA-3-29	Reference 11	F005
Iso-octane	Sample preparation reagent used in CMR.	TA-3-29	Reference 11	NA
Isopar H (isoparaffin solvent)	Actinide R&D reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Isopentyl acetate	Plutonium chemistry process in CMR.	TA-3-29	D033	NA
Isopropanol (Isopropyl alcohol)	Metallography reagent and cleaning solvent used in CMR. Miscellaneous processing waste contaminant, cleaning agent, and organoactinide R&D reagent in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Isopropyl ether	Automated chemical analysis process in CMR.	TA-3-29	D033	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Kerosene	Plutonium transmission electron microscope and sample preparation process in CMR. Lubricant for sample grinding in the Sigma Building. Pretreatment and americium solvent extraction in the Plutonium Facility.	TA-3-29 TA-3-66 TA-55	C014, D033, D034, M047	NA
Lactic acid	Metallography etching reagent used in CMR. Identified in the Sigma Building. Metallographic sample etching and polishing in DP-West.	TA-3-29 TA-3-66 TA-21	D028, Reference 11, Reference 16	NA
Lanthanide metals	Actinide chemistry R&D reagents used in Plutonium Facility.	TA-55	Reference 12	NA
Lanthanum nitrate	Sample preparation in CMR. Dissolution and Plutonium/thorium separation operations in the Plutonium Facility.	TA-3-29 TA-55	D046, P012, Reference 11	NA
Lead	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, effluent samples, as well as RLWTF filter cake and 1986 sludge samples. EPA code assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, heat source fabrication, hydroxide precipitation, routine Pu-238 waste solidification, pyrochemical matrix studies, or burst testing operations in the Plutonium Facility and as part of the influent design basis for the RLWTF. Identified in numerous operations in CMR. Potential pollutant identified in the Radiochemistry Site. Contaminants in decon rinsate from Waste Management Decon Trailer.	TA-50-1 TA-55 TA-3-29 TA-50-185 TA-48-1	C009, C013, C014, C020, C032, C040, C041, C057, C066, C068, D001, D003, D004, D005, D007, D028, D033, D046, D049, D051, D067, D075, D076, D082, D085, M007, M011, M081, M211	D008
Lead chloride	WIPP source term test program reagent used in CMR.	TA-3-29	Reference 11	D008
Lead fluoborate	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	D008
Lead hydroxide, oxide, and nitrate	Actinide R&D reagents used in the Plutonium Facility.	TA-55	Reference 12	D008
Lead sulfate	Metallography sample preparation in CMR.	TA-3-29	Reference 11	D008
Liqui-Moly (molybdenum lubricant)	Pellet press die lubricant used in the Plutonium Facility.	TA-55	Reference 12	NA
Liquinox	Detergent in Occupational Health Laboratory.	TA-59-1	D028	NA
Lithium	Uranium conversion and dissolution in CMR. MCDOR operations in the Plutonium Facility.	TA-3-29 TA-55	M166, M173, Reference 11	NA
Lithium chloride	MCDOR operations in the Plutonium Facility.	TA-55	M166, M173	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Lithium fluoride	Molten salt electrochemistry reagent salt used in CMR. Metallographic sample etching in DP-West.	TA-3-29 TA-21	Reference 11, Reference 16	NA
Lithium hydroxide	PH adjustment reagent used in the Radiochemistry Site.	TA-48-1	D051	NA
Lutetium	Sputter coating reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Magnesium chloride	Routine Pu-238 Waste Solidification operations in the Plutonium Facility.	TA-55	M185	NA
Magnesium hydroxide	Hydroxide precipitation, separation, and purification operations in the Plutonium Facility.	TA-55	D007, D091, M038	NA
Magnesium oxide	Uranium conversion and dissolution in CMR. Identified as reagent in pretreatment operations in the Plutonium Facility.	TA-3-29 TA-55	D046, D089, M045, M062, M122, M190, M197	NA
Magnesium perchlorate	Analytical sampling operations in CMR. Water vapor removal reagent used in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Malonic acid	Uranium conversion and dissolution chemistry in CMR.	TA-3-29	D033	NA
Manganese	Metal used in plutonium processing operations in DP-West.	TA-21	Reference 16	NA
Mannitol (hexan-1,2,3,4,5,6-hexol)	Analytical sampling operations in CMR.	TA-3-29	Reference 11	NA
Mercuric chloride	Hazardous materials inventory from the Radiochemistry Site.	TA-48-1	D051	D009
Mercuric iodide	Analysis of trace elements in the Radiochemistry Site.	TA-48-1	D051	D009
Mercuric nitrate	Dissolution operations in the Plutonium Facility.	TA-55	C032, D046, M054	D009
Mercury/mercury oxide	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, effluent samples, as well as RLWTF filter cake and 1986 sludge samples. EPA code assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, heat source fabrication, hydroxide precipitation, routine Pu-238 waste solidification, or purification and oxide conversion operations in the Plutonium Facility and as part of the influent design basis for the RLWTF. Interstitial analysis process in CMR. Potential pollutant identified in the Radiochemistry Site. Acceptable in wastes treated in CAI.	TA-50-1 TA-55 TA-3-29 TA-50-37 TA-48-1 TA-48-45	C009, C013, C020, C032, C057, C066, D001, D004, D005, D007, D033, D046, D049, D051, D060, D067, D076, D085, M006, M007, M011, M059, M060, M080, M211	D009
Metalprep 79 (phosphoric acid-based metal cleaner)	Metal cleaner used in the Plutonium Facility.	TA-55	Reference 12	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Methyl alcohol (methanol)	Numerous operations in CMR. Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility. Detected in solid samples from randomly selected drums of RLWTF sludge.	TA-3-29 TA-55 TA-50-1	C032, C061, C063, D007, D008, D033, D046	NA
Methylene chloride	SVOC sample extraction solvent and decontamination reagent in CMR. Reported and detected in both the influent and effluent liquids from the RLWTF, and 1986 sludge samples, but also detected in method blank. Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility.	TA-3-29 TA-50-1 TA-55	C008, C013, C032, C061, C063, D007, D029, D046, M011, Reference 11	F001, F002
Methyl ethyl ketone	Solvent used during maintenance and metallurgy in CMR. Extraction reagent used in the Radiochemistry Site. Detected in samples of influent and effluent liquids associated with RLWTF, and detected in 1986 sludge samples, but at less than detection limit and also detected in method blank. TC EPA code assigned to TA-50-19 sludge by LANL AKIS. Machining operations solvent used in the Plutonium Facility.	TA-3-29 TA-48-45 TA-50-1 TA-55	D004, D029, D049, D077, D078, D102, M007, M011, Reference 11	F005
Methyl isobutyl ketone	Plutonium chemistry process in CMR. Solvent extraction reagent in DP-West.	TA-3-29 TA-21	D033, Reference 16	NA
Microclean	Detergent in Occupational Health Laboratory.	TA-59-1	D028, M214	NA
Molybdenum metal/oxide	Metal used in machining operations, fuel elements, salt stripping reagent, and component of Liqui-Moly in Plutonium Facility.	TA-55	Reference 12	NA
MolyKote	Silicon-based lubricant used during the hand pressing of oxide pellets in the Plutonium Facility.	TA-55	Reference 12	NA
MSA Cleaner/Sanitizer II	Detergent (blend of sodium carbonate, bicarbonate, and phosphate) in Occupational Health Laboratory.	TA-59-1	D028	NA
n-Butyl alcohol (butanol)	Plutonium transmission electron microscope and sample preparation process in CMR. Contaminant in feed material to dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility.	TA-3-29 TA-55	C032, C061, C063, D007, D033, D046	NA
n-Dodecane	Actinide R&D solvent diluents and chloride extraction reagent used in the Plutonium Facility.	TA-55	Reference 12	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Neodymium oxide	Analytical sample and standard preparation operations.	TA-3-29	Reference 11	NA
Nessler's Reagent	Reagent used during analytical measurement in CMR. Contains potassium tetraiodomercurate (II) in 2.5 mol/L potassium hydroxide.	TA-3-29	Reference 11	NA
Neutracleaner #1 and #2	Machining operations cleaner (blend of sodium phosphate and sodium lauryl sulfate) used in the Plutonium Facility.	TA-55	Reference 12	NA
Nickel/nickel powder	Decontamination and optical metallography reagent used in CMR. Reactor fuel development sintering aid used in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Nickel acetate	Component of anodizing and conversion solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Nickel chloride	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Nickel sulfamate	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Nickel sulfate	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Niobium	Metal used in welding operations, fuel elements, and electrorefining reagent in Plutonium Facility.	TA-55	Reference 12	NA
Nitric acid	Numerous operations in CMR. Component of acid pickling and polishing solutions in electroplating and metallography sections of the Sigma Building. Dissolution, pretreatment, purification and oxide conversion, nitrate anion exchange, separation and purification by precipitation, evaporator, heat source fabrication, and routine Pu-238 waste solidification operations in the Plutonium Facility. Identified from the Roller Mill Building. Influent material to RLWTF. Sample dissolution reagent used in the Radiochemistry Site.	TA-3-29 TA-3-66 TA-55 TA-3-141 TA-50-1 TA-48-1 TA-48-45	C016, C032, C066, D001, D028, D033, D034, D046 ,D049, D051, D068, D071, D076, D082, D089, M006, M034, M035, M036, M042, M043, M044, M048, M054, M057, M059, M060, M061, M062, M063, M086, M087, M088, M089, M090, M091, M092, M093, M094, M095, M096, M097, M098, M099, M100, M101, M102, M103, M104, M105, M110, M111, M112, M113, M148, M149, M150, M151, M153, M155, M156, M157, M172, M196, M198, M199, M201, M202, M203, M204, M205, M208, M210, P010, P012	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Nitrobenzene	SVOC surrogate standard and contaminant of incoming sludge samples in CMR. Detected in concentrations below regulatory levels in wastewater samples collected from influents to RLWTF.	TA-3-29 TA-50-1	C013, Reference 11	F004
N-nitroso-di-n-propylamine	SVOC matrix spike standard used in CMR.	TA-3-29	Reference 11	NA
NoChar® Acid Bond	Acidic solution absorption in CMR.	TA-3-29	Reference 11	NA
Oakite 90/ruststripper	Caustic metal cleaner containing sodium hydroxide used in the Plutonium Facility.	TA-55	Reference 12	NA
Octylphenyl di-isobutyl carbamoylmethyl phosphine oxide (CMPO)	Actinide R&D reagent and Liquid-liquid extraction solvent used in the Plutonium Facility.	TA-55	Reference 12	NA
Oil (e.g., engine, hydraulic, light instrument, mineral)	Maintenance and sodium melting in CMR. Potentially disposed down drain in the Press Building. Hazardous materials inventory from the Radiochemistry Site. Generation during size reduction and repackaging operations in WCRR Facility. Assumed to have been filtered in pretreatment operations in the Plutonium Facility.	TA-3-29 TA-3-35 TA-48-1 TA-50-69 TA-55	D028, D046, D051, D078, M047, Reference 11	NA
Organicstrip	Non-regulated paint stripper used in the Plutonium Facility.	TA-55	Reference 12	NA
Osmium	Metal used in plutonium processing operations in DP-West.	TA-21	Reference 16	NA
Oxalic acid	Plutonium metallography process in CMR. Utilized in the pretreatment, dissolution, hydroxide precipitation, nitrate anion exchange, separation and purification by precipitation, or purification and oxide conversion operations in the Plutonium Facility. Component of anodizing and conversion solutions used in the electroplating section of the Sigma Building. Potential pollutant identified in the Radiochemistry Site.	TA-3-29 TA-55 TA-3-66 TA-48-45	C032, C063, D001, D007, D028, D033, D034, D046, D049, D076, D089, M006, M034, M035, M097, M098, M099, M101, M102, M103, M110, M155, M158, M171, M198, P012	NA
Paint	Maintenance and contamination control in CMR. Used during maintenance and contamination control in DP-West.	TA-3-29 TA-21	Reference 11, Reference 16	D005, D006, D007, D008, D009
Palladium	Metal used in plutonium processing operations in DP-West.	TA-21	Reference 16	NA
Paraffin	Density measurements reagent used in CMR.	TA-3-29	Reference 11	NA
Pentachlorophenol	SVOC matrix spike standard used in CMR. Contaminant in wastes incinerated in Controlled Air Incinerator.	TA-3-29 TA-50-37	D015, D017, Reference 11	D037
Pentane	R&D solvent for actinide chemistry in the Plutonium Facility.	TA-55	Reference 12	NA
Pentafluorobenzene	GC/MS standard reagent used in CMR.	TA-3-29	Reference 11	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Perchloric acid	Sample dissolution reagent used in the Radiochemistry Site. Numerous operations in the CMR. Actinide R&D and laboratory reagent used in the Plutonium Facility.	TA-48-1 TA-48-45 TA-3-29 TA-55	D033, D049, D051, Reference 12	NA
Perfluorotributyl amine	Metallurgy operations reagent used in CMR.	TA-3-29	Reference 11	NA
Perlite	Potassium aluminum silicate based dewatering/filter agent in RLWTF sludge.	TA-50-1	C017, D005, D020, D059, M214, P002	NA
Phenol	SVOC surrogate standard used in CMR.	TA-3-29	Reference 11	NA
Phenolphthalein	Solution pH indicator used in CMR. Dissolution, heat source, and routine Pu-238 waste solidification operations in the Plutonium Facility.	TA-3-29 TA-55	D046, D076, M100, P010, Reference 11	NA
Phosphoric acid	Numerous operations in the CMR. Component of acid polishing solutions used in the electroplating section of the Sigma Building. Plutonium recovery reagent and component of Metalprep 79 in the Plutonium Facility.	TA-3-29 TA-3-66 TA-55	D028, D033, D034, Reference 12	NA
Picric acid	Metallography sample preparation etchant used in CMR. Contaminant of concern in D&D operations in DP-West.	TA-3-29 TA-21	Reference 11, Reference 16	NA
Platinum	Plutonium recovery operations and actinide R&D reagent. Component of electrodes, filters/screens, fuel element sleeves, and furnace can linings in the Plutonium Facility.	TA-55	Reference 12	NA
Polyethylene glycol	GC/MS reagent used in CMR. Fuel fabrication reagent used in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Polyoxyethylene-20-sorbitan laurate (surfactant)	Plutonium recovery operations in the Plutonium Facility.	TA-55	Reference 12	NA
Polyvinyl cinnamate	Optical metallography reagent used in CMR Building.	TA-3-29	Reference 11	NA
Polyvinyl pyridine (resin)	Ion exchange resin in dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility.	TA-55	D001, M044, M198	NA
Portland cement	Silicate based cement added to RLWTF sludges to absorb liquids that might dewater from the sludge. Used to absorb liquids in WCRR Facility.	TA-50-1 TA-50-69	C013, C014, D004, D074, D078, M006, M214, P002	NA
Potassium carbonate	Plutonium operations reagent in DP-West.	TA-21	Reference 16	NA
Potassium chloride	MCDOR operations in the Plutonium Facility.	TA-55	M166, M173	NA
Potassium cyanide	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034, M214	F007, F009
Potassium chromate	Dissolution and chloride anion exchange reagent used in the Plutonium Facility.	TA-55	Reference 12	D007

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Potassium dichromate	Plutonium assay process in CMR. Pretreatment, dissolution, separation and purification by precipitation, and hydroxide precipitation operations in the Plutonium Facility.	TA-3-29 TA-55	C034, D007, D033, M169, P012	D007
Potassium fluoride	Dissolution and ion exchange operations in the Plutonium Facility.	TA-55	D046, M059	NA
Potassium ferricyanide	Metallographic sample etching and polishing in DP-West.	TA-21	Reference 16	NA
Potassium gold cyanide	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034, M214	F007, F009
Potassium hydrogen phthalate	Fuel dissolution and extraction in CMR.	TA-3-29	Reference 11	NA
Potassium hydroxide	Uranium conversion and dissolution chemistry in CMR. Dissolution, pretreatment, evaporation, hydroxide precipitation, nitrate anion exchange, MCDOR, separation and purification by precipitation, plutonium trichloride preparation, or purification and oxide conversion operations in the Plutonium Facility.	TA-3-29 TA-55	C065, C066, D001, D007, D033, D046, D071, D082, D089, D091, M034, M038, M042, M043, M046, M062, M081, M088, M090, M114, M116, M158, M165, M166, M193, P012	NA
Potassium iodide	Plutonium recovery operations reagent in DP-West.	TA-21	Reference 16	NA
Potassium metabisulfite	Metallography sample preparation in CMR.	TA-3-29	Reference 11	NA
Potassium nitrate	Plutonium recovery operations reagent in DP-West.	TA-21	Reference 16	NA
Potassium permanganate	Pretreatment, decontamination, and R&D reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Potassium pyrosulfate	Sample and standard preparation in CMR. Dissolution operations in the Plutonium Facility.	TA-3-29 TA-55	M059, M094, Reference 11	NA
Potassium thiocyanate	Dissolution operations in the Plutonium Facility.	TA-55	D046, M087	NA
Primene JMT (Tert-Alkylamines)	Extractant used to separate plutonium from zirconium in DP-West.	TA-21	Reference 16	NA
P-tert octylphenoxy polyethyoxyethyl alcohol	Photographic reagent used in CMR.	TA-3-29	Reference 11	NA
Pyrene	SVOC matrix spike standard used in CMR.	TA-3-29	Reference 11	NA
Pyridine	TC EPA code assigned to TA-50-19 sludge by LANL AKIS. Super acid R&D, extraction, separation, and characterization studies solvent used in the Plutonium Facility.	TA-50-1 TA-55	D003, D004, D078, D079, M007	F005
REZ-N-Bond	Solvent bonding (contains methylene chloride) used in the Plutonium Facility.	TA-55	Reference 12	F002
Rhenium	Metal used in fuel elements in the Plutonium Facility.	TA-55	Reference 12	NA
Rhodium	Actinide R&D reagent and component of fuel element sleeves in the Plutonium Facility.	TA-55	Reference 12	NA
Ruthenium	Metal used in plutonium processing operations in DP-West.	TA-21	Reference 16	NA
Scandium oxide	Sample and standard preparation in CMR.	TA-3-29	Reference 11	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Scintillation cocktails (e.g., Aquasol, Ultima Flo)	Contaminant in wastes incinerated in Controlled Air Incinerator. Listed as contaminant from the Radiochemistry Site. Listed as contaminant in RLWTF. Listed as contaminant in Laboratory and Office Building. Listed as contaminant in Weapons Engineering Tritium Facility. Listed as contaminant in Occupational Health Laboratory. Example ingredients include benzene, petroleum distillates, and xylene.	TA-50-37 TA-3-16 TA-3-29 TA-48-1 TA-50-1 TA-55-2 TA-16-205 TA-59-1	D017, D028, D071, Reference 11	NA
Selenious acid	Hazardous materials inventory from the Radiochemistry Site.	TA-48-1	D051	D010
Selenium	Cold vapor atomic absorption analyte used in CMR. Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, as well as RLWTF filter cake and 1986 sludge samples. EPA code assigned to TA-50-19 sludge by LANL AKIS. Potential pollutant identified in the Radiochemistry Site. Contaminant in feed material to the pretreatment, evaporator, DOR and MCDOR, heat source fabrication, and routine Pu-238 waste solidification operations in the Plutonium Facility.	TA-3-29 TA-50-1 TA-48-1 TA-55	C009, C020, C032, C057, D004, D005, D028, D046, D049, D051, D063, D067, D082, M007, M011, M211, Reference 11	D010
Sensor Coat, strippable coating	Used to remove loose contamination in the D&D process in DP-West.	TA-21	Reference 16	NA
SF-2I (3M secondary fluid)	Machining coolant/fluid used in the Plutonium Facility.	TA-55	Reference 12	NA
Silicon	Metal used in plutonium processing operations in DP-West.	TA-21	Reference 16	NA
Silicone adhesive (e.g., RTV, Sylgard 184)	Maintenance and Fuel pin/capsule sealant used in CMR. Compound used in compatibility testing in Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Silica gel	Desiccant used during pin storage in CMR.	TA-3-29	Reference 11	NA
Silicone lubricant	Metal operations lubricant in Plutonium Facility.	TA-55	Reference 12	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Silver/silver oxide	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, as well as RLWTF filter cake and 1986 sludge samples. EPA code assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, heat source fabrication, routine Pu-238 waste solidification, or purification and oxide conversion operations in the Plutonium Facility. Identified in numerous operations in the CMR. Component of superconductor samples prepared in the metallography section of the Sigma Building. Potential pollutant identified in the Radiochemistry Site.	TA-50-1 TA-55 TA-3-29 TA-3-66 TA-48-1	C009, C020, C032, C033, C040, C041, C057, C063, D001, D003, D004, D005, D033, D034, D046, D049, D051, D067, D076, D082, D085, M007, M011, M211	D011
Silver chloride	Analytical reagent used in the Radiochemistry Site.	TA-48-1	D051	D011
Silver cyanide	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034, M214	F007, F009
Silver iodide	Analytical reagent used in the Radiochemistry Site.	TA-48-1	D051	D011
Silver nitrate	Electrochemical dissolution process in the Plutonium Facility. Pretreatment, dissolution, purification and oxide conversion, separation and purification by precipitation, hydroxide precipitation operations in the Plutonium Facility.	TA-55	C033, C034, D007, D046, M044, M078, M079, M087, M094, M169, M216	D011
Slikwik	Corncob based absorbent used to absorb neutralized solutions in CMR.	TA-3-29	Reference 11	NA
Sodium	Fuel dissolution and extraction in CMR. MCDOR operations in the Plutonium Facility.	TA-3-29 TA-55	M166, M173, Reference 11	NA
Sodium arsenate	Hazardous materials inventory from the Radiochemistry Site.	TA-48-1	D051	D004
Sodium arsenite	Hazardous materials inventory from the Radiochemistry Site.	TA-48-1	D051	D004
Sodium acetate	WIPP STTP experiment chelator standard in CMR. Chemical used to extract/precipitate plutonium in DP-West.	TA-3-29 TA-21	Reference 11, Reference 16	NA
Sodium bicarbonate	Maintenance operations in CMR. Separation and purification operations in the Plutonium Facility.	TA-3-29 TA-55	M169, Reference 11	NA
Sodium bisulfate	Plutonium assay sample preparation fusion reagent used in CMR.	TA-3-29	Reference 11	NA
Sodium borohydride	Atomic absorption sample preparation reagent used in CMR.	TA-3-29	Reference 11	NA
Sodium bromate	Plutonium recovery reagent in DP-West.	TA-21	Reference 16	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Sodium carbonate	Analytical sampling operations in CMR. Actinide R&D and plutonium recovery operations reagent in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Sodium chloride	Metallography sample preparation in CMR. Dissolution operations in the Plutonium Facility.	TA-3-29 TA-55	D046, M087, Reference 11	NA
Sodium chlorite	Actinide R&D and plutonium recovery operations reagent in Plutonium Facility.	TA-55	Reference 12	NA
Sodium chromate	Dissolution and Plutonium/thorium separation operations in the Plutonium Facility.	TA-55	D046, P012	D007
Sodium cyanide	Hazardous materials inventory from the Radiochemistry Site.	TA-48-1	D049, D051	NA
Sodium dithionite	Nitrate anion exchange, separation, and purification operations in the Plutonium Facility.	TA-55	M034, M158, M171	NA
Sodium fluoride	Dissolution operations in the Plutonium Facility.	TA-55	M059, M094	NA
Sodium gold sulfite	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Sodium hydrosulfide	Used in treatment of chromate solutions in RLWTF.	TA-50-1	D068	NA
Sodium hydroxide	Actinide research and development process in CMR. Alkaline cleaning solutions and component of plating, anodizing and conversions solutions used in the electroplating section of the Sigma Building. Neutralization/pH adjustment/ flocculation. Heat source operations, routine Pu-238 waste solidification, MCDOR, pretreatment, dissolution, nitrate anion exchange, separation and purification by precipitation, evaporation, purification and oxide conversion, hydroxide precipitation, and burst testing operations in the Plutonium Facility. Potential pollutant identified in the Radiochemistry Site. Caustic scrubber for the Controlled Air Incinerator for volume reduction.	TA-3-29 TA-3-66 TA-50-1 TA-55 TA-48-1 TA-50-37	C032, C035, C041, C065, C066, D001, D004, D005, D006, D007, D010, D013, D020, D028, D033, D034, D046, D049 D068, D071, D076, D077, D082, D089, D091, M042, M044, M046, M054, M058, M062, M081, M088, M100, M103, M104, M105, M114, M116, M153, M155, M156, M157, M164, M187, M198, M208, M216, P004, P010, P012	NA
Sodium hydroxybutyric acid	WIPP STTP experiment chelator standard used in CMR	TA-3-29	Reference 11	NA
Sodium hypochlorite	Uranium conversion and dissolution chemistry in CMR. Used in treatment of cyanide solutions in RLWTF.	TA-3-29 TA-50-1	D033, D068	NA
Sodium hypophosphite	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Sodium lactate	WIPP STTP experiment chelator standard used in CMR.	TA-3-29	Reference 11	NA
Sodium metaphosphate	Heat source fabrication operations in the Plutonium Facility.	TA-55	C056	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Sodium nitrate	Radiochemistry sample preparation in CMR. Pretreatment operations in the Plutonium Facility. Dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility.	TA-3-29 TA-55	D001, D046, D076, D077, D089, M036, M044, M094, M098, M103, Reference 11	NA
Sodium nitrite	Fuel dissolution and extraction reagent used in CMR. Dissolution, leaching, and ATLAS R&D recovery operations reagent in Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Sodium oxalate	Dissolution and purification and oxide conversion operations in the Plutonium Facility.	TA-55	C032, D001, D046	NA
Sodium perchlorate	Actinide research and development process in CMR.	TA-3-29	D033	NA
Sodium-potassium	Removed from fuel pins and capsules in CMR.	TA-3-29	Reference 11	NA
Sodium pyrophosphate	Sucrose recovery of Pu-238 in the Plutonium Facility.	TA-55	Reference 12	NA
Sodium silicate	Decontamination reagent in CMR. Sludge solidification.	TA-3-29 TA-50-1	M006, Reference 11	NA
Sodium sulfate	SVOC sample preparation reagent used in CMR. Electrolytic decontamination reagent used in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Sodium sulfite	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Sodium tetraborate	Burst testing process in the Plutonium Facility.	TA-55	C035, D077	NA
Sodium thiosulfate	Plutonium recovery reagent in DP-West.	TA-21	Reference 16	NA
Stannous chloride	Reduction agent for cold vapor atomic absorption in CMR. Plutonium recovery reagent used in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Stearic acid	Mixed with plutonium to form plutonyl stearate and used in the Radiochemistry Site. Fuel production reagent, recovery operations, and component of silicone adhesive in the Plutonium Facility.	TA-48-1 TA-55	M227, Reference 12	NA
Sucrose	Sucrose recovery of Pu-238 and microspherical fuel reagent in the Plutonium Facility.	TA-55	Reference 12	NA
Sulfamic acid	Plutonium recovery reagent in DP-West.	TA-21	Reference 16	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Sulfuric acid	Numerous operations in the CMR. Component of acid polishing, plating, anodizing and conversion solutions used in the electroplating section of the Sigma Building. Influent contaminant and used in treatment of chromate solutions in RLWTF. Pretreatment, dissolution, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility. Hazardous materials inventory and potential pollutant from the Radiochemistry Site.	TA-3-29 TA-3-66 TA-50-1 TA-55 TA-48-1 TA-48-45	D005, D028, D033, D034, D046, D049, D051, D068, D089, M104, M156, M198, M208	NA
Tantalum	Metal powder and foil used in mass spectrometry in the CMR. Metal used in welding operations, fuel elements, and crucibles. Dissolution and electrorefining reagent in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Tap Magic	Machining coolant (contains 1,1,1-trichloroethane) used in the Plutonium Facility.	TA-55	Reference 12	F002
t-Butyl alcohol	Analytical chemistry reagent used in CMR.	TA-3-29	Reference 11	NA
Terbium sesquioxide	Sample and standard preparation in CMR.	TA-3-29	Reference 11	NA
Terphenyl	SVOC surrogate standard used in CMR.	TA-3-29	Reference 11	NA
Tetrabromoethane	Reagent for density determination in CMR.	TA-3-29	Reference 11	NA
Tetrachloroethane	GC/MS sample preparation standard reagent used in CMR.	TA-3-29	Reference 11	NA
Tetrachloroethylene	Fuel dissolution, extraction, and cleaning in CMR. Contaminant in feed material to the evaporator, hydroxide precipitation operations, and chloride operations reagent in the Plutonium Facility. Detected in samples of influent and effluent liquids associated with RLWTF. TC EPA code assigned to TA-50-19 sludge by LANL AKIS.	TA-3-29 TA-55 TA-50-1	C014, C032, C061, C063, D004, D007, D029, D046, M007, Reference 11	F001, F002
Tetraethylamine chloride	Actinide R&D reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Tetraethylammonium hydroxide	Actinide R&D reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Tetrahydrofuran	Organic and actinide separations research and inorganic compound synthesis and characterization. Synthesis R&D reagent, organoactinide R&D reagent, Np and Pu metal cleaner used in the Plutonium Facility.	TA-3-29 TA-55	D033, Reference 12	NA
Tetra-propylammonium nitrate	Sample and standard preparation.	TA-3-29	Reference 11	NA
Thallium oxide	Sample preparation and processing in the CMR.	TA-3-29	D033	NA
Thenoyltrifluoroacetone – TTA	Fuel dissolution and extraction in the CMR. Solvent extraction reagent in DP-West.	TA-3-29 TA-21	Reference 11, Reference 16	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Thionyl chloride	Plutonium chlorination reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Tintaous chloride	Reductant metal salt used in the CMR plutonium assay process.	TA-3-29	D033	NA
Titanium	Metal used in welding operations and electrorefining reagent in the Plutonium Facility.	TA-55	Reference 12	NA
Toluene	Detected in samples of RLWTF influent and effluent liquids, and detected in 1986 sludge samples, but detected in method blank, and estimated value reported since less than detection limit. Organic and actinide separations research and inorganic compound synthesis and characterization in the CMR. Super acid R&D, extraction, separation, and characterization studies solvent used in the Plutonium Facility.	TA-50-1 TA-3-29 TA-55	C013, D003, D029, D033, D078, D079, M011, M085	F005
Tributyl phosphate (TBP)	Separation of lanthanides reagent used in the Radiochemistry Site. Americium Solvent extraction and chloride operations reagent in the Plutonium Facility.	TA-48-1 TA-55	C014, D051, D089	NA
Trichloroethylene	GC/MS matrix spike standard and sample cleaning solvent used in the CMR. Contaminant in feed materials to the dissolution process, heat source fabrication operations, and diluents for filtering oils in the pretreatment process in the Plutonium Facility. Detected in samples of influent to RLWTF. TC EPA code assigned to TA-50-19 sludge by LANL AKIS.	TA-3-29 TA-55 TA-50-1	C056, C063, D004, D029, D046, M007, M047, M085, Reference 11	F001, F002
Trichlorofluoromethane	Detected in samples of influent and effluent liquids associated with RLWTF. Detected as a TIC in 1986 sludge samples.	TA-50-1	D029, M011	F001, F002
Triethylenetetramine	Metallography epoxy catalyst in DP-West.	TA-21	Reference 16	NA
Trilaurylamine	Plutonium extraction reagent in DP-West.	TA-21	Reference 16	NA
Tri-n-octylamine (Trioctylamine)	Uranium extraction reagent in DP-West.	TA-21	Reference 16	NA
Trioctylphosphine oxide (TOPO)	Plutonium operations reagent and cement fixation contaminate in the Plutonium Facility.	TA-55	Reference 12	NA
Trisodium citrate dehydrate	WIPP STTP experiment chelator standard used in the CMR.	TA-3-29	Reference 11	NA
Trisodium phosphate	Reagent in liquid waste treatment operations in RLWTF.	TA-50-1	C014, C017, D004, D005, D018, D021, D030	NA
Tungsten	Metal used in welding operations and equipment, fuel elements, measure physical properties standard, and electrorefining reagent in the Plutonium Facility.	TA-55	Reference 12	NA
UCAR C-34	Epoxy used for sealing aeroshells in the Plutonium Facility.	TA-55	Reference 12	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Urea	Dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility.	TA-55	D001, D046, D076, D089, M035, M044, M097, M098, M099, M100, M102, M198	NA
Vacuum grease	Identified as reagent in dissolution operations in the Plutonium Facility.	TA-55	D046, M202	NA
Vanadium	Metal used in machining and welding operations in the Plutonium Facility.	TA-55	Reference 12	NA
Vanadium pentoxide	Salt distillation and stripping reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
VARIAN Torr Seal	Epoxy used in heat source fabrication operations in the Plutonium Facility.	TA-55	M177, M214	NA
Vermiculite	Hydrated magnesium-aluminum-iron silicate absorbent used to absorb solutions in CMR. Sludge solidification in RLWTF. Used to absorb liquids in WCRR Facility. Pretreatment and heat source fabrication operations in the Plutonium Facility.	TA-3-29 TA-50-1 TA-50-69 TA-55	C032, D078, M006, M054, M178, M214	NA
Vinyl chloride	GC/MS sample preparation standard used in CMR.	TA-3-29	C089, Reference 11	NA
WD-40	Vessel handling and unloading in the Plutonium Facility.	TA-55	Reference 12	NA
Waste Lock 770	Polymer-based absorbent material used during repackaging operations in WCRR Facility.	TA-50-69	C090, M214	NA
Windex	Machining cleaner containing isopropyl alcohol used in the Plutonium Facility.	TA-55	Reference 12	NA
Xylene	Solvent extraction in radiochemistry process in CMR. Detected in 1986 sludge samples, but estimated value reported since less than detection limit. Contaminant in feed materials to the dissolution, purification and oxidation, hydroxide precipitation, and evaporator operations in the Plutonium Facility.	TA-3-29 TA-50-1 TA-55	C032, C061, C063, D007, D033, D046, M011	NA
Xylenol orange indicator	Analytical sample and standard preparation in the CMR.	TA-3-29	Reference 11	NA
Yttrium metal/oxide	Superconductor research reagent in CMR. Mixed with plutonium in MWG processing and electrorefining reagent in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Zeolite	Absorbing liquid waste in CMR. Silicate mineral absorbent material used during pit disassembly in the Plutonium Facility.	TA-3-29 TA-55	Reference 11, Reference 12	NA
Zinc chloride	Pyroredox reagent salt used in the Plutonium Facility.	TA-55	Reference 12	NA
Zinc metal/oxide	Analytical sample and standard preparation in CMR. Component of plating solutions used in the electroplating section of the Sigma Building. Metal used in plutonium processing operations in DP-West.	TA-3-29 TA-3-66 TA-21	D034, Reference 11, Reference 16	NA

Table 8. Waste Stream LA-MIN03-NC.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Zinc stearate	Fuel production anti-sticking reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Zirconium chloride	Plutonium assay reagent used in CMR.	TA-3-29	Reference 11	NA
Zirconium metal/oxide	Electrorefining reagent and metal used in machining in the Plutonium Facility.	TA-55	Reference 12	NA

Notes
Some of these chemicals may exhibit the characteristic of ignitability, corrosivity, or reactivity in their pure form. Based on the analysis of the generating process and waste management practices no pure or unused chemicals would have been introduced into the process influent or remain in the process sludges.

5.4.3.1 F-Listed and Other Solvents

The TA-50-01 RLWTF influent is exempt from being a mixture-rule hazardous waste for certain F-listed solvent constituents under 40 CFR 261.3(a)(2)(iv)(A) and (B) if the concentration of the solvents is below certain levels in the head works of the treatment facility. However, data to quantify the listed solvent concentrations in the TA-50 head works for the time period of generation of this waste stream are not available. Therefore, this waste stream does not qualify for this exclusion (Reference 15).

Based on review of AK relative to chemicals used or present in facilities and processes potentially discharging liquids to the RLWTF, including sampling and analysis of RLWTF liquid influent, effluent, and sludge, waste stream LA-MIN03-NC.001 may contain or be mixed with F-listed hazardous wastes from non-specific sources listed in 40 CFR 261.31 (Reference 15). As shown in Tables 7 and 8, F001, F002, F004, and F005 listed solvents that were utilized or were contaminants and potentially discharged to the RLWTF. F003 constituents include acetone, cyclohexanone, ethyl benzene, ethyl ether, methyl alcohol, methyl isobutyl ketone, n-butyl alcohol, and xylene, listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is an inorganic solid resulting from the treatment of aqueous wastewaters, therefore F003 is not assigned.

In addition, liquid wastes from cyanide plating operations (F007, F009) conducted in the Sigma Building, TA-3-66 have been treated in the RLWTF (References D028, D034, and D068), and EPA HWN F006 also applies to the RLWTF sludge derived from the treatment of the liquids from plating operations. Therefore waste stream LA-MIN03-NC.001 is assigned F-listed EPA HWN F001, F002, F004, F005, F006, F007, and F009 (References 11, 12, C013, C018, D003, D004, D007, D046, D077, D083, D100, D101, and DR001).

5.4.3.2 Toxicity Characteristic Compounds

Based on review of AK relative to chemicals used or present in facilities and processes potentially discharging liquids to the RLWTF, including sampling and analysis of RLWTF

liquid influent, effluent, and sludge, waste stream LA-MIN03-NC.001 may be contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24 (Reference 15). Where a constituent has been identified and there is no quantitative data available to demonstrate that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is added to this waste stream.

The AK identified the potential presence of additional toxicity characteristic compounds, however the more specific F-listed EPA HWN have been assigned to waste stream LA-MIN03-NC.001 for the following constituents: benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), cresol (D026), methyl ethyl ketone (D035), nitrobenzene (D036), pyridine (D038), tetrachloroethylene (D039), and trichloroethylene (D040). Therefore, these characteristic HWNs are not assigned to the waste stream. Waste stream LA-MIN03-NC.001 is assigned toxicity characteristic HWNs D004, D005, D006, D007, D008, D009, D010, D011, D022, D028, and D037 (References 11, 12, 16, C013, C018, C089, D001, D002, D003, D004, D007, D029, D046, D076, D077, D083, D100, D101, DR001, and DR006).

5.4.3.3 Ignitables, Reactives, and Corrosives

The material in this waste stream does not meet the definition of ignitability as defined in 40 CFR 261.21 (Reference 15). Although ignitable chemicals (e.g., methyl alcohol, n-butyl alcohol) are used or present in the contributing facilities, their concentrations in aqueous solutions sent to the RLWTF have been minimal. The materials are not capable of causing fire through friction or absorption of moisture. The materials are not compressed gases, nor does the waste contain compressed gases. Although oxidizers (e.g., aluminum nitrate, ferric nitrate) are identified, these reagents are used in small quantities as needed, and should only be present as trace contaminants. The materials are not liquid, and RTR is performed to ensure the absence of liquids. The materials in this waste stream are, therefore, not ignitable D001 wastes (References C018, C064, D004, D005, and D078).

The material in this waste stream is not a liquid and does not contain unreacted corrosive chemicals; therefore, it does not meet the definition of corrosivity as defined in 40 CFR 261.22 (Reference 15). Although corrosive solutions (e.g., nitric acid, sodium hydroxide, sulfuric acid) are sent to the RLWTF, the pH is carefully controlled in a closed system to ensure proper precipitation and final absorption/cementation of precipitated sludges. Sodium hydroxide is used early in the process, but only to adjust the pH of the influent wastewater to between 6 and 9. Precipitated sludges are chiefly hydroxides with a pH of 10 to 12. The final waste form materials are not liquid, and RTR is performed to ensure the absence of liquids. The materials in this waste stream are, therefore, not corrosive D002 wastes (References C018, D004, D005, D073, and D078).

The material in this waste stream does not meet the definition of reactivity as defined in 40 CFR 261.23 (Reference 15). Although reactive materials (e.g., magnesium oxide, sodium metal) were used or present in the contributing facilities, these reagents were

used in small quantities as needed and should only be present as trace contaminants in the solutions sent to the RLWTF. The material is stable and will not undergo violent chemical change without detonating. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The materials do not contain sulfides and are not capable of detonation or explosive reaction. The waste is expected to contain less than 500 ppm concentrations of cyanide from plating operations. Concentrated plating bath waste was collected and treated in a separate process not associated with this waste stream (Reference D068). This waste stream includes solutions from cleaning and rinse baths from plating operation where cyanides were used in previous steps in the process, and may also include spilled solutions. Only trace concentrations of cyanide (less than 0.1 percent) in solutions from plating operations sent to the RLWTF are expected, and significant additional dilution occurred from other non-cyanide waste waters received at the RLWTF. Conservative estimates from facility personnel and calculations show the concentration of total cyanide in this waste stream well below 500 ppm and well below the RCRA treatment standards for cyanide containing wastes from plating operations (References C018 and C078). The materials in this waste stream are, therefore, not reactive, D003 wastes (References C018, C064, D004, and D078).

5.4.3.4 P- and U-Listed Waste

The TA-50-01 RLWTF influent is exempt from being a mixture-rule hazardous waste for P- and U-listed constituents under 40 CFR 261.3(a)(2)(iv)(D) if the discarded commercial chemical product, or chemical intermediate arises from "*de minimis*" losses. *De minimis* losses are defined as those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves, or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained pump packing and seals; sample purging; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing (Reference 15).

Any P- and U-listed waste entering the influent to the RLWTF head works would be through *de minimis* losses, and therefore, the resulting waste water mixture would not be assigned the P- or U- HWN. Subsequently, waste stream LA-MIN03-NC.001 would also not be assigned the P- or U-listed HWN (References 11, 12, C018, D001, D002, D003, D004, D007, D046, D076, D077, D100, and D101).

5.4.3.5 K-Listed Waste

The material in this waste stream is not hazardous from specific sources since it was not generated from any of the processes listed in 40 CFR 261.32 (References 11, 12, 15, C018, D001, D002, D003, D004, D007, D046, D076, D077, D100, and D101).

5.4.3.6 Polychlorinated Biphenyls

Based on the review of chemical usage, polychlorinated biphenyl (PCB) liquids were not identified in liquid waste sent to the RLWTF. The only PCB source identified was PCB contaminated liquids sent to be incinerated in the TA-50-37 CAI. Since this facility was permitted to treat PCB contaminated liquids, PCBs would be destroyed in the incinerator and would not contaminate spent scrubber liquids discharged to the RLWTF. Therefore, containers in this waste stream are not managed as a Toxic Substances Control Act (TSCA) waste under 40 CFR 761 (References 19, D017, and D068).

5.4.3.7 Beryllium

Based on a review of the AK documentation, beryllium materials were not included in these waste streams. Any beryllium present would be a result of residual contamination in waste water solutions that would not result in concentrations exceeding 1 percent by weight in any payload container (Reference C081).

5.4.3.8 Flammable Volatile Organic Compounds

The main treatment process in the RLWTF concentrated and removed radioactive components from liquid wastes that were piped or trucked from various facilities at LANL. Based on review of AK relative to chemicals used or present in these facilities, trace quantities of flammable volatile organic compounds (FVOCs) may have been present in the liquid wastes prior to processing and therefore an evaluation of potential FVOC concentrations was performed.

The first step of the main treatment operation was the addition of flocculants to produce a precipitate. The chemicals used during this step were primarily calcium carbonate and ferric hydroxide. The precipitate or sludge was then dewatered and contained approximately 25 to 40 percent inorganic solids with a "wet clay" consistency. Perlite or diatomaceous earth was used after dewatering to further filter and absorb liquids present in the sludge. Finally, Portland cement was added to the bottom and top of the sludge during packaging. The main treatment process was performed in a closed system, which prevented any introduction of extraneous material such as flammable compounds (References D005, D018, and D025).

The estimated waste weight percentages for inorganic waste materials (sludge, flocculants, and absorbents) and organic waste materials (miscellaneous plastics) for this waste stream are 99.50 percent and 0.50 percent, respectively. In addition, the results of available headspace gas sampling and analysis of 166 drums in this waste

stream indicated that FVOCs are not present in significant amounts. The total FVOCs measured for each of the drums is less than 500 ppm. Based on the final waste form and sample data, containers in waste stream LA-MIN03-NC.001 are not expected to exceed a total FVOC concentration of greater than or equal to 500 ppm (References 8 and M223).

5.4.4 Prohibited Items

The waste is produced in a closed system, which precludes any mechanism in the process from producing compressed gas or the introduction of extraneous material such as pressure vessels, sealed containers, or explosives. Based on the review of the container documentation and process operations, no prohibited items were specifically identified in waste stream LA-MIN03-NC.001, except the potential for liquids due to dewatering was identified in AK source documents. Additionally, CCP RTR characterization activities have identified drums in this waste stream with prohibited quantities of liquid, including liquids below the surface of the sludge (i.e., layers of liquid) and internal containers of liquid (e.g., vials). CCP RTR characterization activities have also identified drums that contain small amounts of metal, plastic, PPE and other miscellaneous debris, and drums that are predominantly debris that include sealed containers greater than four liters and unpunctured aerosol cans. Waste packages containing prohibited items or prohibited quantities of liquid identified during characterization activities will be segregated then dispositioned appropriately and/or repackaged to remove the items prior to certification and shipment. Any payload container consisting of more than 50 percent by volume of debris waste will be excluded from this waste stream (References C017, DR004, DR005, and P014).

During remediation and repackaging, secondary waste may be generated and subsequently added to the waste containers. The secondary waste includes but is not limited to absorbent (e.g., Waste Lock 770), Fantastik bottles used during decontamination, miscellaneous hand tools, paper/plastic tags and labels, plastic/metal wire ties, PPE, plastic sheeting used for contamination control, rags and wipes (Kimwipes), and original packaging material (e.g., plastic bags, plywood sheathing, rigid liner lids cut into pieces) (References C090, C099, and P014).

5.5 Waste Packaging

The dewatered sludge was packaged in a 5-mil to 12-mil plastic liner bag in a 90-mil/125-mil rigid polyethylene liner in a 55-gallon DOT 7A, Type A (formerly identified as DOT 17C) drum. Approximately 10 pounds of dry Portland cement was added below and an additional 10 pounds above the sludge during packaging for moisture absorption, and the plastic liner bag was twisted and taped closed in a horse tail fashion. At some point during the early 1980s, the plastic liners were typically folded instead of taped over the waste material prior to installing the rigid liner lid. During waste management and drum storage activities following initial waste generation, 55-gallon drums may be overpacked into larger drums (i.e., 85-gallon drums or larger) or SWBs to correct/address external contamination, fissile gram equivalent (FGE) limits, and drum integrity problems, such as pin hole corrosion, dents, etc. If drums are

overpacked in an SWB (up to four 55-gallon drums), no closed liner bags are used in the SWB (References C017, D004, D005, D018, D074, D078, D114, DR003, P002, P013, and P014).

Many of the drums in this waste stream were originally packaged with a sealed rigid liner lid and no drum vent in the 55-gallon drum. Also, some drums were packaged without rigid liners and some drums were packaged with baked-on poly liners. LANL personnel have installed drum filters in many of the drums in this waste stream during drum venting campaigns, and many of the rigid liner lids were vented. In some instances, the installation of the drum filter was intended to also puncture and vent the rigid liner lid, but did not. Therefore, the available AK information cannot be used to identify specific containers which do not have a punctured and vented rigid liner. Characterization activities (i.e., RTR) must verify on a container basis venting of each rigid liner, and external examination of the drum must be used to identify the presence and type of installed filter vent. All waste packages (i.e., drums) are vented with approved filter vents prior to disposal (e.g., Nucfil-013) (References C017, D004, D078, and DR008).

During remediation/repackaging, if liquid is present, holes are drilled in the rigid liner to remove the liquid. The location of the holes is determined using location identified by RTR. Absorbent (e.g., Waste Lock 770) is added to remediate the remaining liquids. After remediation some drums may be packaged with a 5-mil plastic liner bag (liner thickness can vary from 4- to 12-mil) between the drum and the rigid liner. Also, if the original container was packaged with the internal plastic liner bag twisted and taped closed, then the horsetail is cut open. If the original container was packaged with the internal plastic liner bag folded over, the internal bag is left folded over (References C017, DR009, and P014).

Consequently, 55-gallon payload containers offered for certification and shipment from this waste stream will have the following packaging configurations (References D004, D005, D018, D074, D078, DR009, and P014):

1) Unless remediated and/or repackaged, one layer of confinement if the internal plastic liner bag is twisted and taped closed, or zero layers of confinement if the plastic liner is folded over the waste and not taped closed.

2) If remediated/repackaged, then either one layer of confinement will be present if the outer plastic liner bag located between the drum and the rigid liner is twisted and taped closed, or zero layers of confinement will be present if an outer liner bag is not used or folded instead of taped closed.

Waste may also be repackaged into a POC. Waste placed into a POC may be packaged into a single filtered plastic bag which may include a fiberboard liner/sleeve inside the plastic bag. POCs contain a pipe component in a 55-gallon drum that is lined with a punctured rigid liner with packing material between the pipe component and liner (References P015, P018, and P022).

The new packaging configurations generated from remediation and/or repackaging are bounded by the existing TRUCON Code LA211 for LA-MIN03.NC-001 (Reference C091).

6.0 REQUIRED WASTE STREAM INFORMATION: LA-CIN02.001

This section presents the mandatory waste stream AK required by the WIPP-WAP (Reference 1). Attachment 1 of CCP procedure CCP-TP-005 (Reference 8) provides a list of the TRU waste stream information to be developed as part of the AK record.

6.1 Area and Building of Generation

All of the waste containers included in waste stream LA-CIN02.001 were generated by the pretreatment operation of the RLWTF. Container specific records and database information were reviewed for each container to verify that each container originated from the RLWTF (References M218 and M219).

6.2 Waste Stream Volume and Period of Generation

Waste stream LA-CIN02.001 consists of homogeneous cemented inorganics generated from August 1979 to the present. Of the current population of 904 containers, 54 are currently stored below-grade at Area G. Table 9, LA-CIN02.001 Waste Stream Volume, summarizes the volume of this waste stream. The future projection of additional generation of this waste stream is approximately 4 m^3 per year. There is no projected end date for the termination of operations that generate this waste stream (References C082, C083, C094, C101, DR007, and M218).

Table 9. LA-CIN02.001 Waste Stream Volume

Containers	Volume (m^3)
351 55-gallon drums	74
392 85-gallon drums	125
12 110-gallon drums	5
149 SWBs	280
904 Total	484

According to generator-reported radionuclide quantities on a drum basis, a portion of the hazardous waste from TA-50 pretreatment operations may contain less than 100 nCi/g TRU alpha contamination but is managed by the site as TRU mixed waste. The percentage of the waste stream that is above 100 nCi/g is approximately 63 percent, and the percentage of the waste stream that is below 100 nCi/g is approximately 37 percent based on reported radionuclide quantities and drum net weights. However, the CCP is not performing load management at this time (References C082, C084, C094, D004, and DR007).

Each payload container shipped to the WIPP will be certified in accordance with CCP-PO-002 (Reference 10) as containing more than 100 nCi/g of alpha emitting isotopes with half-lives greater than 20 years.

6.3 Waste Generating Activities

As described in Section 4.4, effluent aqueous liquid waste was piped to TA-50 from TA-55. The acidic and caustic liquids are processed by two batch methods. One method uses calcium hydroxide (lime), ferric sulfate, a flocculation aid, and sodium hydroxide. The other method uses a mixture of ferrous sulfate, ferric sulfate, sodium hydroxide, and water. This method added a flocculation aid as needed. Both methods produce a thin sludge containing approximately five percent to 25 percent solids that is always alkaline and compatible with Portland cement (References D004, D005, M218, and P013).

6.4 Type of Wastes Generated

This section describes the process inputs, Waste Matrix Code assignment, WMP, radionuclide contaminants, and RCRA hazardous waste determinations for Waste Stream LA-CIN02.001. The waste stream is characterized based on knowledge of the materials, knowledge of the operations generating the waste, and physical descriptions of the waste.

6.4.1 Material Input Related to Physical Form

Waste Stream LA-CIN02.001 consists of homogeneous cemented inorganics generated by the pretreatment process. The pretreatment process concentrates and removes radioactive components from liquid wastes that are piped to TA-50 from PF-4 located at TA-55. The liquid waste includes acidic and caustic wastes generated by plutonium recovery, R&D, and facility and equipment operations and maintenance. Liquid waste from TA-55 may also include low pH solutions used during decladding of plutonium-beryllium sources, contaminated electrolyte and water solutions, analytical samples, and evaporator distillates. The radioactive components are contained in a thin sludge that is subsequently cemented. This waste may also contain debris, including but not limited to containers (e.g., unpunctured aerosol cans, vials), metal, PPE, plastic (e.g., sleeves), and secondary waste from repackaging (Refer to Section 6.4.4). Any payload container consisting of more than 50 percent by volume of debris waste will be excluded from this waste stream (References 12, D001, D002, D003, D007, D046, D076, D077, D082, D100, D101, and M218).

6.4.1.1 Waste Matrix Code

The waste matrix code was assigned to this waste stream based on the evaluation of AK information relating to the physical form of the waste, such as packaging procedures, waste generating activities, and the container specific records completed by the waste generator for each container. The waste stream is comprised nearly completely of pretreatment sludge and Portland cement (cemented TRU waste), and no other materials greater than trace quantities are expected on a waste stream basis; therefore, waste matrix code S3150, solidified homogeneous solid waste, is assigned to this waste stream (References 2, D074, DR004, DR005, and M218).

6.4.1.2 Waste Material Parameters

The WMPs for waste stream LA-CIN02.001 were based on the descriptions of the waste. This waste stream is greater than 50 percent by volume material that meets the criteria for cemented TRU waste. The waste was generated during the pretreatment of radioactive aqueous liquid waste that was sent to TA-50 from TA-55.

The WMPs for waste stream LA-CIN02.001 were based on the descriptions of waste packaged into the initial population of 852 containers. Average, minimum, and maximum WMP weight percentages were calculated using this data. These calculations conclude that the relative waste weight percentages for organic waste materials and inorganic waste materials (primarily 5-mil plastic sleeves and solidified solids) for waste stream LA-CIN02.001 is 0.10 percent and 99.90 percent, respectively. The results of the assessment are presented in Table 10, Waste Material Parameter Estimates for LA-CIN02.001.

The statistical analysis of the data is documented in a memorandum (included with Attachment 6) as required by CCP-TP-005 (Reference 8).

Table 10. Waste Material Parameter Estimates for LA-CIN02.001

WMP Description	Average Weight Percent	Weight Percent Range
Iron-Based Metals/Alloys	0.00%	0 - 0.00%
Aluminum-Based Metals/Alloys	0.00%	0 - 0.00%
Other Metals	0.00%	0 - 0.00%
Other Inorganic Materials	0.00%	0 - 0.00%
Cellulosics	0.00%	0 - 0.00%
Rubber	0.00%	0 - 0.00%
Plastics (waste materials)	0.10%	0.08% - 1.37%
Organic Matrix	0.00%	0 - 0.00%
Inorganic Matrix	99.90%	98.63% - 99.92%
Soils/Gravel	0.00%	0 - 0.00%
TOTAL INORGANIC	**99.90%**	
TOTAL ORGANIC	**0.10%**	

6.4.2 Radiological Characterization

As described in Section 6.2, waste stream LA-CIN02.001 includes approximately 904 containers of homogeneous cemented inorganics generated from August 1979 to the present. This information can be further subdivided on an annual basis, which is summarized in Table 11, LA-CIN02.001 Waste Stream Volume Estimate on an Annual Basis (References C083, C094, C101, and DR007).

Table 11. LA-CIN02.001 Waste Stream Volume Estimate on an Annual Basis

Year Packaged	No. of Containers
1979	73
1980	211
1981	112
1982	54
1983	17
1984	79
1985	36
1986	74
1987	38
1988	21
1989	32
1990	24
1992	13
1993	1
1996	25
1999	23
2000	20
2003	14
2010	37

A wide variety of different radionuclides contaminate the LA-CIN02.001 waste stream due to the multiple TA-55 operations discharging to the TA-50-01 RLWTF. Although the predominant radionuclides are Pu-239, U-235, Am-241, and U-238, based on Generator-reported quantities, many other radionuclides are expected to be present in the waste stream.

6.4.2.1 Pu-238, Pu-239, Pu-240, Pu-241, and Pu-242

The primary plutonium material type inputs for the plutonium recovery process are listed in Table 12, Average isotopic Content of Plutonium Material Types and Enrichments. However, other MTs are occasionally introduced as feed material. The assignment of MTs is used to describe the isotopic composition of common blends of radioactive materials used within the DOE complex (References 12, C054, D076, D078, D079, D080, D081, D102, and M029).

Recovery operations are not expected to alter the plutonium isotopic ratios of the feed material. The MT used in the operation generating each waste item is documented on generator records; however, cross-contamination of equipment with different MTs can lead to variable material types detected by radioassay (References 12 and D079).

The primary MT that feeds into the Pu-238 operations described in this report is heat source grade plutonium (MT 83), and these operations are not expected to alter the plutonium isotopic ratios of the feed material. Table 12 identifies the isotopic distribution of MT 83 based on 100 isotopic analyses and decay corrected assuming the material was not chemically separated for 45 years (References 12, C054, D076, D078, D080, D081, D102, and M029).

6.4.2.2 U-233, U-234, U-235, and U-238

Uranium-233 and U-238 are not normally components of the plutonium MTs handled at PF-4. Uranium-235 is present from the decay of Pu-239 only at 0.1 percent by weight of the total plutonium content. However, all three isotopes have been introduced as special material. In addition, uranium-plutonium oxide mixtures have been processed to recover the plutonium. Significant quantities of U-234 will be present from the decay of Pu-238 in containers originating from heat source plutonium operations (References 12, D079, and D102).

In general, uranium and its isotopes are expected to be present only at trace levels, if at all, if the feed material did not purposely contain uranium. However, some reactor fuel development, uranium-plutonium separation, and pit disassembly operations have uranium material as the feed material. The primary uranium MT inputs are listed in Table 13, Average Isotopic Content of Uranium Material Types and Enrichments. Uranium-234 content must be estimated since this isotope cannot be reliably measured using nondestructive assay techniques. The MT provides the basis for estimating an upper bound for U-234 based on the rate of decay of the precursor, Pu-238, and the assumption that there is no other source of uranium in the waste material. The content of U-234 in the Pu-239 MTs is calculated as the sum of the contributions expected from decay of Pu-239 and from uranium input to the operation, with the value of 0.014 conservatively used for the ratio of abundance of U-234 and U-235 in typical uranium MTs. The standard uranium MTs provide an estimate of the ratio of U-234 to U-235 where one of the MTs listed in Table 13 is an indicated MT in the waste container (References 12, D078, and D079).

Table 12. Average Isotopic Content of Plutonium Material Types and Enrichments

Material Type (MT)	Plutonium Isotope (Weight%)						Estimated Weight% Relative to Total Plutonium[a]		
	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	U-234	U-235	Am-241
MT 51	0.006	96.77	3.13	0.076	0.018	-	0.001	0.1	0.06
MT 52	0.01	93.78	6.0	0.2	0.02	-	0.002	0.1	0.2
MT 53	0.03	91.08	8.45	0.366	0.071	-	0.007	0.09	0.3
MT 54	0.046	87.42	11.5	0.81	0.22	-	0.01	0.09	0.7
MT 55	0.06	83.88	14.73	1.03	0.304	-	0.02	0.09	0.9
MT 56	0.061	81.9	16.51	1.18	0.355	-	0.02	0.09	1.0
MT 57	0.433	74.63	20.7	2.55	1.69	-	0.1	0.08	2.0
MT 42	0.73	1.06	6.40	1.97	89.83	-	0.3	0.0009	3.0
MT 83	78.9	18.4	2.5	0.055	0.15	-	33.1	0.02	0.42

[a] These ratios are calculated under the assumption that there is no chemical fractionation (References 12, C021, and D079).

Table 13. Average Isotopic Content of Uranium Material Types and Enrichments

Material Type	U-234	U-235	U-236	U-238
MT 12	0.0015	0.23	0.008	99.77
MT 35	0.36	37.6	0.14	61.9
MT 36	0.63	62.44	0.18	36.75
MT 38	1.03	93.04	0.41	5.53
MT 39	1.32	97.52	0.17	0.99

(References 12 and D079)

6.4.2.3 Americium-241

AK on the MT inputs provides the basis for estimating an upper bound for Am-241 content based on the rate of decay of the precursor, Pu-241. The purpose of such bounding calculations is to provide a basis for identifying significant enrichment of depletion of Am-241 based on radioassay results for individual waste containers. The calculations assume that (a) none of these isotopes were initially present in the material, (b) the oldest plutonium material in inventory dates back to January 1, 1960, and (c) the legacy waste was packaged on January 1, 1996, making it 36 years old at that time. In general, wastes from the plutonium recovery process are enriched with Am-241, because a primary intent of the recovery process is to reduce the americium content of the retained plutonium (References 12, D078, and D079).

No correlation is expected among the different radioelements, plutonium, neptunium, uranium, protactinium, or americium. The differences in valence states and chemical affinities among these elements are expected to result in substantial fractionation during several recovery operations, including ion exchange, solvent extraction, hydroxide precipitation, and dissolution (References D078 and D079).

6.4.2.4 Other Radionuclides Present Due to Decay

Other radionuclides will be present in most of the wastes from the decay of a plutonium isotopic precursor or as a contaminant in the feed material (References 12, C024, D076, D078, and D079).

- Np-237, the decay product of Am-241 (half-life, 485 years), is expected to be present in minor amounts in most waste from recovery operations.

- Am-243, the decay product of Pu-243 (half-life, 5.0 hours), is expected to be present in minor amounts in most wastes from recovery operations. Pu-243 is produced by neutron capture on Pu-242 during fuel irradiation.

- Pa-231, the decay-chain daughter of U-235, is expected to be present in trace amounts in some wastes due to its widespread presence as a contaminant in recovery operations.

- Actinium (Ac)-227, the decay-chain daughter of Pa-231, is expected to be present in trace amounts where Pa-231 is present, but at several orders of magnitude less than Pa-231.

6.4.2.5 Cesium-137 and Strontium-90

Cs-137 and Sr-90 are trace contaminants in purified plutonium from the production reactors with concentrations on the order of 0.5 nanograms per gram plutonium. Sr-90 (together with its Yttrium-90 daughter) emits no significant gamma radiation that would allow it to be quantified by direct gamma counting. Therefore, no reliable means exists for the direct nondestructive assay (NDA) of Sr-90. In plutonium production runs, Cs-137 and Sr-90 are produced at approximately the same level. These two nuclides have very similar half-lives (~ 30 years) and will, therefore, be present at roughly the same activity level prior to commencement of any processing operations. If it is assumed that Sr and Cs are not fractionated from one another during chemical processing, Cs-137 may be used as a marker for Sr-90 activity at a ratio of 1:1 (References 12, C024, D078, and D079).

6.4.2.6 Other Radionuclides Introduced as Feed Material

Secondary radionuclides are also present in the waste due to operations involving feed materials other than plutonium. Additional radionuclides expected to be present in each operation were listed by a panel of experts from LANL. The resulting list is documented in a memorandum linking the radionuclides to P/S Codes. The list includes Am-241, Am-243, Ce-144, Cm-244, Np-237, Pa-231, Pu-238, Th-230, Th-232, U-233, U-235, and U-238 (References 12, C025, C028, D078, and D079).

6.4.2.7 Estimated Predominant Isotopes and 95 Percent Total Activity

Radionuclide data established by the waste generators on a container basis and container data from the Area G waste storage records was evaluated to determine the relative radionuclide weight and activity for waste stream LA-CIN02.001. This evaluation was performed using the combined data for all containers in this waste stream. From this evaluation, the two predominant isotopes for the waste stream are Pu-239 and U-235, while over 95 percent of the total activity in the waste stream is from Pu-238, Pu-239, and Am-241. Table 14, Estimated Radionuclide Distribution in LA-CIN02.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. As illustrated in Table 14, the radionuclide weight percent of individual radionuclides varies on a container-by-container basis. Because of this variability in drum loadings, some drums will not contain the waste stream predominant radionuclides but may contain other radionuclides expected in this waste stream. Uranium-235 was not measured in this waste stream until February of 1990; therefore, the averaged data may show artificially elevated percentages of Pu-238, Pu-239, and Am-241. In order to compensate for the missing data for uranium isotopes prior to 1990, Table 15, Estimated Radionuclide Distribution in LA-CIN02.001 from February 1990 to Present, identifies the relative radionuclide weight and activity percent of expected radionuclides over the waste stream from February 1990 to Present, based on the container data evaluated. This data may more accurately represent the relative radionuclide weight and activity over the entire waste stream if the uranium isotopes had been measured throughout the lifetime of the waste stream. It should be noted that in either case, the two most predominant radionuclides are Pu-239 and U-235 (References 12, C084, C094, D078, and DR007).

6.4.2.8 Use of Radionuclide Isotopic Ratios

Based on limited information associated with identified and quantified radionuclides by AK for waste stream LA-CIN02.001, it is not possible to establish default ratios for use in reporting radionuclides not directly measured or detected by available assay systems. The specific use and confirmation of AK related to WIPP-certified assay measurements of containers in this waste stream is documented in the memorandum written in accordance with the requirements of CCP-TP-005 (Reference 8).

Table 14. Estimated Radionuclide Distribution in LA-CIN02.001

Radionuclide	Number of Containers with Reported Radionuclide	Total Radionuclide Weight%[1,5]	Total Radionuclide Curie%[2,5]	Radionuclide Weight% Range for Individual Containers[3,5]	Radionuclide Curie% Range for Individual Containers[4,5]	Expected Present
WIPP Required Radionuclides						
Am-241	863	1.06%	41.04%	0 - 50.00%	0 - 98.22%	Yes
Pu-238	841	0.03%	5.72%	0 - 12.51%	0 - 96.24%	Yes
Pu-239	867	**75.22%**	53.01%	0 - 99.98%	2.42% - 94.50%	Yes
Pu-240	12	Trace	0.01%	0 - 2.62%	0 - 3.48%	Yes
Pu-242	1	Trace	Trace	0 - Trace	0 - Trace	Yes
U-233	2	.02%	Trace	0 - 96.16%	0 - 69.08%	Yes
U-234	67	.06%	Trace	0 - 1.02%	0 - 0.12%	Yes
U-238	1	0.33%	Trace	0 - 99.70%	0 - 0.04%	Yes
Sr-90	2	Trace	Trace	0 Trace	0 0.49%	Yes
Cs-137	3	Trace	0.01%	0 Trace	0 18.23%	Yes
Additional Radionuclides						
Ac-227	Not Reported					Yes[6]
Am-243	2	Trace	Trace	0 - Trace	0 - Trace	Yes
Ce-144	Not Reported					Yes[6]
Cm-244	Not Reported					Yes[6]
Co-60[7]	1	Trace	Trace	0 - Trace	0 - Trace	Yes
H-3[7]	1	Trace	Trace	0 - Trace	0 - 0.11	Yes
Na-22	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Np-237	2	Trace	Trace	0 - 0.04%	0 - Trace	Yes
Pa-231	Not Reported					Yes[6]
Pu-236[7]	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Pu-241	4	Trace	0.20%	0 - 0.11%	0 - 86.28%	Yes
Ra-226[7]	1	Trace	Trace	0 Trace	0 - Trace	Yes
Th-230	Not Reported					Yes[6]
Th-232	Not Reported					Yes[6]
U-232[7]	1	Trace	Trace	0 - Trace	0 - Trace	Yes
U-235	117	**23.25%**	Trace	0 - 95.38%	0 - 0.01%	Yes

1. This listing indicates the total weight percent of each radionuclide over the entire waste stream.
2. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
3. This listing is the weight percent range of each radionuclide on a container-by-container basis.
4. This listing is the curie percent range of each radionuclide on a container-by-container basis.
5. "Trace" indicates <0.01 weight or activity percent for that radionuclide.
6. Radionuclides not reported but suspected present from secondary radionuclides or decay.
7. Radionuclides reported in containers from cementation of aqueous sources and are not expected in other containers in this waste stream.

Table 15. Estimated Radionuclide Distribution in LA-CIN02.001 from February 1990 to Present

Nuclide	Number of Containers with Reported Nuclide	Total Nuclide Weight%[1]	Total Nuclide Curie%
Am-241	118	0.57%	47.32%
Pu-238	117	0.03%	10.34%
Pu-239	118	**28.19%**	42.27%
Pu-240	12	**0.01%**	0.04%
U-233	1	0.02%	0.01%
U-234	67	0.18%	0.03%
U-238	1	1.01%	Trace
U-235	105	**70.00%**	Trace

1. Only radionuclides greater than Trace quantities (greater than .01 weight percent) are shown.

6.4.3 Chemical Content Identification – Hazardous Constituents

The TA-50-01 RLWTF is a wastewater treatment facility subject to regulation under the CWA; therefore, the effluent discharge is not subject to regulation as a solid waste. However, the exclusion from being a solid waste under 40 CFR 261.4(a)(2) applies only to the actual point source discharge, and it does not exclude industrial waste waters while they are being collected, stored, or treated before discharge, nor does it exclude sludge generated by industrial wastewater treatment. Therefore, this waste stream is a solid waste (Reference 15).

Waste stream LA-CIN02.001 has historically been managed in accordance with the generator site requirements and in compliance with the requirements of the New Mexico Environmental Department. Based on historical waste management and LANL's TRU Program (reference LANL waste stream LA-MIN01-CIN), the containers in this waste stream were managed as hazardous and assigned EPA HWNs for arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), silver (D011), benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), chromium (D022), methyl ethyl ketone (D035), pyridine (D038), tetrachloroethylene (D039), trichloroethylene (D040), and F-listed solvents (F001, F002, F003, and F005). A review of available AK documentation has determined that this waste is hazardous for the above constituents; however, HWNs D018, D019, D021, D035, D038, D039, D040, and F003 were not assigned. These HWNs were not included because the more specific F-listed HWNs have been assigned to the waste stream and the waste will not exhibit the characteristic of ignitability. Table 16, Waste Stream LA-CIN02.001 Hazardous Waste Characterization Summary, identifies the RCRA toxicity characteristic and listed HWNs identified in this waste stream. The HWN assignments have been applied on a waste stream basis; individual containers may not contain all of the hazardous materials listed for the waste stream as a whole (References 12, C013, D078, and DR006).

Table 16. Waste Stream LA-CIN02.001 Hazardous Waste Characterization Summary

Waste Stream	EPA HWNs
LA-CIN02.001	F001, F002, F005, D004, D005, D006, D007, D008, D009, D010, D011, and D022

To assign EPA HWNs, the available AK documentation was reviewed to identify chemical usage in the operations contributing to the pretreatment operation of the RLWTF and potentially hazardous materials (including commercially available products) that may have been introduced into the waste stream. In addition, MSDSs were obtained for the commercial products to determine the presence of potentially regulated compounds. As described below in Table 17, Waste Stream LA-CIN02.001 Chemical Identification and Use Summary, several of the HWNs were assigned due to lack of evidence that these constituents would have not exceeded the regulatory thresholds (References 12, C013, D001, D002, D003, D004, D007, D029, D046, D076, D077, D083, D100, D101, and DR006).

Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary

Chemical	Use/Source	Building	Document Source	EPA HWNs
1,1,1-Trichloroethane	Filtering oils in pretreatment operations, chloride operations extraction solvent, and machining operations solvent.	TA-55	C063, D078, M047, M196	F001, F002
1,1,2-Trichloro-1,2,2-trifluoroethane/1,1,2-trichlorotrifluoroethane (Freon)	Identified for the DOR and MCDOR, and separation, and purification operations.	TA-55	C037, M145, M154	F001, F002
1,2-Dimethoxyethane	Organoactinide R&D reagent.	TA-55	Reference 12	NA
1-Propanol	Used in cold traps and cooling baths during plutonium fluorination.	TA-55	Reference 12	NA
2-Butoxyethanol (Dowanol EB)	Sodium metal neutralization reagent used in the Plutonium Facility.	TA-55	Reference 12	NA
Acetone	Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations.	TA-55	C032, C061, C063, D007, D046	NA
Acetonitrile	Non-aqueous dissolution/extraction reagent.	TA-55	Reference 12	NA
Alconox	Heat source fabrication reagent containing a blend of sodium linear alkylaryl sulfonate, alcohol sulfate, phosphates, and carbonates.	TA-55	D076, M178, M214	NA
Aluminum chloride	Chloride operations ion exchange reagent.	TA-55	Reference 12	NA
Aluminum fluoride	Plutonium recovery operations reagent.	TA-55	Reference 12	NA

Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Aluminum metal/oxide (alumina)	Metallographic sample polishing, ash fluorination gas trap, metal used in machining operations, and component of equipment/tools.	TA-55	Reference 12	NA
Aluminum nitrate	Pretreatment, dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations reagent.	TA-55	D001, D046, D076, D089, M036, M042, M044, M086, M088, M089, M091, M092, M094, M095, M097, M098, M099, M100, M101, M103, M172, M198, M199	NA
Ammonium chloride	Separation and purification operations reagent.	TA-55	M038	NA
Ammonium hydroxide	Hydrothermal processing reagent.	TA-55	Reference 12	NA
Antimony pentafluoride	Organoactinide R&D reagent.	TA-55	Reference 12	NA
Arsenic	Contaminant in feed material to the pretreatment, evaporator, DOR and MCDOR, heat source fabrication, and routine Pu-238 waste solidification operations.	TA-55	C020, C032, C057, D046, M211	D004
Ascarite	Carbon dioxide absorbent used in fuel fabrication process.	TA-55	Reference 12	NA
Ascorbic acid	Dissolution, separation, and purification operations.	TA-55	D046, M158, M198	NA
Barium	Contaminant in feed material to the pretreatment, dissolution, evaporator, heat source fabrication, routine Pu-238 waste solidification, hydroxide precipitation, pyrochemical matrix studies, and DOR or MCDOR operations.	TA-55	C020, C032, C041, C057, D001, D003, D046, D085, M211	D005
Benzene	Super acid R&D, extraction, separation, and characterization studies solvent.	TA-55	D003, D078, D079	F005
Beryllium	Used in decladding of plutonium/beryllium sources in pretreatment process and present in metallography grindings.	TA-55	D003, D007, D101, M069	NA
Bismuth/bismuth-tin alloy	Metal used in electrorefining and sample mounting.	TA-55	Reference 12	NA
Bromine	Fluorination of ash and R&D reagent.	TA-55	Reference 12	NA
Bromobenzene	Plutonium machining operations.	TA-55	Reference 12	NA
Bromocresol	Hydroxide precipitation indicator.	TA-55	M038	NA
Cadmium	Contaminant in feed material to the pretreatment, dissolution, DOR and MCDOR, evaporator, heat source fabrication, routine Pu-238 waste solidification, pyrochemical matrix studies, purification, and oxide conversion operations.	TA-55	C020, C032, C040, C041, C057, C066, D001, D003, D007, D046, D082, D085, M081, M101, M107, M211	D006
Calcium	DOR and MCDOR operations reagent.	TA-55	C040, D002, D082, M115, M116, M121, M122, M145, M166, M173	NA
Calcium carbonate	Separation and purification operations reagent.	TA-55	M038, M148, M158, M169	NA

Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Calcium chloride	DOR and MCDOR operations reagent.	TA-55	C040, D001, D002, M006, M115, M116, M121, M145, M166, M173	NA
Calcium fluoride	Dissolution, nitrate anion exchange, DOR and MCDOR, separation, and purification operations reagent.	TA-55	C032, C066, D002, D046, D089, M043, M059, M063, M087, M088, M089, M090, M091, M094, M095, M116, M148, M149, M153, M166, M172, M198, M199	NA
Calcium hydroxide	Precipitation, flocculation, and clarification agent. Neutralization of acids.	TA-50-1 TA-55	D005, D020, D059, Reference 12	NA
Calcium nitrate	Identified as reagent in Nitrate Operations.	TA-55	D046, D078	NA
Calcium oxide (Lime)	Precipitation, flocculation, and clarification in RLWTF. MCDOR process reagent.	TA-50-1 TA-55	C014, C040, D001, D020, M006, M116	NA
Carbon tetrachloride	Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations, and reagent in MCDOR and plutonium trichloride preparation operations.	TA-55	C032, C061, C063, D002, D007, D046, M114, M165	F001
Cerium nitrate	Dissolution operations reagent.	TA-55	D046, M093	NA
Cesium chloride	Molten salt extraction and dissolution reagent.	TA-55	Reference 12	NA
Chlorobenzene	Contaminant in feed material to the dissolution, purification/oxide conversion, hydroxide precipitation, and evaporator operations.	TA-55	C032, C061, C063, D007, D046	F002
Chloroform	Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations.	TA-55	C032, C061, C063, D007, D046	D022
Chromium	Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, purification and oxide conversion, hydroxide precipitation, heat source fabrication, routine Pu-238 waste solidification, and pyrochemical matrix studies operations.	TA-55	C014, C020, C032, C033, C036, C040, C041, C057, C063, C066, D001, D003, D007, D046, D076, D077, D082, D085, D091, M081, M104, M208, M211	D007
Citofix/Durofix	Epoxy used in the heat source fabrication and routine Pu-238 waste solidification operations.	TA-55	C020	NA
Citrapeel (orange peel based degreaser)	Used to strip paint.	TA-55	Reference 12	NA
Cobalt nitrate	Dissolution operations reagent.	TA-55	D046, M093	NA
Copper	Measuring physical properties standard.	TA-55	Reference 12	NA
Diamond powder	Metallographic polishing compound.	TA-55	Reference 12	NA

Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Diatomaceous earth	Silica based absorbent used in pretreatment operations.	TA-55	C014, M047, M214	NA
Dibutyl butyl-phosphonate (DBBP)	Actinide R&D reagent.	TA-55	Reference 12	NA
Dicesium hexachloroplutonate (DCHP)	Residue precipitation reagent.	TA-55	Reference 12	NA
Diethylenetriamine	Heat source fabrication and routine Pu-238 waste solidification operations reagent.	TA-55	C020	NA
Diethyl oxalate	Identified as reagent in dissolution operations.	TA-55	D046, M198	NA
Dihexyl N,N-diethylcarbamoylmethyl phosphonate (DHDCMP)	Liquid-liquid extraction solvent.	TA-55	Reference 12	NA
Diisopropyl benzene	Liquid-liquid extraction solvent, diluents, and actinide R&D reagent.	TA-55	Reference 12	NA
Dimethyl sulfoxide	Organoactinide R&D reagent.	TA-55	Reference 12	NA
DUCO cement	Acetone containing cement used in heat source fabrication operations.	TA-55	M178, M214	NA
Epon Resin 8132	Epoxy resin used in heat source fabrication and routine Pu-238 waste solidification operations.	TA-55	C020, M214	NA
Ethyl alcohol (ethanol)	Contaminant in feed material to the heat source fabrication and routine Pu-238 waste solidification operations.	TA-55	C054, C056, D046, D076, M100, M177, P010	NA
Ethylene glycol	Heat source fabrication and routine Pu-238 waste solidification operations.	TA-55	C020, C056, D076, M178	NA
Ethyl ether	Super acid R&D, extraction, separation, and characterization studies solvent.	TA-55	D003, D078, D079	NA
Extran 1000	Detergent in laboratory and office buildings.	TA-55-2	D028, M214	NA
Fantastik	Ammonium based heat source fabrication reagent.	TA-55	D076, M178, M214	NA
Ferric ammonium sulfate	Dissolution and purification and oxide conversion operations reagent.	TA-55	D046, M044	NA
Ferric nitrate	Identified as reagent in pretreatment, dissolution, routine Pu-238 waste solidification, nitrate anion exchange, purification and separation by precipitation, and purification and oxide conversion operations.	TA-55	D046, D076, M036, M044, M062, M157, P010	NA
Ferric sulfate	Precipitation, flocculation, and clarification agent.	TA-50-1	D004, D005, D020, M006	NA
Ferric sulfate hexahydrate	Precipitation, flocculation, and clarification agent.	TA-50-1	D010	NA
Ferrous ammonium sulfate	Dissolution and nitrate anion exchange operation reagent.	TA-55	D001, D046, D089, M036, M087, M098, M100, M198	NA
Ferrous chloride	Residue precipitation reagent.	TA-55	Reference 12	NA
Ferrous sulfamate	Ion exchange process reagent.	TA-55	D046, M094, M098	NA
Fluoristan	Dissolution process reagent.	TA-55	M198	NA

Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Fluorosulfonic acid	Organoactinide R&D reagent.	TA-55	Reference 12	NA
Formamide	Identified as reagent in dissolution operations.	TA-55	D046, M198	NA
Formic acid	Dissolution and evaporator process reagent.	TA-55	C064, D046, M198	NA
Gallium	Actinide R&D and casting reagent. Metal used in electrorefining and compatibility testing.	TA-55	Reference 12	NA
GoJo cleaner (kerosene derivative)	Parts cleaning solution.	TA-55	Reference 12	NA
Gold	Metal used in welding operations, coating material, and component of transfer boat used in plutonium fluoride reduction.	TA-55	Reference 12	NA
Graphite	Graphite aeroshells, insulators, molds, and blocks.	TA-55	Reference 12	NA
Hexane	Miscellaneous processing contaminant and R&D solvent for actinide chemistry.	TA-55	Reference 12	NA
Hydrazine dihydrochloride	Actinide R&D and sensors/instrumentation development reagent.	TA-55	Reference 12	NA
Hydrazine hydrochloride	Actinide R&D reagent.	TA-55	Reference 12	NA
Hydrobromic acid	Metallographic sample etching.	TA-55	P009	NA
Hydrochloric acid	Dissolution, hydroxide precipitation, separation and purification by precipitation, MCDOR, metallographic, and evaporator operations reagent/contaminant.	TA-55	C016, C032, C066, D001, D046, D082, D089, M054, M087, M149, M153, M158, M164, M169, M171, M198, P009	NA
Hydrofluoric acid	Pretreatment, nitrate anion exchange, separation and purification by precipitation, heat source fabrication, metallographic, and dissolution operations reagent.	TA-55	C032, D046, D076, D082, D089, M006, M042, M043, M054, M059, M062, M085, M090, M091, M092, M095, M096, M097, M101, M105, M149, M150, M153, M155, M157, M164, M172, M198, M201, M203, M204, P009	NA
Hydrogen peroxide	Dissolution, pretreatment, nitrate ion exchange, separation and purification by precipitation, and purification and oxide conversion operations reagent.	TA-55	D001, D046, D089, M038, M044, M097, M100, M101, M104, M155, M156, M198, M205, M208	NA
Hydroxylamine hydrochloride	Nitrate anion exchange, separation, and purification operations reagent.	TA-55	M034, M158, M169, M171	NA
Hydroxylamine nitrate	Dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations reagent.	TA-55	D001, D046, D076, D089, M006, M034, M035, M038, M041, M044, M097, M098, M099, M100, M101, M102, M155, M198	NA
Indium	Metal used in compatibility testing.	TA-55	Reference 12	NA

Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Iodine	Used with calcium to reduce plutonium fluoride.	TA-55	M122	NA
Isopar H (isoparaffin solvent)	Actinide R&D reagent.	TA-55	Reference 12	NA
Isopropanol	Miscellaneous processing waste contaminant, cleaning agent, and organoactinide R&D reagent.	TA-55	Reference 12	NA
Kerosene	Pretreatment process and americium solvent extraction reagent.	TA-55	C014, M047	NA
Lanthanide metals	Actinide chemistry R&D reagents.	TA-55	Reference 12	NA
Lanthanum nitrate	Dissolution and Plutonium/thorium separation process reagent.	TA-55	D046, P012	NA
Lead	Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, heat source fabrication, hydroxide precipitation, routine Pu-238 waste solidification, pyrochemical matrix studies, and burst testing operations.	TA-55	C014, C020, C032, C040, C041, C057, C066, D001, D003, D007, D046, D076, D082, D085, M081, M211	D008
Lead hydroxide, oxide, and nitrate	Actinide R&D reagents.	TA-55	Reference 12	D008
Liqui-Moly (molybdenum lubricant)	Pellet press die lubricant.	TA-55	Reference 12	NA
Lithium	MCDOR operations reagent.	TA-55	M166, M173	NA
Lithium chloride	MCDOR operations reagent.	TA-55	M166, M173	NA
Lutetium	Sputter coating reagent.	TA-55	Reference 12	NA
Magnesium chloride	Routine Pu-238 Waste Solidification operations.	TA-55	M185	NA
Magnesium hydroxide	Hydroxide precipitation, separation, and purification operations reagent.	TA-55	D007, D091, M038	NA
Magnesium oxide	Identified as reagent in pretreatment operations.	TA-55	D046, D089, M045, M062, M122, M190, M197	NA
Magnesium perchlorate	Water vapor removal reagent.	TA-55	Reference 12	NA
Mercuric nitrate	Dissolution process reagent.	TA-55	C032, D046, M054	D009
Mercury	Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, heat source fabrication, hydroxide precipitation, routine Pu-238 waste solidification, and purification and oxide conversion operations.	TA-55	C020, C032, C057, C066, D001, D007, D046, D076, D085, M059, M080, M211	D009
Metalprep 79 (phosphoric acid-based metal cleaner)	Metal cleaner.	TA-55	Reference 12	NA
Methyl alcohol (methanol)	Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations.	TA-55	C032, C061, C063, D007, D008, D046	NA
Methylene chloride	Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations.	TA-55	C032, C061, C063, D007, D046	F001, F002
Methyl ethyl ketone	Machining operations solvent.	TA-55	D077, D078, D102	F005

Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Molybdenum metal/oxide	Metal used in machining operations, fuel elements, salt stripping reagent, and component of Liqui-Moly.	TA-55	Reference 12	NA
MolyKote	Silicon-based lubricant used during the hand pressing of oxide pellets.	TA-55	Reference 12	NA
n-Butyl alcohol (butanol)	Contaminant in feed material to dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations.	TA-55	C032, C061, C063, D007, D046	NA
n-Dodecane	Actinide R&D solvent diluents and chloride extraction reagent.	TA-55	Reference 12	NA
Neutracleaner #1 and #2	Machining operations cleaner (blend of sodium phosphate and sodium lauryl sulfate).	TA-55	Reference 12	NA
Nickel powder	Reactor fuel development sintering aid.	TA-55	Reference 12	NA
Niobium	Metal used in welding operations, fuel elements, and electrorefining reagent.	TA-55	Reference 12	NA
Nitric acid	Dissolution, pretreatment, purification and oxide conversion, nitrate anion exchange, separation and purification by precipitation, evaporator, heat source fabrication, and routine Pu-238 waste solidification operations.	TA-55	C016, C032, C066, D001, D046, D076, D082, D089, M034, M035, M036, M042, M043, M044, M048, M054, M059, M062, M063, M086, M087, M088, M089, M090, M091, M092, M093, M094, M095, M096, M097, M098, M099, M100, M101, M102, M112, M113, M148, M150, M151, M153, M155, M172, M198, M199, M201, M202, M203, M204, M205, M208, P010, P012	NA
Oakite 90/ruststripper	Caustic metal cleaner containing sodium hydroxide.	TA-55	Reference 12	NA
Octylphenyl di-isobutyl carbamoylmethyl phosphine oxide (CMPO)	Actinide R&D reagent and Liquid-liquid extraction solvent.	TA-55	Reference 12	NA
Oil (e.g., engine)	Assumed to have been filtered in pretreatment operations.	TA-55	D046, M047	NA
Organicstrip	Non-regulated paint stripper.	TA-55	Reference 12	NA
Oxalic acid	Utilized in the pretreatment, dissolution, hydroxide precipitation, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations.	TA-55	C032, C063, D001, D007, D046, D076, D089, M006, M034, M035, M099, M101, M102, M110, M155, M158, M171, M198	NA
Pentane	R&D solvent for actinide chemistry.	TA-55	Reference 12	NA
Perchloric acid	Actinide R&D and laboratory reagent.	TA-55	Reference 12	NA
Phenolphthalein	Dissolution, heat source, and routine Pu-238 waste solidification operations.	TA-55	D046, D076, P010, M100	NA

Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Phosphoric acid	Plutonium recovery reagent and component of Metalprep 79.	TA-55	Reference 12	NA
Platinum	Plutonium recovery operations and actinide R&D reagent. Component of electrodes, filters/screens, fuel element sleeves, and furnace can linings.	TA-55	Reference 12	NA
Polyethylene glycol	Fuel fabrication reagent.	TA-55	Reference 12	NA
Polyoxyethylene-20-sorbitan laurate (surfactant)	Plutonium recovery operations.	TA-55	Reference 12	NA
Polyvinyl pyridine (resin)	Ion exchange resin in dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations.	TA-55	D001, M044, M198	NA
Portland cement	Silicate based cement used in pretreatment solidification process to absorb sludge.	TA-50-1	C014, D004, D005, M006, M214	NA
Potassium chloride	MCDOR operations reagent.	TA-55	M166, M173	NA
Potassium chromate	Dissolution and chloride anion exchange reagent.	TA-55	Reference 12	D007
Potassium dichromate	Pretreatment, dissolution, separation and purification by precipitation, and hydroxide precipitation operations reagent.	TA-55	C034, D007, M169, P012	D007
Potassium fluoride	Dissolution and ion exchange operations reagent.	TA-55	D046, M059	NA
Potassium hydroxide	Dissolution, pretreatment, evaporation, hydroxide precipitation, nitrate anion exchange, MCDOR, separation and purification by precipitation, plutonium trichloride preparation, and purification and oxide conversion operations reagent.	TA-55	C065, C066, D001, D007, D046, D082, D089, D091, M034, M038, M042, M043, M062, M088, M090, M114, M116, M158, M166, M193, P012	NA
Potassium permanganate	Pretreatment, decontamination, and R&D reagent.	TA-55	Reference 12	NA
Potassium pyrosulfate	Dissolution operations reagent.	TA-55	M059, M094	NA
Potassium thiocyanate	Dissolution operations reagent.	TA-55	D046, M087	NA
Pyridine	Super acid R&D, extraction, separation, and characterization studies solvent.	TA-55	D003, D078, D079	F005
REZ-N-Bond	Solvent bonding (contains methylene chloride).	TA-55	Reference 12	F002
Rhenium	Metal used in fuel elements.	TA-55	Reference 12	NA
Rhodium	Actinide R&D reagent and component of fuel element sleeves.	TA-55	Reference 12	NA
Scintillation cocktails	Chemical used in laboratory and office buildings.	TA-55-2	D028, D071	NA
Selenium	Contaminant in feed material to the pretreatment, evaporator, DOR and MCDOR, heat source fabrication, and routine Pu-238 waste solidification operations.	TA-55	C020, C032, C057, D046, D082, M211	D010
SF-2I (3M secondary fluid)	Machining coolant/fluid.	TA-55	Reference 12	NA

Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Silicone adhesive (e.g., Sylgard 184)	Vessel handling and unloading. Compound used in compatibility testing.	TA-55	Reference 12	NA
Silicone lubricant	Metal operations lubricant.	TA-55	Reference 12	NA
Silver	Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, heat source fabrication, routine Pu-238 waste solidification, and purification and oxide conversion operations.	TA-55	C020, C032, C033, C040, C041, C057, C063, D001, D003, D046, D076, D082, D085, M211	D011
Silver nitrate	Electrochemical dissolution, pretreatment, dissolution, purification and oxide conversion, separation and purification by precipitation, and hydroxide precipitation operations reagent.	TA-55	C033, C034, D007, D046, M044, M078, M079, M087, M094, M169, M216	D011
Sodium	MCDOR operation reagent.	TA-55	M166, M173	NA
Sodium bicarbonate	Separation and purification operations reagent.	TA-55	M169	NA
Sodium carbonate	Actinide R&D and plutonium recovery operations reagent.	TA-55	Reference 12	NA
Sodium chloride	Dissolution process reagent.	TA-55	D046, M087	NA
Sodium chlorite	Actinide R&D and plutonium recovery operations reagent.	TA-55	Reference 12	NA
Sodium chromate	Dissolution and plutonium/thorium separation operations reagent.	TA-55	D046, P012	D007
Sodium dithionite	Nitrate anion exchange, separation, and purification operations reagent.	TA-55	M034, M158, M171	NA
Sodium fluoride	Dissolution operations reagent.	TA-55	M059, M094	NA
Sodium hydroxide	Neutralization, pH adjustment, and flocculation reagent. Heat source operations, routine Pu-238 waste solidification, MCDOR, pretreatment, dissolution, nitrate anion exchange, separation and purification by precipitation, evaporation, purification and oxide conversion, hydroxide precipitation, and burst testing operations reagent.	TA-50-1 TA-55	C032, C035, C041, C065, C066, D001, D004, D005, D007, D046, D076, D077, D082, D089, D091, M042, M044, M046, M054, M062, M081, M088, M100, M103, M104, M105, M114, M116, M153, M155, M164, M187, M198, M208, M216, P004, P010, P012	NA
Sodium metaphosphate	Heat source fabrication operations reagent.	TA-55	C056	NA
Sodium nitrate	Dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations reagent.	TA-55	D001, D046, D076, D077, D089, M036, M044, M094, M098, M099, M100, M101, M103, M169	NA
Sodium nitrite	Dissolution, leaching, and ATLAS R&D recovery operations reagent.	TA-55	Reference 12	NA
Sodium oxalate	Dissolution and purification and oxide conversion operations reagent.	TA-55	C032, D001, D046	NA
Sodium pyrophosphate	Sucrose recovery of Pu-238.	TA-55	Reference 12	NA
Sodium silicate	Pretreatment solidification reagent.	TA-50-1	D020, M006	NA

Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Sodium sulfate	Electrolytic decontamination reagent.	TA-55	Reference 12	NA
Sodium tetraborate	Burst testing process regent.	TA-55	C035, D077	NA
Stannous chloride	Plutonium recovery reagent.	TA-55	Reference 12	NA
Stearic acid	Fuel production reagent, recovery operations, and component of silicone adhesive.	TA-55	Reference 12	NA
Sucrose	Sucrose recovery of Pu-238 and microspherical fuel reagent.	TA-55	Reference 12	NA
Sulfuric acid	Pretreatment, dissolution, separation and purification by precipitation, and purification and oxide conversion operations reagent.	TA-55	D046, D089, M104, M156, M198, M208	NA
Tantalum	Metal used in welding operations, fuel elements, and crucibles. Dissolution and electrorefining reagent.	TA-55	Reference 12	NA
Tap Magic	Machining coolant (contains 1,1,1-trichloroethane).	TA-55	Reference 12	F002
Tetrachloroethylene	Contaminant in feed material to the evaporator and hydroxide precipitation operations. Chloride operations reagent.	TA-55	C014, C032, C061, C063, D007, D046	F001, F002
Tetraethylamine chloride	Actinide R&D reagent.	TA-55	Reference 12	NA
Tetraethylammonium hydroxide	Actinide R&D reagent.	TA-55	Reference 12	NA
Tetrahydrofuran	Synthesis R&D reagent, organoactinide R&D reagent, Np and Pu metal cleaner.	TA-55	Reference 12	NA
Thionyl chloride	Plutonium chlorination reagent.	TA-55	Reference 12	NA
Titanium	Metal used in welding operations and electrorefining reagent.	TA-55	Reference 12	NA
Toluene	Super acid R&D, extraction, separation, and characterization studies solvent.	TA-55	D003, D078, D079, M085	F005
Tributyl phosphate (TBP)	Americium Solvent extraction and chloride operations reagent.	TA-55	C014	NA
Trichloroethylene	Contaminant in feed materials to the dissolution process, heat source fabrication operations, and diluents for filtering oils in the pretreatment process.	TA-55	C056, C063, D046, M047, M085	F001, F002
Trioctylphosphine oxide (TOPO)	Plutonium operations reagent and cement fixation contaminate.	TA-55	Reference 12	NA
Tungsten	Metal used in welding operations and equipment, fuel elements, measure physical properties standard, and electrorefining reagent.	TA-55	Reference 12	NA
UCAR C-34	Epoxy used for sealing aeroshells.	TA-55	Reference 12	NA

Table 17. Waste Stream LA-CIN02.001 Chemical Identification and Use Summary (Continued)

Chemical	Use/Source	Building	Document Source	EPA HWNs
Urea	Dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and reagent	TA-55	D001, D046, D076, D089, M035, M044, M097, M098, M099, M100, M102, M198	NA
Vacuum grease	Identified as reagent in dissolution operations.	TA-55	D046, M202	NA
Vanadium	Metal used in machining and welding operations.	TA-55	Reference 12	NA
Vanadium pentoxide	Salt distillation and stripping reagent.	TA-55	Reference 12	NA
VARIAN Torr Seal	Epoxy used in heat source fabrication operations.	TA-55	M177, M214	NA
Vermiculite	Hydrated magnesium-aluminum-iron silicate absorbent used in pretreatment solidification process absorbent. Pretreatment and heat source fabrication operations reagent.	TA-50-1 TA-55	C032, M006, M054, M178, M214	NA
Waste Lock 770	Polymer-based absorbent material used during repackaging operations.	TA-50-1	C090, M214	NA
WD-40	Vessel handling and unloading.	TA-55	Reference 12	NA
Windex	Machining cleaner containing isopropyl alcohol.	TA-55	Reference 12	NA
Xylene	Contaminant in feed materials to the dissolution, purification and oxidation, hydroxide precipitation, and evaporator operations.	TA-55	C032, C061, C063, D007, D046	NA
Yttrium metal/oxide	Mixed with plutonium in MWG processing and electrorefining reagent.	TA-55	Reference 12	NA
Zeolite	Silicate mineral absorbent material used during pit disassembly.	TA-55	Reference 12	NA
Zinc chloride	Pyroredox reagent salt.	TA-55	Reference 12	NA
Zinc stearate	Fuel production anti-sticking reagent.	TA-55	Reference 12	NA
Zirconium metal/oxide	Electrorefining reagent and metal used in machining.	TA-55	Reference 12	NA

Notes
Some of these chemicals may exhibit the characteristic of ignitability, corrosivity, or reactivity in their pure form. Based on the analysis of the generating process and waste management practices no pure or unused chemicals would have been introduced into the process influent or remain in the cemented sludges.

6.4.3.1 F-Listed and Other Solvents

The TA-50-01 RLWTF influent is exempt from being a mixture-rule hazardous waste for certain F-listed solvent constituents under 40 CFR 261.3(a)(2)(iv)(A) and (B) if the concentration of the solvents is below certain levels in the head works of the treatment facility. However, data to quantify the listed solvent concentrations in the TA-50 head works for the time period of generation of this waste stream are not available. Therefore, this waste stream does not qualify for this exclusion (Reference 15).

Based on review of AK relative to chemicals used or present in the TA-55 Plutonium Facility and the pretreatment operation of the RLWTF, waste stream LA-CIN02.001 may contain or be mixed with F-listed hazardous wastes from non-specific sources listed in 40 CFR 261.31(Reference 15). As shown in Tables 14 and 15, F001, F002, and F005 listed solvents that were utilized and potentially discharged to the RLWTF. F003 constituents include acetone, ethyl ether, methyl alcohol, n-butyl alcohol, and xylene, listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is an inorganic solid resulting from the treatment of aqueous wastewaters, therefore F003 is not assigned.

Therefore waste stream LA-CIN02.001 is assigned F-listed EPA HWN F001, F002, and F005 (References 12, C013, D003, D004, D007, D029, D046, D077, D083, D100, D101, and DR006).

6.4.3.2 Toxicity Characteristic Compounds

Based on review of AK relative to chemicals used or present in the TA-55 Plutonium Facility and the pretreatment operation of the RLWTF, waste stream LA-CIN02.001 may be contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24 (Reference 15). Where a constituent has been identified and there is no quantitative data available to demonstrate that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is added to this waste stream.

The AK identified the potential presence of additional toxicity characteristic compounds, however the more specific F-listed EPA HWN have been assigned to waste stream LA-CIN02.001 for the following constituents: benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), methyl ethyl ketone (D035), pyridine (D038), tetrachloroethylene (D039), and trichloroethylene (D040). Therefore, these toxicity characteristic HWNs are not assigned to the waste stream. Waste stream LA-CIN02.001 is assigned toxicity characteristic HWNs D004, D005, D006, D007, D008, D009, D010, D011, and D022 (References 12, C013, D001, D002, D003, D004, D007, D046, D076, D077, D083, D100, D101, and DR006).

6.4.3.3 Ignitables, Reactives, and Corrosives

The material in this waste stream does not meet the definition of ignitability as defined in 40 CFR 261.21(Reference 15). Although ignitable chemicals (e.g., methyl alcohol, n-butyl alcohol) are used or present in the TA-55 Plutonium Facility, their concentrations in aqueous solutions sent to the pretreatment operation have been minimal. The materials are not capable of causing fire through friction or absorption of moisture. The materials are not compressed gases, nor does the waste contain compressed gases. Although oxidizers (e.g., aluminum nitrate, ferric nitrate) are identified as being used in TA-55, these reagents are used in small quantities as needed, and should only be present as trace contaminants. The materials are not liquid, and RTR is performed to ensure the absence of liquids. The materials in this waste stream are, therefore, not ignitable D001 wastes (References C064, D004, D005, and D078).

The material in this waste stream is not a liquid and does not contain unreacted corrosive chemicals; therefore, it does not meet the definition of corrosivity as defined in 40 CFR 261.22 (Reference 15). Although acidic and caustic (aqueous) solutions (e.g., nitric acid, sodium hydroxide, sulfuric acid) are sent to the pretreatment operation, the solutions are sampled and the pH is carefully controlled in a closed system to ensure proper cementation. Sodium hydroxide is also used early in the pretreatment process, but only to adjust the pH of the influent to aid in cementation. The final waste form materials are not liquid, and RTR is performed to ensure the absence of liquids. The materials in this waste stream are, therefore, not corrosive D002 wastes (References D004, D005, D073, and D078).

The material in this waste stream does not meet the definition of reactivity as defined in 40 CFR 261.23 (Reference 15). Although reactive materials (e.g., magnesium oxide, sodium metal) are used or present in the TA-55 Plutonium Facility, their concentrations are expected to be minimal and any pyrophoric materials are expected to be rendered non-reactive by the aqueous solutions sent to the pretreatment operation. The material is stable and will not undergo violent chemical change without detonating. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The materials do not contain sulfides and are not capable of detonation or explosive reaction. The materials in this waste stream are, therefore, not reactive, D003 wastes (References C064, D004, and D078).

6.4.3.4 P- and U-Listed Waste

The TA-50-01 RLWTF influent is exempt from being a mixture-rule hazardous waste for P- and U-listed constituents under 40 CFR 261.3(a)(2)(iv)(D) if the discarded commercial chemical product, or chemical intermediate, arises from "*de minimis*" losses. *De minimis* losses are defined as those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leak from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained

pump packing and seals; sample purging; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing (Reference 15).

Any P- and U-listed waste entering the influent to the RLWTF head works would be through *de minimis* losses; therefore, the resulting waste water mixture would not be assigned the P- or U- HWN. Subsequently, Waste Stream LA-CIN02.001 would also not be assigned the P- or U-listed HWN (References 12, D001, D002, D003, D004, D007, D046, D076, D077, D100, and D101).

6.4.3.5 K-Listed Waste

The material in this waste stream is not hazardous from specific sources since it was not generated from any of the processes listed in 40 CFR 261.32 (References 12, 15, D001, D002, D003, D004, D007, D046, D076, D077, D100, and D101).

6.4.3.6 Polychlorinated Biphenyls

Based on the review of chemical usage, PCB liquids were not identified in liquid waste sent to the RLWTF. The only PCB source identified was PCB contaminated liquids sent to be incinerated in the TA-50-37 CAI. The spent scrubber liquids generated by the CAI were not sent to the pretreatment process of cementation. Therefore, containers in this waste steam are not managed as a TSCA waste under 40 CFR 761 (References 19, D017, and D068).

6.4.3.7 Beryllium

Based on a review of the AK documentation, beryllium materials were not included in these waste streams. Any beryllium present would be a result of residual contamination in waste water solutions that would not result in concentrations exceeding 1 percent by weight in any payload container (References 12, C081, and C085).

6.4.3.8 Flammable Volatile Organic Compounds

The pretreatment process in the RLWTF concentrates and removes radioactive components from acidic and caustic process liquids that are piped from the Plutonium Facility located at TA-55. Based on review of AK relative to chemicals used or present in this facility, trace quantities of FVOCs may be present in the aqueous liquids prior to processing and therefore an evaluation of potential FVOC concentrations was performed.

The first step of the pretreatment operation involves the pH adjustment of the liquid waste. This includes a combination of blending the acidic and caustic process liquids and the addition of flocculants and caustic chemicals such as calcium hydroxide (lime), ferrous sulfate, ferric sulfate, and sodium hydroxide. The thin precipitate or sludge

generated by this step contains approximately 5-25 percent inorganic solids. The sludge is then mixed with measured quantities of Portland cement, vermiculite, and sodium silicate to form a cement monolith. The pretreatment process is performed in a closed system, which prevents any introduction of extraneous material such as flammable compounds (References D004, D005, D020, and P013).

The estimated waste weight percentages for inorganic waste materials (cemented sludge and absorbents) and organic waste materials (plastic sleeves) for this waste stream are 99.90 percent and 0.10 percent, respectively. In addition, the results of available headspace gas sampling and analysis of 94 drums in this waste stream indicated that FVOCs are not present in significant amounts. The total FVOCs measured for each of the drums is less than 500 ppm. Based on the final waste form and sample data, containers in waste stream LA-CIN02.001 are not expected to exceed a total FVOC concentration of greater than or equal to 500 ppm (References 8 and M224).

6.4.4 Prohibited Items

The waste is produced in a closed system, which precludes any mechanism in the process from producing compressed gas or the introduction of extraneous material such as pressure vessels, sealed containers, or explosives. Based on the review of the container documentation and process operations, no prohibited items were specifically identified in waste stream LA-CIN02.001 or AK source documents, except for liquids due to dewatering. Additionally, based on CCP characterization experience with waste stream LA-MIN03-NC.001, containers in the current inventory of waste stream LA-CIN02.001 are expected to include containers (e.g, unpunctured aerosol cans, vials), metal, plastic, PPE, other miscellaneous debris, and may include drums with greater than 50 percent debris waste. Waste packages containing prohibited items or prohibited quantities of liquid identified during characterization activities will be segregated then dispositioned appropriately and/or repackaged to remove the item prior to certification and shipment. Any container found to have greater than 50 percent by volume debris waste will be removed from this waste stream (References C017, C082, DR004, DR005, DR008, and P014).

During the remediation and repackaging, secondary waste may be generated and subsequently added to the waste containers. The secondary waste includes but is not limited to absorbent (e.g., Waste Lock 770), Fantastik bottles used during decontamination, miscellaneous hand tools, paper/plastic tags and labels, plastic/metal wire ties, PPE, plastic sheeting used for contamination control, rags and wipes (Kimwipes), and original packaging material (e.g., plastic bags, plywood sheathing, rigid liner lids cut into pieces) (References C090, C099, and P014).

6.5 Waste Packaging

The pretreatment process cemented sludge into monoliths by tumbling 55-gallon DOT 7A, Type A (formerly identified as DOT 17C) drums containing measured quantities of sludge, Portland cement, vermiculite, and sodium silicate. First, the small bung on the drum was replaced with a customized bung equipped with a nipple that allows the drum to be vented. A 5-mil plastic sleeve may or may not be installed in the 55-gallon drum for contamination control during the adding of sludge. The dry ingredients were typically placed in the drums prior to cementation and include approximately 282-pounds of Portland cement, 4.5-pounds of vermiculite, and 2.5-gallons of sodium silicate. Between 22- to 23-gallons of sludge was then added to the drum and the drum lid was sealed to the drum with a ¼-inch bead of adhesive and tightened. The drum was tumbled to mix the contents and verify the absence of leaks. A carbon filter was then attached to the vent nipple. The 55-gallon drum will include one of the following liner configurations depending on the date of generation: no liner, up to two 5-mil to 12-mil plastic liner bags, a baked-on 90-mil/125-mil rigid polyethylene liner, or a standard 90-/125-mil rigid polyethylene liner with or without a lid. Waste may also be repackaged into a POC. Waste placed into a POC may be packaged into a single filtered plastic bag which may include a fiberboard liner/sleeve inside the plastic bag. POCs contain a pipe component in a 55-gallon drum that is lined with a punctured rigid liner with packing material between the pipe component and liner. During waste management and drum storage activities following initial waste generation, 55-gallon drums have been overpacked into larger drums (i.e., 85-gallon drums or larger) or SWBs to correct/address external contamination, FGE limits, and drum integrity problems, such as pin hole corrosion, dents, etc. If drums are overpacked in an SWB (up to four 55-gallon drums), up to two liner bags may be present (References 17, C082, C103, D004, D005, D074, D078, D114, M007, M218, P013, P014, P015, P018, P020, and P022).

Some of the drums in this waste stream were originally packaged without a drum vent in the 55-gallon drum. LANL personnel have installed drum filters in many drums during drum venting campaigns. Characterization activities (i.e., RTR) must be used to identify the presence and type of installed filter vents. All waste packages (i.e., drums, SWBs) are vented with approved filter vents prior to disposal (e.g., Nucfil-013). Payload containers offered for certification and shipment from this waste stream will have up to three layers of confinement. RTR will confirm TRUCON LA211 (References 17, C017, D004, D078, and M218).

7.0 REQUIRED WASTE STREAM INFORMATION: LA-MHD09.001

This section presents the mandatory waste stream AK required by the WIPP-WAP (Reference 1). Attachment 1 of procedure CCP-TP-005 (Reference 8) provides a list of the TRU waste stream information required to be developed as part of the AK record.

7.1 Area and Building of Generation

The debris waste included in waste stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations as described in Section 4.4. Container specific records have been reviewed for each container to verify the physical composition and origin of the waste stream inventory included in the most current AK Containers List (References C096, M219, and M227).

7.2 Waste Stream Volume and Period of Generation

Waste stream LA-MHD09.001 is TRU mixed heterogeneous debris generated from November 1977 to present. Of the current population of 63 containers, 3 are currently stored below-grade at Area G. Table 18, Waste Stream LA-MHD09.001 Volume, summarizes the current inventory of waste represented by this report. The future projection of additional generation for this waste stream is approximately 1 additional container (~0.2 m^3) per year and there is no projected end date (References C096, C097, C101, C106, and M227).

Table 18. Waste Stream LA-MHD09.001 Volume

Containers	Volume (m^3)
40 55-gallon drums	8.4
6 85-gallon drums	1.9
15 SWBs	28.2
11 Other	30.3
72 Total	68.8

7.3 Waste Generating Activities

Waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. Descriptions of these operations are provided in Section 4.4.

7.4 Types of Wastes Generated

This section describes the process inputs, Waste Matrix Code assignment, radionuclide contaminants, and RCRA hazardous waste determinations for debris waste stream LA-MHD09.001. The waste stream is characterized based on knowledge of the materials, knowledge of the operations generating the waste, and physical descriptions of the waste.

7.4.1 Material Input Related to Physical Form

Waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris. Examples of combustible waste materials include cardboard, cellulosics, cheesecloth, cloth, filter media/paper, Kimwipes, leaded gloves, mops, paper, plastics (e.g., bags, bottles, piping, wrap), PPE, prefilters, rags, rubber (e.g., gaskets), sandpaper, Styrofoam, tape, wood, and wood-based HEPA filters. Examples of non-combustible waste materials include aluminum foil, cans (e.g., tin), equipment and instruments (e.g., balance, pump, scale, smoke detector, vacuum gauge), flanges, glass (e.g., jar, vials, windows), graphite, lead (e.g., bricks, shielding), quartz tubes, platinum metal, piping, scrap metal, size reduced gloveboxes and tanks, sources, stainless steel, tools, and valves. The waste may also include small amounts of homogeneous solids such as absorbent/solidification material (e.g., Portland cement, vermiculite, Waste Lock 770) used to solidify liquids (e.g., grease, oils), oxides (e.g., source material), and sand. Any payload container consisting of more than 50 percent by volume of homogeneous solids will be excluded from this waste stream (References C096, D056, D078, M219, and M227).

7.4.1.1 Waste Matrix Code

Based on the evaluation of the materials contained in this waste stream and LANL waste management practices, waste stream LA-MHD09.001 is comprised of greater than 50 percent heterogeneous inorganic and organic debris. Therefore, Waste Matrix Code S5400, Heterogeneous Debris is assigned to waste stream LA-MHD09.001. Although the waste stream, as a whole, is comprised of more than 50 percent heterogeneous debris, any drum may include nearly any percentage of the waste material parameters listed in Section 7.4.1.2, except that no individual drum will contain greater than 50 percent homogeneous solids (References 2, D078, M219, and M227).

7.4.1.2 Waste Material Parameters

To estimate the WMPs for waste stream LA-MHD09.001, generator comments describing the container contents, when available, were extracted from the CONCERT database. When generator comments were not available, the RSWD, IDC, or TRUCON code for each container was obtained from the CONCERT database as of January 4, 2005. Twenty-three containers had good descriptions of the contents in the generator comments field, the remaining did not. The WMP data were derived by

assigning WMPs to each RSWD, IDC, or TRUCON code based upon the description of the respective code (Reference M219).

The WMPs for waste stream LA-MHD09.001 were estimated by reviewing container inventory records for 53 containers generated from June 1980 to October 2002, which had net weights listed in the CONCERT database. The net weight of each container was categorized into one or more of the following WMPs: iron based metals/alloys, aluminum based metals/alloys, other metals/alloys, other inorganic materials, cellulosics, rubber, plastics, and inorganic matrix; based on the RSWD, IDC or TRUCON code assigned to the container. The 53 containers included in the evaluation represent over 90 percent of the current waste stream. Average, minimum, and maximum WMP weight percentages were calculated using the CONCERT database data, and the results of this analysis are presented in Table 19, Waste Material Parameter Estimates for LA-MHD09.001 (Reference M219).

The statistical analysis of the data is documented in a memorandum (included with Attachment 6 of CCP-TP-005) as required by that procedure (Reference 8).

Table 19. Waste Material Parameter Estimates for LA-MHD09.001

WMP Description	Average Weight Percent	Weight Percent Range
Iron-Based Metals/Alloys	49.75%	0 - 57.77%
Aluminum-Based Metals/Alloys	18.11%	0 - 33.33%
Other Metals	18.38%	0 - 100.00%
Other Inorganic Materials	2.02%	0 - 100.00%
Cellulosics	3.72%	0 - 100.00%
Rubber	3.43%	0 - 33.33%
Plastics (waste materials)	3.76%	0 - 100.00%
Organic Matrix	0.00%	0 - 0.00%
Inorganic Matrix	0.83%	0 - 92.93%
Soils/Gravel	0.00%	0 - 0.00%
Total Organic Waste Avg.	**10.91%**	
Total Inorganic Waste Avg.	**89.09%**	

7.4.2 Radiological Characterization

As described in Section 7.2, waste stream LA-MHD09.001 includes approximately 58 containers of heterogeneous debris waste generated from November 1977 to the present. The primary documentation source used to develop the radiological characterization of waste stream LA-MHD09.001 is generator reported data for individual waste containers. LANL employs MT designations to describe the relative isotopic composition of radioactive contamination of common blends of radioactive materials used within the DOE complex. Generator reported MT data or specific isotopic values are available for 100 percent of individual containers in this waste

stream. Section 6.4.2.2, Tables 12 and 13, list the most common MTs present in LANL TRU waste (References 11, 12, C096, C101, D078, M219, M220, and M227).

7.4.2.1 Pu-238, Pu-239, Pu-240, Pu-241, and Pu-242

The primary plutonium material type inputs for the plutonium recovery process are listed in Section 6.4.2.2, Table 12. However, other MTs are occasionally introduced as feed material. Recovery operations are not expected to alter the plutonium isotopic ratios of the feed material. The MT used in the operation generating each waste item is documented on generator records; however, cross-contamination of equipment with different MTs can lead to variable material types detected by radioassay (References 12, C021, D078, and D079).

7.4.2.2 U-234

U-234 content must be estimated since this isotope cannot be reliably measured using NDA techniques. The MT provides the basis for estimating U-234 based on the rate of decay of the precursor, Pu-238, or the value of 0.014 conservatively used for the ratio of abundances of U-234 to U-235 in typical uranium MTs. The standard uranium MTs provide an estimate of the ratio of U-234 to U-235 where one of the MTs listed in Section 6.4.2.2, Table 13, is an indicated MT in the waste container or assay data (References 12, D078, and D079).

7.4.2.3 Am-241

AK on the MTs provides the basis for estimating Am-241 content based on the rate of decay of the precursor Pu-241. The purpose of such bounding calculations is to provide a basis for identifying significant enrichment or depletion of Am-241 based on radioassay results for individual waste containers (References 12, D078, and D079).

No correlation is expected among the different radioelements, plutonium, neptunium, uranium, protactinium, or americium. The differences in valence states and chemical affinities among these elements are expected to result in substantial fractionation during several recovery operations that may have involved these materials prior to the waste generating operations conducted at the TA-50 Facility (References D078 and D079).

7.4.2.4 Cesium-137 and Strontium-90

Cs-137 and Sr-90 are trace contaminants in purified plutonium from the production reactors with concentrations on the order of 0.5 nanograms per gram plutonium. Sr-90 (together with its Yttrium-90 daughter) emits no significant gamma radiation that would allow it to be quantified by direct gamma counting. Therefore, no reliable means exists for the direct NDA of Sr-90. In plutonium production runs, Cs-137 and Sr-90 are produced at approximately the same level. These two nuclides have very similar half-lives (~ 30 years) and will therefore be present at roughly the same activity level prior to commencement of any processing operations. If it is assumed that Sr and Cs

are not fractionated from one another during chemical processing, Cs-137 may be used as a marker for Sr-90 activity at a ratio of 1:1 (References 12, C024, D078, and D079).

7.4.2.5 Radiological Distribution for Waste Stream LA-MHD09.001

The radiological distribution for waste stream LA-MHD09.001 is listed in Table 20, Estimated Radionuclide Distribution in LA-MHD09.001. The distribution represents existing generator-reported radionuclide data for each container in the waste stream. The "Total Nuclide Weight%" values in Table 20 are the gram value for each radionuclide over the entire waste stream divided by the total radiological mass in the waste stream. The same calculation produced the values for the "Total Nuclide Curie%" using the sum of activity values for each radionuclide over the entire waste stream. The "Nuclide Weight% Range for Individual Containers" illustrates the reported ranges of radionuclides in individual containers by identifying the maximum and minimum values for each radionuclide on a container-by-container basis over the entire waste stream. As illustrated in Table 20, the radionuclide weight percent of individual radionuclides varies greatly on a container-by-container basis (some of this variability is due to the inclusion of sealed sources in a few of the containers). Because of this variability, some containers will not include the waste stream predominant radionuclides but may include other radionuclides expected in this waste stream (Reference C096, C101, C106, M219, M220, and M227).

Table 20. Estimated Radionuclide Distribution in LA-MHD09.001

Radio-nuclide	Number of Containers with Reported Nuclide	Total Nuclide Weight%[1,5]	Total Nuclide Curie%[3,5]	Nuclide Weight% Range for Individual Containers[2,5]	Nuclide Curie% Range for Individual Containers[4,5]	Expected Present
WIPP Required Radionuclides						
Am-241	31	1.21%	**5.91%**	0% - 68.05%	0% - 91.61%	Yes
Pu-238	43	2.01%	**50.91%**	0% - 100.00%	0% - 100.00%	Yes
Pu-239	60	**56.83%**	**5.17%**	0% - 100.00%	0% - 100.00%	Yes
Pu-240	24	4.00%	1.25%	0% - 19.91%	0% - 4.88%	Yes
Pu-242	22	0.16%	Trace	0% - 1.63%	0% - Trace	Yes
U-233[6]	Not Reported					Yes
U-234	4	0.01%	Trace	0% - 1.87%	0% - 0.98%	Yes
U-238[7]	3	**29.51%**	Trace	0% - 96.85%	0% - Trace	Yes
Sr-90[7]	2	Trace	Trace	0% - Trace	0% - Trace	Yes
Cs-137	9	Trace	0.02%	0% - Trace	0% - 9.01%	Yes
Additional Radionuclides						
Am-243	2	0.01%	Trace	0% - 1.24%	0% - 0.10%	Yes
Co-60	2	Trace	**Trace**	0% - Trace	0% - 0.02%	Yes
Cs-134	1	Trace	Trace	0% - Trace	0% - Trace	Yes
Eu-152	1	Trace	Trace	0% - Trace	0% - Trace	Yes
Eu-154	2	Trace	Trace	0% - Trace	0% - 0.01%	Yes
Eu-155	1	Trace	Trace	0% - Trace	0% - 0.05%	Yes
Na-22	1	Trace	Trace	0% - Trace	0% - Trace	Yes
Np-237	9	0.97%	Trace	0% - 98.47%	0% - 3.74%	Yes
Np-239	1	Trace	Trace	0% - Trace	0% - 0.09%	Yes
Pu-241	28	0.30%	**36.74%**	0% - 16.28%	0% - 89.65%	Yes
Ra-226	1	Trace	Trace	0% - Trace	0% - 0.16%	Yes
Sb-125	2	Trace	Trace	0% - Trace	0% - Trace	Yes
Th-228	1	Trace	Trace	0% - Trace	0% - Trace	Yes
U-235	9	4.99%	Trace	0% - 96.96	0% - 0.02%	Yes

1. This listing indicates the total weight percent of each radionuclide over the entire waste stream.
2. This listing is the weight percent range of each radionuclide on a container-by-container basis.
3. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
4. This listing is the curie percent range of each radionuclide on a container-by-container basis.
5. "Trace" indicates <0.01 weight or activity (curie) percent for that radionuclide.
6. Radionuclide not reported in individual containers, but suspected present from secondary radionuclides, decay, or waste generating process information.
7. Values are from CCP NDA characterization results, not waste generator reported values.

7.4.2.6 Estimated Predominant Radionuclides

From the data presented in Table 20, the two predominant radionuclides by weight percent are Pu-239 and U-238, while 95 percent of the activity over the entire waste stream is from Am-241, Pu-238, Pu-239, and Pu-241. Although U-238 is the second most predominant radionuclide in the waste stream, to date it has only been detected in three containers. The predominant radionuclides in most containers in this waste

stream will be Pu-238 and Pu-239 (References C096, C101, C106, M219, M220, and M227).

7.4.2.7 Use of Radionuclide Isotopic Ratios

For waste containers where direct measurement does not yield useable isotopic ratio information, AK may be used to supplement direct measurement data in accordance with the WIPP-WAC (Reference 3). The ratios that may be used are those identified in Section 6.4.2.2, Tables 12 and 13, in conjunction with the corresponding nuclear MT identified by the waste generator on a container basis. The specific use and confirmation of AK related to WIPP-certified assay measurements of containers in this waste stream is documented in the memorandum written in accordance with the requirements of CCP-TP-005 (Reference 8).

7.4.3 Chemical Content Identification – Hazardous Constituents

Waste stream LA-MHD09.001 has historically been managed in accordance with the generator site requirements and in compliance with the requirements of the New Mexico Environmental Department. Based on historical waste management, the containers in this waste stream were either managed as non-hazardous or were assigned EPA HWNs for reactivity (D003), arsenic (D004), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), or F-listed solvents (F001). A review of available AK documentation has determined that this waste is hazardous for the above constituents, and it may be contaminated with any of the chemicals or metals described for waste streams LA-MIN03-NC.001 and LA-MHD03.001. However, D003 for reactivity does not apply to this waste stream. Also, only the more specific F-listed HWNs were applied for the additional toxicity characteristic HWNs identified in waste stream LA-MHD03.001. The following sections describe the characterization rationale for the assignment of EPA HWNs.

Table 21, Waste Stream LA-MHD09.001 Hazardous Waste Characterization Summary, summarizes the HWNs assigned to this waste stream. The HWN assignments have been applied on a waste stream basis; individual containers may be non-hazardous or may not contain all of the hazardous materials listed for the waste stream as a whole (References C013, C018, D078, DR001, DR010, and M227).

Table 21. Waste Stream LA-MHD09.001 Hazardous Waste Characterization Summary

Waste Stream	EPA HWNs
LA-MHD09.001	F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043

To assign EPA HWNs, the available AK documentation was reviewed to identify chemical usage in the TA-50 Facility and facilities that sent liquid and solid waste to

TA-50 for treatment, and potentially hazardous materials that may have been introduced into the waste stream. In addition, MSDSs were obtained for the commercial products to determine the presence of potentially regulated compounds. Based on the rationale provided in Section 4.3.6, the debris waste in this waste stream contains the same or similar hazardous constituents identified for waste stream LA-MIN03-NC.001 and will carry all the same EPA HWNs. Additionally, several of the containers in waste stream LA-MHD09.001 contain mixed heterogeneous debris repackaged at TA-50, but originated at the CMR Building. Debris waste from the CMR is assumed to be contaminated with 1,4-dichlorobenzene (D027), 1,1-dichloroethylene (D029), 2,4-Dinitrotoluene (D030), and vinyl chloride (D043). Consequently, waste stream LA-MHD09.001 will also carry the EPA HWNs listed in Table 22, Waste Stream LA-MHD09.001 Additional Chemical Identification and Use Summary, in addition to those described in Section 5.4.3, Table 8. Several of these HWNs were assigned due to lack of evidence that these constituents would have not exceeded the regulatory thresholds (References 11, 12, C013, C018, C089, D001, D002, D003, D004, D007, D029, D046, D076, D077, D078, D083, D100, D101, DR001, and DR010).

Table 22. Waste Stream LA-MHD09.001 Additional Chemical Identification and Use Summary

Chemical	Use/Source	Building	Document Source	EPA HWNs
1,4-Dichlorobenzene	SVOC matrix spike standard used in CMR.	TA-3-29	C089, Reference 11	D027
1,1-Dichloroethylene	GC/MS matrix spike standard used in CMR.	TA-3-29	C089, Reference 11	D029
2,4-Dinitrotoluene	SVOC matrix spike standard used in CMR.	TA-3-29	C089, Reference 11	D030
Vinyl chloride	GC/MS sample preparation standard used in CMR.	TA-3-29	C089, Reference 11	D043

7.4.3.1 F-Listed and Other Solvents

Based on review of AK relative to chemicals used or present in the TA-50 Facility and facilities that sent liquid and solid waste to TA-50 for treatment, waste stream LA-MHD09.001 may contain or be mixed with F-listed hazardous wastes from non-specific sources listed in Title 40 CFR 261.31 (Reference 15). As shown in Section 5.4.3, Table 8, F001, F002, F004, and F005 listed solvents were used or present and potentially contaminated the waste. F003 constituents, including acetone, cyclohexanone, ethyl benzene, ethyl ether, methyl alcohol, methyl isobutyl ketone, n-butyl alcohol, and xylene are listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is not in a liquid form; therefore, F003 is not assigned (Reference DR010).

In addition, liquid wastes from cyanide plating operations (F007, F009) conducted in the Sigma Building, TA-3-66 have been treated at TA-50 (References D028, D034, and D068), and EPA HWN F006 also applies to the RLWTF waste derived from the

treatment of the liquids from plating operations. Therefore waste stream LA-MHD09.001 is assigned F-listed EPA HWN F001, F002, F004, F005, F006, F007, and F009 (References 11, 12, C013, C018, D003, D004, D007, D046, D077, D078, D083, D100, D101, DR001, and DR010).

7.4.3.2 Toxicity Characteristic Compounds

Based on review of AK relative to chemicals used or present in the TA-50 Facility and facilities that sent liquid and solid waste to TA-50 for treatment, waste stream LA-MHD09.001 may be contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24 (Reference 15). Where a constituent has been identified and there is no or limited quantitative data available to demonstrate that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is applied to the waste stream in accordance with CCP-TP-005 (Reference 8).

The waste stream contains or is contaminated with toxicity characteristic metals. Based on the references identified in Section 5.4.3, Table 8, EPA HWNs D004, D005, D006, D007, D008, D009, D010, and D011 are assigned to waste stream LA-MHD09.001.

The AK identified the potential presence of additional toxicity characteristic compounds, however the more specific F-listed EPA HWNs have been assigned to waste stream LA-MHD09.001 for the following constituents: benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), cresol (D026), methyl ethyl ketone (D035), nitrobenzene (D036), pyridine (D038), tetrachloroethylene (D039), and trichloroethylene (D040). Therefore, these characteristic HWNs are not assigned to the waste stream. Waste stream LA-MHD09.001 is assigned toxicity characteristic HWNs D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043 (References 11, 12, 16, C013, C018, C089, D001, D002, D003, D004, D007, D029, D046, D076, D077, D078, D083, D100, D101, DR001, and DR010).

7.4.3.3 Ignitables, Corrosives, and Reactives

Ignitability

The materials in this waste stream do not meet the definition of ignitability as defined in 40 CFR 261.21 (Reference 15). LANL waste management practices prohibit liquids in any container of solid waste materials. Although ignitable chemicals (e.g., methyl alcohol, n-butyl alcohol) and oxidizers (e.g., aluminum nitrate, ferric nitrate) were used or present in the contributing facilities, these reagents were used in small quantities as needed and should only be present as trace (non-liquid) contaminants in the debris waste. Liquids generated during packaging/repackaging operations were either solidified in absorbent (e.g., Portland cement, vermiculite, Waste Lock 770) or discharged to the RLWTF for treatment. This material will not cause fire through friction, absorption of moisture, or spontaneous chemical changes. The materials are not compressed gases, nor does the waste contain compressed gases. In addition, RTR and/or VE are performed to ensure the absence of free liquids. The materials in

this waste stream are therefore not ignitable D001 wastes (References D004, D005, D056, D078, D103, P001, P015, and P016).

Corrosivity

The materials in this waste stream are not liquid and do not contain unreacted corrosive chemicals; therefore, they do not meet the definition of corrosivity as defined in 40 CFR 261.22 (Reference 15). LANL waste management practices prohibit liquids in containers of solid waste materials. Although corrosive chemicals (e.g., nitric acid, sodium hydroxide, sulfuric acid) were used or present in the contributing facilities, these reagents were used in small quantities as needed and should only be present as trace (non-liquid) contaminants in the debris waste. Liquids generated during packaging/repackaging operations were either solidified in absorbent (e.g., Portland cement, vermiculite, Waste Lock 770) or discharged to the RLWTF for treatment. Any corrosive liquids present in this waste would also have been neutralized prior to absorption. In addition, RTR and/or VE are performed to ensure the absence of free liquids. The materials in this waste stream are therefore not corrosive D002 wastes (References D004, D005, D056, D073, D078, D103, P001, P015, and P016).

Reactivity

The materials in this waste stream do not meet the definition of reactivity as defined in 40 CFR 261.23 (Reference 15). Although reactive materials (e.g., magnesium oxide, sodium metal) were used or present in the contributing facilities, these reagents were used in small quantities as needed and should only be present as trace contaminants in the debris waste. The materials are stable and will not undergo violent chemical change without detonating. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. LANL waste management policies did not allow the disposal of potentially reactive material or the material was treated prior to disposal. As discussed previously, LANL historically assigned D003 to a container in this waste stream. After additional research was conducted, it was determined that this HWN was assigned solely based on the presence of an unpunctured aerosol can(s). However, characterization activities will identify and remediate any unpunctured cans prior to waste certification, and HWN D003 will not be assigned to this waste stream. The materials in this waste stream are therefore not reactive D003 wastes (References D004, D056, D078, D103, DR010, and P015).

7.4.3.4 P- and U-Listed Waste

The materials in this waste stream do not contain and are not mixed with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof as defined in 40 CFR 261.33 (Reference 15). P- and U-listed reagents, including hydrofluoric acid (U134), were used or present in the contributing facilities; however, no pure product or unused chemicals would have been disposed of in this waste stream. No listed chemicals were identified in the

container-specific documentation and no record of a significant spill of listed chemicals was located (e.g., incident report, waste profile form). Beryllium may be present in the waste stream, but does not meet the definition of a P015-listed waste. Available AK did not identify the use of beryllium powder as a constituent or contaminant in this waste stream. Any beryllium present would be a result of residual contamination in waste water solutions or debris processed at TA-50 and it would not result in concentrations exceeding 1 percent by weight in any payload container. Waste stream LA-MHD09.001 is therefore not assigned a P- or U-listed HWN (References 11, 12, C018, C081, D001, D002, D003, D004, D007, D046, D076, D077, D078, D100, D101, and DR010).

7.4.3.5 K-Listed Waste

The material in this waste stream is not a hazardous waste from any of the specific sources listed in 40 CFR 261.32 (Reference 15).

7.4.4 Polychlorinated Biphenyls

No sources of PCBs were identified as inputs into waste stream LA-MHD09.001. The only PCB source identified was PCB contaminated liquids sent to be incinerated in the TA-50-37 CAI. Since this facility was permitted to treat PCB contaminated liquids, PCBs would be destroyed in the incinerator and would not contaminate spent scrubber liquids discharged to the RLWTF or debris waste generated from CAI maintenance and D&D operations. However, characterization activities of other LANL debris waste streams have identified the presence of light ballasts. Ballasts in fluorescent light fixtures could contain PCBs. Therefore, containers with PCB waste, identified during RTR or VE, will be managed as a TSCA waste under 40 CFR 761 (References 11, 12, 19, D017, D068, and M227).

7.4.5 Prohibited Items

No prohibited items have been identified in this waste stream. However, historical procedures allowed containers greater than four liters, sealed with tape, to be used for waste packaging until WIPP certification procedures were implemented. In addition, other LANL debris waste streams have identified liquids (both containerized and uncontainerized) and aerosol cans have also been observed. Lead shielding is often used to increase handling safety, and thick shielding can obscure RTR observations (References 12, D078, and M227).

Based on interviews with site personnel performing VE and prohibited item disposition repackaging of TA-55 waste streams, internal cans (both shielded and unshielded) have been measured for dose rate during repackaging and found to contain waste with radiation levels exceeding 200 millirem per hour. However, the presence of internal cans with these dose rates is not expected in this waste stream (Reference 12). Prohibited items are detected by RTR or VE and reported with the characterization results. Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new drums, during which time liquids are

absorbed, sealed containers greater than four liters are opened, and other items removed and segregated if necessary prior to certification and shipment. Waste items with high dose rates may be repackaged into a POC. Repackaged waste items that are placed into a new drum(s) or POC are from a single parent drum. Some secondary waste generated during remediation and repackaging operations may be added to the waste containers, including but not limited to absorbent (e.g., Waste Lock 770), Fantastik bottles used during decontamination, miscellaneous hand tools, paper/plastic tags and labels, plastic/metal wire ties, PPE, plastic sheeting used for contamination control, rags and wipes (Kimwipes), and original packaging material (e.g., plastic bags, plywood sheathing, rigid liner lids cut into pieces) (References C090, C099, P014, P015, P016, P018, P019, and P022).

7.5 Waste Packaging

It is expected that debris waste from the TA-50 Facility generated between until 1995 would usually be packaged into 55-gallon DOT 7A, Type A (formerly identified as DOT 17C) steel drums, including either up to two 5-mil to 12-mil plastic liner bags closed with tape or one 90-mil/125-mil rigid polyethylene liner with lid. Larger waste items and remediated/repackaged waste may be packaged in unlined SWBs with appropriate materials, such as Styrofoam sheets, wooden pallets, or plastic materials to prevent them from shifting (References 12, D055, D073, D074, D078, M227, P008, P013, P014, P015, P018, P019, and P022).

Changes were introduced into the packaging procedure used at LANL after 1995. Up to two liner bags could still be present, but were typically closed by folding, not by twisting and taping. Waste placed inside the drums was typically contained in a single plastic bag that was twisted then taped closed. Since 1997, plastic bags with filters are typically used. Waste with the potential to tear the plastic bag, such as broken glass, is first placed in a metal container with a lid and then placed into the plastic bag. Waste could also be packaged or repackaged in a POC. Waste placed into a POC may be packaged into a single filtered plastic bag which may include a fiberboard liner/sleeve inside the plastic bag. POCs contain a pipe component in a standard 55-gallon drum that is lined with a punctured rigid liner with packaging material between the pipe component and liner. POCs are closed once predetermined SNM or weight limits are met or when the pipe component is physically full. Remediated/repackaged waste may be packaged with or without a single plastic liner bag with one of the following drum liner configurations depending on the remediation facility: no liner, a fiberboard liner, a POC, or a 90-/125-mil rigid polyethylene liner without lid. Based on LANL waste management practices, no more than six layers of confinement are expected for any container in waste stream LA-MHD09.001 (References 12, C090, D078, D114, M227, P003, P014, P015, P016, P018, P019, and P022).

RTR and/or VE will confirm TRUCON Code LA225. LA225 describes the broadest type of materials and bounds all waste packages in this waste stream. However, TRUCON Codes LA215, LA216, LA217, LA218, LA219, LA220, and LA223 have been identified as suitable for individual containers in this waste stream. These TRUCON Codes may

be assigned for the eventual certification and transportation of payload containers in this waste stream pending further evaluation. LA154 or SQ154 may be used for high wattage drums subject to the conditions and controls specified in Appendix 6.12 of the CH-TRAMPAC. All waste packages (i.e., 55-gallon drums, SWBs) are vented with approved filter vents prior to disposal (e.g., Nucfil-013). Vent dates for individual containers are provided in the AK Tracking Spreadsheet (References 12, 17, C096, D078, and M227).

During waste management and drum storage activities following initial waste generation, 55-gallon drums may be overpacked into larger drums (i.e., 85-gallon drums or larger) or SWBs to correct/address external contamination, FGE limits, and drum integrity problems, such as pin hole corrosion, dents, etc. If drums are overpacked in an SWB (up to four 55-gallon drums), no closed liner bags are used in the SWB (References D105, D114, M227, P013, P014, P018, P019, and P022).

8.0 CONTAINER SPECIFIC INFORMATION

Several data sources were reviewed relating to container specific information about the radiological, physical, and chemical characterization of containers in these waste streams, including archived and active site database information and generator records. The list of containers included in these waste streams is provided in the current Waste Containers List.

9.0 REFERENCES

1. *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan*, New Mexico Environment Department, Santa Fe, New Mexico

2. DOE/LLW-217, *DOE Waste Treatability Group Guidance*, Idaho Falls, Idaho, INEL-Lockheed Idaho Technologies

3. DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, Carlsbad, New Mexico, U.S. Department of Energy

4. *Interim Guidance on Ensuring that Waste Qualifies for Disposal at the Waste Isolation Pilot Plant*, U.S. DOE Carlsbad, 1997

5. Public Law 102-579, *Waste Isolation Pilot Plant Land Withdrawal Act* (as amended)

6. DOE/TRU-12-3425, *Annual Transuranic Waste Inventory Report* – 2012, Carlsbad, New Mexico, U.S. DOE, Carlsbad Field Office

7. CCP-PO-001, *CCP TRU Waste Characterization Quality Assurance Project Plan*, Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

8. CCP-TP-005, *CCP Acceptable Knowledge Documentation*, Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

9. DOE/WIPP 01-3194, *CH-TRU Waste Content Codes (CH-TRUCON)*, U.S. DOE Carlsbad, NM

10. CCP-PO-002, *CCP Transuranic Waste Certification Plan*, Nuclear Waste Partnership, Carlsbad, NM

11. CCP-AK-LANL-009, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Chemistry and Metallurgy Research (CMR) Facility, Waste Streams: LA-MSG03.001, LA-CIN03.001*, Nuclear Waste Partnership, Carlsbad, NM

12. CCP-AK-LANL-006, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory TA-55 Mixed Transuranic Waste, Waste Streams: LA-MHD01.001, LA-CIN01.001, LA-MIN02-V.001, LA-MIN04-S.001,* Nuclear Waste Partnership, Carlsbad, NM

13. 42 U.S.C 10101, *Nuclear Waste Policy Act of 1982*, U.S. Congress

14. DOE Order 435.1, *Radioactive Waste Management*, U.S. DOE, Environmental Management

15. Title 40 CFR, Part 261, *Identification and Listing of Hazardous Waste*, U.S. EPA

16. CCP-AK-LANL-010, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory TA-21 DP West Facility, Waste Streams: LA-MHD04.001, LA-MSG04.001,* Nuclear Waste Partnership, Carlsbad, NM

17. *Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC),* Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

18. CCP-AK-INL-500, *Central Characterization Program Acceptable Knowledge Summary Report For Remote-Handled Transuranic Debris Waste from Argonne National Laboratory-East Stored at the Idaho National Laboratory, Waste Stream: ID-ANLE-S5000,* Nuclear Waste Partnership, Carlsbad, NM

19. Title 40 CFR Part 761, *Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions,* U.S. EPA

20. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*, Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

10.0 AK SOURCE DOCUMENTS

Source Document Tracking Number	Title
C004	Memo to G. Kestell et al re: Effects of TA-55 Process Wastes on TA-50 Operations
C005	Request for Directive, Radioactive Liquid Waste Treatment Plant Improvements
C007	Memo to J. Bratton re: Upgrading of Industrial Liquid Waste Treatment Plants, LASL
C008	Memo to K. Sisneros and A. Davis (NMED and EPA) re: Relabeling Sludge from the RLWTF, TA-50-1
C009	Memo to B. Jorgensen re: RCRA Metals in Filtered TA-50 Wastewaters
C012	Memo to Distribution re: Organic Solvents in Drain Lines
C013	Memo to B. Garcia re: Re-characterization of Wastewater Treatment Sludge in Storage at Technical Area (TA) 54 - Request for Removal from Federal Facility Compliance Order (FFCO)
C014	Interviews of Radioactive Liquid Waste Knowledgeable Personnel
C016	Interview with Steve Schreiber, NMT-2
C017	Outstanding Questions on Vacuum Filter Sludge Waste
C018	RCRA Evaluation
C019	Radiological Evaluation
C020	Interview of J. Foxx and G. Rinehart re: Pu-238 Processes
C021	Memo with Attachments to K. Dziewinska re: Material Type Isotopic Compositions
C022	Memo to P. Rogers re: Acceptable Knowledge for Pu-238 TRU Waste Generated at the Los Alamos Plutonium Facility, TA-55
C023	Notes from Interview of J. Foxx
C024	Interview of J. Foxx re: Sources of Cs-137 and Pa-231 in TA-55 Waste
C025	Interview of J. Foxx re: Secondary Radionuclides Used in P/S Code PI
C026	Email to J. Musgrave re: P/S Codes for Special Processing
C027	Email to J. Musgrave re: P/S code PPD in Special Processing
C028	Memo to P. Rogers re: Secondary Radionuclides and Toxic Metals in TA-55 TRU Waste"
C029	Interview with J. Barfield
C030	Memo to J. Whitworth re: Material Type 72
C031	Interview of J. Foxx re: P/S Codes PPD, UA, VD, IN, and WE
C032	Collection of Correspondence, Comments, and AK Summaries
C033	Interview with J. Foxx
C034	Interview with J. Foxx and Supporting Documentation re: Defense Relationship of TA-55 Waste
C035	Interview with J. Foxx, SME
C036	Interview with S. Long
C037	Interview with M. West of NMT-2 and G. Bird of NMT-2
C040	Interview with J. Foxx of NMT-7

Source Document Tracking Number	Title
C041	Interview with J. Foxx: Answers to Questions about Pyro Chemical
C054	Comments from J. Foxx on a draft AK Supplemental Information Report for Pu-238 Operations (September 30, 1999)
C056	Interview with J. Foxx RE: Pu-238 and Effluent to TA-50
C057	Email re: "RCRA Codes for Pu-238"
C061	Interview with J. Foxx
C063	Interview with J. Foxx of TA-55
C064	Interview with T. Hayes of TA-55 Nitrate Operations re: Draft AK Summary for TA-55 Nitrate Operations, 12-19-99 (attached)
C065	Comments from T. Hayes and J. Foxx on the Acceptable Knowledge Summary for TA-55 Nitrate Operations
C066	Response to comments on the AK Summary for TA-55 Nitrate Operations
C068	Email to K. Chandler re: "Chromium" and re: "Light Bulb!"
C078	Interview of Richard Bramlett RE: Liquids sent to the Main Treatment Process of the RLWTF
C080	AK Payload Management Calculations for LA-MIN03-NC.001
C081	AK Beryllium Assessment
C082	Interview with Dave Moss re: TA-50 Pretreatment Operation
C083	Addition of Mixed Cemented TRU Waste (Waste Stream # LA-CIN02.001) to Acceptable Knowledge Report CCP-AK-LANL-004
C084	Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-CIN02.001 for AK Report CCP-AK-LANL-004
C085	Acceptable Knowledge Beryllium Assessment for LA-CIN02.001 - Revised
C086	Interview with Dave Moss re: TRU Waste Drums Generated from Vacuum Filter Operations Between 1997 and 2000
C089	Waste Stream LA-MIN03-NC-001 and LA-MHD03.001 EPA HWN Assignment Comparison
C090	Secondary Waste Discussions
C091	TRUCON Code Clarification
C092	Memo from Darrik Stafford to Andy and Bill regarding DVRS: Info: Methodology for Assigning DVRS Waste Stream
C093	Memo from James R. Fitzgerald to MJ Papp regarding Decontamination and Volume Reduction System (DVRS)
C094	Letter to AK Record regarding Waste Streams LA-MIN03-NC.001 and LA-CIN02.001 Container Evaluation
C095	Email to Mike Papp regarding Drum Washing of Drums Retrieved from Below-Grade
C096	Evaluation of Volume, Period of Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD09.001
C097	Future Waste Projections for Waste Stream LA-MHD09.001
C098	Available Information on Exxon Debris Containers

Source Document Tracking Number	Title
C099	Secondary Waste Generated by the Remediation/Repackaging Processes at Dome 231 and WCRRF
C100	TA-54 Building 412 vs. DVRS Facility
C101	Addition of Below-Grade Containers to TA-50 Waste Streams and the Recalculation of Individual and Total Radionuclide Masses and Activities for Waste Streams LA-CIN02.001 and LA-MHD09.001
C102	Addition of 18 Containers for LA-MIN03-NC.001, Addition of 2 Containers to LA-CIN02.001, Addition of 1 Container to LA-MHD09.001
C103	Email to Mike Papp re: AK4, LA-CIN02.001 - Contrary to Sec. 6.5 RTR has Identified Baked-on Liners before 1985
C106	Evaluation of Volume, Period of Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD09.001
D001	Process Acceptable Knowledge Report for Special Processing at TA-55
D002	Process Acceptable Knowledge Report for Pyrochemical Processes at TA-55
D003	Process Acceptable Knowledge Report for Miscellaneous Operations at TA-55
D004	AK Summary Report for Waste Stream TA-50-19, Vacuum Filter Cake
D005	Los Alamos National Laboratory TA-50/21/63 Waste Management Operations Safety Analysis Report, TA-50 Radioactive Liquid Waste Treatment Facility
D006	Environmental Information Document, Radioactive Liquid Waste Treatment Facility
D007	Process Acceptable Knowledge Report for Chloride Operations at TA-55
D008	Characterizing Cemented TRU Waste for RCRA Hazardous Constituents
D009	Final Project Report, TA-35 Los Alamos Power Reactor Experiment No. II (LAPRE) Decommissioning Project
D010	Radioactive Liquid Waste Treatment Facility Secondary Stream Study
D013	Controlled Air Incinerator for Radioactive Waste, Volume I
D015	The Los Alamos Controlled Air Incinerator for TRU Waste
D017	Ready, Set, ...Quit! A Review of the Controlled Air Incinerator
D018	Waste Management Site Plan
D019	TA-35 RCRA Facility Investigation (RFI) Report
D020	Best Available Technology Study for the Los Alamos National Laboratory Radioactive Liquid Waste Treatment Facility
D021	Final Safety Analysis Report for the Transuranic Contaminated Solid Waste Treatment Development Facility
D022	The Los Alamos Controlled Air Incinerator for Radioactive Waste, Volume I: Rationale, Process, Equipment, Performance, and Recommendations
D023	1969 Status Report on the Omega West Reactor, with Revised Safety Analysis
D024	Ground Water Discharge Plan Application for the TA-50 Radioactive Liquid Waste Treatment Facility
D025	Future Radioactive Liquid Waste Streams Study
D026	The Omega West Reactor and Water Boiler Building TA-2-1
D027	Final Project Report, TA-2 Water Boiler Reactor Decommissioning Project
D028	Radioactive Liquid Waste Collection System Study

Source Document Tracking Number	Title
D029	Work Release #24, Study of Alternatives for Radioactive Wastewater Treatment Sludges
D030	Review of Radioactive Liquid Waste Management at Los Alamos
D031	Characterization of Waste Streams and Suspect Waste from Largest Los Alamos National Laboratory Generators
D033	A Survey of the Liquid Waste Discharge of NPDES Regulated Chemical Species in the Acid/Rad Lines of the CMR Building (TA-3, SM29)
D034	Radioactive Liquid Waste Survey Sigma Building (TA-3 SM-66)
D035	Wastewater Stream Characterization for TA 3-29, 154, 503, 1196, 1610, 1614, 1615
D036	Wastewater Stream Characterization for TA-43
D037	Wastewater Stream Characterization for TA 16-205, 248, 450, 459, 1380, and 1381
D038	Wastewater Stream Characterization for TA-3-216, 1531, 1546, 1579, 1648, 1774, 1775, 1776, 1778, 1782, 1784, 1855, 1937, 1938, 1939, 1940, 1941, 1943, 2031, 2036, 2056, 2058, 2063, 2064, and 2065
D039	Waste Water Stream Characterization for TA-59
D040	Wastewater Stream Characterization for TA-2-1, 4, 21, 27, 36, 44, 46, 49, 50, 51, 57, 63, 69, and 70
D041	Wastewater Stream Characterization for TA-3-16, 65, 130, 208, 316, 477, 550, 1228, 1229, 1522, 1538, 1612, 1730, 1731, 1734, 1762, 1898, 1944, 1945, 1946, 1949, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2062, 2130, 2143, 2164
D043	Wastewater Stream Characterization for TA-3-32, 33, 34, 480, 481, 482, 483, 500, 1543, 1544, 1545, 1552, 1553, 1554, 1565, 1567, 1570, 1571, 1575, 1586, 1599, 1688, 1706, 1712, 1732, 1739, 1741, 1745, 1746, 1747, 1748, 1749, 1750, 1760, 1761, 1767, 1771,1786, 1787, 1819, 1930, 1931, 1932, 2002, and 2047
D044	Wastewater Stream Characterization for TA-3-39, 42, 102, 128, 149, 164, 356, 357, 409, 422, 497, 531, 542, 551, 1635, 1636, 1814, 1847, 1994, 1995, 2012, 2029, 2134, 2135, 2140, and 2141
D045	Wastewater Stream Characterization for TA 3-35, 67, 141, 145, 147, 159, 160, 161, 169, 187, 317, 541, 1264, 1504, 1514, 1524, 1525, 1796, 2132, and 2165
D046	TA-55 Plutonium Facility Acceptable Knowledge Report, Nitrate Operations
D047	TA-21 Current and Future Radioactive Liquid Waste Generation-Draft
D048	The Weapons Engineering Tritium Facility Final Safety Analysis Report for the Los Alamos National Laboratory Nuclear Weapons Complex
D049	Radioactive Liquid Waste Survey of the Radiochemistry Site, TA-48
D050	Decontamination and Size Reduction of Plutonium Contaminated Process Exhaust Ductwork and Gloveboxes
D051	Safety Assessment for TA-48 Radiochemical Operations
D054	Work Plan for Mortandad Canyon
D055	Los Alamos Transuranic Waste Size Reduction Facility
D056	Los Alamos Transuranic Waste Size Reduction Facility

Source Document Tracking Number	Title
D058	Biological Information Document Radioactive Liquid Waste Treatment Facility
D059	Hazard Identification Worksheets for the Radioactive Liquid Waste Treatment Facility at Technical Area 50, Los Alamos National Laboratory
D060	Mortandad Canyon Elemental Concentrations in Vegetation, Stream bank Soils, and Stream Sediments - 1979
D062	FMU-84 Generator Waste Certification Program
D063	Technical Safety Requirements for Radioactive Liquid Waste Treatment Facility
D064	Project Management Plan for Radioactive Liquid Waste Treatment Plant Improvements
D067	Radioactive Liquid Waste Treatment Facility Information Package
D068	RCRA Part B Permit Application, Volume I
D070	Interim Status Waste Analysis Plan for Mixed Waste
D071	Los Alamos National Laboratory RLWTF Conceptual Design Best Demonstrated Available Technology Evaluation, Technical Memorandum 1 Segregation and Pretreatment
D072	Modification to Design Criteria for Upgrading of Industrial Liquid Waste Treatment Plant
D073	Los Alamos TRU Waste Certification Plan for Newly Generated TRU Waste
D074	Final TRU Waste Inventory Work-Off Plan
D075	A Newly Continuously Monitored Collection System for Liquid Industrial Wastes
D076	Process Acceptable Knowledge Report for Plutonium-238 Operations at TA-55
D077	Process Acceptable Knowledge Report for Metal Operation Processes at TA-55
D078	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams
D079	Acceptable Knowledge Report for Debris Waste Streams Containing Pu-239
D080	Excerpts from "Light Weight Radioisotopic Heater Unit (LWRHU) Production for the Galileo Mission
D081	Lightweight Radioisotope Heater Unit (LWRHU) Production for the Cassini Mission
D082	Final Safety Analysis Report for TA-55 NMT
D083	Acceptable Knowledge Supplemental Information for Chloride Operations at TA-55
D085	Sampling and Analysis Project Validates Acceptable Knowledge on TA-55-43, Lot. No. 01
D089	Wastes from Plutonium Conversion and Scrap Recovery Operations
D091	Waste-form Development for Conversion to Portland Cement at LANL Technical Area 55
D100	Acceptable Knowledge Report for Newly Generated Waste from Metal/Pyrochemical Operations at TA-55
D101	Acceptable Knowledge Report for Newly Generated Waste from Miscellaneous Operations at TA-55
D102	Acceptable Knowledge Summary Report for Waste Streams TA-55-43, TA-55-44, TA-55-45, TA-55-46 and TA-55-47
D103	Waste Management Site Plan Los Alamos National Laboratory December 1984

Source Document Tracking Number	Title
D104	Upgrade and Performance Testing for the LINC System at TA-54 Area G
D105	Transuranic Waste Inspectable Project (TWISP) Final Report - Waste Retrieval from Pads 1, 2 and 4 at TA-54, Area G Los Alamos National Laboratory
D106	Los Alamos National Laboratory Transuranic Waste Characterization Sampling Plan
D107	Managing Waste; Air Quality; Ecological and Cultural Resources; Waste Minimization and Pollution Prevention; and Surface and Groundwater
D108	General Waste Management Requirements
D109	General Waste Management Requirements
D110	Managing Radioactive Waste
D111	Hazardous and Mixed Waste
D112	Hazardous and Mixed Waste Requirements
D113	LANL Hazardous Waste Permit
D114	LANL Waste Acceptance Criteria
D115	Waste Profile Form Guidance
D116	Review and Completion of the TWSR
D117	Waste Generator Guidance for Completing the TRU Waste Storage Record (TWSR)
D118	Processing Waste Acceptance Criteria Exception Forms
D119	Project Management Objectives for Pit 9 TRU Waste Retrieval
D120	Retrieval Plan for TA-54, Area G TRU Waste for Pit 9
D121	TA-54, Area G Pit 9 Waste Description
D122	TA-54, Area G Pit 9 Waste Description
DR001	Discrepancy Resolution - EPA Hazardous Waste Numbers
DR002	Discrepancy Resolution - Radiological Characterization
DR003	Acceptable Knowledge Source Document Discrepancy Resolution - Drum Liners
DR004	Acceptable Knowledge Source Document Discrepancy Resolution - Debris Waste in Containers S841419 (LANL-0130-05), S825085 (LANL-0747-05), and S817006 (LANL-0822-05)
DR005	Resolution of AK discrepancies for containers assigned to waste stream LA-MIN03-NC.001
DR006	Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers
DR007	Acceptable Knowledge Source Document Discrepancy Resolution: Reassignment of LA-CIN.02 Containers
DR008	Discrepancy Resolution Forms for Reassignment of LA-CIN02.001 Drums
DR009	Acceptable Knowledge Source Document Discrepancy Resolution: Liner bag between drum and the rigid liner in LA-MIN03-NC.001
DR010	Acceptable Knowledge Source Document Discrepancy Resolution - EPA Hazardous Waste Number Discrepancy Resolution for Waste Stream LA-MHD09.001

Source Document Tracking Number	Title
M002	Characterization, Decontamination, and Decontrol Efforts within the Los Alamos Chemistry Metallurgy Research Facility
M004	NPDES Permit Re-Application, Permit No. NM0029355
M006	Facility Check Lists, Plutonium Operations at Los Alamos National Laboratory
M007	Attachments Related to TA-50, Building 1
M010	Presentation on Sigma Electroplating Operations/TA-50 Sludges
M011	Memo to J. Buchholz re: Interlaboratory Comparison of TA-50 Sludge Analysis
M014	Spreadsheet "AKIS Rev 19 Draft"
M015	Spreadsheet "Area G MIN03 Data from VA"
M018	Spreadsheet "Area G Rad Values from Opp"
M025	Tables of Isotopic Composition for Various Material Types
M026	Radioactive Solid Waste Disposal forms
M029	Tables from LANL Progress Reports for the Milliwatt Generator Project
M030	Procedure Review Sheet for "Generation of 242Pu6", 122-LPN-R00
M031	Procedure Review Sheets for Revs 0-5 of "Electrorefining of Plutonium Metal," Doc. # 258-MPP-R00
M032	Procedure Review Sheets for Procedure 262-MPP-R00, "Molten Salt Extraction and Liquation"
M033	Procedure Review Sheet for Procedure 290-MPP-R02: Hydrofluorination in the Species Isotope Preparation Line
M034	Procedure Review Sheets for Procedure 216-MPP-R01 "Oxalate Precipitation of Ion-Exchange Eluates"
M035	Procedure Review Sheets for Procedure 215-MPP-R01, "Oxalate Precipitation of Plutonium from Nitrate Solutions"
M036	Procedure Review Sheet for Procedure 219-MPP-R01, "Nitrate Anion Exchange"
M037	Procedure Review Sheet for Procedure 236-MPP-R00, "Transfer of Waste-Acid Solution - PF4-209"
M038	Procedure Review Sheets for Procedure 230-MPP-R01, "Hydroxide Precipitation for Oxalate Filtrates"
M039	Procedure Review Sheet for Americium R&D Facilities
M040	Procedure Review Sheet for 474-REC-R01, "Process Research and Development Facilities
M041	Procedure Review Sheet for 473-REC-R00, "Procedure for Eluting Plutonium from Ion Exchange Columns"
M042	Procedure Review Sheet for 424-REC-R00, "Slag and Crucible Dissolution Procedure"
M043	Procedure Review Sheet for 426-REC-R00, "Residue Leaching"
M044	Procedure Review Sheet for 461-REC-R00, "Nitrate Anion Exchange"
M045	Procedure Review Sheets for 460-REC, "Magnetic Separation Research and Development"
M046	Procedure Review Sheets for 422-REC, "Incinerator"
M047	Procedure Review Sheet for 431-REC, "Procedure for Disposal of Oils Containing Recoverable Amounts of Pu in the Form of (U, Pu) Carbides"

Source Document Tracking Number	Title
M048	Procedure Review Sheets for 493-REC, "Evaluation of Pu (VI) Reduction by Nitrous Oxide"
M049	Procedure Review Sheet for 440-MPP, "Extraction of Americium from Plutonium Metal"
M050	Procedure Review Sheets for FAB-MS-2006, "Material Specification for U-235 Enriched Uranium Dioxide"
M051	Process Review Sheet for RAB-MS-2000, "Carbothermic Process Material Specification for Uranium Oxide Powder (Depleted)"
M052	Procedure Review Sheet for 450-MPP, "Salt Stripping of Electrorefining Salts"
M053	Process Review Sheets for 434-MPP, "Solvent Anode Electrorefining (R&D Project)"
M054	Process Accountability Flow Documents for Various Nitrate Processes
M055	Procedure Review Sheet for "Breaking Press Operation"
M056	Procedure Review Sheet for 410-MPP, "Electrorefining of Plutonium Metal-Crac Cell"
M057	Procedure Review Sheet for 430-REC, "Recovery of Contaminated Platinum"
M058	Procedure Review Sheet for 450-REC, "Alkaline Leach of Chloride-Contaminated Plutonium Oxides"
M059	Procedure Review Sheet for 420-REC, "Processing of Contaminated Solids"
M060	Procedure Review Sheets for 440-REC, "Dissolution of Materials"
M061	Procedure Review Sheets for 441-REC, "Plutonium Metal Dissolution"
M062	Procedure Review Sheets for 444-REC, "Dissolving Chloride Melt Portion of Electrorefining Residues
M063	Procedure Review Sheet for 447-REC, "Dissolution of Residues for Ion-Exchange Feed"
M068	Procedure 474-CLO
M069	Review Sheet for Procedure 476-CLO, "Recovery of Plutonium from Plutonium-Beryllium Neutron Sources"
M073	Hydroxide Precipitation of the Plutonium in Chloride Waste Streams, TWCP-3547, Cl-18
M075	Procedure "Decladding of PuBe Neutron Sources"
M076	Procedure "Purification and Recovery of Pu by Chloride Anion Exchange"
M078	Interview with J. Foxx
M079	Interview with J. Foxx
M080	Interview with T. Hayes
M081	Interview with T. Hayes
M085	Procedure 437-REC, "Polystyrene Cube Processing"
M086	Procedure 445-REC, "Preferential Dissolution of Uranium Oxides from a Uranium-Plutonium Oxide Mixture"
M087	Procedure 490-REC, "Catalyzed Electrochemical Plutonium Oxide Dissolver (CEPOD)"
M088	Procedure 489-REC, "Multipurpose Cascade Dissolver System"
M089	Procedure 423-REC, "Ash Leaching"

Source Document Tracking Number	Title
M090	Procedure 431-REC, "Leaching of Contaminated Metals in Nitric Acid"
M091	Procedure 421-REC, "Pickling or Surface Leaching" and "Leaching of Noncombustible Materials in Nitric Acid"
M092	Procedure 442-REC, "Dissolution of Chloride Generated Cake in Nitric Acid" and "Dissolution of Pu Hydroxide Cake in Nitric Acid"
M093	Procedure 490-REC, "Mediated Electro-Oxidation of Low Level Organic Waste" and "Catalyzed Electrochemical Plutonium Oxide Dissolver"
M094	Procedure 427-REC, "Incinerator Ash R&D Facility"
M095	Procedure 446-RE, "Dissolution of Filter Residues and Glovebox Sweepings in Hot HNO3-HF" and "Dissolution of filter Residues, Impure Oxide, and Glovebox Sweepings"
M096	Procedure 447-REC, "Dissolution of Impure Plutonium Dioxides, Filter Residues, and Glovebox Sweepings in Hot HNO3-HF"
M097	Procedure 472-REC, "Nitrate Anion Exchange for the Rich Column Material System"
M098	Procedure 471-REC, "Nitrate Anion Exchange for the Lean Residue System"
M099	Procedure 470-REC, "Nitrate Anion Exchange for the Rich Residues Ion Exchange Column"
M100	Procedure 473-REC, "Nitrate Anion Exchange for the Dissolved Solids (DS) System"
M101	Procedure 495-REC, "Nitrate Anion Exchange for the Rich-Feed Ion Exchange System"
M102	Procedure 479-REC, "Oxalate Precipitation of Nitrate Solutions"
M103	Procedure 466-REC, "Oxalate Precipitation and Calcination of Ion-Exchange Eluates"
M104	Procedure 480-REC, "Peroxide Precipitation"
M105	Procedure 469-REC, "Procedure for Americium Hydroxide Precipitation and Filtration" and "Filtration of Caustic-Treated Peroxide Filtrates"
M107	Procedure 443-REC, "Roasting and Blending"
M110	Review Sheets and Procedure 485-REC, "Treatment of Evaporator Bottoms"
M111	Procedure 485-REC, "Computer Operated Nitric Acid Volume Reduction & Treatment of Evaporator Bottoms"
M112	Procedure 485-REC, "Nitric Acid Process Evaporator"
M113	Procedure 484-REC, "Process Nitric Acid Volume Reduction"
M114	Procedure 407-MPP
M115	Procedure 420-MPP
M116	Procedure 426-MPP
M117	Annual/Monthly TA-50 Influent and Effluent Radiological Data Compiled from Facility Reports
M121	Direct Oxide Reduction - Procedure 426-MPP
M122	Procedure Review Sheet - Small Scale Bomb Reduction
M145	Review Sheet for Procedure 445-MPP, "Coalescence of Plutonium Metal"
M148	Review Sheet for Procedure 209-MPP, "Pickling, Leaching, and Dissolution"

Source Document Tracking Number	Title
M149	Review Sheet for Procedure 211-MPP, "Pickling or Surface Leaching"
M150	Review Sheet for Procedure 240-MPP, "Stirred Tank Leaching of Bulk Solids"
M151	Review Sheet for Procedure 241-MPP, "Distillation of Lean Plutonium Solutions"
M153	Dissolution of Impure Plutonium Dioxides, Filter Residues, and Glove Box Sweepings in Hot HN03-HF
M154	Conversion of Plutonium Oxalate to Oxide using Heat Lamp and Hot Plate
M155	Oxalate (IV) Precipitation
M156	Peroxide Precipitation
M157	Dissolving Chloride Melt Portion of Electrorefining Residues
M158	Oxalate Precipitation of Pu From Hydrochloric Solutions
M164	Feed Preparation for +4 Oxalate Precipitation
M165	Chlorination of Plutonium Compounds
M166	Multiple-Cycle Direct Oxide Reduction
M169	Purifying and Recovering Plutonium by Chloride Anion Exchange
M171	Precipitation of Plutonium (III) Oxalate in Hydrochloric Acid
M172	Leaching of Noncombustible Materials in Nitric Acid
M173	Direct Oxide Reduction R&D
M177	Procedures HS-CMB11-PP13 and HS-MST11-PP-13, "Sampling PuO2 Procedure"
M178	Procedure HS-NMT9-PP-42, "Particle Size Analysis of Oxide Powders Procedure"
M185	Process Flow Diagram for Recovery of Pu-238 Oxide from Contaminated Iridium
M187	Process Flow Diagram for Pu-238 Waste Solidification
M190	Procedure 429-REC, "Oxidation of Pu Metal and Alloys Prior to Dissolution," Passivation Furnaces
M193	Procedure 498-REC, "Thermal Decomposition of Cellulose Items"
M196	Procedure 435-REC, "Processing Lapping Oil and Similar Organics"
M197	Procedure 435-REC, "Crushing and Pulverizing"
M198	Procedure 491-REC, "Advanced Testing Line for Actinide Separations (ATLAS) Unit Operations"
M199	Procedure 425-REC, "Casting Crucible Dissolution" or "Four-INCH Cascading Airlift Dissolvers"
M201	Review Sheet for Procedure 448-REC, "Dissolution of High Salt and/or Chloride Contaminated Plutonium Dioxide"
M202	Procedure 470-REC, "Distillation of Am IX Column Effluents to Reduce Acidity and Volume"
M203	Procedure 442-REC, "Dissolution of Oxide Derived from Calcination of Oxalate" or "Dissolution of Plutonium Dioxide Derived from Calcined Plutonium Oxalate"
M204	Procedure 443-REC, "Dissolution of Oxide Derived from Passivation of Carbides, Metal, or Casting Skulls"
M205	Procedure 468-REC, "Silica Removal from Americium Feed Solutions"
M208	Procedure 464-Rec, "Peroxide Precipitation"

Source Document Tracking Number	Title
M210	Procedure 496-REC, "Volume Reduction of Nitrate Feed Solutions Using a Mini-Evaporator"
M211	Development of Control Charts for the Evaporator Bottoms Newly Generated Waste Stream from TA-55
M214	Miscellaneous MSDSs
M216	Process Description for P/S Code OH
M217	AK4 Drums in 85-Gal Drums (8-24-05) - Radioactive Solid Waste Disposal (RSWD) Records - LA-MIN03-NC.001
M218	Radioactive Solid Waste Disposal Forms - LA-CIN02.001
M219	CONCERT Database (MS Access Format)
M220	Acceptable Knowledge Isotopic Ratios (AKIR) Database (MS Access Format) - Versions 2.0 and 2.1
M223	Determination of Flammable Volatile Organic Compounds Concentration for Los Alamos National Laboratory TA-50 Radioactive Liquid Waste Treatment Facility Homogenous Inorganic Solids Waste Stream LA-MIN03-NC.001
M224	Determination of Flammable Volatile Organic Compounds Concentration for Los Alamos National Laboratory TA-50 Radioactive Liquid Waste Treatment Facility Homogenous Inorganic Solids Waste Stream LA-CIN02.001
M226	TA-54, Area G, Pit 9 Waste Information Spreadsheet
M227	RSWD and TWSR Records for Waste Stream LA-MHD09.001
P001	Administrative Requirements 7-1: Radioactive Solid Waste Management
P002	Detailed Operating Procedures, TA-50-1 Main Radioactive Liquid Waste Treatment Plant
P003	Packaging and Transportation of Radioactive Waste
P004	Detailed Operating Procedures for Lime and Sodium Hydroxide Operations
P005	Safe Operating Procedures for Radioactive Liquid Waste Treatment Operations
P008	Transuranic (TRU) Solid Waste
P009	Ceramography of 238 PuO2 Fuel Samples
P010	Heat Source 238Pu Waste Solidification
P011	Procedure 406-GEN, "Standard Operating Procedure for the Waste Management at TA-55, CMB-11 Facility"
P012	Thorium Fluoride Precipitation
P013	Untitled Document RE: pretreatment process for TA-55 waste at TA-50
P014	Prohibited Item Dispositioning in Dome 231 PermaCon, TA-54 Area G Sludge Remediation Activities
P015	Processing Waste in the Waste Characterization Glovebox
P016	Standard Waste Visual Examination and Prohibited Item Dispositioning
P018	Sort, Segregate, Size Reduction, and Repackaging Activities
P019	TA-54 Area G TRU Crate SSSR Activities
P020	TA-54 Area G TRU SWB/Drum Operations
P021	TA-54-231 PermaCon Upgrades
P022	Sort, Segregate, Size Reduction, and Repackaging Activity
P023	TA-54 Area G Sludge Remediation Activities

Source Document Tracking Number	Title
P024	TA-54 Area G TRU Crate SSSR Activities
P025	WCRRF Waste Characterization Glovebox Operations
P026	TA-54-375 TRU Oversized Box Processing Capability Project

Figure 1. Location of the LANL Site

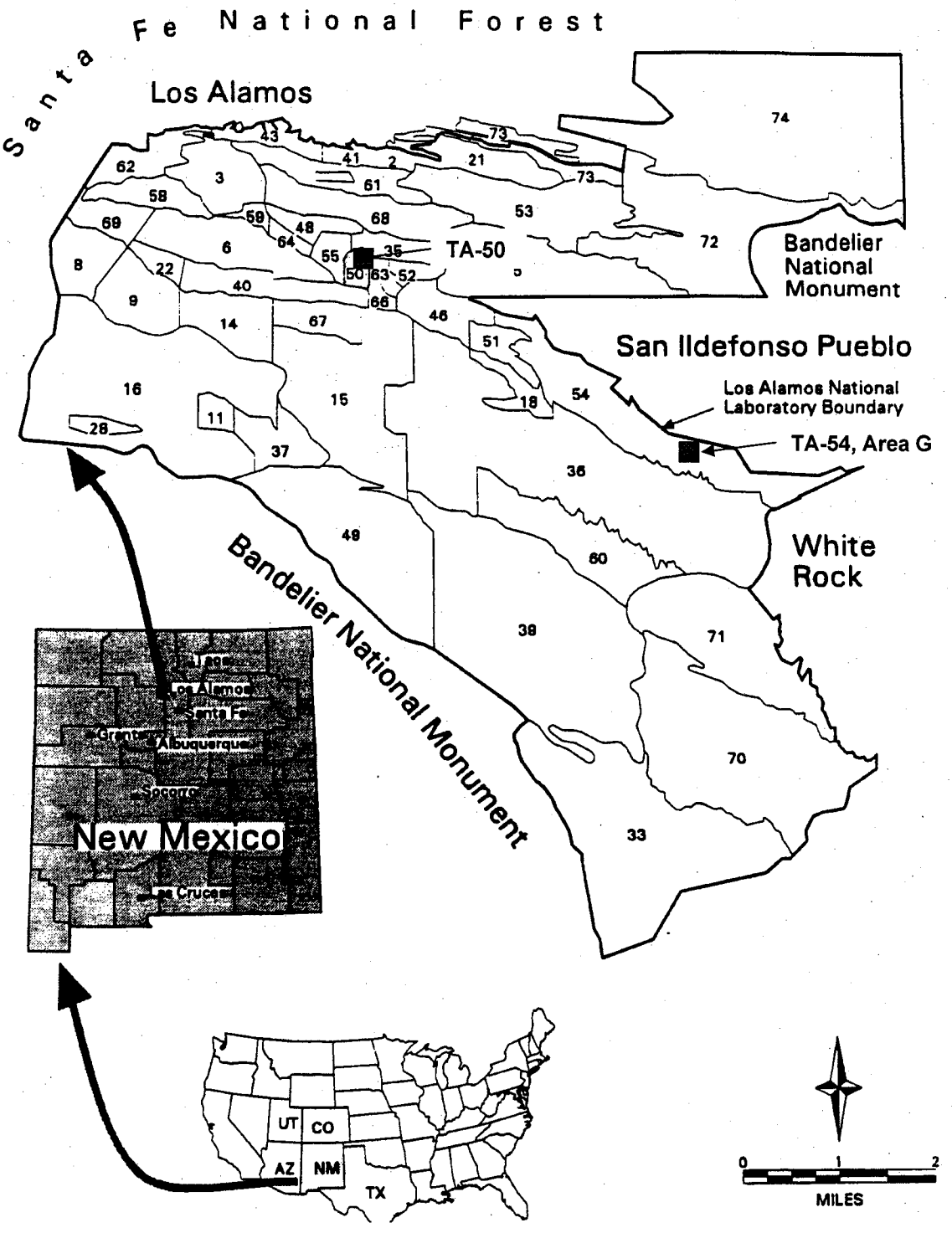


Figure 2. TA-50 Facility Map

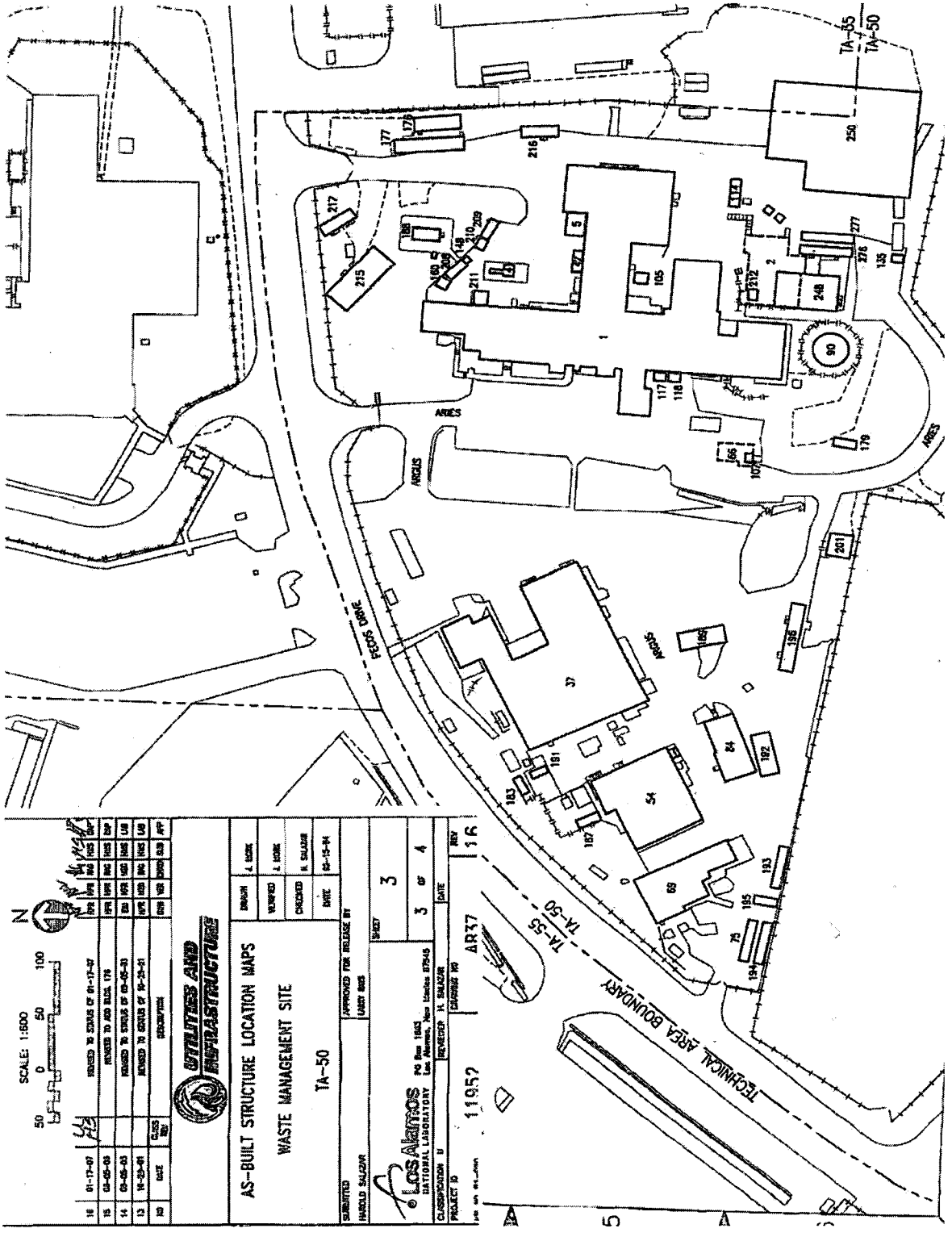


Figure 3. Main Treatment Operation Process Flow Diagram

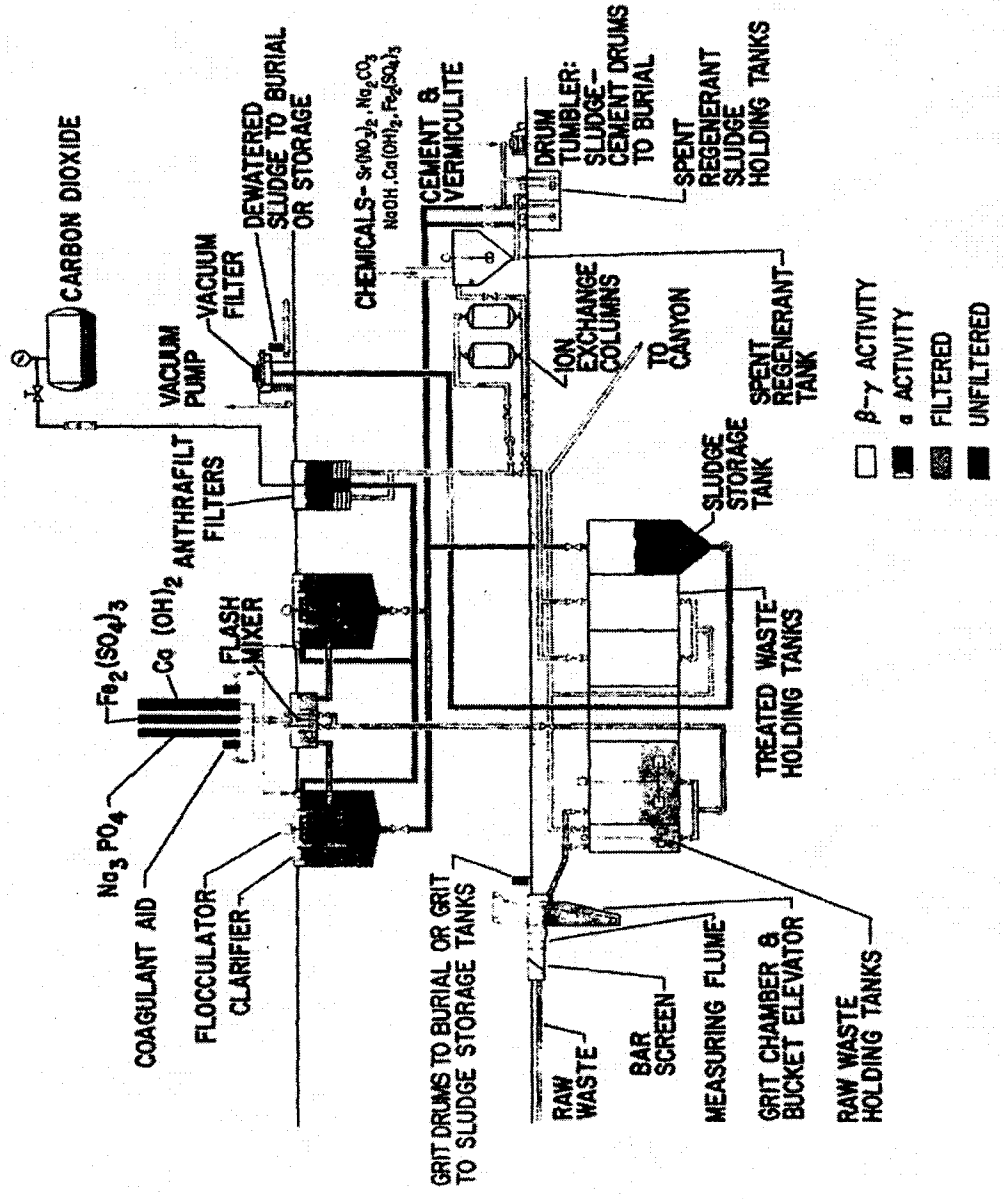


Figure 4. Pretreatment Operation Process Flow Diagram

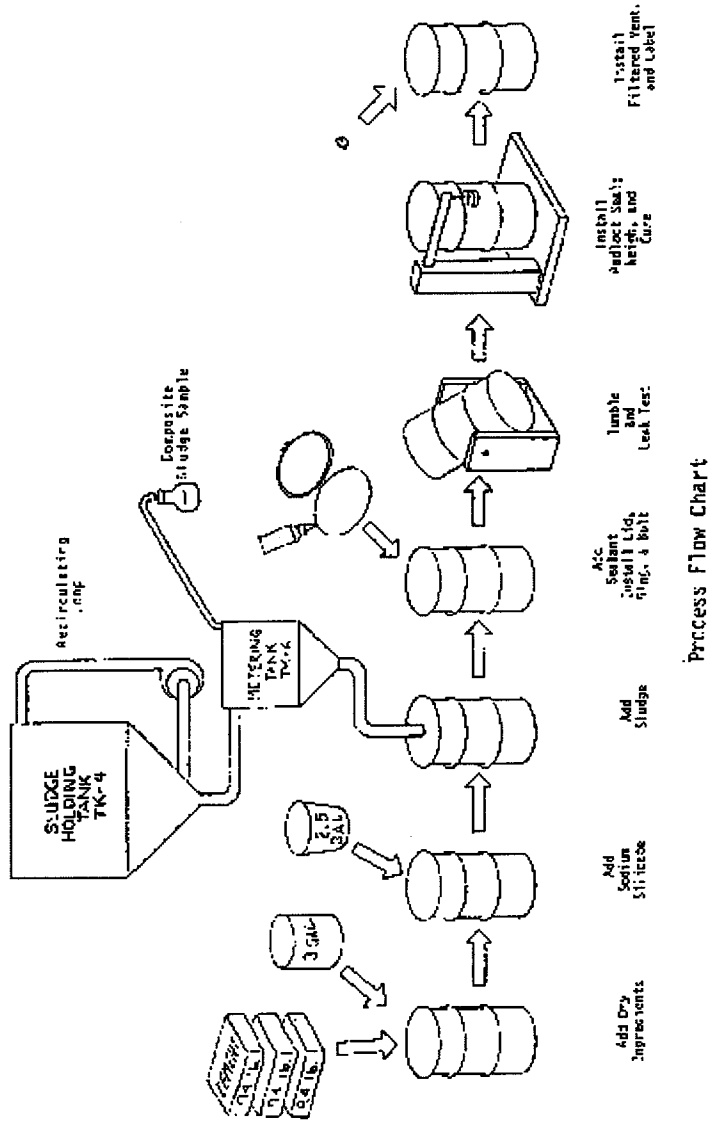


Figure 5. Liquid Radioactive Waste Flow to the RLWTF

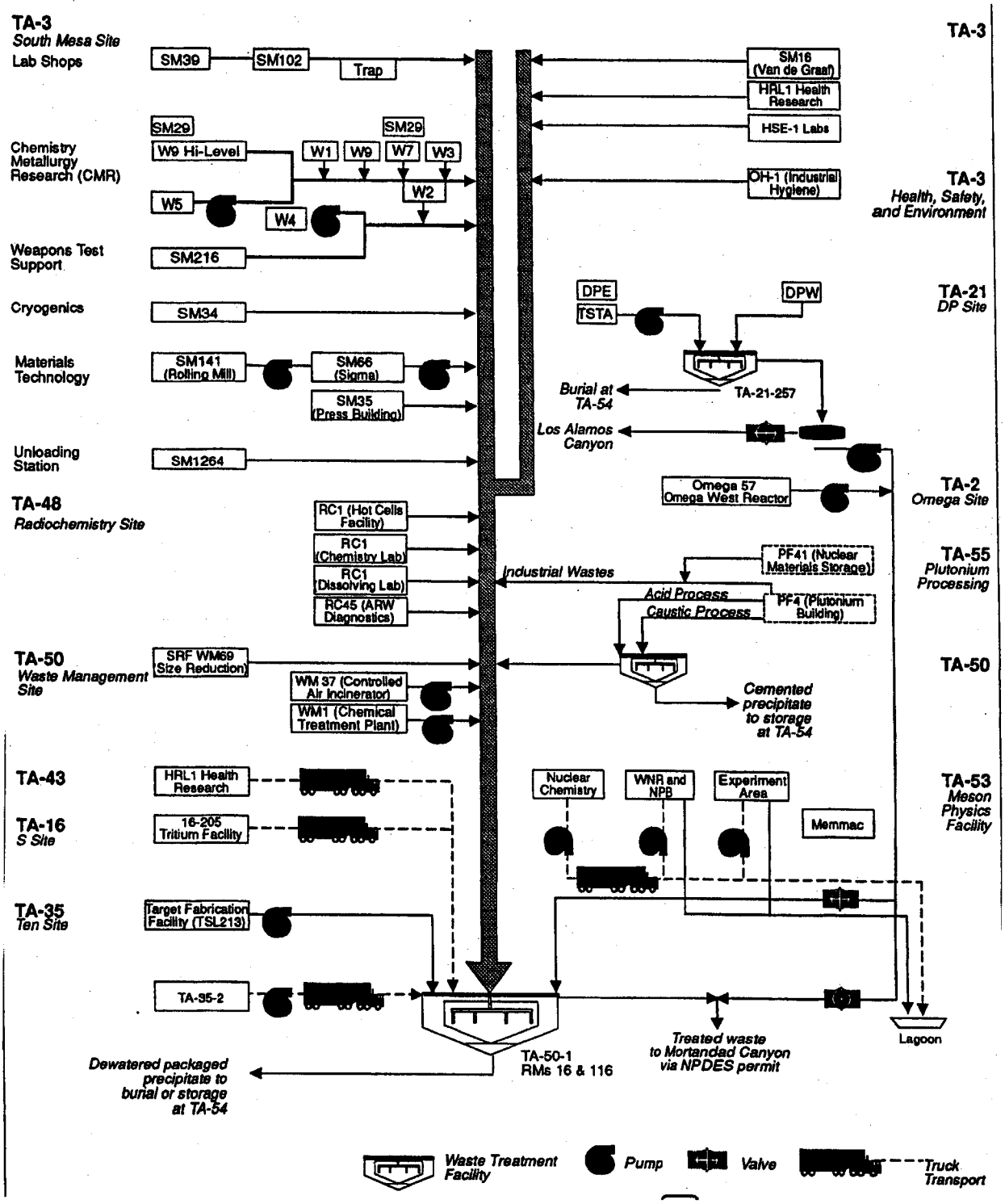


Figure 6. TA-50 Waste Management Flow Diagram

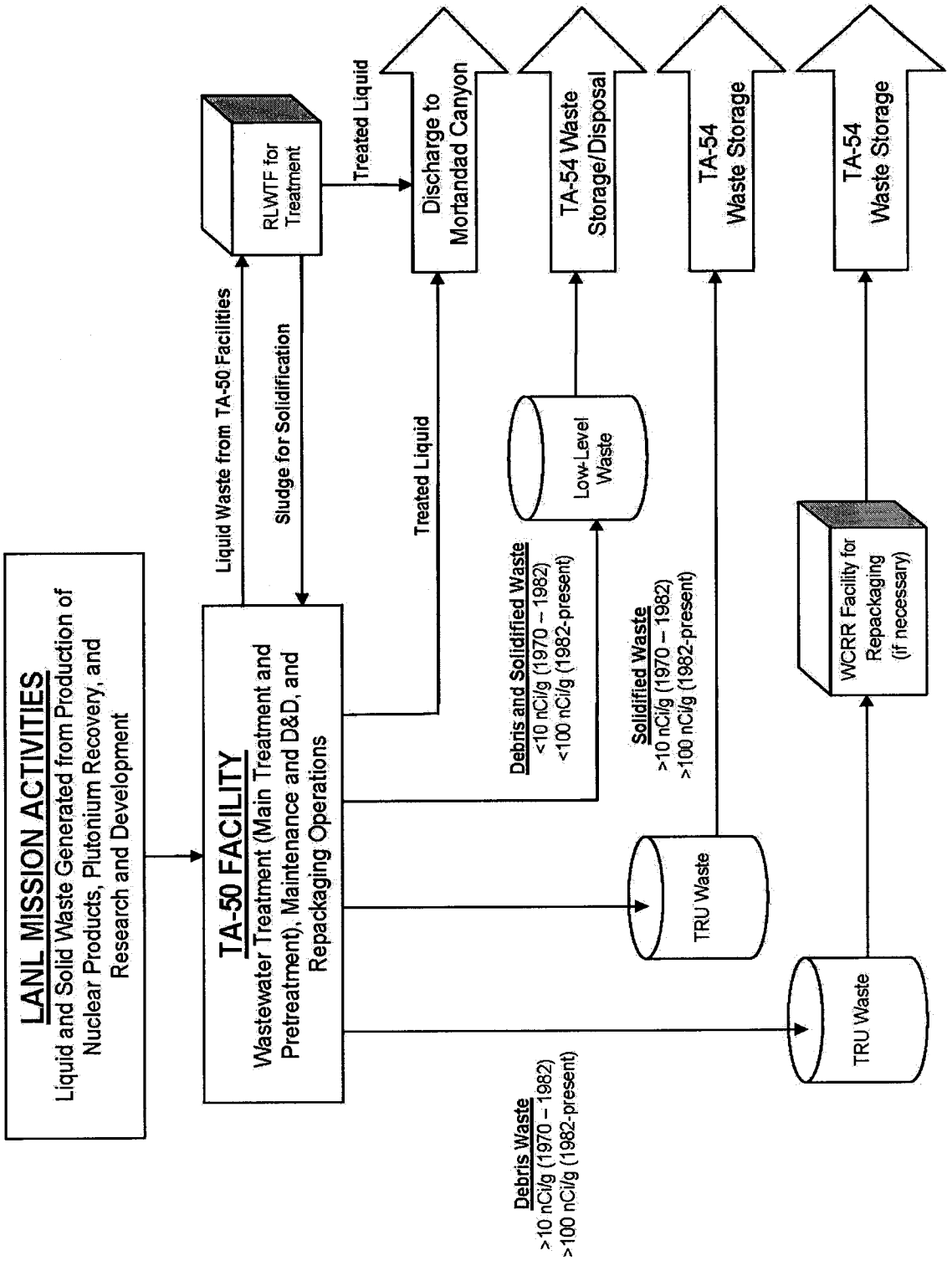


Figure 7. Waste Repackaging and Prohibited Item Disposition Flow Diagram

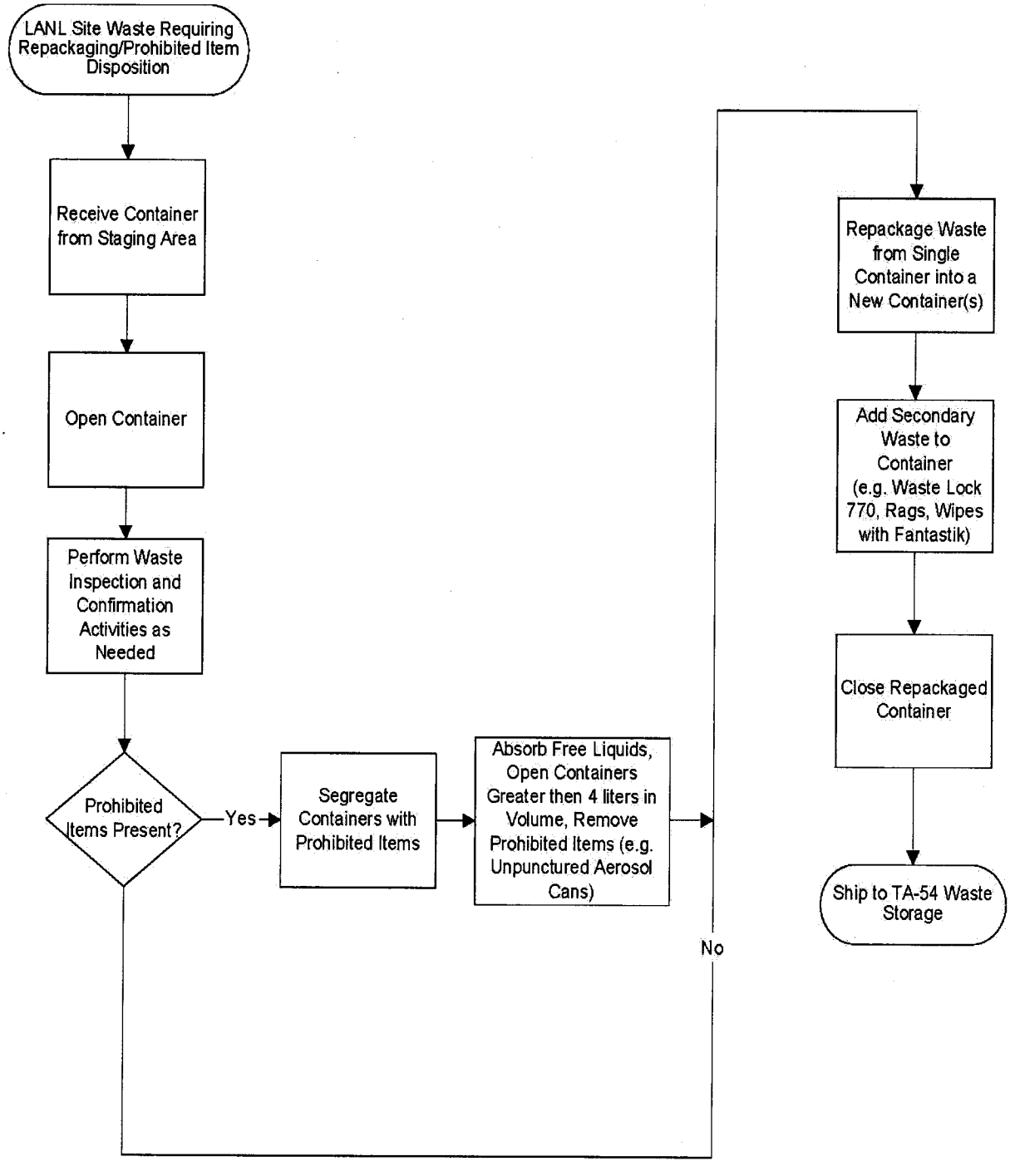


Figure 8. Below-Grade Drum Retrieval Flow Diagram

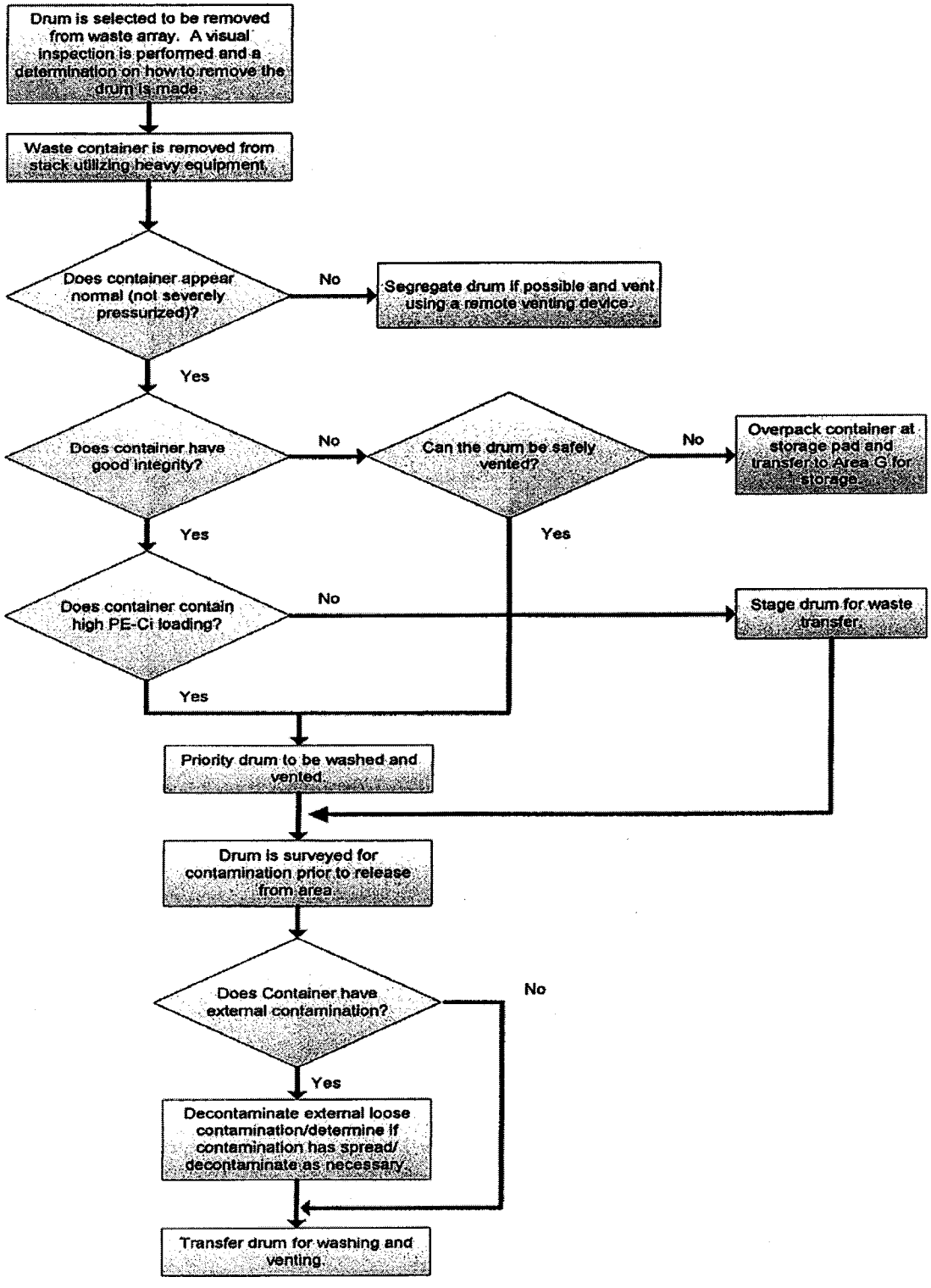
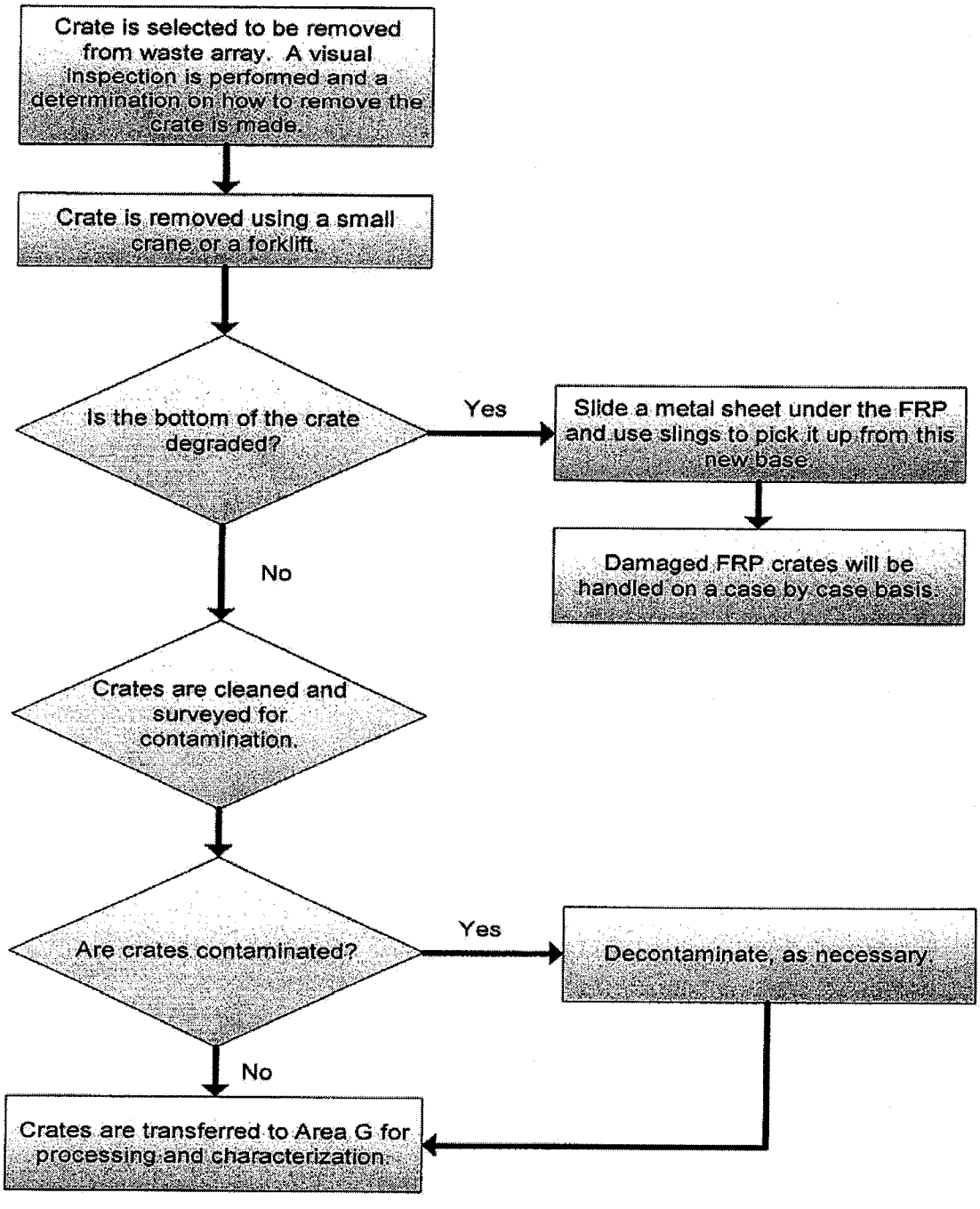


Figure 9. Below-Grade Crate Retrieval Flow Diagram



Controlled
Copy

AK2
P2010-3392

CCP-AK-LANL-010

Central Characterization Program
Acceptable Knowledge Summary Report
For

LOS ALAMOS NATIONAL LABORATORY
TA-21 DP WEST FACILITY

WASTE STREAMS:
LA-MHD04.001
LA-MSG04.001

REVISION 6

February 14, 2013

Mike Ramirez

Printed Name

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	06/26/2007	Initial issue.
1	10/23/2007	Revised to add TA-21 Decontamination and Decommission waste and to include other miscellaneous editorial changes.
2	02/15/2008	Revised to address waste repackaging and prohibited item disposition currently being performed in Technical Area (TA)-50 and TA-54 and to include other miscellaneous editorial changes.
3	02/25/2009	Revised to properly identify chemicals in Table 11, Chemical Identification and Use Summary, as ignitable, corrosive, and/or reactive in their pure form; to address the addition of containers to waste stream LA-MHD04.001 that were originally characterized as homogeneous by Los Alamos National Laboratory (LANL); to modify the waste stream volume; to identify current LANL waste management practices; to describe the below-grade retrieval process; and to incorporate miscellaneous editorial changes.
4	12/14/2009	Revised to include the mixed contaminated soil waste stream LA-MSG04.001. This new waste stream is explained in detail in Section 6.0. This revision also includes miscellaneous changes identified during the 2009 recertification audit; expands the spent nuclear fuel and high-level waste assessment; clarifies current Los Alamos National Lab (LANL) waste management practices; and includes miscellaneous changes to Sections 1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 8.0, and 9.0.
5	05/01/2012	Revised to incorporate changes required by the Waste Isolation Pilot Plant (WIPP) Permit renewal dated November 30, 2010; to update the Annual Transuranic Waste Inventory Report identification numbers; to expand the waste stream correlation section; to update container counts; and to clarify the waste packaging configurations. This revision also includes miscellaneous changes made throughout the report and freeze file changes.

RECORD OF REVISION (continued)

Revision Number	Date Approved	Description of Revision
6	02/14/2013	Revised to include Nuclear Waste Partnership (NWP) transition changes; expand/modify Sections 1.0, 2.0, and 3.0; to address changes identified during the 2012 recertification audit; to update the waste stream LA-MSG04.001 Waste Materials Parameter section; to clarify the waste packaging configurations; and to incorporate various freeze file changes.

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 10

2.0 WASTE STREAM IDENTIFICATION SUMMARY 11
2.1 Waste Stream LA-MHD04.001 (Heterogeneous Debris) 12
2.2 Waste Stream LA-MSG04.001 (Contaminated Soil) 14

3.0 ACCEPTABLE KNOWLEDGE DATA AND INFORMATION 15

4.0 REQUIRED PROGRAM INFORMATION 16
4.1 Facility Location 16
4.2 LANL Operational History 16
4.2.1 LANL Site Mission 16
4.2.2 TA-21 DP West Facility Description and Mission 17
4.2.3 Defense Waste Assessment 19
4.2.4 Spent Nuclear Fuel and High-Level Waste Assessment 23
4.3 TRU Waste Management 23
4.3.1 Present Day TRU Waste Management Practices 26
4.3.2 TRU Waste Identification and Categorization 28
4.3.3 LANL Treatment, Storage and Disposal Facilities (TSDFs) for TRU Waste 30
4.3.4 Types and Quantity of TRU Waste Generated 31
4.3.5 Correlation of Waste Streams Generated from the Same Building and Process 31
4.4 Description of Waste Generating Processes 33
4.4.1 Plutonium Recovery Operations 39
4.4.2 Pyrochemical Operations (Metal Production) 48
4.4.3 Metal Operations (Production and Fabrication) 50
4.4.4 Pu-239 Fuels Programs 53
4.4.5 Americium Processing Operations 54
4.4.6 Pu-238 Processing 55
4.4.7 Miscellaneous and Special Processing 61
4.4.8 Decontamination and Decommissioning (D&D)/Closure Operations 62
4.4.9 Waste Repackaging and Prohibited Item Disposition 63
4.4.10 Below-Grade Retrieval Project 64
4.5 Waste Certification Procedures 65

5.0 REQUIRED WASTE STREAM INFORMATION FOR LA-MHD04.001 66
5.1 Area and Building of Generation 66
5.2 Waste Stream Volume and Period of Generation 66
5.3 Waste Generating Activities 67
5.4 Type of Wastes Generated 67
5.4.1 Material Inputs Related to Physical Form 67
5.4.1.1 Waste Matrix Code 74
5.4.1.2 Waste Material Parameters 75
5.4.2 Radiological Characterization 75
5.4.2.1 Pu-238, Pu-239, Pu-240, Pu-241, and Pu-242 75
5.4.2.2 U-233, U-234, U-235, and U-238 76

5.4.2.3 Am-241 77
5.4.2.4 Other Radionuclides Present Due to Decay 77
5.4.2.5 Cs-137 and Sr-90 78
5.4.2.6 Estimated Predominant Isotopes and 95 percent Total Activity 78
5.4.2.7 Use of Radionuclide Isotopic Ratios 79
5.4.3 Chemical Content Identification – Hazardous Constituents 81
5.4.3.1 F-Listed Waste 91
5.4.3.2 Toxicity Characteristic Waste 92
5.4.3.3 Ignitable, Corrosive, and Reactive Wastes 92
5.4.3.4 P- and U-Listed Waste 93
5.4.3.5 K-Listed Waste 94
5.4.4 Polychlorinated Biphenyls (PCBs) 94
5.4.5 Prohibited Items 94
5.5 Waste Packaging 95
6.0 REQUIRED WASTE STREAM INFORMATION FOR LA-MSG04.001 98
6.1 Area and Building of Generation 98
6.2 Waste Stream Volume and Period of Generation 98
6.3 Waste Generating Activities 99
6.4 Types of Waste Generated 99
6.4.1 Material Input Related to Physical Form 99
6.4.1.1 Waste Matrix Code 100
6.4.1.2 Waste Material Parameters 100
6.4.2 Radiological Characterization 101
6.4.2.1 Pu-238, Pu-239, Pu-240, Pu-241, and Pu-242 101
6.4.2.2 U-233, U-234, U-235, and U-238 101
6.4.2.3 Am-241 102
6.4.2.4 Other Radionuclides Present Due to Decay 102
6.4.2.5 Cs-137 and Sr-90 103
6.4.2.6 Estimated Predominant Isotopes and 95 percent Total Activity 103
6.4.3 Chemical Content Identification – Hazardous Constituents 104
6.4.3.1 F-Listed Waste 105
6.4.3.2 Toxicity Characteristic Waste 105
6.4.3.3 Ignitable, Corrosive, and Reactive Wastes 106
6.4.3.4 P- and U-Listed Waste 107
6.4.3.5 K-Listed Waste 107
6.4.4 Polychlorinated Biphenyls (PCBs) 107
6.4.5 Prohibited Items 108
6.5 Waste Packaging 108
7.0 CONTAINER SPECIFIC INFORMATION 110
8.0 REFERENCES 111
9.0 AK SOURCE DOCUMENTS 113

LIST OF TABLES

Table 1. Summary of TA-21 DP West Buildings 19
Table 2. RSWD Code Descriptions 28
Table 3. TA-21 DP West Facility Plutonium Operations 35
Table 4. LA-MHD04.001 Approximate Waste Stream Volume 66
Table 5. Feed Materials for Plutonium Processing Operations at DP West Facility 69
Table 6. Estimated Waste Material Parameters 75
Table 7. Average Isotopic Content of Plutonium Material Types and Enrichments 76
Table 8. Average Isotopic Content of Uranium Material Types and Enrichments 77
Table 9. Estimated Isotopic Distribution for the LA-MHD04.001 Waste Stream 80
Table 10. Waste Stream LA-MHD04.001 Hazardous Waste Characterization Summary ..81
Table 11. Chemical Identification and Use Summary 82
Table 12. Waste Stream LA-MSG04.001 Volume 98
Table 13. Waste Material Parameter Estimates for LA-MSG04.001 100
Table 14. Estimated Radionuclide Distribution for the LA-MSG04.001 Waste Stream 104
Table 15. Waste Stream LA-MSG04.001 Hazardous Waste Characterization Summary 105

LIST OF FIGURES

Figure 1. Location of Technical Areas 119
Figure 2. TA-21 Facility Map 120
Figure 3. DP West Building Map 121
Figure 4. DP West Plutonium Recovery Operations Circa 1968 122
Figure 5. DP West Plutonium Recovery Operations Circa 1975 123
Figure 6. TA-55 Plutonium Recovery Operations Circa 1979 124
Figure 7. DP West Incineration Process Flow Diagram 125
Figure 8. DP West Plutonium Metal Cycle 126
Figure 9. DP West Plutonium Metal Production Flow Diagram 127
Figure 10. LANL Ceramic Grade Plutonium Oxide Production Circa 1980 128
Figure 11. Waste Repackaging and Prohibited Item Disposition Flow Diagram 129
Figure 12. Below-Grade Drum Retrieval Flow Diagram 130
Figure 13. Below-Grade Crate Retrieval Flow Diagram 131

LIST OF ACRONYMS AND ABBREVIATIONS

AEC	U.S. Atomic Energy Commission
AK	acceptable knowledge
AKIS	Acceptable Knowledge Information System
ALARA	as low as reasonably achievable
ALOO	Albuquerque Operations Office
ALSEP	Apollo Lunar Surface Exploration Packages
CaO	calcium oxide
CCP	Central Characterization Program
CFR	Code of Federal Regulations
CH	contact-handled
CH-TRAMPAC	*Contact Handled Transuranic Waste Authorized Methods for Payload Control*
CMB	Chemistry and Metallurgy-Baker Division
CMB-1	Analytical Chemistry Group
CMB-8	Physical Chemistry and Metallurgy Group
CMB-11	Chemistry and Metallurgy Group
CMB-14	Irradiated Materials, Examination, and Handling Group
CMP	corrugated metal pipes
CMR	Chemistry and Metallurgy Research
CNC-4	Inorganic and Structural Chemistry Group (later INC-4)
CONCERT	Container Certification
CVD	chemical vapor deposition
D&D	Decontamination and Decommissioning
DAC	drum age criteria
DL	discard limit
DOE	U.S. Department of Energy
DOR	direct oxide reduction
DOT	U.S. Department of Transportation
DP	Delta Prime
DVRS	Decontamination and Volume Reduction System
EPA	U.S. Environmental Protection Agency
ER	electrorefining
FFTF	Fast Flux Test Facility
FGE	fissile gram equivalent
FIDLER	Field Instrument for the Detection of Low Energy Radiation
FRP	fiberglass-reinforced plywood
g	gram
GPHS	General Purpose Heat Source
GPS	Global Positioning System
H-1	Health Physics Group
HEPA	high-efficiency particulate air
HWN	hazardous waste number
IDC	Item Description Code
INC-4	Inorganic and Structural Chemistry Group (previously CNC-4)

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

kg	kilogram
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security
LASL	Los Alamos Scientific Laboratory
LES	Lincoln Experimental Satellite
LIG	Laboratory Implementation Guidance
LIRs	Laboratory Implementation Requirements
LLW	low-level waste
LMFBR	Liquid Metal Fast Breeder Reactor
LWD	Legacy Waste Disposition
LWRHU	Light Weight Radioisotope Heater Unit
m^3	cubic meter(s)
MDA	material disposal areas
MgO	magnesium oxide
MHW	Multi-Hundred Watt
MPL	metal preparation line
MSDS	materials safety data sheet
MT	Material Type
MWG	Milliwatt Generator
MWH	milliwatt heater
N	nitrogen
nCi/g	nanocuries per gram
NDA	nondestructive assay
ng/g	nanograms per gram
NMAC	New Mexico Administrative Code
NMT	Nuclear Materials Technology
NWPA	*Nuclear Waste Policy Act of 1982*
O	oxygen
PCB	polychlorinated biphenyl
pg/g	picograms per gram
PIC	Plutonia-Iridium Cermet
PMC	Plutonia Molybdenum Cermet
PN	property numbered
POC	pipe overpack container
PPE	personal protective equipment
PPO	pure plutonium oxide
P/S Code	Process/Status Code
psi	pounds per square inch
QA	Quality Assurance
R&D	research and development
RCRA	Resource Conservation and Recovery Act
RH	remote-handled
RSWD	Radioactive Solid Waste Disposal
RTR	real-time radiography

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

SNAP	Systems for Nuclear Auxiliary Power
SNM	special nuclear material
SNS	Space Nuclear Systems
SOP	standard operating procedures
SRF	Size Reduction Facility
SRL	Special Recovery Line
SRP	Savannah River Plant
SSC	solid solution cermet
SWB	standard waste box
TA	Technical Area
TRAMPAC	TRUPACT-II Authorized Methods for Payload Control
TRU	transuranic
TRUCON	TRUPACT-II Content Code
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage and Disposal Facility
TWCP	TRU Waste Certification Program
TWISP	Transuranic Waste Inspectable Storage Project
TWSR	TRU Waste Storage Record
UC	University of California
VE	visual examination
WCRR	Waste Characterization, Reduction, and Repackaging
WDS	Waste Data System
WIPP	Waste Isolation Pilot Plant
WIPP-WAC	*Contact Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (Reference 3)
WIPP-WAP	*Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan* (Reference 2)
WMP	waste material parameter
WPF	Waste Profile Form

1.0 EXECUTIVE SUMMARY

This acceptable knowledge (AK) summary report has been prepared for the Central Characterization Program (CCP) for contact-handled (CH) transuranic (TRU) waste generated at the Los Alamos National Laboratory (LANL) Technical Area (TA)-21 Delta Prime (DP) West Facility. This report was prepared in accordance with CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1), to implement the AK requirements of the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan* (WIPP-WAP) (Reference 2) and the DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP-WAC) (Reference 3).

The WIPP-WAP AK requirements are addressed in CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (Reference 4). The WIPP-WAC AK requirements are addressed in CCP-PO-002, *CCP Transuranic Waste Certification Plan* (Reference 10). Additionally, this report provides the AK information required by CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)* (CH-TRAMPAC) (Reference 12).

The CCP is tasked with certification of CH-TRU waste for transportation to, and disposal at, the Waste Isolation Pilot Plant (WIPP). This document was developed in accordance with CCP procedure CCP-TP-005 (Reference 1), which describes how AK is collected, reviewed, and managed by the CCP. The CCP is responsible for collection, review, and management of AK documentation in accordance with CCP-TP-005 and reviews and approves this AK Summary Report. CCP maintains responsibility for this AK Summary Report and all CCP-TP-005 generated forms and records as quality assurance (QA) records. In addition, CCP maintains a copy of the "historical source documents" as non-QA records.

This document, along with the referenced supporting documentation, provides a defensible and auditable record of AK for waste streams LA-MHD04.001 and LA-MSG04.001. The references and AK sources used to prepare this report are listed in Sections 8.0 and 9.0. The AK sources cited throughout this report are identified by an alphanumeric designation corresponding to a unique CCP Source Document Tracking Number (i.e., C001, D001, DR001, M001, P001, and U001).

This report presents the required characterization information for containers in the mixed heterogeneous debris waste stream LA-MHD04.001 and the mixed contaminated soil waste stream LA-MSG04.001 generated during routine and Decontamination and Decommissioning (D&D) operations in this facility. This AK Summary Report includes information relating to the facility's history, configuration, equipment, process operations, and waste management practices. Information contained in this report was obtained from numerous sources, including facility safety basis documentation, operating procedures, historical archived documents, interviews with cognizant personnel, material safety data sheets (MSDSs), and generator and storage facility waste records and databases.

This report and supporting source documentation, provide the mandatory waste program and waste stream-specific information required by the WIPP-WAP (Reference 2).

2.0 WASTE STREAM IDENTIFICATION SUMMARY

Site Where TRU Waste Was Generated:

Los Alamos National Laboratory
P.O. Box 1663
Los Alamos, New Mexico 87545

Facility Where TRU Waste Was Generated:

TA-21 (DP West Facility)

LANL U.S. Environmental Protection Agency (EPA) Hazardous Waste Generator Identification Number:

NM0890010515

Facility Mission:

The primary mission of LANL has been nuclear weapons research and development (R&D). LANL's current central mission is to enhance global security by ensuring the safety and reliability of the U.S. nuclear stockpile, developing technologies to reduce threats from weapons of mass destruction, and solving problems related to energy, environment, infrastructure, health, and national security concerns. This mission supports disciplines that enable LANL to contribute to defense, civilian, and industrial needs, including the research, design, development, and analysis of nuclear weapons components; support to research programs in the national interest; energy and environmental research; and environmental management.

The TA-21 DP West Facility was established in 1945 as LANL's main plutonium facility, and became the first industrial plutonium processing facility in the U.S. and the world. Through its years of operation, DP West provided the capability to:

- Produce metal and alloys of plutonium and other transuranic elements from nitrate solution feedstock
- Fabricate these metals and alloys into precision shapes for defense applications
- Measure the chemical and physical properties of plutonium metals and alloys
- Recover and recycle plutonium scrap or materials used in experiments.

Starting in 1978, the DP West plutonium operations were transferred to the newly constructed TA-55 Plutonium Facility, and the DP West Plutonium Facility underwent an

extensive decontamination effort. The current TA-55 plutonium operations are similar to those originally carried out at TA-21. The mission to improve the capability to handle nuclear materials and to manufacture nuclear components, primarily in support of the Nation's defense needs, has remained unchanged. To achieve these mission objectives, hazardous and radioactive materials were utilized and generated.

The waste streams delineated in this report are presented in Sections 2.1 and 2.2.

2.1 Waste Stream LA-MHD04.001 (Heterogeneous Debris)

Summary Category Group: S5000 – Debris Waste

Waste Matrix Code Group: Heterogeneous Debris Waste

Waste Matrix Code: S5400

TRUPACT-II Content code (TRUCON): LA225*

*Real-time radiography (RTR) or visual examination (VE) will confirm the primary TRUCON code LA225; however, TRUCON codes LA154, LA215, LA216, LA217, LA218, LA219, LA223, and SQ154 may be used pending further evaluation by the Waste Certification Official of container-specific information.

Annual Transuranic Waste Inventory Report Identification Numbers (Reference 16): LA-TA-21-01, LA-TA-21-05 – LA-TA-21-09, LA-TA-21-12, LA-TA-21-17, LA-MHD04.001

Layers of Confinement: Maximum of six layers

Waste Stream Description:

Waste stream LA-MHD04.001 consists of mixed heterogeneous combustible and non-combustible debris generated during plutonium processing and associated operations.

Subcategories include plastic and cellulose-based combustibles and materials. The major components of the waste generated at TA-21 include paper, rags, plastic, rubber, wood-based high-efficiency particulate air (HEPA) filters, filter media, cardboard, wipes, paper towels, filter/grinding/transfer paper, stoppers, tubing, valves, bottles, containers, plastic sheeting, cotton gloves, cotton coveralls, coveralls, paper coveralls, plastic booties, tape, laboratory coats, nylon booties, polyvinyl chloride plastic, Plexiglas®, rubber-brass-steel supplied-air hoses, leather gloves, latex gloves, respiratory protection, hoses, hoods, various hand tools, ladders, and wood.

Non-combustible waste materials generated at the TA-21 DP West Facility consist of small tools, equipment, cans, pumps and motors, process equipment, gloveboxes and associated tunnels, holdup tanks, machine shop mill, lathe and press, glovebox windows, metal and stainless-steel ventilation ductwork, composite HEPA filters, metal pipes and valves, graphite, concrete, dust, fiberglass filter media, brass nuts, steel washers, stainless-steel mesh, steel supports, property numbered (PN) equipment, glassware, ladders, filter frames, titanium and steel experimental containers, tantalum molds, sintered glass frits, stainless-steel filters, anode heels, casting skulls, shielding, foil, lead solder, and crucibles.

Even though LANL waste management practices required the assignment of individual containers to a combustible or non-combustible population based on the predominant matrix type, the containers in this waste stream will contain varying amounts of these materials. In addition, this waste stream may contain smaller amounts (<50 percent by volume for each container) of homogeneous solids (e.g., absorbent materials, residues). Small amounts of liquids (e.g., cutting oil, lubricating oil, solvents) solidified in Ascarite, diatomaceous earth, vermiculite, Waste Lock 770, zeolite, or cement (e.g., Portland cement), may be present in this waste stream. Small amounts of solid process residues, such as ash from the thermal reduction of organic-based materials, salts (e.g., lithium chloride, potassium chloride, sodium chloride), hydroxide cake/filter materials, resin (e.g., polyvinyl pyridine), and leached residues (e.g., silica solids), may also contaminate this waste stream. Strippable coatings (e.g., as low as reasonably achievable [ALARA] 1146 and Sensor Coat) may be present in D&D generated containers.

The two predominant isotopes by mass for the waste stream LA-MHD04.001 are plutonium (Pu)-239 and Pu-238, respectively which is consistent with the expected isotopic composition of the Material Type (MT)-50 series and MT-83 (see Material Types in Section 4.3.2 below). Radiological characterization information is presented in Section 5.4.2.

The waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, and F005. Refer to Section 5.4.3 for the waste stream chemical content evaluation.

Prohibited items are known to be present in the waste stream. Procedures allowed containers greater than four liters (sealed with tape) to be used for waste packaging before WIPP-approved procedures were implemented. Prohibited quantities of liquid including small vials containing liquids and some aerosol cans are also likely to be found. Refer to Section 5.4.5 for detailed waste stream prohibited items information.

Waste packaging procedures for LANL waste streams have been modified several times since the beginning of recovery operations, and containers in this waste stream include a variety of configurations with up to six layers of confinement. RTR or VE will confirm TRUCON code LA225. LA225 describes the broadest type of materials and bounds all waste packages in this waste stream. However, TRUCON codes LA215, LA216, LA217, LA218, LA219, and LA223 have been identified as suitable for individual containers in this

waste stream. These TRUCON codes may be assigned for the eventual certification and transportation of payload containers in this waste stream, pending further evaluation. LA154 or SQ154 may be used for high-wattage drums subject to the conditions and controls specified in Appendix 6.12 of the CH-TRAMPAC (Reference 12). Refer to Section 5.5 for detailed packaging information.

Waste stream LA-MHD04.001 meets the WIPP-WAP waste stream definition. The waste stream consists of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity. This waste stream was generated during plutonium processing and associated operations (e.g., D&D) at the TA-21 DP West Facility. Refer to Section 4.3.5 for detailed waste stream delineation information.

2.2 Waste Stream LA-MSG04.001 (Contaminated Soil)

Summary Category Group: S4000 – Soil/Gravel

Waste Matrix Code Group: Soils

Waste Matrix Code: S4200

TRUPACT-II Content code (TRUCON): LA211*

*RTR will confirm the primary TRUCON code LA211; however, TRUCON code SQ211 may be used pending further evaluation by the Waste Certification Official of container-specific information.

Annual Transuranic Waste Inventory Report Identification Numbers (Reference 16): LA-MSG04.001

Layers of Confinement: Maximum of two layers

Waste Stream Description:

Waste stream LA-MSG04.001 consists of mixed contaminated soil generated at the TA-21 DP West Facility. The waste is comprised of dirt or soil, dust, sand, silt, rock, and gravel contaminated with TRU material. The waste stream may also include a small fraction of absorbent material used to absorb residual liquid such as vermiculite. Debris waste (mainly plastic packaging, blacktop, concrete, insulation, and piping) may also be present. Any payload container consisting of more than 50 percent by volume of debris will be excluded from this waste stream.

The two predominant isotopes by mass for the waste stream LA-MSG04.001 are U-238 and Pu-239, while 95 percent of the activity over the entire waste stream is from Pu-239. The radiological characterization information is presented in Section 6.4.2.

The waste stream contains RCRA-regulated constituents and is assigned the following EPA HWNs: D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, and F005. Refer to Section 6.4.3 for the waste stream chemical content evaluation.
Based on the review of container documentation and documented waste management practices, no prohibited items are specifically identified in the waste stream. However, the presence of liquids due to dewatering is possible. In addition, procedures allowed containers greater than four liters, sealed with tape, to be used for waste packaging until LANL WIPP-approved procedures were implemented. Waste packages containing prohibited items identified during characterization activities will be segregated then dispositioned appropriately and/or repackaged to remove the items prior to certification and shipment. Refer to Section 6.4.5 for detailed waste stream prohibited items information.

Waste packaging procedures for LANL waste streams have been modified several times since the beginning of operations in the TA-21 DP West Facility. The containers in this waste stream can include up to two layers of confinement. RTR will confirm TRUCON code LA211. However, TRUCON code SQ211 has been identified as suitable for individual containers in this waste stream. This TRUCON code may be assigned for the eventual certification and transportation of payload containers in this waste stream pending further evaluation. Refer to Section 6.5 for detailed packaging information.

Waste stream LA-MSG04.001 meets the WIPP-WAP waste stream definition. The waste stream consists of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity. This waste stream was generated during the removal of contaminated soil during D&D and associated operations (e.g., sampling operations) at the TA-21 DP West Facility. Refer to Section 4.3.5 for detailed waste stream delineation information.

3.0 ACCEPTABLE KNOWLEDGE DATA AND INFORMATION

TRU waste destined for disposal at the WIPP must be characterized prior to shipment. The WIPP-WAP (Reference 2) requires the development of knowledge of the materials and processes that generate and control the waste to provide a clear and convincing argument about the characteristics of each waste stream. The AK characterization documented herein complies with the requirements of the WIPP-WAP (Reference 2) and was developed in accordance with CCP-PO-001 (Reference 4), and CCP-TP-005 (Reference 1).

The references and AK sources used to prepare this report are listed in Section 8.0 and 9.0, respectively. The AK sources referenced within this report by alphanumeric designations (e.g., C001, D001, DR001, M001, P001, and U001) correspond to the Source Document Tracking Number using the following convention:

- C – Correspondence
- D – Documents
- DR – Discrepancy Resolution
- M – Miscellaneous
- P – Procedures
- U – Unpublished

4.0 REQUIRED PROGRAM INFORMATION

This section presents the waste management program information required by the WIPP-WAP (Reference 2). Included is a brief description of the operational history of the TA-21 DP West Facility, summaries of the missions, descriptions of TRU waste generating operations, and descriptions of LANL's waste management program as it relates to these waste streams. Attachment 1 of CCP-TP-005 (Reference 1) provides a list of TRU waste management program information required to be developed as part of the AK record.

4.1 Facility Location

LANL is located in Los Alamos County in north-central New Mexico, approximately 60 miles north-northeast of Albuquerque and 25 miles northwest of Santa Fe. The LANL site encompasses 43 square miles subdivided into 49 TAs. Figure 1, Location of Technical Areas, is a map identifying the location of the TAs at the site (References 19, D058, and D060).

4.2 LANL Operational History

In 1942, the U.S. Army Manhattan Engineering District established Project Y to develop the first atomic bomb. The research quickly progressed to a point that required a remote site for experimental work, and the Army selected the Los Alamos Ranch School for Boys as an appropriate location. The Undersecretary of War directed acquisition of the school site, which consisted of a group of approximately 50 log buildings on a 790-acre site northwest of Santa Fe. The project ultimately acquired an additional 3,120 privately owned acres and 45,666 acres of public land managed by the U.S. Forest Service. In 1943, this land became known as the Los Alamos Site, later as the Los Alamos Scientific Laboratory (LASL). It is now named the Los Alamos National Laboratory (LANL) (References 19, D022, D058, and D060).

With the end of World War II and the growth of international competition, a national policy of maintaining superiority in the field of atomic energy was established. Congress chose to sustain the Los Alamos site; the U.S. Atomic Energy Commission (AEC) received control of LANL from the Army and renewed the operating contract with University of California (UC). During subsequent years, LANL continued to expand at a steady rate, first under the AEC and later under the Energy Research and Development Administration. Since 1978, LANL has operated under the control of the U.S. Department of Energy (DOE). The UC operated LANL for the federal government until 2006. In 2006, a consortium of Bechtel, UC, BWX Technologies, and URS Energy and Construction (URS acquired Washington Group International in 2007) formed Los Alamos National Security LLC (LANS) to operate LANL (References 19, D022, D058, and D060).

4.2.1 LANL Site Mission

Since its inception, the primary mission of LANL has been nuclear weapons R&D. LANL's current mission supports disciplines that enable LANL to contribute to defense, civilian, and

industrial needs. Included in this mission are the research, design, development, and analysis of nuclear weapons components; support to research programs in the national interest; energy and environmental research; and environmental management. In achieving mission objectives, LANL used, and continues to use, hazardous and radioactive materials. Solid waste containing TRU contamination has been generated as a result of plutonium R&D operations, processing and recovery operations, maintenance, and D&D projects (References 19, D022, D058, and D060).

4.2.2 TA-21 DP West Facility Description and Mission

DP West Historical Significance

During World War II, LANL (formerly known as LASL until 1980) was established for the research, development, and testing of nuclear weapons. In order to achieve this goal, research was required to establish the chemical and metallurgical properties of the nuclear material necessary to achieve and sustain nuclear fission. LANL's Chemistry Division (created in 1943) had responsibility for purifying the plutonium received from other production facilities (References D059 and U001).

In September of 1945, plutonium processing operations transferred from the D-Building to the newly built TA-21, also known as "DP Site," located to the east of downtown Los Alamos on a spur of Townsite Mesa known as DP Mesa. The DP Site at TA-21 is one of LANL's earliest nuclear chemistry research areas. With its origins during the wartime Manhattan Project, the complex of laboratory and support facilities was the location of R&D operations directly related to the production and testing of the earliest Cold War atomic devices. Since 1945, work conducted at DP Site has supported fundamental plutonium, uranium, and initiator R&D that was critically important to the U.S. nuclear weapons program during the Cold War (References D059 and U001).

TA-21 consists of two main areas, as shown on the map in Figure 2, TA-21 Facility Map. The western area, historically dedicated to plutonium operations, is known as "DP West". The smaller, easternmost group of buildings is known as "DP East". The DP East facilities were used to process polonium and actinium for nuclear weapons components. In 1964, research in high-temperature and actinide chemistry was initiated. Presently, building TA-21-155 houses the Tritium Systems Test Assembly for developing technology for handling and processing deuterium and tritium fuels for use in fusion reactors. No retrievable TRU waste has been generated by DP East operations (References D008, D010, and D059).

DP West was the first industrial plutonium processing facility in the U.S. and the world. Prototype methods were developed for production-scale plutonium processing and, over the years, these methods were refined as the facility shifted its focus to R&D. When originally constructed in 1945, the DP West Facility provided capability to (References D008, D016, and D035):

- produce metal and alloys of plutonium and other TRU elements from nitrate solution feed stock provided by other production facilities

- measure the chemical and physical properties of these metals and alloys
- fabricate plutonium metal into precision shapes
- provide and install protective claddings
- recycle scrap and materials used in experiments rather than discard them.

The production of plutonium metal and alloys from the nitrate solution feedstock involved several acid dissolution and chemical precipitation steps to separate the plutonium and other actinides, such as uranium, from the feedstock. The separation techniques used a wide range of chemicals. In conjunction with improving purification techniques, research was conducted to enhance recovery of the scrap and residues produced (Reference D059).

Before 1979, Pu-239 metal handling and scrap recovery operations were located at DP West. Other operations included basic plutonium chemistry research, americium processing, fuels fabrication for the Liquid Metal Fast Breeder Reactor (LMFBR), and developmental work using Pu-238 as an energy source for Space Nuclear Application Systems and the artificial heart (Reference D005).

Starting in 1978, the DP West plutonium operations were transferred to the newly constructed TA-55 Plutonium Facility, and the DP West Plutonium Facility has undergone several D&D efforts (see Section 4.4.8) (References D008, D035, M008, P036, and P037).

DP West Structures

A facility map for DP West is shown in Figure 3, DP West Building Map. Table 1, Summary of TA-21 DP West Buildings, is a list of the DP West Facility buildings with their corresponding operations and the former operating division or group. The primary divisions or groups included the Analytical Chemistry Group (Chemistry and Metallurgy-Baker Division [CMB]-1), the Physical Chemistry and Metallurgy Group (CMB-8), the Chemistry and Metallurgy Group (CMB-11), the Irradiated Materials, Examination, and Handling Group (CMB-14), and the Inorganic and Structural Chemistry Group (CNC-4, later INC-4). A historical building assessment for the DOE Conveyance and Transfer Project was conducted at TA-21 in 1998-1999, and identified several buildings at DP West that are eligible for the National Register of Historic Places (References D008 and D059).

The original 1945 DP West Facility structures consisted of four warehouses that were connected by enclosed corridors: Buildings 2 (TA-21-2), 3 (TA-21-3), 4 (TA-21-4), and 5 (TA-21-5). In 1952, a liquid waste treatment plant was constructed at Building 35 (TA-21-35), and subsequently replaced by the new treatment plant, Building 257 (TA-21-257), in 1967. The original waste treatment plant was decommissioned in 1968. In 1963, a plutonium fuels development facility, Building 150 (TA-21-150), was constructed just east of Building 5 to support plutonium fuels development (References D008, D035, and D059).

Table 1. Summary of TA-21 DP West Buildings

TA-21 Building	Operation(s)	Tenant(s)
Building 2	Plutonium recovery facility Plutonium and americium recovery operations	CMB-11
Building 3 North	Inorganic and structural chemistry research	CNC-4/INC-4
Building 3 South	Enriched Uranium Processing Facility	CMB-8
Building 3 South, Room 308	Pu-238 and Pu-239 research and development	CMB-11
Building 4 North, Rooms 401, 402	Irradiated materials non-destructive examination and handling	CMB-1 CMB-14
Building 4 North, Rooms 401E and 406	Pu-238 heat source production; Pu-238 and Pu-239 research and development; U-233 metal production	CMB-11
Building 4 North	Actinide research	INC-4
Building 4 South	Enriched Uranium Processing Facility	CMB-8
Building 5	Plutonium metal fabrication facility	CMB-11
Building 5, Room 506	Electrorefining facility	CMB-11
Building 21	Nuclear materials vault/bunker	CMB-11
Building 150	Plutonium fuels development facility	CMB-11
	Inorganic and structural chemistry research	INC-4
Building 257	Industrial liquid waste treatment facility	(Various)
Building 286	Storage for equipment and materials; plutonium solutions, scrap, and residues storage vault	CMB-11

Note: DP West buildings and structures that did not house plutonium operations (e.g., support structures) are not listed.

4.2.3 Defense Waste Assessment

The WIPP-WAC (Reference 3) requires generator sites to use AK to determine if the TRU waste streams to be disposed of at WIPP meet the definition of TRU defense waste. TRU waste is eligible for disposal at WIPP if it has been generated in whole or part by one of the atomic energy defense activities listed in Section 10101(3) of the *Nuclear Waste Policy Act of 1982* (NWPA) (Reference 5). Based on the review of AK, TRU wastes generated by TA-21 operations are contaminated with materials from atomic energy defense activities conducted in the facility for the following functions (Reference D059):

- Defense nuclear materials production
- Defense nuclear waste and materials by-products management
- Defense R&D.

The mission of DP West operations was in direct support of LANL's core mission of nuclear weapons R&D. DP West plutonium operations were focused on the extraction and recovery of plutonium from residues and scraps generated from operations at various LANL facilities and other DOE sites in the defense complex. This recovery process, associated maintenance operations, limited manufacture of finished parts from purified plutonium, and plutonium research are the sources of defense-related TRU waste. The following subsections discuss both non-defense and defense related DP West operations and how wastes from these operations were commingled (Reference D059).

Commingling of Defense and Non-Defense Related Wastes

The work conducted in Building 150 was exclusively on the Space Heat Source Program and the Reactor Fuels Program; however, no single waste container in the DP West inventory can be identified as having originated in Building 150. Most of the DP West TRU waste containers have either Building 2 or Building 286 as their point of generation. Building 2 was where recovery and waste management operations, including packaging, labeling, and documenting for retrievable storage, were conducted. Building 286 housed the nuclear material vault where scrap and residues were temporarily stored. Waste containers originating from Building 2 or Building 286 cannot be associated with any particular operation. Therefore, non-defense related wastes could not be identified by evaluation of the generating building assigned by the waste generator (References D059, M011, and M012).

Further, non-defense related wastes could not be identified by evaluation of the isotopic composition of the radionuclide contamination. All the plutonium-handling gloveboxes in Building 150 were interconnected by a single conveyor system. Because there was no physical barrier to segregate Pu-238 and Pu-239 operations and both materials were transported in the same conveyor bucket, there was cross-contamination of the two isotopic material types. The choice for disposal of a waste item into a specific waste container could as easily have been made on the basis of convenience as on the basis of what isotopic material was designated for that container. Thus, one material type will usually dominate any given waste container, but the different isotopic materials will be commingled in every container. Thus, Pu-238 is commingled in every container of waste from Building 150, even if the generator declared only Pu-239 on the waste package documentation. Similarly, fuel-grade MT 54 was used exclusively for the Fast Flux Test Facility (FFTF) fuel fabrication work, but it is undoubtedly commingled with weapons-grade MT 52 because both MTs were processed in Building 2 (References C001 and D059).

Work with Pu-238 materials was also conducted in Buildings 3, 4, and 5, as well as Building 150. Pu-238 contaminated waste from Buildings 3, 4, and 5 was commingled with defense-related waste generated in the same gloveboxes. For example, tasks conducted in Room 406 in Building 4 North during the 1970's included (References D013 and D059):

- Conversion of Pu-238 metal to oxygen (O)-16 oxide, nitrogen (N)-14 nitride, and N-15 nitride

- Particle size analysis of Pu-238 and Pu-239 oxides
- Preparation of Pu-238 nitrate solutions from the oxide
- Preparation of Pu-238 plutonia and plutonia-thoria cermet disks with molybdenum
- Pu-238 nitrate ion-exchange purification
- Pu-239 compound thermodynamic property investigations
- Development of a rotary calciner for ash treatment
- Preparation of U-233 and Pu-238 metal.

Work for the Reactor Fuels Program involved the use of plutonium MT-54. R&D work on properties of MT-54 was conducted in Buildings 3 and 4, and the resulting waste became commingled with Pu-239 waste from defense program work conducted in the same gloveboxes. MT-54 contaminated waste was also generated from the Hanford Ash Program, which had as its objective the production of driver fuel for the LMFBR program at Hanford (i.e., the FFTF reactor). During its 10 years of operation (1982-1992), the FFTF supported a variety of experiments associated with industrial, nuclear energy (domestic and international), nuclear defense, and medical research and development. Several projects were identified having defense applications, including a series of tests to evaluate tritium production by the irradiation of lithium oxide targets. The Multiple Isotope Production project generated physics data on Pu-238 isotope production and also demonstrated the capability of the FFTF to produce more than 20 other isotopes for defense, medical, and industrial programs. The recovery of Hanford Ash MT-54 contaminated waste was performed in Building 2. Consequently, LANL considers these commingled wastes to be defense-related wastes (References 22, C002, and C022).

Defense Am-241 was processed at DP West for commercial applications. Am-241 was separated from formerly stockpiled defense-related material, and from the Hanford Ash material, and subsequently purified. The purified Am-241 obtained from the defense-related source materials was sold to a company making well-logging sources and smoke detectors. Am-241 research operations were located in Building 3, and Am-241 recovery operations were conducted in Building 2 South. Consequently, americium and plutonium contaminated wastes are commingled (References C002 and D008).

Defense Applications of DP West R&D

Although the Space Heat Source Program had only non-defense program funding, R&D operations were conducted under the program that were later employed in national defense applications. The funding for the Space Heat Source Program came from the Space Nuclear Systems (SNS) Division of the AEC. All of the feed material Pu-238 oxide used in those programs was produced at the Savannah River Plant in the K Reactor, a defense

program reactor. While the direct funding source, SNS, was a non-defense program entity, the efforts of the Space Heat Program at DP West supported defense program activities in at least the following three areas (References C001, C003, D014, D032, D049, and D050):

- The TRANSIT navigational satellite was produced as a forerunner of modern Global Positioning System (GPS) technology to provide support for both the national defense mission of the U.S. naval fleet and commercial oceanic shipping. The Pu-238 fuel that powered the communications and signal of TRANSIT started as a plutonium oxide/thorium oxide/molybdenum solid solution cermet (SSC). In the course of the R&D activity at DP West, it evolved into a plutonium oxide/molybdenum cermet. LANL performed the R&D on the fuel form and made prototype fuel disks that went into the satellite prior to transferring the bulk of the production effort to the Mound Laboratory.

- LANL operations for the Multi-Hundred Watt (MHW) program included development of the sintered 100-watt sphere of pure plutonium oxide (PPO). Multiple spheres could be placed into a system to meet the desired power requirements for that system. This fuel form was utilized for the Lincoln Experimental Satellite (LES) defense program LES-8 and LES-9 satellites. Mound Laboratory was chosen to perform the production of the PPO spheres, but because they encountered difficulties in producing them, a significant portion of that effort was done at the DP West Facility.

- At the request of the DOE Albuquerque Operations Office (ALOO), DP West developed and produced a number of milliwatt heater (MWH) units that were used in defense applications to keep sensitive items warm in cold environments. These heater units were a precursor to the Milliwatt Generator (MWG) Program using the sintered Pu-238 oxide fuel form.

Thus the LANL Space Heat Source Program not only provided R&D results that were directly applied to military applications at both LANL and other AEC sites, but also used Pu-238 derived from a defense reactor to produce heat source materials that were incorporated into those applications. There were no possible distinctions between operations and materials that supported the non-defense space program and the similar requirements of some defense programs that benefited simultaneously. All of the Pu-238 feed materials were processed through the same gloveboxes and equipment, and the Pu-238 wastes were thoroughly commingled (References C001 and C003).

Therefore, wastes included in this report were commingled and managed as defense TRU waste generated "in part" by or contaminated with materials from atomic energy defense activities. Since segregation of the wastes is not feasible, these waste streams are eligible for disposal at the WIPP facility (References 6, 7, 8, 19, C009, C021, D020, D025, D026, D027, and D029).

4.2.4 Spent Nuclear Fuel and High-Level Waste Assessment

Public Law 102-579, *The Waste Isolation Pilot Plant Land Withdrawal Act* (Reference 21), prohibits the disposal of spent nuclear fuel and high-level waste as defined by the NWPA (Reference 5) at WIPP. According to the NWPA, spent nuclear fuel is "fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing." DOE Order 435.1, *Radioactive Waste Management* (Reference 20) expands on this definition to clarify that "Test specimens of fissionable material irradiated for research and development only, and not production of power or plutonium, may be classified as waste, and managed in accordance with the requirements of this Order when it is technically infeasible, cost prohibitive, or would increase worker exposure to separate the remaining test specimens from other contaminated material." High-level waste is defined by the NWPA as "the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation." These waste streams consist of waste contaminated with radioactive material primarily from plutonium processing and associated operations (e.g., D&D). These operations did not involve separation or reprocessing of constituent elements from reactor fuel. These waste streams do not contain irradiated fuel elements withdrawn from a reactor or pieces thereof. Therefore, the wastes are not a spent nuclear fuel, not high-level waste, not historically managed as high-level waste, and are eligible for disposal at WIPP as TRU waste (References 5, 19, D058, D059, and D060).

4.3 TRU Waste Management

The wastes resulting from past operations at the DP West Facility are, in many cases, the same as wastes generated at the TA-55 Plutonium Facility. The number of AK source documents relating to TA-21 DP West, and the level of detail in these documents, is less than that available in the compilation of AK for the TA-55 Plutonium Facility. Therefore, the discussion of TA-21 operations in this report relies heavily on the AK documentation that has been compiled for plutonium operations conducted in the TA-55 Plutonium Facility. For this reason, TA-55 operations are also discussed in this section, where appropriate (Reference D059).

Historically (i.e., the period 1970 to 1987, prior to the implementation of the LANL TRU waste certification plan [Reference D026]), wastes from all TRU waste-generating operations at LANL were handled and packaged in accordance with the Los Alamos Scientific Laboratory Health, Safety and Environment Manual (Reference D062). Waste management practices for radioactive waste initially followed U.S. AEC requirements (AEC Manual: Chapter 0511, *Radioactive Waste Management* [Reference 13]) and later DOE Orders 5820.1, *Management of Transuranic Contaminated Material* and 5820.2, *Radioactive Waste Management* (References 6 and 7). TRU waste management at DP West in the period 1970-1978 was governed by the AEC requirements (Reference D001).

In 1970, the AEC issued a directive (Immediate Action Directive No. 0511-21) specifying that solid waste contaminated with U-233 and its daughter products, plutonium, and other transuranium radionuclides, to levels greater than ten nanocuries per gram (nCi/g), must be stored in such a way that it could eventually be retrieved for characterization, certification, and shipment to an undesignated disposal facility. The TRU wastes were to be segregated from other radioactively contaminated solid waste, with combustible and non-combustible waste packaged separately. At that time, LANL began segregating low-level waste (LLW) from TRU waste and dedicating specific areas within Area G at TA-54 for management of these wastes. LANL also implemented a retrievability limit of 100 nCi/g for Pu-238 materials (References D001, D002, and D055).

LANL began using waste identification systems for TRU waste in January 1971. Radioactive Solid Waste Disposal (RSWD) codes were an alpha numeric code, a letter "A" followed by two digits, and categorized TRU waste forms generated by the various on-site facilities. Use of the RSWD codes was discontinued in 1992. TRU waste generators were required to complete the RSWD form, which includes the RSWD waste identification code and information about the radionuclide content. The generator assigned the RSWD code that was representative of the dominant matrix in the container (References 19 and D059).

In addition to the RSWD codes, which provide information about the physical form, matrix, and/or chemical nature of waste, LANL employs MT designations to describe the relative isotopic composition of radioactive contamination. The designated MT is used to describe the isotopic composition of common blends of radioactive materials used within the DOE complex. The most common MTs present in DP West waste are those for weapons grade plutonium (MT-52), reactor grade plutonium (MT-54), and heat source plutonium (MT-83) (Reference D059).

Individual plutonium processing operations at the TA-55 Plutonium Facility are assigned a unique identifier called a P/S (Process/Status) code for the purpose of nuclear material accounting. The Process/Status code (P/S code) system of waste material tracking was not introduced until 1987; consequently, there are no P/S codes associated with the DP West waste. The P/S code refers to a specific part of an operation within the overall process, and can be associated with most waste items generated after 1987 and all items generated after 1995. The P/S codes provide the finest level of detail available to associate waste items with a specific operation of origin. Therefore, the P/S code system is used extensively in the description and documentation of AK information for RCRA and for chemical constituents for the plutonium contaminated waste (References 19 and D059).

The major contributor to waste streams at DP West was the plutonium recovery operation. Because of the scarcity of plutonium, much emphasis was placed on recovery of this material from process waste streams. Thus, recovery and recycling were common practices. The process waste consisted of both solid and liquid wastes produced in the research and production operations. These waste streams were generally contaminated with both radioactive and chemical constituents. Process wastes, including TRU wastes, from the 1940s until the late 1970s, were largely disposed of at five material disposal areas (MDAs) located at TA-21, known as MDAs A, B, T, U, and V (Reference D059).

Solid Waste Management

Solid waste from DP West typically originated from inside gloveboxes or hoods and rooms or areas containing the TRU process facilities. Discard limits (DLs) for plutonium in the various types of waste matrices were established by the waste-generating group, and approved by the LANL division office and the DOE ALOO. For the time period of DP West operations, the DL for materials other than process solids was typically 0.5 grams (g) of plutonium per kilogram (kg) of waste (0.5 g/kg). Process-generated residues were usually considered to be recoverable (i.e., contaminated above the DL), while the glovebox-generated debris waste generally contained TRU activity that was less than the DL. It was assumed that room-generated residues contained trace quantities of radionuclides that were less than DL levels, unless it was generated by work on a contaminated system (References D002, D055, and D059).

Solid TRU waste management operations at DP West, including sorting, logging, and packaging, were conducted in Building 2, the Plutonium Recovery Facility. In the Metal Fabrication area, housed in Building 5, process-generated materials from all operations were transferred through a conveyor system to one glovebox line for disposal. Material was removed from the glovebox by standard bag-out procedures and transferred to the recovery area in Building 2 for assay with a neutron coincidence counter. Similarly, all the plutonium-handling gloveboxes in Building 150 were interconnected by a single conveyor system. Buildings 2, 3, and 4 did not have conveyor systems; in these buildings, waste materials were bagged out from each glovebox line. The glovebox in-line drums at this time were 30-gallon drums, usually cardboard, which were sometimes placed in metal garbage cans for transfer to Building 2. Small amounts of solid process residues, such as ash from the thermal reduction of organic-based materials, salts (e.g., lithium chloride, potassium chloride, sodium chloride), hydroxide cake/filter materials, resin (e.g., polyvinyl pyridine), and leached residues (e.g., silica solids), below the DL were typically disposed of with the debris waste (References C005 and D059).

The 30-gallon drums and/or metal waste cans were taken to Building 2, where the waste materials were sorted and assayed. Based on the neutron assay, if the material had recoverable quantities of plutonium (i.e., greater than the DL), it was transferred to recovery operations. Materials that were below the DL were packaged and managed as retrievable TRU waste. In the period 1970–1978, the retrievable TRU waste levels were greater than or equal to 10 nCi/g of TRU activity (greater than or equal to 100 nCi/g for Pu-238 materials). The designation of waste as low-level or TRU was based not only on assay results, but also on an administrative basis. Waste from the gloveboxes, or rooms containing the TRU process facilities, was usually designated to be TRU (References D002 and D059).

Room-generated materials were referred to as room trash because it was assumed that this material contained much lower contamination levels than the process-generated materials. These wastes were packaged in polyethylene bags placed in 0.06 cubic meters (m^3) cardboard boxes that, in turn, were placed inside 30-gallon drums with flame-retardant lids. At Building 2, the cardboard boxes were removed from the drums and transferred to

the scrap recovery room for neutron assay. The scrap recovery room housed a hood/glovebox system with a Field Instrument for the Detection of Low Energy Radiation (FIDLER). A pancake counter capable of detecting 1- to 10-nCi/g activities was used. After calibration, waste was sorted by MT into 500 to 1000 g packages. Packages measuring >10 nCi/g were managed as retrievably stored TRU, and those packages measuring <10 nCi/g were disposed of as LLW (References D002 and D059).

In general, solid process wastes were either buried on site or shipped to Area G for retrievable storage. Burial of solid wastes at TA-21 was done in two disposal pits at MDAs A and B, with the majority of the waste being buried prior to 1948. However, solid waste disposal at TA-21 was done until 1978 in these disposal pits. In general, these pits were used for items that contained plutonium and uranium that could not be reprocessed or recycled (References D010 and D059).

Industrial Liquid Waste Management

Industrial liquid wastes were discharged on site into absorption beds at the MDAs until 1952, when a liquid waste treatment facility, Building 35, was built. Building 35 was constructed as a facility for treatment and disposal of contaminated liquid waste from the plutonium and uranium processing facilities at DP West. In 1967, liquid waste treatment operations were transferred to a newly built waste treatment facility, Building 257. The routine liquid waste treatment process was based on absorption and coprecipitation of plutonium with ferric hydroxide to produce sludge. From 1968 to 1976, liquid wastes and sludge were mixed with cement (e.g., Portland cement) and pumped into shafts at MDA T. From 1975 to 1983, some of the liquid TRU wastes were mixed with cement and pumped into long corrugated metal pipes (CMPs). Initially the CMPs were stored in a retrievable storage pit at MDA T. The CMPs were retrieved by 1986 and relocated to Area G at TA-54 for retrievable storage (References D010, D035, and D059).

Liquid wastes that had plutonium concentrations less than the DL, but that did not meet the waste acceptance criteria for the TA-50 Radioactive Liquid Waste Treatment Facility, were sent to Building 257 for cement fixation on a batch basis. However, small amounts of cemented waste may also be disposed of with the debris waste. Only solutions were sent to the waste treatment facility; no solid residues were managed at Building 257 (References C005, D055, and D059).

4.3.1 Present Day TRU Waste Management Practices

Newly generated waste containers (repackaged waste) are currently being managed in accordance with LANL's radioactive waste management program. The LANL radioactive waste management program follows DOE Order 435.1, *Radioactive Waste Management* (Reference 20). LANL waste management requirements applicable to TRU mixed and non-mixed waste are addressed in three Laboratory Implementation Requirements (LIRs), as follows (References 19 and D060):

- General Waste Management Requirements (Reference P015)

- Managing Radioactive Waste (Reference P016)
- Hazardous and Mixed Waste Requirements (Reference P017)

The LANL waste analysis plan for storage of TRU mixed waste is contained in Attachment A.2 to the LANL Hazardous Waste Permit (Reference D080).

TRU waste generators at LANL are required to complete forms that document the physical, chemical, and hazardous nature of waste and provide substantial AK information. LANL has used a Waste Profile Form (WPF) system since May 1991. Waste generators must complete a WPF for waste-stream specific information. This form documents the process that generated the waste, the location of waste generation, the physical form of the waste, the RCRA-regulated constituents present, and the radionuclides present. Guidance to generators for completion of the WPF is given in the Laboratory Implementation Guidance (LIG) document *Waste Profile Form Guidance* (References 19, D058, D060, D081, P019, and P020).

Generators must provide new WPFs when a process change results in a change in waste composition or when a new waste is generated. For routinely generated waste (i.e., routine operations waste), the WPF must be re-evaluated annually to ensure the information is current and correct. The WPF includes the Land Disposal Restrictions notification, which further documents the RCRA-regulated nature of waste. Specific information that is requested on the WPF includes point of generation, method of characterization, waste categories and descriptions, presence of toxic metals and an estimate of concentration, presence of organic compounds and an estimate of concentration, identification of RCRA listed hazardous constituents, identification of RCRA hazardous characteristics (i.e., ignitability, corrosivity, reactivity, toxicity), and identification of the radiological characteristics of the waste. The information on the WPF must be certified as complete and accurate, as evidenced by the signature of the waste generator (References 19, D058, D060, D081, P019, and P020).

Waste generation information for individual TRU waste containers is required to be documented on the TRU Waste Storage Record (TWSR). The TWSR is reviewed and approved in accordance with *Review and Completion of the TWSR* (Reference P018) and is not approved unless the waste is associated with a valid, active WPF. The TWSR documents the type of packaging, generating organization, radionuclide, and hazardous material content of the waste, dose rates, TRUCON code, and storage site information (e.g., building number, location, date of receipt). Guidance to generators for completion of the TWSR is provided in LIG document *Waste Generator Guidance for Completing the TRU Waste Storage Record (TWSR)*. The TWSR form is completed in the Nuclear Materials Technology (NMT) Division Waste Management System database and reviewed by facility and NMT Waste Management operations electronically. For wastes that violate the Area G waste acceptance criteria for packaging, weight, or materials, a Waste Acceptance Criteria Exception Form must be completed to request an exception (References 19, D060, P019, and P020).

4.3.2 TRU Waste Identification and Categorization

Several waste identification and categorization conventions have been used as part of waste management operations for TRU mixed waste generated at LANL. The waste identification system used for a particular waste container depends largely upon the date of placement into storage. Specific waste identification conventions at LANL include the assignment of RSWD codes, Item Description Codes (IDCs), nuclear MT, P/S codes, and TRUCON codes to containers of TRU waste. It should be noted that not all of the LANL waste identification conventions apply to the waste streams addressed in this report (References 19 and D059).

Radioactive Solid Waste Disposal Codes

RSWD codes were first used at LANL in January 1971, and were discontinued in 1992. The RSWD codes are a two-digit code preceded by the letter "A." The RSWD codes were used at LANL and categorize TRU waste forms generated by the various on-site facilities. The RSWD codes associated with waste in waste streams LA-MHD04.001 and LA-MSG04.001 are defined in Table 2, RSWD Code Descriptions (References D058, D059, M008, M009, M011, M012, and M020).

Table 2. RSWD Code Descriptions

RSWD Code	Definition	Waste Stream
A10	Graphite Solids	LA-MHD04.001
A15	Cellulosics, Paper, Wood, etc.	LA-MHD04.001
A16	Plastics	LA-MHD04.001
A17	Rubber Material	LA-MHD04.001
A18	Combustible Lab Trash	LA-MHD04.001
A19	Combined Combustible/Non-Combustible Lab Trash	LA-MHD04.001
A30	Property Number Equipment	LA-MHD04.001
A31	Non-Property Number Equipment	LA-MHD04.001
A36	Noncombustible Building Debris	LA-MHD04.001
A46	Skull and Oxide	LA-MHD04.001
A50	Metal, Crucibles, Scrap, Dies	LA-MHD04.001
A52	Scrap Metal	LA-MHD04.001
A55	Filter Media	LA-MHD04.001

Table 2. RSWD Code Descriptions (Continued)

RSWD Code	Definition	Waste Stream
A56	Filter Media Residue	LA-MHD04.001
A60	Other Combustibles	LA-MHD04.001
A80	Irradiation Sources	LA-MHD04.001
A85	Firing Point Residues	LA-MHD04.001
A61	Other Non-combustibles	LA-MHD04.001
A90	Radioactively-Contaminated Soil	LA-MSG04.001
A95	Glass	LA-MHD04.001
A99	Items Needing Special Tracking (CST -7 use only)	LA-MHD04.001

IDCs

IDCs were first used at LANL in July 1984, and discontinued in 1992. Since IDCs were used after most of the waste from TA-21 was generated, only one IDC was identified for the waste streams addressed in this report. The IDCs generally consist of a three-digit number representing the most general descriptions of TRU waste. The single IDC associated with waste stream LA-MHD04.001 only is IDC 005 (noncombustible scrap) (References D060, M011, M012, and M013).

TRUCON Codes

TRUCON codes were first used at LANL in October 1992, and are presently in use. The system of TRUCON codes was developed by the DOE to provide a consistent waste description for TRU waste generated throughout all of DOE's facilities. The TRUCON codes are intended to assist DOE in establishing the characteristics of TRU waste to be certified for transportation to WIPP. LANL TRUCON codes consist of a three-digit number preceded by the letters "LA" and followed by a single character suffix that further defines the waste type, source, and/or packaging configuration. The TRUCON codes associated with the waste streams addressed in this report are described in Sections 5.5 and 6.5 (References 8, 19, D058, D060, M011, M012, M013, M020, and M021).

Material Types

In addition to the TRUCON codes and RSWD codes, which provide information about the physical form, matrix, and chemical nature of waste, LANL assigns MT designators to describe the relative isotopic composition of radioactive contamination. The designated MT is used to describe the isotopic composition of common blends of radioactive materials used within the DOE complex. The most common MTs present in LANL TRU waste are weapons-grade plutonium (MT-51 and -52); fuel-grade plutonium (MT-53 and -54); reactor-grade plutonium (MT-55 through -57); enriched Pu-242 (MT-42); and heat-source plutonium (MT-83) (References 19, D058, D059, and D060).

4.3.3 LANL Treatment, Storage and Disposal Facilities (TSDFs) for TRU Waste

LANL's inventory of TRU waste destined for disposal at WIPP is stored at TA-54, Area G, which has been in operation since 1957. TRU waste management at Area G includes container storage, container venting, decontamination and volume reduction, and below ground waste retrieval operations (References D010, D036, D058, D059, and D060). In the late 1970s, facilities throughout the DOE complex recognized the need to upgrade the retrievability of TRU waste. As a result, LANL constructed three asphalt storage pads for TRU and TRU mixed waste storage at Area G, referred to as Storage Pads 1, 2, and 4. The waste containers were configured in densely packed arrays and subsequently covered with earth to provide protection from weather and be consistent with DOE's principle of maintaining exposure ALARA (References 19 and D060).

The Transuranic Waste Inspectable Storage Project (TWISP) was initiated in 1997 to retrieve waste from earthen covered storage at Area G and place the waste in an inspectable configuration in above ground storage domes. Retrieved containers were vented and fitted with filters; thus, the completion date of the TWISP (December 31, 2001) can be used to establish the drum age criteria (DAC) if RTR verifies that the drum liner lid, if present, has been punctured. The TWISP was executed in three campaigns. The first, Pad 1, began in March 1997 and was completed in November 1998. The second campaign, Pad 4, was completed in December 1999, and the third campaign, Pad 2, was completed in December 2001 (References 19, D058, and D060).

Waste containers that fail to meet WIPP criteria are sent to the TA-50 Waste Characterization, Reduction, and Repackaging (WCRR) Project; the TA-54 Building 412 facility formerly known as the Decontamination and Volume Reduction System (DVRS) facility; the TA-54 Dome 231 Permacon; or TA-54 Dome 375 TRU Oversized Waste Processing Capability Project, also referred to as the Box Line Process, to be safely remediated. The WCRR Facility was established in 1979 as the Size Reduction Facility (SRF) to size-reduce non-routine waste items, such as decommissioned gloveboxes. In 1993, the name of the SRF was changed to the WCRR Facility to reflect the expanded remediation/repackaging mission. Size reduction operations at the WCRR Facility were discontinued around 1997. The TA-54 Building 412 facility performs sorting, segregating, size reduction, and repackaging operations on waste containers that contain WIPP nonconforming items and safely processes oversized containers (e.g., fiberglass-reinforced plywood [FRP] waste boxes). The TA-54 Dome 231 Permacon was established in 2006, and this facility also performs TRU waste remediation/repackaging. The TA-54 Dome 375 Box Line Process performs the same basic functions as TA-54 Building 412 facility. Figure 1 identifies the general location of these facilities (References C030, C031, C036, D028, D058, D060, D071, P010, P011, P012, P021, P029, P030, P032, P033, and P034).

4.3.4 Types and Quantity of TRU Waste Generated

Waste stream LA-MHD04.001 consists of combustible and non-combustible debris waste contained in 552 30-gallon drums (62.6 m^3), 1,802 55-gallon drums (378.4 m^3), 14 85-gallon drums (4.5 m^3), 1 110-gallon drum (0.4 m^3), 16 Standard Waste Boxes (SWBs) (28.8 m^3), 171 Crates (1,458 m^3), and 39 other containers (approximately 159.8 m^3, the volume may change after repackaging), totaling approximately 2,093 m^3 (References C028, C032, C037, M008, M009, M011, M012, M013, and M021).

Waste stream LA-MSG04.001 consists of contaminated soil waste contained in 48 55-gallon drums (10.1 m^3), 19 SWBs (35.7 m^3), and 15 Crates (38.4 m^3), the volume may change after repackaging, totaling approximately 84.2 m^3 (References C033, C037, M004, M009, and M020).

Each payload container shipped to the WIPP will be certified in accordance with CCP-PO-002 (Reference 10), as containing more than 100 nCi/g of alpha emitting isotopes with half-lives greater than 20 years. Overpacking of waste containers for the purposes of payload management, as described in Appendix E of the WIPP-WAC (Reference 3), will not be implemented for these waste streams.

4.3.5 Correlation of Waste Streams Generated from the Same Building and Process

The WIPP-WAP defines a waste stream as waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity (Reference 2). Based on a review of AK documentation, all of the containers assigned to waste stream LA-MHD04.001 and LA-MSG04.001 were originally generated from or contaminated by plutonium processing and associated recovery and purification, metal production, pyrochemistry, metal fabrication, R&D, and D&D operations. Container-specific records have been reviewed for each container in order to verify the physical composition and origin of the waste inventories. It has been determined that every container included in the most current AK Tracking Spreadsheet was generated from the operations described in Section 4.4 of this report. In addition, each of these waste streams have been categorized into a single Waste Matrix Code (as described in Sections 5.4.1 and 6.4.1) and have been classified entirely as TRU mixed waste (as described in Sections 5.4.3 and 6.4.3). The following subsections provide further basis for the waste stream delineations (References C033, D058, D059, D060, M003, M004, M008, and M020).

Evaluation of Debris Containers

This report is focused on the DP West operations that fall under the categories of both Pu-239 and Pu-238 processing. Debris wastes generated by specific plutonium operations within these broad categories were not segregated for packaging and disposal (see Section 4.2.3); therefore, the DP West debris waste is not more finely delineated by individual operations. A significant amount of waste was generated by the decontamination project that took place at DP West from 1978 until 1996. These wastes are categorized as

D&D and D&D-derived wastes and they contain the same radiological and chemical contaminants as plutonium processing wastes (References D059, D067, and D070).

It should be noted that LANL waste management programs have historically attempted to segregate generated debris into waste streams based on chemical, radiological, and physical matrix (combustible and non-combustible) composition. Even though the identification of combustibles and non-combustibles containers was initiated in 1974, segregation of these materials was incomplete and resulted in varying amounts of different physical waste matrices in the same container. However, these materials were generated from the same process operations and contain the same chemical and radiological contaminants. Furthermore, waste packages from all areas of the facility were typically collected in drums at central accumulation areas (i.e., the waste was commingled). For these reasons, LANL waste management practices have resulted in incomplete segregation to the extent that delineation of more than one debris waste stream is not supported by the available AK (References 19, D059, M003, M008, M011, M012, and M021).

As stated above, waste items from different areas or operations were frequently combined into a single container. LANL's waste management practice has also been to handle and package all debris and homogeneous waste in a similar fashion. As a result, debris waste containers often include minor quantities of homogeneous solids (less than 50 percent by volume). Homogeneous waste containers are still generated in other LANL facilities, although infrequently. Characterization activities of TA-55 generated homogeneous solids have discovered that a substantial amount of the containers include more than 50 percent by volume of heterogeneous debris. This is due, in part, to the packaging configuration associated with small quantities of homogeneous solids. Homogeneous solids are primarily generated from operations performed in gloveboxes. The waste material may be packaged into a plastic bag, a stainless-steel dressing jar, a slip-top can, and/or an unsealed metal container before it is placed into a plastic bag-out bag. Homogeneous solids can also include debris materials, such as small pieces of plastic and precipitated metal fines. Based on this information, LANL generated homogeneous solids, except for cemented and absorbed waste, have been reassigned to waste stream LA-MHD04.001. It is expected that some number of these containers will fail RTR or VE for containing greater than 50 percent homogeneous solid waste. These containers will be segregated from the debris waste stream and assigned to the appropriate homogeneous waste stream, when available (References 19, D058, D059, D060, and DR003).

Evaluation of Soil Containers

As previously discussed, much of this report is focused on the DP West operations that fall under the categories of both Pu-239 and Pu-238 processing. The soil waste described in this report could have been contaminated with liquids and/or residues from any of the plutonium processing operations described in Section 4.4. The contaminated soil waste was generated during D&D and associated operations (e.g., sampling operations). Available AK indicates the contaminated soil originated from spills and/or the removal of acid wells and lines, tunnels below buildings, MDAs, tank systems, and various locations

immediately surrounding the DP West buildings. LANL's TRU Program historically assigned waste stream number MSG01-DD to contaminated soil from the TA-21 DP West Facility (References C033, D006, D008, D058, D060, D069, M003, M004, M020, P036, and P037).

Based on the rationale above, waste streams LA-MHD04.001 and LA-MSG04.001 meet the WIPP-WAP waste stream definition (Reference 2).

4.4 Description of Waste Generating Processes

Plutonium processing operations in the time period 1970 to 1978 included recovery and purification, metal production, pyrochemistry, metal fabrication, and R&D. Americium research and recovery operations were also carried out at TA-21 DP West, which became the world's center for research on americium (References D008 and D059).

The plutonium facilities were located at TA-21 DP West in Buildings 2, 3, 4, 5, and 150. The primary tenant of the DP West Facility was CMB-11. During calendar year 1978, the plutonium operations and materials were relocated from TA-21 to the newly constructed Plutonium Facility at TA-55. The plutonium operations formerly conducted at DP West in 1978 were the basis for operations at the new TA-55 Plutonium Facility. The wastes resulting from past operations at the DP West Facility are the same as certain wastes generated at the TA-55 Plutonium Facility. The number of AK source documents relating to TA-21 DP West, and the level of detail in these documents, is less than that available in the compilation of AK for the TA-55 Plutonium Facility. Therefore, the discussion of TA-21 operations in this report relies heavily on the AK documentation that has been compiled for plutonium operations conducted in the TA-55 Plutonium Facility (References C007, D033, and D059).

Unlike plutonium operations at the TA-55 Plutonium Facility, the system of P/S codes was not in use during operations at the TA-21 DP West Facility. The search and compilation of AK information for TA-55 operations is based on P/S codes, because that is the greatest level of detail recorded in waste generator records. A corresponding level of detail is not available in the AK record for TA-21 DP West TRU wastes. Standard operating procedures (SOPs) were not in general usage at the DP West Facility and are not available for the DP West operations. It was not until operations were relocated to TA-55 that a concerted effort was made to prepare SOPs (References C007 and D059).

Detailed AK information for TA-55 operations is compiled in a set of closely related reports about TRU waste generating operations at the Plutonium Facility. For convenience in organizing the AK, plutonium processing and recovery has been categorized into seven operational areas. The multiple operations in each area are described in detail in the following AK operations reports:

- *Acceptable Knowledge Report for Chloride Operations at LANL* (Reference D036)
- *Acceptable Knowledge Report for Metal Operations at LANL* (Reference D037)

- *Acceptable Knowledge Report for Miscellaneous Operations at LANL* (Reference D038)
- *Acceptable Knowledge Report for Nitrate Operations at LANL* (Reference D039)
- *Acceptable Knowledge Report for Pyrochemical Operations at LANL* (Reference D040)
- *Acceptable Knowledge Report for Special Processing Operations at LANL* (Reference D041)
- *Process Acceptable Knowledge Report for Plutonium-238 Operations at TA-55* (Reference D007)

The plutonium processing and recovery AK operations reports include descriptions of feed materials, chemical inputs, and radionuclide material, and detailed process flow diagrams that indicate the TA-55 P/S codes associated with each of the various sub-processes. As discussed in Section 4.3, the P/S code system of waste material tracking was not introduced until 1987; consequently, there are no P/S codes associated with the DP West waste. However, in the descriptions of DP West operations presented in this report, the correlation between DP West and P/S codes associated with early TA-55 plutonium operations is emphasized (References 19, D059, and M001).

The following sections discuss the major categories of plutonium operations at the DP West Facility and operations performed at TA-50 and TA-54:

- Plutonium recovery operations
- Pyrochemical operations
- Metal operations
- Pu-239 fuel programs
- Americium processing operations
- Pu-238 processing
- Miscellaneous and special processing
- D&D operations
- Waste repackaging and prohibited item disposition
- Below-grade retrieval project.

Table 3, TA-21 DP West Facility Plutonium Operations, is a summary of the DP West plutonium operations, and a correlation of the DP West operations with the corresponding TA-55 operations, as applicable (References D059 and M001).

Table 3. TA-21 DP West Facility Plutonium Operations

TA-21 DP West Operation	Location	Corresponding P/S Code(s)		Corresponding TA-55 Report
Recovery Operations – Pretreatment				
Conversion of Plutonium metal to oxide	Building 2	BM	Burning Metal	Nitrate
		BU	Button Burning	Nitrate
		PA	Passivation	Nitrate
		PAF	Passivation Furnaces	Nitrate
		BF	(Unknown name)	Nitrate
Conversion of Plutonium alloy to oxide	Building 2	BU	Button Burning	Nitrate
		BM	Burning Metal	Nitrate
Incineration of combustible residues	Building 2	IS	Incineration	Nitrate
Incineration of graphite residues	Building 2	None	N/A	N/A
Calcination	Building 2	HC	Calcination	Nitrate
Calcination of oxalate precipitate	Building 2	CC	Calcination	Nitrate
		DF	DS (Dissolver Solution) Furnace and Oxide	Nitrate
Ash Grinding	Building 2	PTS	RD&D Pretreatment Study	Nitrate
Oil Recovery	Building 2	RO	Oil Recovery	Nitrate
Recovery Operations – Dissolution				
Metal Dissolver	Building 2	AS	Anode Heel Dissolution	Nitrate
Dissolution of Plutonium Alloys	Building 2	None	N/A	N/A
Dissolution of Plutonium Hydroxide	Building 2	CD	Hydroxide Cake Dissolution	Nitrate
		HCD	Hydroxide Cake Dissolution	Nitrate
		HD	Hydroxide Cake Dissolution	Nitrate
Dissolution of Plutonium Oxide	Building 2	OD	Oxide Dissolution	Nitrate
Noncombustible Residues Processing:	Building 2	N/A		
Leaching – Miscellaneous Noncombustible Solids	Building 2	NC, NL	Noncombustible Leach	Nitrate
Leaching of Incinerator Ash	Building 2	AL	Ash Leach	Nitrate
		AT	Ash Testing	Nitrate

Table 3. TA-21 DP West Facility Plutonium Operations (Continued)

TA-21 DP West Operation	Location	Corresponding P/S Code(s)		Corresponding TA-55 Report
Processing Silica Solids (Hydrofluorination)	Building 2	None	N/A	N/A
Processing Acid Insoluble Residues (Fusion)	Building 2	None	N/A	N/A
Processing Graphite Molds	Building 2	RC	Rotary Calciner	Nitrate
Pickling – Non-combustibles	Building 5	PK	Pickling	Pyrochemical
Slag and Crucible Dissolver	Building 2	CL	Crucible Processing	Nitrate
		ML	Non Plutonium Metal Leach	Nitrate
Caustic Dissolver – Chloride Residues and Electrorefining Salt Dissolution	Building 2	COD	Chlorinated Oxide Dissolution	Nitrate
		VP3	Hydroxide Precipitation	Nitrate
		COL	Chlorinated Oxide Leach	Nitrate
		MB	Nitric Dissolution of Molten Salts	Chloride
Evaporator (R&D)	Building 2	EV	Evaporator	Nitrate
Canning	Building 2	FC	Canning	Nitrate
Plutonium-Uranium Oxide Dissolution	Building 2	LG1	Noncombustible Leach	Nitrate
		UPS	Uranium Plutonium Separation	Nitrate
		US	Uranium Separation for Solid Solution Feed	Nitrate
		US2	Uranium Separation for Non-Solid Solution Feed	Nitrate
Equilibration Tanks – organics compatible with nitric acid	Building 2	None	N/A	N/A
Dissolution of Plutonium Casting Skulls	Building 2	OD	Oxide Dissolution	Nitrate
Plutonium-Thorium Alloy Dissolution as the Oxide	Building 2	PT	Plutonium Thorium Separation	Nitrate

Table 3. TA-21 DP West Facility Plutonium Operations (Continued)

TA-21 DP West Operation	Location	Corresponding P/S Code(s)		Corresponding TA-55 Report
Plutonium Oxide Dissolution	Building 2	OD	Oxide Dissolution	Nitrate
		SSD	Special Scrap Dissolution	Nitrate
		VC	Variable CSMO Scrap Dissolution	Nitrate
		ZD	Scrap Oxide Dissolution	Nitrate
Caustic Dissolver	Building 2	CLS	Accountable CLS Chloride Solutions	Chloride
		CW	Caustic Waste	Chloride
Metal Dissolver (Plutonium-Thorium Separation)	Building 2	CX	Chloride Anion-Exchange	Chloride
Recovery Operations – Purification				
Nitrate Ion-Exchange	Building 2	DS	Ion-Exchange	Nitrate
		LR	Lean Residue Ion-Exchange	Nitrate
		RCM	Rich Column Material Ion-Exchange	Nitrate
		RFX	Rich Feed Ion-Exchange	Nitrate
		RR	Ion-Exchange	Nitrate
Hydroxide Precipitation	Building 2	OH	Hydroxide Precipitation	Nitrate
Oxalate Precipitation	Building 2	OY	Oxalate Precipitation	Nitrate
		LC	Uranium/Plutonium Processing	Nitrate
Peroxide Precipitation	Building 2	PR	Peroxide Precipitation	Nitrate
Plutonium/Thorium Separation	Building 2	PT	Plutonium Thorium Separation	Nitrate
Pyrochemical Operations				
Metal Preparation Line	Building 5	MP	Metal Preparation	Pyrochemical
Electrorefining	Building 5	ER	Electrorefining	Pyrochemical
Direct Oxide Reduction (R&D)	Building 5	OR	Direct Oxide Reduction	Pyrochemical
Metal Operations				
Alloy Development	Building 5	DA	Alloy Development	Metal
Assembly Operation	Building 5	AO	Assembly Operations	Metal
Casting	Building 5	CA	Casting	Metal
Inspection	Building 5	IN	Inspection	Metal

Table 3. TA-21 DP West Facility Plutonium Operations (Continued)

TA-21 DP West Operation	Location	Corresponding P/S Code(s)		Corresponding TA-55 Report
Machining	Building 5	MA	Machining	Metal
Metal Working	Building 5	MW	Metal Working	Metal
Physical Properties	Building 5	BC	Physical Properties	Metal
Pit Disassembly	Building 5	PD	Pit Disassembly	Metal
Special Recovery Line	Building 5	SRL	Special Recovery Line	Metal
Welding	Building 5	WE	Welding	Metal
Welding Leak Test	Building 5	WLT	Welding Leak Test	Metal
Pu-239 Fuels Operations				
Ceramic Grade Plutonium Oxide Production	Building 150	CC	Calcination	Nitrate
		FC	Canning	Nitrate
		OD	Oxide Dissolution	Nitrate
		OY	Oxalate Precipitation	Nitrate
		PA	Passivation	Nitrate
		PR	Peroxide Precipitation	Nitrate
Advanced Fuels Fabrication	Building 150	CO	Comminution	Metal
		OB	Oxide Blending	Metal
		RS	Pellet Sintering	Metal
Advanced Fuels Pellet Preparation	Building 150	GI	Pellet Grinding and Inspecting	Metal
Advanced Fuels - Fuel Element Fabrication	TA-35	EL	Element Loading	Metal
Advanced Fuels Pellet Analysis	Building 150	GI	Pellet Grinding and Inspecting	Metal
		ID	Immersion Density	Metal
Americium Processing				
Americium Oxide Production	Building 2	AO	Americium Processing Calcination	Nitrate
		AP	Americium Purification	Nitrate
		FA	Americium Processing	Nitrate
		OH	Hydroxide Precipitation	Nitrate
		OY	Oxalate Precipitation	Nitrate
Americium Hydroxide Precipitation	Building 2	OH	Hydroxide Precipitation	Nitrate
		SX	Americium Processing Silicon Removal	Nitrate
		PPD	Plutonium Pellet Dissolution	Special Processing
		PR	Peroxide Precipitation	Nitrate

Table 3. TA-21 DP West Facility Plutonium Operations (Continued)

TA-21 DP West Operation	Location	Corresponding P/S Code(s)		Corresponding TA-55 Report
Pu-238 Heat Source Fabrication				
PIC, PMC, PPO, and SSC Fuel Forms SNAP and Artificial Heart Program	Buildings 3, 4, 5, and 150	GPHS	General Purpose Heat Source	Pu-238
		C1	Pu-238 Heat Source Calorimetry	Pu-238
		P1	Routine Pu-238 Heat Source	Pu-238
		PP	Pellet Production	Pu-238
		WD	Welding and Decon for GPHS	Pu-238
		WS	Pu-238 Direct Oxide Reduction	Pu-238
Miscellaneous and Special Processes				
Development of New Recovery Processes	All Buildings	AD	Actinide Processing Demonstration	Miscellaneous
Metallography	Building 150	ME	Metallography	Miscellaneous
Preparation of Isotopes	Building 5	PI	Preparation of Isotopes	Special Processing
Decontamination and Decommissioning (D&D) Operations				
Decontamination and Decommissioning	All Buildings	None	N/A	N/A

4.4.1 Plutonium Recovery Operations

Manufacturing and research operations performed at DP West in the production of plutonium products generated plutonium-contaminated scrap and residues. These residues were processed to recover as much plutonium as was practical. The DP West Facility had extensive capabilities for the extraction and recovery of plutonium from residues and scraps generated from operations at various LANL facilities and other DOE sites. These recovery and manufacturing operations, associated maintenance operations, and plutonium research were the major sources of TRU waste generated at DP West (References D002 and D042).

The primary document upon which the AK information for plutonium recovery operations at DP West is based is *Plutonium Processing at the Los Alamos Scientific Laboratory*, which was authored by Christensen and Maraman in 1968. Although the document predates by two years the time period of interest for the retrievably stored TRU waste inventory, the operations described in the 1968 document are representative of the operations conducted between 1970 and 1978 (References D042 and D059).

A process flow diagram for the plutonium recovery operations that were conducted in Building 2 in 1968, taken from the Christensen and Maraman document (Reference D042), is included in Figure 4, DP West Plutonium Recovery Operations Circa 1968. A more detailed process flow diagram taken from the 1975 document, *Characterization of Transuranic Solid Wastes from a Plutonium Processing Facility* (Reference D002), is shown in Figure 5, DP West Plutonium Recovery Operations Circa 1975. The process flow diagram in Figure 6, TA-55 Plutonium Recovery Operations Circa 1979, is taken from the 1979 *LANL Waste Management Site Plan* (Reference D033) and represents the plutonium recovery operations in place at the startup of the new TA-55 Plutonium Facility. A comparison of the TA-21 and TA-55 process diagrams shows that the operations were largely identical with two exceptions. An evaporator process intended to re-concentrate plutonium in liquid residues was put into production when recovery operations were relocated at TA-55, and liquid waste from TA-55 was discharged to the TA-50 Radioactive Liquid Waste Treatment Facility (Reference C011).

The overall goal of the plutonium recovery operations was to recover plutonium from metal, metal alloys, scrap, and residues and produce a purified plutonium nitrate solution that was compatible with the operations used in the preparation of plutonium metal. The DP West plutonium recovery operations can be subdivided into pretreatment, dissolution, and purification operations, and are analogous to operations described in *Acceptable Knowledge Report for Nitrate Operations at LANL.* Each of these process categories is described in the following sections (References D039 and D042).

Pretreatment

Pretreatment primarily included physical methods used to prepare scrap and residues for the next step, dissolution. Pretreatment may have included any or all of the following operations: thermal conversion to oxide, calcination, caustic leaching, chemical separation by hydroxide or oxalate precipitation, size reduction, grinding, shredding, distillation, filtering of liquids or oils, and incineration. As materials were received from various operations within DP West, they were sorted and sent to other pretreatment operations or directly to dissolution, depending on the physical nature of the scrap or residue and on the amount and type of plutonium associated with the material. Graphite items were size reduced; gloves, plastics, and some heating mantles were shredded (References D002, D011, D042, D053, D056, and D059).

In overview, particulate solids from the pretreatment step were sent to dissolution if plutonium concentrations were above the DL and to disposal if concentrations were below the DL. Liquids were sent to purification if plutonium concentrations were above the DL or to the Building 257 wastewater treatment facility if concentrations were below the DL (Reference D059).

Pretreatment of Noncombustible Residues

Thermal pretreatment operations were frequently used to prepare plutonium-bearing materials for dissolution. Due to the pyrophoric nature of plutonium metal and certain alloys, procedures were developed for converting the metal and its alloys

to the oxide, which could then be safely handled in any atmosphere. Finely divided plutonium metal, anode heels from electrorefining (ER) operations, oxides that may contain unoxidized plutonium metal, carbides, and nitrides that can be very reactive in an oxidizing acid were burned in a furnace under a controlled atmosphere to passivate the material and moderate its reactivity. Usually the ignition was performed in magnesium oxide (MgO) or aluminum oxide crucibles. If the ignition temperature did not exceed 600 °C, the resulting oxide could be readily dissolved by refluxing with nitric and hydrofluoric acid solutions (References D043 and D059).

A caustic (hydroxide) leach process was used to pretreat residues high in chlorides. Chlorides were removed using sodium hydroxide and the treated residues were then dissolved in nitric and hydrofluoric acid. In this case, the caustic solution would be sent to liquid waste disposal at Building 257, and the filtered solids would continue through the dissolution process (Reference D059).

Plutonium oxalate cakes from the oxalate precipitation process (OY) underwent calcination (CC) by heating in air in a furnace to form pure plutonium oxide. The oxide became feed for the oxide reduction process (References D043 and D059).

Pretreatment of Combustible Residues

A process flow diagram for the incineration operation at DP West is shown in Figure 7, DP West Incineration Process Flow Diagram. Development work was started in 1951 on the design of an incinerator for TA-21 combustible residues, including paper, rags, wood, emery paper, rubber gloves, graphite, and plastics. The incinerator was first used in 1952 for contaminated rags. The procedure for the operation of the incinerator allowed 12 liters of dry rags to be processed in about two hours, yielding 100 to 150 ml of ashes. The incinerator off-gas scrub and the vacuum seal solutions were filtered after every three to five runs and analyzed for plutonium content to determine if the solutions should be recycled or discarded (References D002, D043, and D059).

Several problems were encountered in the incineration operation. Certain rubber and plastic items burned incompletely and led to the buildup of combustible tar on the exhaust lines and filters. Incineration of polyvinyl chloride bags led to increased corrosion due to the release of chloride, which formed hydrochloric acid whenever it came in contact with water. Consequently, the incineration of plastic and rubber items was severely restricted to only those pieces that monitoring indicated still contained appreciable quantities of plutonium after leaching with nitric acid (References D002, D043, and D059).

The incineration of rags that had been in contact with nitric acid and then allowed to stand was also problematic. The rags would become nitrated, and small nitrocellulose explosions would result when these were burned. The problem was mitigated by requiring that all cotton rags be rinsed with water immediately after being in contact with nitric acid (References D042 and D059).

The ashes were collected after each run and reduced in a ball mill to less than 20-mesh particles. The ashes were sampled for plutonium content, and subjected to an acid leach

or processed in a dissolver if the plutonium content was greater than the DL. The resulting nitrate solution was purified by anion-exchange (see Purification section below) (Reference D059).

Pretreatment of Oils

Plutonium-contaminated lubricating, machining, lapping, and cutting oils were transferred to Building 2 for recovery in glass jars. The oils were directly filtered through a sintered glass frit to remove plutonium metal or oxide particles. Trichloroethylene was used to reduce the viscosity of oils during the filtration step. The liquid portion was sent to Building 257 for treatment (References D042 and D059).

Dissolution

Dissolution was comprised of numerous operations that generated a plutonium-nitrate solution for subsequent feed to a purification process. Numerous dissolution procedures were developed during the early years of LANL. By the 1960s, these had been narrowed to only a few for production purposes. The primary mode of dissolution involved nitric acid, hydrofluoric acid leach solutions, with the addition of other chemicals for particular dissolution operations. The plutonium-bearing nitric and hydrofluoric acid solutions resulting from dissolutions proved to be excellent feed stocks for follow-up processing operations. In overview, filtered solids from the dissolution step were re-leached until plutonium concentrations were below the DL, then sent to disposal; debris items were disposed of after the plutonium contamination was removed from the surface by leaching; plutonium-bearing solutions were sent on to purification or to the metal preparation line (References D042 and D059).

Several dissolution operations involved the use of cascading dissolvers (CD) or dissolution pots (HCD, HD, and OD). The choice of dissolution equipment was based on the concentration of plutonium present in the feed material and the physical form of the feed material. The equipment for the batch extraction system consisted of large-diameter equilibration tanks equipped with stirrers for equilibration and settling. Feed materials included ash, glovebox sweepings, ground slag or crucibles, hydroxides, metal, oxides, residues, salts, and sand. Metal dissolvers (AS) were used for the dissolution of plutonium metal by nitric and hydrofluoric acid using vessels made by adding a ground glass ball joint to a standard 5-liter round bottom flask. Hydrochloric acid solutions, chloride residues, and organics not compatible with nitric acid were often sent to the caustic dissolver (CLS and CW). After dissolution, the solutions were filtered and then sent to purification. The filtered solids were sent to other dissolution operations if plutonium concentrations were above the DL, or disposed as debris waste if concentrations were below the DL (References D033, D043, and D059).

Surface Decontamination

Plutonium on the surface of metal and non-combustible debris waste items was recovered by leaching or dipping the waste item into a nitric acid leach solution. Items such as tantalum molds and crucibles, sintered glass frits, stainless-steel filters, and aluminum oxide crucibles were generally cleaned of plutonium by refluxing with nitric and hydrofluoric acid solutions. The acid solution was filtered, and the items were rinsed with water or dilute nitric acid. Rubber gloves were wiped with a cloth soaked in a nitric acid solution to recover surface contamination of plutonium. The cloths were dunked in water a few times and wrung out; the solutions from the cloths were collected and filtered. The solids were recycled through the dissolution process if plutonium concentrations were above the DL, or disposed as waste if concentrations were below the DL. The plutonium-bearing solutions were sent to purification. The cloths were reused if they were not falling apart; otherwise, they were discarded as solid waste or sent to incineration, depending on the nuclear material content. Plutonium-bearing solutions were sent to purification, while the leached items below the DL were discarded (References D042 and D059).

Pickling

Pickling, leaching with a strong acid (either nitric acid or hydrochloric acid), was typically a head-end operation for treatment of noncombustible items. Hydrochloric acid pickling solutions underwent nitric acid acidification. The plutonium-bearing nitrate pickling solution was then transferred to anion-exchange (References D042 and D059).

Plutonium Metal and Alloys

Many plutonium-bearing materials were dissolved in a standard leach solution of nitric and hydrofluoric acid after appropriate pretreatment or preparation. These materials included alloys, anodes, carbides, casting skulls, ER residues, and metals. After dissolution and filtration, solids were discarded if below the DL or recycled if above the DL, while solutions were sent to purification. These solutions could be expected to contain dissolved heavy metals (e.g., lead, cadmium, mercury, or chromium) that may be concentrated in the purification steps (References D042 and D059).

Dissolution methods for plutonium alloys of chromium, copper, gallium, hafnium, indium, iron, manganese, thorium, titanium, uranium, and zirconium were developed at DP West. The alloying element(s) determined the purification method that followed dissolution. Anion-exchange in nitrate media followed most dissolutions because of the high selectivity for (the sorption of) nitrate complexes of tetravalent actinides (References D042 and D059).

Plutonium-aluminum alloys containing greater than ten percent aluminum were dissolved with nitric acid using mercuric nitrate as a catalyst. In subsequent nitrate anion-exchange, the mercuric nitrate was quantitatively removed into column washes where it was then concentrated by hydroxide scavenging. Plutonium-osmium alloys were dissolved using nitric and hydrofluoric acid with helium sparging in order to drive off volatile osmium tetraoxide (References D042 and D059).

Uranium-plutonium oxide mixtures were leached using nitric acid to preferentially dissolve the uranium. Aluminum nitrate was added to the solution to complex any fluoride ion that might be present. The uranium-bearing filtrate was discarded, and the plutonium-bearing solids were sent to dissolution and then to either an anion-exchange process or the oxalate precipitation process for purification (References D042 and D059).

Plutonium oxide

The ease with which plutonium oxide can be dissolved depends on the temperature at which the oxide was formed or to which it was subsequently heated. Oxides that had been heated to less than 600 °C were generally relatively easy to dissolve in a nitric and hydrofluoric acid solution. Oxides heated to temperatures between 600 °C and 1000 °C had refractory properties that required more stringent measures. The dried oxide residue was mixed with a potassium pyrosulfate and sodium fluoride flux, which was then heated to 550 °C. The cooled melt was removed from the fusion vessel, and heated with a nitric acid and aluminum nitrate solution. The solution was filtered and sent to the appropriate purification step, depending on what types of cations were present (References D042 and D059).

Graphite

Graphite melt and mold crucibles that had been coated with calcium fluoride to reduce plutonium penetration contained only surface contamination and could be directly leached with nitric and hydrofluoric acid solution. Graphite used for filtering aqueous solutions and uncoated melt and mold crucibles were incinerated, and the ashes were subsequently leached with nitric and hydrofluoric acid solution (References D042 and D059).

Silica Solids

Silica entered the process stream from dissolution of magnesium oxide crucibles in which silicon oxide was used a binder, and due to leaching of silica from glass equipment. Acid-leached silica residues were dried and treated in hydrofluorination furnaces. Gaseous hydrogen fluoride was introduced into the reaction chamber and reacted with the silicon dioxide to form the volatile silicon tetrafluoride gas. The gaseous reaction products were swept out of the chamber through a caustic scrubber. The reaction residues were leached with a nitric acid and aluminum nitrate solution. All leach and scrub solutions that contained more than one mg/L of plutonium were transferred to the anion-exchange system. The leached residues were treated, as described, for acid insoluble residues (References D042 and D059).

Acid Insoluble Residues

Acid insoluble residues include refractory oxides and residues for which leaching was uneconomical or infeasible. Examples include incinerator ashes, aluminum oxide tubes and crucibles, and carborundum solids. These residues were treated by fusion with a mixture of potassium pyrosulfate and sodium fluoride in Hastelloy "C" fusion crucibles. The

resulting melt was dissolved in a nitric acid and aluminum nitrate solution; the fluoride anion was tightly complexed by the added aluminum. The filtrate was purified by anion-exchange (References D042 and D059).

Incinerator Ashes

Incinerator ashes from burning of combustible residues were processed on a batch basis. The procedure consisted of a dilute nitric acid leach to remove the more soluble residues, a water leach to remove the nitric acid, hydrofluorination to the remove silica solids, and, finally, a fusion with potassium pyrosulfate and sodium fluoride to remove the remaining plutonium (References D042 and D059).

Electrorefining Chloride Melts

Due to their high chloride content, ER chloride melts required special handling to prevent corrosion of the stainless-steel equipment. The preferred method of dissolution was to leach the chloride melt with sodium hydroxide, thus dissolving the chloride salts of sodium, potassium, and lithium, and precipitating the plutonium as the hydroxide. The filtrate, if less than 1 mg/L in plutonium, can be discarded, thus disposing of the corrosive chloride ion (References D042 and D059).

Reduction and Casting Residues

Bomb reduction residues from plutonium metal preparation consist of the MgO packing sand, the reduction slag, and the MgO crucible serving as the liner for the reduction bomb. The residues were treated in geometrically favorable dissolvers. Slag and crucible material to be dissolved was loaded into a screened bucket and lowered to the bottom of the dissolver. Nitric acid and aluminum nitrate solution was added to dissolve the MgO sand, and then air was sparged through the solution to aid in the oxidation of iodide to free iodine (iodine was added as a booster in the bomb reduction procedure). The free iodine was carried through sodium hydroxide scrubbers. Further addition of nitric acid and heating was required to dissolve the MgO crucible material. The solution was filtered and sent to nitrate anion-exchange. The leached residues were transferred to the hydrofluorination system for removal of silica (References D042 and D059).

Casting residues were treated in the same manner as the reduction residues, using a modified procedure because no iodine was present in these residues. The MgO-2 percent silicon dioxide casting crucibles do not contain fluoride; therefore, the addition of aluminum nitrate was not required (References D042 and D059).

Purification

Plutonium-bearing solutions generated in the dissolution step were sent to purification for plutonium recovery. Purification consisted of both ion-exchange and precipitation. After ion-exchange and/or dissolution of precipitates in nitric acid, plutonium-bearing nitrate solutions were sent to the metal fabrication line (References D042 and D059).

Plutonium Hydroxide Precipitation

The hydroxide precipitation process (OH) took plutonium in filtrate solutions from the purification steps and precipitated it with potassium or sodium hydroxide. The resulting plutonium-enriched hydroxide cakes became feed material for other operations or were returned to the dissolution step for re-processing. Heavy metals were known to concentrate in the plutonium-rich hydroxide cakes (Reference D042).

Plutonium Peroxide Precipitation

A peroxide precipitation process (PR) was used to achieve excellent separation of plutonium from the cationic impurities aluminum, bismuth, calcium, cesium, chromium, cobalt, iron, lanthanum, and magnesium, as well as americium. Peroxide was added to the dissolution filtrate feed material to convert the plutonium to valence state (+4). The resulting peroxide filter cake was dissolved in nitric acid and the solution was sent to the metal preparation line for conversion to metal (References D042 and D059).

The filtrate solution from the peroxide precipitation had to be treated immediately after filtration to destroy the excess peroxide (the "peroxide kill" process). The preferred method was to slowly add the filtrate to sodium hydroxide. The resulting solution was cooled and then acidified with nitric acid to completely dissolve the hydroxides and provide a clear solution for the anion-exchange process (References D042 and D059).

Plutonium Oxalate Precipitation

The precipitation of plutonium (+3)-oxalate has been an important step in the processing of plutonium since the earliest days of LANL. Oxalate precipitation is a quick, effective concentration step that also provides excellent decontamination from unwanted anions and from metals that form soluble oxalate complexes. The oxalate precipitation process (OY) was used to achieve separation of plutonium from iron, aluminum, uranium, or other cations that form soluble oxalates. The precipitation of the trivalent oxalate was also used as the concentration step of the nitrate anion-exchange columns. The plutonium valence state was adjusted to (+3), if necessary, and oxalic acid was added to precipitate the plutonium oxalate. The resulting oxalate was calcined to the oxide, and the oxide was dissolved in nitric and hydrofluoric acid to produce a plutonium nitrate product that was acceptable in the metal preparation line (References D042 and D059).

Anion-Exchange

After 1959, the plutonium recovery operations at LANL employed nitrate anion-exchange columns as the primary mode of scavenging, purifying, and concentrating plutonium. The general procedure for any residue was to: (a) get the plutonium into solution, (b) sorb the plutonium on nitrate anion-exchange resin, (c) elute the plutonium, and then (d) determine which, if any, additional operations should be used to remove remaining impurities. The eluate was concentrated by precipitation of the trivalent plutonium oxalate, if necessary.

The purified plutonium nitrate solution was then sent to the metal preparation line (References D042 and D059).

The nitrate anion-exchange operations used resin-filled columns to sorb plutonium. The pH of incoming solutions was adjusted with nitric acid and the plutonium was stabilized by changing the plutonium valence state to (+4) using hydrogen peroxide. Other chemicals used to adjust acidity or to "condition" incoming solutions to address the presence of fluoride, silica, metal impurities, or plutonium (+6) included: aluminum nitrate, ferrous ammonium sulfate, hydrogen peroxide, sodium hydroxide, sodium nitrite, sulfuric acid, and urea (References D042 and D059).

Plutonium (+4) binds to the resin while impurities, such as americium, uranium, and other metals, flow through the column. The column was washed with 7 molar nitric acid to remove non-sorbed species. The plutonium remained on the resin in the (+4) valence state until the eluting agent, 0.3 molar hydroxylamine nitrate, was flowed through the columns. This released purified plutonium in solution for further processing (i.e., precipitation and oxidation). Ion-exchange resins were reconditioned using nitric acid (References D042 and D059).

After ion-exchange, plutonium-bearing solutions were sent on to a precipitation process to convert the plutonium solution to plutonium oxalate. This process involved the addition of oxalic acid to form plutonium oxalate precipitate. The resulting oxalate was calcined to the oxide, and the oxide was dissolved in nitric and hydrofluoric acid to produce a plutonium nitrate product that was acceptable in the metal preparation line (References D042 and D059).

Plutonium/Thorium Separation

Plutonium/thorium oxides were dissolved in a nitric and hydrofluoric acid solution to which sodium chromate and lanthanum nitrate were added. Thorium was removed from the solution by addition of potassium fluoride or hydrogen fluoride to form thorium fluoride precipitate. After filtering out this precipitate, the plutonium was reduced to the (+4) valence state and chromium was reduced to the (+3) valence state in solution using peroxide. Continued addition of peroxide and sulfate resulted in the precipitation of plutonium peroxide, which was subsequently dissolved in nitric acid to provide the nitrate feed for the metal preparation line (References D042 and D059).

Evaporator

The use of evaporators was in the development stage at the DP West Facility in the 1970s. The evaporators were put into production when plutonium recovery operations were relocated to TA-55 (References C011 and D059).

4.4.2 Pyrochemical Operations (Metal Production)

Pyrochemical operations at DP West included the metal preparation line (MPL), developmental direct oxide reduction (DOR), and ER. Plutonium nitrate solutions produced by the plutonium recovery operations were processed in the metal production operations. Plutonium peroxide was precipitated from the nitrate solution and converted to plutonium tetrafluoride. The plutonium tetrafluoride was in turn mixed with calcium metal and heated in a metal "bomb." The highly reactive calcium combines with the fluorine in the plutonium tetrafluoride, leaving molten metallic plutonium that forms a disc or button in the bottom of the bomb. After cooling, the plutonium button was sent on to the metal fabrication section (References D042, D043, D054, and D059).

Metal Preparation Line

At LANL, the MPL produced plutonium metal using the reduction of plutonium tetrafluoride with calcium in a sealed pressure vessel until 1992. Plutonium nitrate solutions produced by the plutonium recovery operations were processed in the metal production operations. Plutonium peroxide was precipitated from the nitrate solution and converted to plutonium tetrafluoride. The plutonium tetrafluoride was combined with calcium metal in excess to that needed for the reduction and iodine, which was added as a reaction initiator. The mixture was placed in an MgO crucible that was surrounded by MgO sand, all placed inside a stainless-steel pressure vessel (a "bomb"). An induction heater elevated the temperature of the reactants and vessel until the iodine reacted with some of the calcium. The highly exothermic reaction raised the internal temperature of the bomb to over 1500 °C in just seconds. The remainder of the calcium reduced the plutonium tetrafluoride to form plutonium metal and calcium fluoride, with the reaction temperature reaching as high as 2000 °C as this second reaction proceeded (References C013 and D059).

As cooling commenced, the molten plutonium, with its high density, settled to the bottom of the crucible, displacing the less dense molten calcium fluoride and calcium iodide. As the temperature decreased to 1400 °C, the calcium fluoride and then the calcium iodide solidified. The desired product was plutonium metal, which was recovered as a button by breaking the crucible and mechanically separating the contents. After cooling, the plutonium button was sent on to the metal fabrication section (References C013 and D059).

The plutonium metal production flowsheet is shown in Figure 9, DP West Plutonium Metal Production Flow Diagram. The waste products were calcium fluoride and calcium iodide, which formed a slag, magnesium oxide sand, and magnesium oxide crucible pieces. These were discarded if the plutonium content was below the DL. If the plutonium content was above the DL, the slag and crucible pieces were sent to recovery operations. The magnesium oxide sand was reused, if possible (References D002 and D059).

Little or no purification of the plutonium occurred during this process. However, because the reagents introduced no impurities and the highest purity feed material was used; the resulting metal was often satisfactory for high-purity applications. In this process, any trace metals were below the toxicity characteristic levels, so that the associated debris and slag

wastes were below the toxicity characteristic levels in RCRA metal content (References C014 and D059).

Direct Oxide Reduction

In the 1970s at DP West, the development of the single pass DOR process for plutonium oxide was at the experimental stage. With the exception of the Pu-238 operations, the DOR process did not go into production before operations were relocated to the TA-55 Plutonium Facility. Operations for the conversion of 200-gram batches of Pu-238 oxide and Pu-239 oxide to metal were developed in 1975-1976 at DP West. The process was later extended to the 400- and 700-gram scale for Pu-239 operations at TA-55 (References D025, D027, D059, and M001).

In the DOR process, plutonium oxide and calcium metal were reacted in molten calcium chloride or calcium chloride mixed with calcium fluoride, to produce plutonium metal. The reaction was conducted in an MgO crucible at 820 °C to 875 °C. Any arsenic, mercury, or selenium present in the impure plutonium oxide would be driven off due to their volatility at this high temperature. The reaction proceeds to completion when excess calcium was present and when sufficient calcium chloride was available to dissolve the calcium oxide (CaO) product (References D025, D027, D052, and D059).

After cooling, a plutonium metal button was removed by breaking the crucible. A layer of salt above the button contained unreacted oxide and metal shot, which was sometimes recovered by addition of fresh salt plus additional calcium metal. The process was then rerun. If unreacted oxide and metal shot remain after the second run, the material was sent to aqueous recovery. The product plutonium metal contains significant impurities, including additional metal impurities derived from the calcium metal and calcium chloride reagents. It must be further purified by ER. The salt was then either routed through aqueous chloride operations to recover the plutonium, or else discarded as waste along with the remaining calcium metal and MgO crucible pieces (References D025, D027, and D059).

The feed oxide, reagent salts, and reductant were of the highest purity available because the process was non-purifying (i.e., the purity of the product depended on the purity of the feed materials). In fact, the plutonium metal produced from this operation was always less pure than the feed material, due to impurities derived from the reductants. Plutonium metal from this process typically requires further processing to meet purity requirements (References D025, D027, and D059).

Electrorefining

The ER process was introduced in 1962 at TA-21, and was transferred to TA-55 in 1979. During the period 1964 through 1977, 1568 kg of plutonium metal of >99.95 percent purity was produced in 653 runs by the ER facility at DP West. The ER process took impure plutonium metal and produced high purity plutonium metal. Impure plutonium was cast as an anode, which was then placed in an MgO crucible with a salt mixture, a metal cathode (typically tungsten), and a seeding reagent - usually magnesium chloride or plutonium

chloride. After the anode and salt melted, current was applied to the system, and plutonium at the anode was oxidized. The plutonium ions traveled through the molten salt to the cathode, where reduction to the metal state occurred. Impurities in the original plutonium anode that were more easily reduced than plutonium (including cadmium, chromium, lead, and silver) remained in the anode, while impurities more easily oxidized than plutonium (including americium and barium) were left in the molten salt. After cooling, the crucible was broken and the residues were physically separated from the high purity product metal (References D003, D004, D029, D059, P001, and P009).

4.4.3 Metal Operations (Production and Fabrication)

A process flow diagram showing the plutonium metal cycle at the DP West Facility is included in Figure 8, DP West Plutonium Metal Cycle. The metal operations at DP West consisted of metal production and metal fabrication, which included casting and machining. Assembly and disassembly operations were also carried out, as well as experimental operations in fabrication, preparation of test specimens, and metal handling. The metal fabrication section operated a foundry and machine shop devoted exclusively to casting and machining plutonium and its alloys. The plutonium parts prepared in the metal fabrication operations were used for many basic research programs at LANL. Throughout the production and fabrication process, metal alloys and components were inspected, similar to the operation conducted at TA-55 under P/S code IN, to ensure predetermined specifications (References D002, D016, D037, and D059).

Alloy Development

This process was for the development of plutonium alloys (DA). Plutonium metal was placed in metal cups onto which the alloying metal was coated on the cup walls. The alloys were melted in the metal cups. The melt was allowed to cool. Observations were made on the success of the alloying process. If the alloy reacted with the cup, it was sent to plutonium recovery. If not, it could be sent back to original process (e.g., casting). Bromobenzene was used for density measurements and Freon TF was used to clean parts. This process generated rags, gloves, metal cups, and other general glovebox maintenance items (References D037 and D054).

Casting

The casting (CA) process received plutonium metal from pyrochemical operations or from other sources, such as the Special Recovery Line (SRL). The metal was combined with other metal from different sources to produce a product metal that meets purity and isotopic specifications. Specification metal was then cast as a pre-alloyed feed aliquot, at which time gallium metal was added, it was analyzed chemically in-line to determine the proper gallium content, and the metal was placed into in-line storage. Metal was pulled from in-line storage to cast into shapes (References D009, D043, D054, and D059).

Casting was done by an induction furnace using tantalum crucibles and tantalum puller plugs. Molten plutonium was poured into the graphite mold through a tantalum funnel.

Casting was done under vacuum so that the plutonium did not oxidize. The mold was allowed to cool, at which time the cast shape was unmolded and sent to heat treatment to homogenize the plutonium. After heat treatment, the parts underwent density determination using bromobenzene. Bromobenzene is volatile, hence evaporated and was removed by the ventilation system. The cast shape underwent a final heat treatment and density measurement. The finished cast parts were sent to machining, or placed in temporary in-line storage (References D009 and D059).

Chemical analysis was performed on parts rejected during inspection. If the rejected parts met the chemical requirements, the parts were added to other metal in the metal blending step described above. Those parts that did not meet the chemical specifications were cast into ingots, which were then sent for ER (References D009 and D059).

Casting skulls, which were small amounts of plutonium left on the furnace and crucible surfaces, were oxidized to plutonium oxide. The plutonium oxide easily brushed from the metal surfaces with a paintbrush, thus allowing the tantalum crucibles and funnels to be reused many times. In addition, scrap from the cast pre-alloyed feed aliquot and the casting step was roasted to oxide. This plutonium oxide was sent to aqueous recovery (References D009 and D059).

Graphite molds have always constituted the largest volume of waste from casting operations because these molds were used only once. Other wastes generated by casting included the occasional discard of tantalum crucibles and funnels, tools, rags, gloves (leaded), gaskets, and small amounts of plastics and glass (References D009 and D059).

Machining and Metal Working

Machining and metal working (MA and MW) involved a variety of operations on cast parts obtained from casting. Machining operations included turning, milling, grinding, and boring. The objective of the machining operations was to bring the parts to their final dimensional specifications (Reference D059).

Chemicals used in the past as coolants during machining include Tap Magic (which contains 1,1,1-trichloroethane) and Freon TF. Tap Magic use was discontinued in 1992, and Freon TF use was discontinued in 1995 because it was an inferior coolant for plutonium due to the nature of machining this metal. Although Tap Magic contains 1,1,1-trichloroethane, the EPA HWN F002 listing does not apply in this case because the chemical was used as a coolant, not as a solvent (References D037 and D059). Cleaning solvents were used in machining operations. Methyl ethyl ketone and Metalprep 79 (a phosphoric acid-based metal cleaner) were used. Freon TF was used to remove oil from turnings (degreasing) before they were sent to recovery. For final cleaning, trichloroethylene was used (References D037 and D059).

Physical Properties

This process was performed to study the physical properties of alloys and components, including the structural, magnetic, electronic, and metallurgical properties of actinide metals, alloys, and compounds from various operations (References D035 and M001).

Pit Disassembly and Special Recovery Line

Pit disassembly involved the separation and sampling of pit assemblies using milling, turning, and grinding techniques. Pits were received and monitored for tritium. If no tritium was detected or was below a specified activity, the pit was placed in a glovebox and cut in half, and its components were separated and decontaminated of slight tritium contamination. Care was taken not to mix non-special nuclear material metals with the special nuclear material (SNM) metals. The non-SNM metals were discarded as waste. Uranium and plutonium shells were decontaminated of minor surface contamination (References D037, D059, and P007).

Tritium was recovered in the SRL if tritium was above a specified activity. Separation of pit components was done using a special abrasive cut-off wheel. The pit was cut in half, and the shells were cleaned with copper wool and Freon TF. Scrap was sent to recovery or to waste management, depending on whether the material was SNM or not. After the shells were cleaned with the copper wool and Freon TF, they were placed in an ultrasonic bath for cleaning. Tritium-contaminated water was collected and poured over zeolite for disposal (References D037, D059, and P007).

Small-scale decontamination of tritium-contaminated plutonium and other SNM was done in the SRL furnace. The SRL furnace area consisted of different sections, including metal handling, tritium removal furnace, equipment for collecting tritium liberated in the furnace, and effluent treatment system (References D037 and D059).

Welding and Welding Leak Test

The welding operations at DP West were similar to those conducted at TA-55 under P/S code WE. One metal fabrication process consisted of the preparation and encapsulation of foils of U-233, neptunium (Np)-237, Am-241, and assorted plutonium isotopes for use as neutron detectors. Metal oxide compounds were also used in detectors. The foils were welded or soldered into nickel, stainless-steel, or copper capsules. Containers were leak-tested after welding (References D016, D018, and D059).

The welding method at DP West employed a gas tungsten arc welder. Encapsulation of radioactive isotopes involved placing the isotopic material to be sealed into a stainless-steel capsule and welding the capsule closed. The exterior of the capsule was cleaned with Freon TF. The Freon TF was allowed to evaporate; hence no wiping of the capsule surface with rags was required. Other welding operations included welding of plutonium samples on vanadium in an argon atmosphere, brazing gold to repair platinum frits, welding titanium to repair titanium boats, and welding of aluminum (References D037 and D059).

4.4.4 Pu-239 Fuels Programs

The plutonium fuels programs at DP West consisted of two primary operations: LMFBR fuel production; and the plutonium advanced fuels development. The LMFBR fuel program investigated the suitability of plutonium-containing ceramic materials for use in breeder reactors. The preparation of purified ceramic grade Pu-239 oxide for the FFTF at Hanford was carried out in DP West, Building 2, in the 1970s, and transferred to TA-55 in 1978. At both DP West and TA-55, U-235/Pu-239 carbide fuel was prepared. In addition, Pu-239/thorium-232 carbide driver fuel and U-238 carbide blanket fuel were also fabricated at DP West (Reference C006). The reactor fuel operations at TA-55 are described in detail in *Process Acceptable Knowledge Report for Metal Operations at TA-55* (References C006, D011, D037, D057, and D059).

The advanced fuels program investigated the fabrication of plutonium ceramic or cermet fuel materials for potential use in power reactors. The principal goals of the advanced fuels program were to prepare pure, well-characterized plutonium fuel materials and to determine their high temperature properties. Pu-239 advanced fuels for the program included fuels of mixed uranium-plutonium carbides and nitrides (References D008, D016, and D059).

Ceramic Grade Plutonium Oxide Production

The production of plutonium oxide FFTF driver fuel was very similar to the work subsequently conducted at the TA-55 Plutonium Facility. The production process for the FFTF plutonium oxide feed material is shown in Figure 10, LANL Ceramic Grade Plutonium Oxide Production Circa 1980. The feed material was aged plutonium metal that had a sizable amount of ingrown americium. The impure plutonium metal was converted to an impure oxide by burning the metal in air (TA-55 P/S code PA). The impure oxide was dissolved in a nitric and hydrofluoric acid solution (TA-55 P/S code OD), and separated from the americium by precipitation of the plutonium as the peroxide (TA-55 P/S code PR). The americium remains in the filtrate, and was subsequently precipitated as the hydroxide by slowly dripping the peroxide filtrate into sodium hydroxide to "kill" the peroxide (see Section 4.4.5). The plutonium peroxide precipitate was redissolved in nitric acid and further purification was achieved by precipitation of the oxalate (TA-55 P/S code OY). The oxalate precipitate was calcined to the purified plutonium oxide, which was subsequently screened, blended, and canned (TA-55 P/S code FC) for shipment to Hanford (References C006, D011, D057, and D059).

Advanced Fuels Fabrication

Enriched uranium oxide and plutonium oxide feeds were blended and mixed with graphite and stearic acid. Stearic acid was used to keep the material from sticking during milling. The blended oxide was then pressed into briquettes (at TA-55, this operation was performed under P/S code OB). Small pieces of briquette and powder left after pressing were sent to the vault or to recovery (Reference D059).

The prepared briquettes were then subjected to carbothermic reduction (TA-55 P/S code

RS). In this process, the plutonium or uranium oxide were reduced to the carbide form, resulting in the removal of most carbon and nearly all oxygen from the material, and in the decomposition of the stearic acid. The carbide briquettes were then sent for size reduction (Reference D059).

A jaw crusher was used to reduce the size of the carbide briquettes in preparation for pulverizing. The crushed material was mixed with 0.2 weight percent stearic acid and polyethylene glycol. A vibratory mill pulverized the crushed material to 325 mesh (TA-55 P/S code CO). Nickel powder at a concentration of 2000 parts per million was added to the pulverized carbide as a sintering aid (Reference D059).

Advanced Fuels Pellet Preparation and Element Loading

The plutonium and uranium carbide powder was pressed into pellets that were then loaded into molybdenum trays. The trays were placed in a furnace at 450 °C to burn off the stearic acid and polyethylene glycol. Small amounts of MolyKote were used for hand pressing of pellets. The pellets were sintered in an argon-hydrogen atmosphere at 1600 °C. The sintered pellets were inspected to meet specification (TA-55 P/S code GI). Out-of-specification material was ground to specification with either diamond or aluminum oxide grinding wheels. A final inspection was performed on these pellets with a hand micrometer. Those pellets that met final inspection specifications were transferred to TA-35 for loading into the fuel element(s) along with the bonding material (e.g., sodium), and the elements were welded (TA-55 P/S code EL) (Reference D059).

Sample pellets were collected for chemical analysis, carbon-nitrogen-oxygen (C-N-O) analysis, and/or determination of the oxygen to metal ratio by the Analytical Chemistry Group at the Chemistry and Metallurgy Research (CMR) Facility. Compatibility testing, immersion density measurements, and metallographic inspection were performed at DP West (Reference D059).

4.4.5 Americium Processing Operations

In addition to plutonium processing, extensive research on americium was carried out at DP Site West starting in the late 1940s. By the 1950s, DP West was the world's center of research on americium. Am-241 research operations were located in Building 3, and Am-241 recovery operations were conducted in Building 2 South. Consequently, americium and plutonium contaminated wastes were commingled (References D008 and D059).

Am-241 was processed at DP West for commercial applications, such as smoke detectors and oil-well logging instrumentation, through the Oak Ridge isotopes sales pool for distribution to industry. Am-241 was separated and subsequently purified from formerly stockpiled material, byproduct feed from the Pu-239 oxide ceramic-grade fuel production line (see Section 4.4.4), and from the Hanford Ash material (References D008, D057, and D059).

When solutions with high americium concentrations were "conditioned" with hydrogen peroxide (see Section 4.4.4), an americium hydroxide precipitate formed when the solutions were dripped into sodium hydroxide to "kill" the peroxide. Alternatively, the americium-containing hydroxide cakes from the peroxide kill process were re-dissolved in nitric acid, and the solution concentrated through distillation to precipitate a gel of silica (TA-55 P/S code SX). The silica gel was separated by filtration, air dried, and discarded as solid waste. The americium-containing filtrate was sent to purification (Reference D059).

The americium oxide production process received the hydroxide slurry from plutonium oxide production that was filtered and washed with 0.1 molar sodium hydroxide. The filter cake was dissolved in nitric acid, and the nitric acid concentration was adjusted to 7 molar and passed through an anion-exchange column. The plutonium (+4) was retained on the ion-exchange resin and the americium (+3) passed through the column, resulting in a purified americium solution (TA-55 P/S code AP). At the conclusion of the run, the plutonium was eluted off the column by washing the column with 1 molar nitric acid, and the plutonium solution collected separately. The plutonium solution was then sent to one of the plutonium ion-exchange columns for recovery of the plutonium (References D011, D057, and D059).

The seven molar nitric acid solution from the americium purification process was distilled to reduce volume, adjusted to 0.5–1.0 molar acidity, and sent to oxalate precipitation. The high purity americium oxalate cakes underwent calcination at 800 °C, resulting in a pure americium oxide product (TA-55 P/S code AO). After filtration of the americium oxalate product, the oxalate filtrate was sent to the hydroxide precipitation process (TA-55 P/S code OH) (References D011, D057, and D059).

4.4.6 Pu-238 Processing

The Pu-238 processing operations involved the production of Pu-238 based heat sources along with the recovery of Pu-238 from processing residues and scrap materials discussed in Section 4.4.1. These sources were manufactured for both defense and non-defense activities. Pu-238 processing and fabrication was performed in Buildings 3, 4, 5, and 150. The primary programs included the Systems for Nuclear Auxiliary Power heat source, the artificial heart program, the Solid Solution Cermet fuel form, the Plutonia Molybdenum Cermet fuel form, the Plutonia-Iridium Cermet fuel form, and the Pure Plutonium Oxide fuel form (References D008, D021, D047, D049, D050, and D065).

Systems for Nuclear Auxiliary Power (SNAP)

Systems for Nuclear Auxiliary Power (SNAP) devices converted thermal energy from radioisotope decay into electrical energy. The first sample of Pu-238 metal was produced by CMB-11 at DP West in 1959. The Pu-238 was then used to fabricate a SNAP power source using plutonium. The first encapsulation of a Pu-238 heat source was carried out in Building 5. The Pu-238 heat sources were used to power unmanned weather stations, navigational buoys, satellites, and spacecraft instrumentation. The SNAP power sources

also support space electric power applications, including Apollo Lunar Surface Exploration Packages (ALSEP) (Reference D008).

Artificial Heart Program

In the 1960s and 1970s, work on the development of a Pu-238 heat source for the artificial heart was conducted in Building 4 North. The AEC (later the U.S. Energy Research and Development Administration), in coordination with the National Heart and Lung Institute, started a program to develop the power supply for the artificial heart in 1967. The aim of the program was to develop a compact, completely self-contained, artificial heart powered by a nuclear source. After an extensive study, the AEC decided on Pu-238 as one of the best possible source materials (References D005, D008, D020, D044, D045, and D046).

CMB-11 was tasked to conduct R&D on the nuclear heat source, and acquired 80 percent enriched Pu-238 material produced by Savannah River Plant (SRP). The fuel forms researched and developed in this program included Pu-238 metal, Pu-238-3 atom percent gallium (performed in TA-55 only and will not be discussed in this report), Pu-238, N-15 nitride, and Pu-238 O-16 oxide. The plutonium metal fuel provided the lowest radiation exposure, but ultimately the O-16 oxide became the fuel of choice because of its greater chemical stability and a radiation exposure nearly as low as that of the metal fuel. The medical-grade fuel forms were prepared by dissolving the Pu-238 oxide in a nitric and hydrofluoric acid mixture, precipitating as plutonium peroxide, and isolating the cake by filtration. After filtration, the peroxide was destroyed, "killed," and the acids were neutralized by a hydroxide precipitation and filtration before the solution was transferred to the waste treatment plant at TA-21 East. Then the peroxide precipitate was converted to the tetrafluoride by heating under a flow of hydrogen fluoride and oxygen gas. Any unreacted hydrogen fluoride gas was scrubbed with potassium hydroxide solution and the solution was sent to the same treatment plant. The plutonium fluoride was reduced to metal with calcium metal in a bomb reduction. The calcium fluoride and calcium iodide slag became either recoverable scrap for SRP or waste. Eventually, the bomb-reduced metal was cast into rods, and two rods were placed into the anode cup and electrorefined. The sodium chloride/potassium chloride salt and crucible became recoverable scrap for LANL. Finally, the electrorefined high purity metal was cast into rods and encapsulated as the heat source. The high purity of the feed materials, as demonstrated by analysis, assured that none of the waste materials would contain above regulatory limit heavy metals. No other RCRA hazardous chemicals were introduced into the waste in these processing steps (References C009, D019, D020, D044, D045, and D046).

Eventually, the first four steps were replaced by the direct oxide reduction process. That step involved the reduction of plutonium oxide to plutonium metal, at 850 °C, with calcium metal in molten calcium chloride/calcium fluoride, or plain calcium chloride salt, to dissolve the resulting calcium oxide. The salt and crucible became a recoverable residue. The recovery of the residues was accomplished by oxidizing any plutonium metal to the oxide and re-introducing it as feed material. Again, no RCRA hazardous chemicals were introduced into the waste by execution of this step (References D019, D044, D045, and D046).

The Pu-238 O-16 oxide was prepared by taking the electrorefined metal rods produced, as discussed above, and placing them in a vacuum manifold, with hydrogen gas admitted to the Pu-238 metal to form plutonium hydride. The hydride was decomposed under vacuum to reform the metal, while not melting the plutonium. These steps were repeated twice, resulting in a Pu-238 powder. The powder was reacted with O-16 water vapor under a flow of argon saturated with water vapor from 400 °C to 700 °C. The oxide powder was ball milled in an inert atmosphere, screened, and cold pressed. The pellet was crushed and re-screened again. Carbowax dissolved in trichloroethylene was added to the powder and pressed into a pellet, then sintered at 1550 °C under a flow of argon/O-16 water (References D019, D044, D045, and D046).

The Pu-238 N-15 nitride process is identical with that described in the Pu-238 O-16 oxide process above, except where N-15 gas was reacted in a controlled manner with the Pu-238 powder at 300 °C and gradually increasing to 500 °C to form plutonium nitride. The same comments apply to the preparation of the nitride fuel as those under the oxide fuel. No mixed waste was created in this fuel preparation (References D019, D044, D045, and D046).

The design of the artificial heart consisted of the artificial heart pump that would be placed in the patient's chest, and the fuel source and engine package that would be placed in the lower abdomen. Although the prototype fuel source designed and manufactured by CMB-11 incorporated safety features and used impact-resistant, high-strength materials, the possibility that Pu-238 could be released into the environment was the main reason for the cancellation of the program. Potential accident scenarios included traumatic accidents, catastrophic fires, explosions, or gun shots (Reference D008).

Solid Solution Cermet (SSC) Fuel Form

The Savannah River Laboratory prepared the SSC for the TRANSIT Project, which consisted of 90 weight percent Pu-238 oxide –10 weight percent thorium oxide solid solution coated with molybdenum metal. The plutonium oxide was sampled to determine the total plutonium content and to determine impurities spectrochemically. The plutonium oxide was then heated at 1000 °C and ball milled. The thorium oxide was also ball milled, and then both oxides were combined and ball milled again before pressing into a 250-gram pellet. The pellet was sintered at 1600 °C in an argon atmosphere with O-16 water. The sintered chunks were crushed and their density measured. Further crushing was performed, and the granules were screened to collect the 105 to 177 mesh. The fines were then recycled. The collected granules were coated with molybdenum in a heated column using chemical vapor deposition (CVD). The molybdenum source was either molybdenum hexafluoride or molybdenum pentachloride gas vaporized and mixed with hydrogen gas. The gas cylinders were located outside the glovebox and the gas was plumbed in. At 600 °C, the molybdenum was reduced to metal and the hydrogen combined with the fluorine or chlorine to form hydrogen fluoride or hydrogen chloride gas, respectively. The halide gas was reacted with calcium oxide or calcium carbonate to form a calcium salt in a trap. A mixture of argon/hydrogen gas flowed through the column during the heating and cooling steps (References D019, D047, and D051).

A sample of the molybdenum coated fuel granules was analyzed to determine the molybdenum concentration. A 160-gram sample of the coated granules was transferred to a molybdenum boat, baked in an induction furnace at 1800 °C, and charged to a die body. The charge was pressed at 1700-1750 °C and 13,000 pounds per square inch (psi). Molybdenum, in a rolling tube containing molybdenum springs, was applied as an overcoat to the fuel disc in the same manner as above. The final overcoated discs were machined to their final dimensions using a lathe or an ultrasonic machine tool (References D019 and D047).

This process was similar to that used at the TA-55 Plutonium Facility, with the exception that the coating and machining steps used the following (Reference D019):

- Thoria was a major constituent rather than an impurity
- Molybdenum hexafluoride, molybdenum pentachloride, and molybdenum
- Calcium fluoride and calcium chloride
- Machining was performed dry.

Plutonia Molybdenum Cermet (PMC) Fuel Form

The Plutonia Molybdenum Cermet (PMC) fuel form replaced the SSC fuel form. The fabrications steps were similar, with the exception of (References D019 and D021):

- The thorium oxide ball milling and the combination ball milling steps were eliminated
- An overcoat was not applied
- Machining of the overcoated discs was eliminated, and
- The fines were recycled to the ball milling of the oxide step.

Plutonia-Iridium Cermet (PIC) Fuel Form

A third fuel form was the Plutonia-Iridium Cermet (PIC), consisting of 87 weight percent plutonium oxide and 13 weight percent iridium. The fabrication began with a commercial sample of 325 mesh iridium powder, which was milled, ground, and mixed with several different slurry solutions, dried, and blended to generate an electrostatic charge on the metal particles. Up to this point, the operation was conducted in a non-radioactive environment; therefore, no TRU waste would be generated (References D019 and D049).

An O-16 exchange was performed on the oxide at 750 °C under a flow of argon/O-16 water. The oxide was out-gassed at 1000 °C and ball-milled in stainless-steel mills. The oxide was granulated by dry pressing in hardened-steel dies and granules were isolated of 61-295 mesh (smaller granules were recycled). The granules were then fired at 1075 °C to 1350 °C under a carbon dioxide atmosphere. The plutonium oxide was spread out over the bottom of a Petrie dish, a 325 mesh screen placed over the dish, and the iridium powder was sprinkled on to the screen. The entire assembly was oscillated to mix the combined powders. The graphite hot press die cavities and punches were painted with a five percent iridium/alcohol slurry and dried. During this step, the iridium became part of the product piece, while the loss of oxygen from the plutonium oxide to the graphite was

prevented. The iridium-plutonium oxide charge was cold pressed, and then hot pressed. Re-oxidation of any sesquioxide Pu-O16 was accomplished by reheating the product shape at 1100 °C (References D019 and D049).

The chemicals used in this process were camphor and acetone. The camphor began to volatilize as soon as it contacted the heat from Pu-238, and was completely volatilized as soon as larger quantities of oxide were brought together. The acetone was vaporized when the iridium camphor cake was dried. The first application of ethanol was removed by drying to the point that no ignitability remained. In the iridium painting, the parts were dried at 100 °C, which insured that the ethanol completely vaporized and no ignitability remained. The brushes that were used to apply the slurry would have been air-dried removing any potential for ignitability (References D019 and D049).

Pure Plutonium Oxide (PPO) Fuel Form

The use of cermet fuel form was replaced by PPO fuel form. The sintered plutonia fuel was contained by encapsulation in a high melting-point metal, such as iridium or platinum. An O-16 exchange at 775 °C under an argon/O-16 enriched water atmosphere was performed, and the powder was out-gassed at 1000 °C. The oxide powder was ball-milled with 440 stainless-steel jars and balls, then cold pressed into pellets using no binder and a Ferrotek die and punch. The pellets were then crushed, screened, and the desired size pieces were seasoned under an argon/O16 water atmosphere. The pieces were loaded into a graphite die and punch assembly, hot pressed at 1490 °C, and sintered under an argon/O-16 water atmosphere (References D019 and D050).

These steps were incorporated into the fabrication of the 100-watt spheres that were used in the MHW program and also became the basis for fabrication of pellets of lesser wattages. These steps were identical with those employed in the General Purpose Heat Source (GPHS) and Light Weight Radioisotope Heater Unit (LWRHU) fabrications performed at TA-55. No new chemicals or hazards were found in this fuel process (References D019 and D050).

Supporting Operations

Preparation of the fuel forms described above was only one portion of the Pu-238 heat source programs. In order to understand issues, such as safety, possible reentry into the earth's atmosphere from outer space, launch accidents, and radiation exposure to an artificial heart recipient, it was necessary to determine the chemical, physical, and radiation properties of those fuel forms. The following supporting operations were performed at TA-21 West (Reference D019):

1) Powder Density Determination - This process was accomplished by mechanical means involving no hazardous materials.

2) Asymmetrical Thermal Ramp of a PIC Sphere - This was an attempt to understand the stability of a PIC sphere under conditions of thermal shock involved only heating.

3) Melting Points of plutonium oxide and molybdenum - This process involved measurements and also included vapor pressures, heat of melting, and heat of sublimation for both materials. No chemicals were used in these measurements.

4) Thermal Diffusivity for PMC - No hazardous chemicals were used in these measurements.

5) Spectral Emissivity of PMC - No hazardous chemicals were used in these measurements.

6) X-ray Crystallography of the plutonium oxide - No hazardous chemicals were used in these determinations.

7) Chemical Interactions of plutonium oxide and plutonium oxide-x - Involved interactions with water, hydrogen, oxygen, carbon, nitrogen, tantalum, tungsten, molybdenum, iridium, titanium, titanium oxide, hafnium, hafnium oxide, thorium, thorium oxide, zirconium, and zirconium oxide. There was no use of hazardous materials in these studies.

8) Surface Temperature of SSC Discs - There was no use of hazardous materials.

9) Thermal Dilatometry Measurements of SSC - There was no use of hazardous materials.

10) Mass Spectrometer Study of vaporization of SSC fuel - There was no use of hazardous materials.

11) Thermal Stability of SSC Fuel in Air - There was no use of hazardous materials.

12) Thermoluminescent Dosimetry of Pu-238 heat sources - Dose rates were determined for both neutrons and gamma rays. No hazardous chemicals were used in the dosimetry.

13) Particle Size Determinations for Ball-milled Powders - This determination made use of a viscous solution, called Sedisperse that possessed no hazardous constituents.

14) Oxygen Isotopic Exchange of Heat Source Pellets on Exposure to Oxygen, Dry Air, and Moist Air - No chemicals were used in this study.

15) Calorimetry of Heat Sources to Determine Thermal Power - Small sources were measured in a copper isothermal twin calorimeter, and larger ones in a water-bath calorimeter. No hazardous chemicals were employed.

16) Helium Release Studies on Encapsulated and Bare Heat Source Pellets - No hazardous chemicals were used in these studies.

17) Radon Release Study on an Encapsulated Heat Source - Aqua Regia employed to dissolve any radon decay daughters, but this was done outside the glovebox.

4.4.7 Miscellaneous and Special Processing

The miscellaneous and special processing operations at DP West included the development of new recovery operations, metallography, and preparation of isotopes. The overall goal of miscellaneous and special processing involved the study and improvement of operations associated with the purification, extraction, recovery, and characterization of actinides. They were often performed on a small scale or in support of other operations (References D038, D041, and M001).

Development of New Recovery Processes

The development of new recovery processes (AD) involved a series of similar actinide extraction, separation, and characterization R&D studies. These studies included the processing of hydroxide cakes using various experimental chemical and electrochemical research solutions. These solutions were used to investigate and improve upon existing extraction and separation techniques. The development of sensors and instrumentation for chemical analysis was also conducted under this process. In addition, purification studies were performed on a non-routine basis. These studies involved small scale research and trouble shooting of various purification methods and used numerous isotopes and isotopic mixtures of plutonium, uranium, americium, and neptunium. Wastes generated from these operations included typical laboratory debris, such as labware (e.g., glass, plastic, rubber, or metal materials and supplies), rags from general cleanup, spent solutions, and typical glovebox operations waste (e.g., HEPA filters, glovebox gloves, glovebox windows, nuts, washers). Spent solutions, such as acids and bases, used in these operations were either sent to TA-50 or Building 257 (References D038 and M001).

Metallography

The purpose of the metallography operation (ME) was to characterize the microstructure of metallic or ceramic pieces to verify and establish the quality and effectiveness of welds. Materials examined under this operation consisted of plutonium and uranium carbides, nitrides, and oxides, as well as zirconium and tantalum alloys, and stainless-steel. Metal pieces (pellets) were cut with a diamond saw. Ceramic pieces were subjected to grinding with standard metal grinding media. Various epoxies were used for sample mounting, and the materials were cleaned, polished, and etched with several different chemical compounds. Wastes generated from this process included stainless-steel, standard glovebox maintenance items (e.g., rags, glovebox gloves, and HEPA filters), and grinding paper (References D002, D046, D048, D050, and D065).

Preparation of Isotopes

The preparation of isotopes process (PI) involved a hydrofluorination system to convert compounds of special isotopes of plutonium and other actinides to fluorides. The compounds were treated with hydrogen fluoride or fluorine gas to produce plutonium fluoride. The plutonium fluoride was then mixed with calcium metal, which in turn was heated to form calcium fluoride and plutonium metal. Quite often, a catalyst (e.g., iodine)

was added to initiate the reaction and to provide sufficient energy to ensure a complete reaction. This method of metal preparation neither purified the product metal, nor did it introduce impurities. However, a high-purity oxide feed would produce metal that met purity specifications for many applications. Wastes generated from this operation included MgO sand, calcium fluoride, and MgO crucibles (References D041 and M001).

4.4.8 Decontamination and Decommissioning (D&D)/Closure Operations

Plutonium operations in TA-21 started in the early 1940's and continued until 1978, when plutonium processing operations were moved to TA-55. Many of the facilities were used for other activities, including basic research, until they were declared surplus in the 1990's. Several D&D/Closure projects have been undertaken to remove contaminated portions of some facilities, to completely demolish others, and to cleanup surrounding MDAs and tank systems. These facilities and systems housed the equipment and material used to perform the above listed operations and the MDAs contained waste from the above listed operations. Therefore, the waste generated during D&D operations contains the same chemical and radiological contaminants (References D008, D035, D067, D069, P036, and P037).

Decontamination operations were used to accomplish several goals, such as reducing occupational exposures, limiting potential releases of radioactive materials, permitting the reuse of components, and reducing the amount of TRU waste generated. Decontamination operations included the use of mechanical and chemical cleaning techniques, such as brushing, stripping, washing, and wiping to remove contamination. In addition, physical isolation and draining of equipment were performed when necessary. Based on the radiological contamination, drained liquids were either treated at the liquid waste treatment facility or solidified with cement or an absorbent material (e.g., vermiculite, zeolite). Decommissioning operations involved the physical removal of contaminated equipment, furnishings, gloveboxes, machinery, piping and acid wells, support systems, and in some cases the investigation, excavation, and remediation of MDAs and tank systems including the removal of the surrounding media (e.g., soil). This included the removal and size reduction of glovebox internals, process piping and supports, tanks and ancillary equipment, and other fixed equipment, such as building ducting, wires, conduits, electrical panels, and cabinets. Gloveboxes and equipment were size reduced, as necessary, and packaged for disposal. Soil may have become contaminated during or discovered by the removal of equipment and facilities and cleanup of MDAs and tank systems. Sampling may also be performed to determine contamination levels of equipment, materials, and surrounding media (e.g., soil). Sampling can include direct radiological measurements or smears of equipment and analytical sampling of materials or media (e.g., coring, grab sampling). The containers assigned to waste stream LA-MSG04.001 were generated during these D&D operations. Secondary waste, such as combustibles, metal, and plastic generated during D&D, is expected to be part of the waste. D&D operations also included the removal of stored radiological and hazardous materials and other related actions (References D006, D008, D035, D060, D066, D067, D069, D070, M004, M020, M021, P036, and P037).

No hazardous chemicals were added to the waste during D&D operations. Commercially available, non-hazardous cleaning products, such as Fantastik, were used to remove loose contaminants. Another method for removal of loose contamination was to use non-hazardous strippable coatings, such as ALARA 1146 and Sensor Coat. Water-based paint was often used to fix remaining contamination in place prior to demolition. The goal of the D&D was to reduce the amount of TRU waste generated as much as possible through decontamination and size reduction (References D066 and D070).

4.4.9 Waste Repackaging and Prohibited Item Disposition

Waste repackaging and prohibited item disposition is performed in four facilities. The first facility was established in 1979 at TA-50 as the SRF to size reduce non-routine items, such as decommissioned gloveboxes, ductwork, and process equipment, to fit in 55-gallon drums or SWBs. A plasma torch was commonly used during size reduction to cut up these large items into manageable pieces. The SRF historically combined waste from multiple facilities, and these containers will be identified and characterized under a separate TA-50 waste stream. As LANL TRU waste characterization and certification activities increased, the mission of the SRF was expanded to include various operations to support TRU waste characterization. In 1993, the name of the SRF was changed to the WCRR Facility to reflect the expanded remediation and repackaging mission. Size reduction operations at the WCRR Facility were discontinued around 1997. The second repackaging facility operated for a short time in the early 2000s and resumed operations again in 2010. The TA-54 Building 412 facility performs sorting, segregating, size reduction, and repackaging operations on waste containers (e.g., 55-gallon drums) that contain WIPP nonconforming items. The TA-54 Building 412 facility also safely disassembles oversized containers (e.g., FRPs), processes waste items located within, size reduces waste items (if necessary), and processes the original packaging (e.g., plywood sheathing). The facility then repackages these wastes in standard containers (e.g., 55-gallon drums, SWBs) that can be permanently disposed of at the appropriate disposal facilities. The original packaging materials will be managed as either TRU or low-level waste. The third remediation and repackaging facility was established in 2006 at the TA-54 Dome 231 Permacon, and CCP personnel began observing these operations. The fourth facility, the Box Line Process, began operations in 2012 at the TA-54 Dome 375. The facility performs the same basic functions as TA-54 Building 412 facility described above. However, this facility will also process and package CMPs into standard containers (e.g., 55-gallon drums, SWBs). Containers that fail to meet WIPP criteria are sent to these facilities to be safely remediated (References C030, C031, C036, D028, D058, D060, D071, P010, P011, P012, P021, P028, P029, P030, P032, P033, and P034).

These four facilities are used to perform VE, repackaging, and prohibited item dispositioning of TRU waste. VE is performed to provide information that is used to 1) confirm the waste stream delineation by AK, 2) ensure the absence of prohibited items, and 3) characterize retrievably stored waste with inadequate AK. Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers, during which time liquids are absorbed, sealed containers greater than

four liters are opened, and other items removed and segregated, if necessary, prior to certification and shipment. Waste items with high dose rates may be repackaged into a pipe overpack container (POC). Current repackaging procedures ensure that waste items placed into a new container originate from a single parent container. Therefore, if repackaging is necessary, the original TA-21 characterization is retained. Some secondary waste generated during remediation/repackaging operations may be added to the waste containers, including but not limited to: absorbent (e.g., Waste Lock 770), Fantastik bottles used during decontamination, miscellaneous hand tools, paper/plastic tags and labels, plastic/metal wire ties, personal protective equipment (PPE), plastic sheeting used for contamination control, rags and wipes (Kimwipes), and original packaging material (e.g., plastic bags, plywood sheathing, rigid liner lids cut into pieces). Although these operations are performed outside of TA-21, there is no cross contamination with waste from other LANL facilities for the containers covered in this report. Figure 11, Waste Repackaging and Prohibited Item Disposition Flow Diagram, depicts the general waste repackaging and prohibited item disposition process (References C027, C034, P010, P011, P012, P021, P028, P029, P030, P032, P033, and P034).

4.4.10 Below-Grade Retrieval Project

Since 1970, TRU waste generated by LANL has been retrievably stored at TA-54, Area G, in anticipation of disposal at WIPP. Some of this waste, generated between 1970 and 1998, has been stored below ground. The below ground TRU storage includes a trench containing CMPs, Pit 9, four trenches (A–D), and (RH) remote-handled shafts. TRU waste stored in the RH shafts will not be discussed in this report. LANL has established the Legacy Waste Disposition (LWD) Project to ensure the safe retrieval of containerized TRU waste from below ground storage (References D072, D073, D074, and D078).

CMPs contain solidified wastewater from Laboratory operations that were collected and neutralized, when necessary, in special stainless-steel, water cooled storage tanks at TA-21, Building 257. Treatment operations at Building 257 generated contaminated effluent and sludge from May 1968 through June 1978. The contaminated effluent and sludge were mixed with cement to form a paste. The cement pastes were then pumped as batches into disposal wells at TA-21, Area T, or, at a later time, into 30 inch diameter and 20 foot long CMPs. The bottom 12 inches of each CMP was filled with a concrete plug (e.g., Portland cement) prior to waste injection. Approximately 2,500 liters of cement paste were placed into each CMP, each weighing between 5 and 7 tons. The top 12 inches of each CMP was then capped with a concrete plug. The CMPs were marked with a unique identifier prior to storage below ground (References D072, D077, M017, and P014).

Pit 9 was excavated in the spring of 1974 and completed for use in November of 1974. Pit 9 is located in the central portion of TA-54, Area G. Pit 9 is approximately 400 feet long, 20 feet deep, and 30 feet wide. The south end was excavated to an almost vertical slope while the north end has a 6-to-1 slope for access to the pit. The pit was used for retrievable storage of 30-, 55-, and 85-gallon drums and crates (e.g., FRPs) containing TRU waste. The primary mission of the Pit 9 LWD Project is to retrieve and relocate 4,082 waste packages containing TRU waste into an inspectable storage configuration (References D073, D074, D075, D076, and M018).

Trenches A–D received TRU waste between 1974 and 1985 for storage until it could be disposed of at WIPP. Trenches A–D were excavated to different dimensions based upon the quantity of waste to be stored and the trench proximity to adjacent disposal pits. Placement of waste into Trench A occurred between March 1974 and October 1974. Trench B was active between April 1976 and April 1977. Waste placement in Trench C began in April 1977 and ended in September 1981. Trench D was active between September 1981 and December 1985. The TRU waste stored in the trenches consists of 30-gallon containers placed inside concrete casks (References D078, D079, M016, and P013).

The primary mission of the LWD Project at TA-54, Area G, is to retrieve, characterize, repackage, as necessary, and dispose of below-grade TRU waste. Retrieval operations typically include workspace setup, removal of below ground storage material (e.g., soil, tarps, and/or cement plugs), inspection of waste containers to be removed (i.e., evaluation of container integrity), radiological survey of the containers, physical removal of the containers using various mechanical means, and workspace cleanup. Retrieved containers that are intact may be washed with water and detergent to remove soil or contamination if found. The wash water is treated separately from the containerized waste. Depending on the type and condition of the retrieved container, further repackaging or processing may be required. For instance, FRPs will be transferred to the TA-54 Building 412 facility or TA-54 Dome 375 for safe disassembly and repackaging. CMPs will be cut into sections and packaged into drums or SWBs. Drums with integrity or prohibited item (e.g., liquid) issues may be repackaged or overpacked (i.e., 30-gallon drum placed into a 55-gallon drum) in the facilities/operations described in Section 4.4.9. Materials used during retrieval operations that may contaminate the waste include contamination fixatives (e.g., paint), concrete used for patching (e.g., Portland cement), epoxy, plastic sheeting and bags, and PPE. Figure 12, Below-Grade Drum Retrieval Flow Diagram, and Figure 13, Below-Grade Crate Retrieval Flow Diagram, depict the general below-grade drum and crate retrieval process (References C035, D072, D073, D074, D078, P013, and P014).

4.5 Waste Certification Procedures

The mixed heterogeneous debris waste stream LA-MHD04.001 and the mixed contaminated soil waste stream LA-MSG04.001, generated from the operations described above, will be certified in accordance with CCP-PO-001 (Reference 4).

5.0 REQUIRED WASTE STREAM INFORMATION FOR LA-MHD04.001

This section presents the mandatory waste stream AK required by the WIPP-WAP (Reference 2). Attachment 1 of procedure CCP-TP-005 (Reference 1), provides a list of the TRU waste stream information required to be developed as part of the AK record.

5.1 Area and Building of Generation

The debris waste included in waste stream LA-MHD04.001 was generated during plutonium processing and associated operations (e.g., D&D) at the TA-21 DP West Facility as described in Section 4.4. Container-specific records have been reviewed for each container to verify the physical composition and origin of the waste stream inventory included in the most current AK Tracking Spreadsheet (References C028, C032, C037, D059, M008, M011, M012, M013, M015, and M021).

5.2 Waste Stream Volume and Period of Generation

Waste stream LA-MHD04.01 is mixed heterogeneous debris waste generated from October 1971-September 2011. Table 4, LA-MHD04.001 Approximate Waste Stream Volume, summarizes the current volume of this waste stream. The majority of the DP West debris inventory is presently in below-grade retrievable storage at TA-54, Area G. Of the current population of 2,595 debris containers, 2,431 are currently stored below-grade at Area G. The containers listed as others are various nonstandard containers (e.g., cargo container). The projected volume may change based on the radiological characteristics of the waste containers, the condition of the retrievably stored below-grade containers, and repackaging operations. No future additional waste stream volume has been identified; however, it is expected that additional TRU waste could be generated during future D&D projects (e.g., cleanup of MDAs A and T) (References 1, C028, C032, C037, D059, DR002, M008, M011, M012, M013, M015, and M021).

Table 4. LA-MHD04.001 Approximate Waste Stream Volume

Containers	Volume (m^3)
552 30-gallon drums	62.6
1,802 55-gallon drums	378.4
14 85-gallon drums	4.5
1 110-gallon drum	0.4
16 SWBs	28.8
171 Crates	1,458*
39 Others	159.8*
2,595 Total	2,093

*Generator reported volumes.

5.3 Waste Generating Activities

Waste generated in TA-21 originated from materials used to produce metal and alloys of plutonium and other TRU elements from nitrate solution feedstock; fabricate the metals and alloys into precision shapes; measure the chemical and physical properties of plutonium metal and alloys; recover and recycle plutonium; and research and recover americium. Waste was also generated during D&D, waste repackaging, and retrieval operations. The operations are described in detail in Section 4.4 and include:

- Plutonium recovery operations
- Pyrochemical operations
- Metal operations
- Pu-239 fuels programs
- Americium processing operations
- Pu-238 processing
- Miscellaneous and special processing
- D&D operations
- Waste repackaging and prohibited item disposition
- Below-grade retrieval project

5.4 Type of Wastes Generated

This section describes the process inputs, Waste Matrix Code assignment, radionuclide contaminants, and RCRA hazardous waste determinations for debris waste stream LA-MHD04.001. The waste stream is characterized based on knowledge of the materials, knowledge of the operations generating the waste, and physical descriptions of the waste.

5.4.1 Material Inputs Related to Physical Form

Waste stream LA-MHD04.001 consists of mixed heterogeneous combustible and non-combustible debris.

Subcategories include plastic and cellulose-based combustible materials. The major components of the waste generated at TA-21 include paper, rags, plastic, rubber, wood-based HEPA filters, filter media, cardboard, wipes, paper towels, filter/grinding/transfer paper, stoppers, tubing, valves, bottles, containers, plastic sheeting, cotton gloves, cotton coveralls, coveralls, paper coveralls, plastic booties, tape, laboratory coats, nylon booties, polyvinyl chloride plastic, Plexiglas, rubber-brass-steel supplied-air hoses, leather gloves, latex gloves, respiratory protection, hoses, hoods, various hand tools, ladders, and wood (References D059, D065, M003, M008, M011, M012, M013, and M015).

Non-combustible waste materials generated at the TA-21 DP West Facility consist of small tools, equipment, cans, pumps and motors, process equipment, gloveboxes and associated tunnels, holdup tanks, machine shop mill, lathe and press, glovebox windows, metal and stainless-steel ventilation ductwork, composite HEPA filters, metal pipes and valves,

graphite, concrete, dust, fiberglass filter media, brass nuts, steel washers, stainless-steel mesh, steel supports, PN equipment, glassware, ladders, filter frames, titanium and steel experimental containers, tantalum molds, sintered glass frits, stainless-steel filters, anode heels, casting skulls, shielding, foil, lead solder, and crucibles (References D059, D065, M003, M008, M011, M012, M013, M015, and M021).

Even though LANL waste management practices required the assignment of individual containers to a combustible or non-combustible population based on the predominant matrix type, the containers in this waste stream will contain varying amounts of these materials. In addition, this waste stream may contain smaller amounts (<50 percent by volume for each container) of homogeneous solids (e.g., absorbent materials, residues). Small amounts of liquids (e.g., cutting oil, lubricating oil, solvents) solidified in Ascarite, diatomaceous earth, vermiculite, Waste Lock 770, zeolite, or cement (e.g., Portland cement), may be present in this waste stream. Small amounts of solid process residues, such as ash from the thermal reduction of organic-based materials, salts (e.g., lithium chloride, potassium chloride, sodium chloride), hydroxide cake/filter materials, resin (e.g., polyvinyl pyridine), and leached residues (e.g., silica solids), may also contaminate this waste stream. Strippable coatings (e.g., ALARA 1146 and Sensor Coat) may be present in D&D generated containers (References D059, D065, M003, M008, M011, M012, M013, and M015).

Feed materials for plutonium processing operations at the DP West Facility that generated TRU waste are listed in Table 5, Feed Materials for Plutonium Processing Operations at DP West Facility (References D059, D065, and M003):

Table 5. Feed Materials for Plutonium Processing Operations at DP West Facility

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
Actinide metals and metal oxides (e.g., Am-241, Np-237, U-233)	High purity materials used for neutron sources. No RCRA constituents.	Recovery Operations—Pretreatment and Dissolution Metal Operations—Welding Miscellaneous and Special Operations—Development of New Recovery Processes and Preparation of Isotopes
Aluminum oxide boats and crucible pieces	No RCRA constituents.	Recovery Operations—Pretreatment and Dissolution
Analytical laboratory solutions	Potentially contaminated with RCRA-regulated constituents: chromium, lead, mercury, acetone, butanol, carbon tetrachloride, chlorobenzene, chloroform, ethanol, methanol, methylene chloride, tetrachloroethylene, and xylene.	Recovery Operations—Precipitation Pu-238 Operations—Recovery and Solidification
Anode heels	Typically contaminated with cadmium, chromium, lead, and silver.	Recovery Operations—Dissolution Pyrochemical Operations—Electrorefining
Ash	Potential contamination with arsenic, barium, cadmium, chromium, lead, mercury, silver, and selenium metals are volatilized at high temperatures if present in the oxide and chloride forms.	Recovery Operations—Pretreatment and Dissolution

Table 5. Feed Materials for Plutonium Processing Operations at DP West Facility (Continued)

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
Casting skulls (Pu metal, Pu oxides, or Pu suboxides)	Potentially pyrophoric but the skulls were deliberately ignited under controlled conditions to remove pyrophoricity.	Recovery Operations—Pretreatment and Dissolution
Crucible pieces (tantalum, magnesium oxide)	Typically fairly pure; no RCRA constituents.	Recovery Operations—Pretreatment and Dissolution
Fuel pellets	High purity Pu and U material types; no RCRA constituents.	Recovery Operations—Pretreatment and Dissolution Pu-239 Advanced Fuels Operations
Graphite molds	High purity Pu metal used in metal casting operations; no RCRA constituents.	Recovery Operations—Pretreatment and Dissolution Metal Operations—Casting
Hydroxide cakes	Typically contaminated with RCRA-regulated heavy metals cadmium, lead, mercury, silver, and possibly chromium.	Recovery Operations—Dissolution and Purification Pu-238 Operations—Dissolution and Precipitation Miscellaneous and Special Operations—Development of New Recovery Processes
MgO sand and crucibles	High purity Pu metal used in metal preparation operations; no RCRA constituents.	Recovery Operations—Pretreatment and Dissolution Pyrochemical Operations—Metal Preparation

Table 5. Feed Materials for Plutonium Processing Operations at DP West Facility (Continued)

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
Miscellaneous combustible items contaminated with Pu (e.g., rags, paper, wood, rubber gloves, graphite, plastics)	Usually suspect contaminated with arsenic, barium, cadmium, chromium, lead, mercury, silver, and selenium.	Recovery Operations—Pretreatment and Dissolution D&D Operations
Miscellaneous noncombustible items contaminated with Pu (e.g., tools, crucibles, metal, glass, plastic, labware, scrap, glovebox sweepings, HEPA filters)	May be contaminated with RCRA-regulated heavy metals cadmium, lead, mercury, silver, and possibly chromium.	Recovery Operations—Pretreatment and Dissolution D&D Operations
Pu carbides	High purity metal carbide; no RCRA constituents.	Recovery Operations—Pretreatment and Dissolution Miscellaneous and Special Operations—Metallography
Pu chlorides and fluorides/ tetrafluorides	Variable purity; may or may not contain RCRA substances.	Recovery Operations—Dissolution Pu-238 Operations—Heat Source Fabrication
Pu hydride	High purity metal hydride; no RCRA constituents.	Recovery Operations—Pretreatment and Dissolution Pu-238 Operations—Heat Source Fabrication

Table 5. Feed Materials for Plutonium Processing Operations at DP West Facility (Continued)

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
Pu metal	High purity unalloyed Pu metal. Potentially pyrophoric; however, oxidized or alloyed to remove pyrophoricity, no RCRA constituents.	Recovery Operations—Pretreatment and Dissolution Pyrochemical Operations—Metal Preparation
Pu metal alloyed with Cr	High purity Pu metal alloyed with chromium.	Recovery Operations—Pretreatment and Dissolution
Pu metal alloyed with Hg	High purity Pu metal alloyed with mercury.	Recovery Operations—Pretreatment and Dissolution
Pu metal alloyed with Al, Am, Bi, Ce, Co, Cu, Fe, Ga, Hf, In, Ir, Mg, Mn, Mo, Ni, Os, Pt, Rh, Ru, Ta, Th, Ti, U, Y, and/or Zr	High purity Pu metal alloys with various metals, no RCRA constituents.	Recovery Operations—Pretreatment and Dissolution Pu-238 Operations—Recovery and Fuel/ Heat Source Fabrication
Pu nitrate	May be contaminated with RCRA-regulated heavy metal chromium and possibly cadmium, lead, and silver.	Pu-238 Operations—Dissolution and Precipitation
Pu nitride	May be contaminated with RCRA-regulated heavy metal cadmium, chromium, lead, and silver.	Recovery Operations—Pretreatment Pu-239 Advanced Fuels Operations Pu-238 Operations—Heat Source Fabrication Miscellaneous and Special Operations—Metallography

Table 5. Feed Materials for Plutonium Processing Operations at DP West Facility (Continued)

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
Pu oxides	Variable purity oxides depending on origin; suspect contaminated with RCRA-regulated heavy metals cadmium, chromium, lead, and silver.	Recovery Operations—Pretreatment and Dissolution Pu-238 Operations—Dissolution, Precipitation, Heat Source Fabrication, Analysis, and Recovery Miscellaneous and Special Operations—Metallography
Pu oxalate	Pu oxalate precipitation used for purification. Precipitate is expected to be fairly pure, no RCRA constituents.	Recovery Operations—Dissolution and Purification Pu-238 Operations—Dissolution and Precipitation
Pu peroxides	Pu peroxide precipitation used for purification. Precipitate is expected to be fairly pure, no RCRA constituents.	Recovery Operations—Dissolution and Purification Pu-238 Operations—Heat Source Fabrication
Pu silicide	No RCRA constituents.	Recovery Operations—Dissolution
Pump/machine oils	No RCRA constituents.	Recovery Operations—Pretreatment D&D Operations
Pyrochemical salts (calcium chloride, calcium fluoride, magnesium chloride, potassium chloride, sodium chloride)	No RCRA constituents.	Pyrochemical Operations—Electrorefining and Metal Preparation

Table 5. Feed Materials for Plutonium Processing Operations at DP West Facility (Continued)

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
Reduction and casting residues	High purity Pu metal used in metal preparation and casting operations, no RCRA constituents.	Recovery Operations—Dissolution Pyrochemical Operations—Metal Preparation Metal Operations—Casting
Silica Solids	No RCRA constituents.	Recovery Operations—Dissolution
Uranium metal, carbides, nitrides, and oxides	No RCRA constituents.	Recovery Operations—Dissolution and Precipitation Metal Operations—Pit Disassembly, Special Recovery Line, and Welding Pu-239 Advanced Fuels Operations Miscellaneous and Special Operations—Metallography

5.4.1.1 Waste Matrix Code

Based on the evaluation of the materials contained in this waste stream and LANL waste management practices, the waste stream LA-MHD04.001 is comprised of greater than 50 percent of heterogeneous inorganic and organic debris. Therefore, Waste Matrix Code S5400, Heterogeneous Debris, is assigned to waste stream LA-MHD04.001. Although the waste stream, as a whole, is comprised of more than 50 percent heterogeneous debris, any container may include nearly any percentage of the waste material parameters (WMPs) listed in Section 5.4.1.2, except that no individual drum will contain greater than 50 percent homogeneous solids (References 15, C028, D059, M003, and M008).

5.4.1.2 Waste Material Parameters

To estimate the WMPs for waste stream LA-MHD04.001, the RSWD code for each container was obtained from the Container Certification (CONCERT) database as of January 4, 2005. The WMP data were derived by assigning WMPs to each RSWD code based upon the description of the RSWD (References C028 and M008).

The WMPs for waste stream LA-MHD04.001 were further estimated by reviewing container inventory records for 2,069 containers which had net weights listed in the CONCERT database. The net weight of each container was categorized into one or more of the following WMPs: iron-based metals/alloys, aluminum-based metals/alloys, other metals, other inorganic materials, cellulosics, rubber, and plastics; based on the RSWD code assigned to the container. The 2,069 containers included in the evaluation represent 80 percent of the current waste stream. Average, minimum, and maximum WMP weight percentages were calculated using the CONCERT database data, and the results of this analysis are presented in Table 6, Estimated Waste Material Parameters, Waste Material Parameter Estimates for LA-MHD04.001 (Reference M008).

The statistical analysis of the data is documented in a memorandum (included with Attachment 6), as required by CCP-TP-005 (Reference 1).

Table 6. Estimated Waste Material Parameters

WMP Description	Average Weight Percent	Weight Percent Range
Iron Based Metals/Alloys	25.7%	0.0% - 46.6%
Aluminum Based Metals/Alloys	9.8%	0.0% - 17.8%
Other Metals	19.7%	0.0% - 35.6%
Other Inorganic Materials	5.6%	0.0% - 100.0%
Cellulosics	16.7%	0.0% - 100.0%
Rubber	12.9%	0.0% - 45.9%
Plastic (waste materials)	9.6%	0.0% - 100.0%
Organic Matrix	0.0%	0.0% - 0.0%
Inorganic Matrix	0.0%	0.0% - 0.0%
Soils/Gravel	0.0%	0.0% - 0.0%
Total Inorganic	**60.8%**	
Total Organic	**39.2%**	

5.4.2 Radiological Characterization

5.4.2.1 Pu-238, Pu-239, Pu-240, Pu-241, and Pu-242

The primary plutonium MT inputs for LANL activities are listed in Table 7, Average Isotopic Content of Plutonium Material Types and Enrichments. However, other MTs are occasionally introduced as feed material. The assignment of MTs is used to describe the isotopic composition of common blends of radioactive materials used within the DOE complex (References C021, D034, D058, D059, and D060).

The MT used in the operation generating each waste item is documented on generator records; however, in many cases, items of different MTs are packaged into the same waste container, so that a variety of plutonium isotopic ratios may be detected by radioassay. In addition, cross-contamination of equipment with different MTs can lead to variable MTs detected by radioassay (References D058, D060, M008, and M009).

The primary MT that feeds into the Pu-238 operations described in this report is heat source grade plutonium (MT 83), and these operations are not expected to alter the plutonium isotopic ratios of the feed material. Table 7 identifies the isotopic distribution of MT 83 based on 100 isotopic analyses and was decay corrected assuming the material was not chemically separated for 45 years (References 19, D058, D059, and D060).

5.4.2.2 U-233, U-234, U-235, and U-238

U-233 and U-238 were not normally components of the plutonium MTs handled at TA-21. U-235 is present from the decay of Pu-239 only at 0.1 percent by weight of the total plutonium content. However, all three isotopes have been introduced as special material. In addition, uranium-plutonium oxide mixtures have been processed to recover the plutonium. Significant quantities of U-234 will be present from the decay of Pu-238 in containers originating from heat source plutonium operations (References 19, D058, D059, and D060).

Table 7. Average Isotopic Content of Plutonium Material Types and Enrichments

Material Type (MT)	Plutonium Isotope (Weight%)						Estimated Weight% Relative to Total Plutonium[a]		
	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	U-234	U-235	Am-241
MT 51	0.006	96.77	3.13	0.076	0.018	-	0.001	0.1	0.06
MT 52	0.01	93.78	6.0	0.2	0.02	-	0.002	0.1	0.2
MT 53	0.03	91.08	8.45	0.366	0.071	-	0.007	0.09	0.3
MT 54	0.046	87.42	11.5	0.81	0.22	-	0.01	0.09	0.7
MT 55	0.06	83.88	14.73	1.03	0.304	-	0.02	0.09	0.9
MT 56	0.061	81.9	16.51	1.18	0.355	-	0.02	0.09	1.0
MT 57	0.433	74.63	20.7	2.55	1.69	-	0.1	0.08	2.0
MT 42	0.73	1.06	6.40	1.97	89.83	-	0.3	0.0009	3.0
MT 83	78.9	18.4	2.5	0.055	0.15	-	33.1	0.02	0.42

[a] These ratios are calculated under the assumption that there is no chemical fractionation.
Sources: References 19, C021, and D034

In general, uranium and its isotopes are expected to be present only at trace levels, if at all, if the feed material did not purposely contain uranium. However, some reactor fuel development, uranium-plutonium separation, and pit disassembly have uranium material as the feed material. The primary uranium MT inputs are listed in Table 8, Average Isotopic Content of Uranium Material Types and Enrichments (References 19, D058, D059, and D060).

Table 8. Average Isotopic Content of Uranium Material Types and Enrichments

Material Type	U-234	U-235	U-236	U-238
MT 12	0.0015	0.23	0.008	99.77
MT 35	0.36	37.6	0.14	61.9
MT 36	0.63	62.44	0.18	36.75
MT 38	1.03	93.04	0.41	5.53
MT 39	1.32	97.52	0.17	0.99

Sources: References 19, C021, and D034.

U-234 content must be estimated since this isotope cannot be reliably measured using nondestructive assay (NDA) techniques. The MT provides the basis for estimating an upper bound for U-234 based on the rate of decay of the precursor, Pu-238, and the assumption that there is no other source of uranium in the waste material. The content of U-234 in the Pu-239 MTs is calculated as the sum of the contributions expected from decay of Pu-238 and from uranium input to the operation, with the value of 0.014 conservatively used for the ratio of abundances of U-234 to U-235 in typical uranium MTs. The standard uranium MTs provide an estimate of the ratio of U-234 to U-235, where one of the MTs listed in Table 8 is an indicated MT in the waste container (References C019, C020, D058, D059, and D060).

5.4.2.3 Am-241

AK on the MT inputs provides the basis for estimating an upper boundary for Am-241 content based on the rate of decay of the precursor, Pu-241. The purpose of such bounding calculations is to provide a basis for identifying significant enrichment or depletion of Am-241 based on radioassay results for individual waste containers. The calculations assume that (a) none of these isotopes were initially present in the material, (b) the oldest plutonium material in inventory dates back to January 1, 1960, and (c) the legacy waste was packaged on January 1, 1996, making it 36 years old at that time. In general, wastes from the plutonium recovery process are enriched with Am-241, because a primary intent of the recovery process is to reduce the americium content of the retained plutonium (References 19, C021, D058, D059, and D060).

No correlation is expected among the different radioelements, Pu, Np, U, Protactinium (Pa), or Am. The differences in valence states and chemical affinities among these elements are expected to result in substantial fractionation during several recovery operations, including ion-exchange, solvent extraction, hydroxide precipitation, and dissolution (References C017, C018, D058, D059, and D060).

5.4.2.4 Other Radionuclides Present Due to Decay

Other radionuclides will be present in most of the wastes from the decay of a plutonium isotopic precursor or as a contaminant in the feed material (References C017, C018, D031, D058, D059, and D060):

- Np-237, the decay product of Am-241 (half-life, 458 yr), is expected to be present in minor amounts in most waste from recovery operations

- Am-243, the decay product of Pu-243 (half-life, 5.0 hr), is expected to be present in minor amounts in most wastes from recovery operations. Pu-243 is produced by neutron capture on Pu-242 during fuel irradiation
- Pa-231, the decay-chain daughter of U-235, is expected to be present in trace amounts in some wastes due to its widespread presence as a contaminant in recovery operations
- Actinium (Ac)-227, the decay-chain daughter of Pa-231, is expected to be present in trace amounts where Pa-231 is present, but at several orders of magnitude less than Pa-231.

5.4.2.5 Cs-137 and Sr-90

Cs-137

Cs-137 is a product of the spontaneous fission of Pu-238, Pu-239, and especially Pu-240. Cs-137 is also a trace contaminant in purified plutonium from the production reactors. In the latter case, the remaining cesium could be on the order of 0.5 nanograms per gram (ng/g) plutonium. In the former instance, the formation of Cs-137 due to spontaneous fission would lead to about 0.4 picograms per gram (pg/g) plutonium in plutonium that is ten years old. Because Cs-137 due to spontaneous fission is about a factor of a thousand less than that due to residual contamination from the original separation on the production fuel, the latter is the dominant source of cesium in waste (References C017, C018, D058, D059, and D060).

Sr-90

Like Cs-137, Sr-90 is a high yield fission product and is unlikely to be present except as a trace remnant from plutonium production/processing. Unlike Cs-137, however, Sr-90 (together with its Y-90 daughter) emits no significant gamma radiation that would allow it to be quantified by direct gamma counting. Therefore, no reliable means exists for the direct NDA of Sr-90. However, because of the requirement that an estimate of Sr-90 content be made, the following approach is taken. In plutonium production runs, Cs-137 and Sr-90 are produced at approximately the same level. These two nuclides have very similar half-lives (~ 30 y) and will, therefore, be present at roughly the same activity level prior to commencement of any processing operations. If it is assumed that strontium and cesium are not fractionated from one another during chemical processing, Cs-137 may be used as a marker for Sr-90 activity at a ratio of 1:1 (References 19, D058, D059, and D060).

5.4.2.6 Estimated Predominant Isotopes and 95 percent Total Activity

Radionuclide data established by the waste generator on a container basis was evaluated to determine the relative radionuclide weight and activity for waste stream LA-MHD04.001. This evaluation was performed using the combined data for over 99 percent of the container population in this waste stream. From this evaluation, the two predominant isotopes for the waste stream are Pu-239 and Pu-238, while over 95 percent of the total

activity in the waste stream is from Pu-238 and Pu-241. Table 9, Estimated Isotopic Distribution for the LA-MHD04.001 Waste Stream, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. As illustrated in Table 9, the radionuclide weight percent of individual radionuclides varies greatly on a container-by-container basis. Because of this variability in container loadings, some containers will not contain the waste stream predominant radionuclides, but may contain other radionuclides expected in this waste stream (References C028, C032, C037, M008, and M009).

5.4.2.7 Use of Radionuclide Isotopic Ratios

For waste containers where direct measurement does not yield useable isotopic ratio information, AK may be used to supplement direct measurement data in accordance with the WIPP-WAC (Reference 3). The ratios that may be used are those identified in Tables 7 and 8 in conjunction with the corresponding nuclear MT identified by the waste generator on a container basis. The specific use and confirmation of AK related to WIPP-certified assay measurements of containers in this waste stream is documented in the memorandum written in accordance with the requirements of CCP-TP-005 (Reference 1).

Table 9. Estimated Isotopic Distribution for the LA-MHD04.001 Waste Stream

Radio-nuclide	Number of Containers with Reported Nuclide	Total Radio-nuclide Weight %[1,5]	Total Radio-nuclide Curie%[2,5]	Radionuclide Wt% Range for Individual Containers[3,5]	Radionuclide Ci% Range for Individual Containers[4,5]	Expected Present
WIPP Required Radionuclides						
Am-241	33	0.01%	0.01%	0 - 100.00%	0 - 100.00%	Yes
Pu-238	2,409	**18.70%**	**94.11%**	0 - 100.00%	0 - 100.00%	Yes
Pu-239	2,225	**58.72%**	1.07%	0 - 100.00%	0 - 100.00%	Yes
Pu-240	2,070	2.96%	0.20%	0 - 38.98%	0 - 68.66%	Yes
Pu-242	2,060	0.03%	Trace	0 - 30.77%	0 - 0.11%	Yes
U-233	28	14.43%	0.04%	0 - 100.00%	0 - 100.00%	Yes
U-234	1	Trace	Trace	0 - Trace	0 - 0.10%	Yes
U-238	1	16.46%	Trace	0 - 98.73%	0 - 0.11%	Yes
Cs-137	5	Trace	Trace	0 - Trace	0 - 1.18%	Yes
Sr-90	1	Trace	Trace	0 - Trace	0 - 0.17%	Yes
Additional Radionuclides						
Cm-243	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Co-56	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Co-60	1	Trace	Trace	0 - Trace	0 - Trace	Yes
H-3	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Mn-56	2	Trace	Trace	0 - Trace	0 - Trace	Yes
Na-22	3	Trace	Trace	0 - Trace	0 - Trace	Yes
Np-237	14	Trace	Trace	0 - 30.77%	0 - 0.02%	Yes
Pa-231	7	Trace	Trace	0 - 7.69%	0 - 0.34%	Yes
Pu-241	2,057	0.15%	**4.56%**	0 - 2.55%	0 - 93.99%	Yes
U-235	13	4.52%	Trace	0 - 100.00%	0 - 100.00%	Yes
Other radionuclides that may be present in unknown amounts (no data values were available, although the radionuclides were listed in databases)						
U-236						Yes

1. This listing indicates the total weight percent of each radionuclide over the entire waste stream.
2. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
3. This listing is the weight percent range of each radionuclide on a container-by-container basis.
4. This listing is the curie percent range of each radionuclide on a container-by-container basis.
5. "Trace" indicates <0.01 weight or activity percent for that radionuclide.

The isotopic composition of individual waste containers may differ from that expected overall for the waste stream. For example, waste contaminated mostly with MT-54 is expected in the Pu-239 processing waste streams because of its use in the reactor fuel program and its presence in the Hanford Ash material. Waste containers may also be cross-contaminated with MTs that are not reported in the AK record, or frequently contain more than one MT. For example, Pu-239 MTs may be cross-contaminated with heat source plutonium (Pu-238) and vice-versa. However, the overall composition of the plutonium processing waste streams is expected to be dominated by Pu-239 and Pu-238. (References C032, C037, D058, D059, and D060).

5.4.3 Chemical Content Identification – Hazardous Constituents

Waste Stream LA-MHD04.001 has historically been managed in accordance with the generator site requirements and in compliance with the requirements of the New Mexico Environmental Department. Based on historical waste management and LANL's TRU Program (reference LANL waste streams LA-TA-55-19, LA-TA-55-30, LA-MHD02-238, and LA-MHD03-DD), the containers in this waste stream were managed as hazardous and assigned EPA HWNs for arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), silver (D011), benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), chloroform (D022), methyl ethyl ketone (D035), pyridine (D038), tetrachloroethylene (D039), and trichloroethylene (D040) and F-listed solvents (F001, F002, F003, and F005). A review of available AK documentation has determined that this waste is hazardous for the above constituents; however, HWNs D018, D019, D021, D035, D038, D039, D040, and F003 were not assigned. These HWNs were not included because the more specific F-listed HWNs have been assigned to the waste stream and the waste will not exhibit the characteristic of ignitability. The following sections further describe the characterization rationale for the assignment of EPA HWNs to waste stream LA-MHD04.001. Table 10, Waste Stream LA-MHD04.001 Hazardous Waste Characterization Summary, summarizes the waste codes assigned to this waste stream. The HWN assignment has been applied on a waste stream basis; individual containers may not contain all of the hazardous materials listed for the waste stream as a whole (References 19, D059, D060, and DR001).

Table 10. Waste Stream LA-MHD04.001 Hazardous Waste Characterization Summary

Waste Stream	EPA HWNs
LA-MHD04.001	D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, and F005

To assign EPA HWNs, the available AK documentation, including historical documents, plans, procedures, reports, and interviews with the DP West subject matter expert, was reviewed to assess chemical inputs to the operations at the DP West Facility and to identify hazardous material potentially contaminating waste stream LA-MHD04.001. As discussed in Section 4.4, the plutonium operations formerly conducted at DP West in the 1970s were the basis for operations at the TA-55 Plutonium Facility. The wastes resulting from past operations at the DP West Facility are the same as certain wastes generated at the TA-55 Plutonium Facility. The number of AK source documents relating to TA-21 DP West and the level of detail in these documents is also less than that available in the compilation of AK for the TA-55 Plutonium Facility. This report relies heavily on the AK documentation that has been compiled for plutonium operations conducted in the TA 55 Plutonium Facility, including associated chemical and material inputs. Therefore, the chemical and material inputs identified in CCP-AK-LANL-006, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory TA-55 Mixed Transuranic Waste, Waste Streams: LA-MHD01.001, LA-CIN01.001, LA-MIN02-V.001, LA-MIN04-S.001* (Reference 19), were included in this section. In addition, MSDSs and other manufacturer information was obtained for the commercial products to determine the

presence of RCRA regulated compounds. As demonstrated below in Table 11, Chemical Identification and Use Summary, several of the HWNs were assigned due to lack of analytical evidence that these constituents would have not exceeded the regulatory thresholds (References 19, D007, D009, D013, D036, D037, D038, D039, D040, D041, D059, and DR001).

Table 11. Chemical Identification and Use Summary

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
1,1,1-Trichloroethane (chlorothene)	Metallographic sample cleaning (<1992) and contaminant of hydroxide solids. Degreasing solvent and component of Tap Magic.	D002, D013, D065, Reference 19	F001, F002
1,2-Dimethoxyethane	Actinide R&D reagent.	Reference 19	NA
1-Propanol	Used in cold traps and cooling baths during plutonium fluorination.	Reference 19	NA
Acetone	Contaminant of cement fixation process and hydroxide solids. May be associated with all debris waste generated by metallography. Chloride operations reagent.	C015, D036, D038, D039, D049, D065, M002, Reference 19	NA
Acetonitrile	Non-aqueous dissolution/extraction.	Reference 19	NA
ALARA 1146 Strippable Coating	Used to remove loose contamination in the D&D process.	D070, M010	NA
Alconox	Pu-238 oxide sample cleaning soap.	D065, M010, Reference 19	NA
Aluminum chloride	Chloride operations ion-exchange reagent.	Reference 19	NA
Aluminum fluoride	Plutonium recovery operations.	D002, Reference 19	NA
Aluminum hydroxide	Miscellaneous Pu operations.	D013, D059	NA
Aluminum metal/oxide (alumina)	Metallographic sample polishing, ash fluorination gas trap, metal used in machining operations, and component of equipment/tools.	D013, D042, D059, D065, Reference 19	NA
Aluminum nitrate	Pu-238 oxide purification and actinide R&D recovery operations reagent. Dissolution and leaching reagent.	D002, D013, D059, D065, D069, Reference 19	NA
Amberlite LA-1	Extractant used to separate Pu from zirconium.	D069, M010	NA
Ammonium chloride	Hydroxide precipitation and plutonium chlorination reagent.	Reference 19	NA
Ammonium bifluoride	Metal etching reagent used in quantities of 1 g or less.	D002, D013, D059	NA
Ammonium hydroxide	Plutonium processing reagent.	D069, Reference 19	NA
Ammonium nitrate	Chemical used in 1947 to extract/precipitate Pu.	D069	NA
Antimony pentafluoride	Actinide R&D reagent.	Reference 19	NA
Armeen 2-12 (Dodecylamine, Laurylamine)	Extractant used to separate Pu from zirconium.	D069, M010	NA
Arsenic	Contaminant of liquids, filtrates, ash, hydroxide cake, and analytical solutions. Evaporator sludge contaminant and sputter coating reagent.	D037, D039, Reference 19	D004

Table 11. Chemical Identification and Use Summary (Continued)

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Asbestos	Material used in furnace operations in the MCDOR process. Transite board, pipe insulation in residues generated by Pu metal operations.	C016, D002, D059, D068	NA
Ascarite	Carbon dioxide absorbent used in fuel fabrication process.	Reference 19	NA
Ascorbic acid	Actinide R&D recovery operations and dissolution reagent.	Reference 19	NA
Barium	Contaminant of plutonium feed, hydroxide cake, ash, actinide separation waste, pyrochemical salts, and analytical solutions. Component of paint.	D002, D039, D040, D041, D065, M010, Reference 19	D005
Benzene	Cement fixation contaminant and actinide chemistry R&D reagent.	C015, D038, Reference 19	F005
Beryllium	Contaminant of plutonium/beryllium sources and metal used in machining operations.	P003, P007, Reference 19	NA
Bismuth/bismuth-tin alloy	Metal used in electrorefining and sample mounting.	D013, D042, D059, Reference 19	NA
Bromine	Fluorination of ash and R&D reagent.	Reference 19	NA
Bromobenzene	Plutonium machining reagent.	D009, D037, D059, Reference 19	NA
Bromocresol purple	Hydroxide precipitation indicator.	Reference 19	NA
Bromo Mandelic acid (4-Bromomandelic acid)	Precipitation reagent used to separate zirconium from Pu.	D013, D042, D059	NA
n-Butyl alcohol (butanol)	Contaminant of cement fixation process. Chloride operations reagent.	D013, D036, D059, D065, Reference 19	NA
Cadmium	Contaminant of plutonium feed, hydroxide cake, anode heels, ash, actinide separation waste, and analytical solutions. Solvent metal used in electrorefining. Component of paint.	C014, D002, D007, D039, D040, D041, D065, M002, M010, Reference 19	D006
Calcium carbonate	Scrubber system, hydroxide precipitation, dissolution, and salt stripping reagent.	D065, Reference 19	NA
Calcium chloride	Electrorefining and direct oxide reduction reagent.	D013, D059, D065, Reference 19	NA
Calcium fluoride	Actinide R&D recovery operations and leaching plutonium residues reagent.	D002, D013, D059, D065, Reference 19	NA
Calcium hydroxide	Neutralization of acids.	Reference 19	NA
Calcium metal/oxide	Actinide R&D and direct oxide reduction reagent.	C008, D013, D042, D065, Reference 19	NA
Calcium nitrate	Nitrate operations reagent.	D013, D059, Reference 19	NA
Camphor	Fuel fabrication reagent.	D019, D049, D065, M010	NA
Carbon tetrachloride	Contaminant of cement fixation process and hydroxide solids. Chlorination of plutonium oxide and chloride operations reagent.	C014, D002, D036, D039, D040, D065, M002, Reference 19	F001
Cerium	Metal used in Pu processing operations.	D013, D042, D059	NA
Cerium nitrate	Metal etching reagent.	D002, D013, D059, Reference 19	NA
Cesium chloride	Molten salt extraction reagent salt and dissolution reagent.	Reference 19	NA

Table 11. Chemical Identification and Use Summary (Continued)

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Chlorobenzene	Contaminant of cement fixation process and hydroxide solids. Analytical lab and chloride operations reagent.	C015, D036, D039, D065, M002, Reference 19	F002
Chloroform	Contaminant of cement fixation and miscellaneous processing. Chloride and miscellaneous operations reagent.	C015, D036, D038, D039, D065, Reference 19	D022
Chromium	Contaminant of plutonium feed, anode heels, hydroxide cake, ash, actinide separation waste, and analytical solutions. Potentially leached from stainless steel materials. Component of paint.	C014, C016, D002, D004, D007, D036, D038, D039, D041, D042, D050, D065, P003, M002, M010, P007, Reference 19	D007
Citofix/Durofix	Metallographic sample mounting.	Reference 19	NA
Citrapeel (orange peel based degreaser)	Used to strip paint.	Reference 19	NA
Cobalt	Metal used in Pu processing operations.	D013, D042, D059	NA
Cobalt nitrate	Electro-oxidation reagent.	Reference 19	NA
Copper	Component of gaskets and wool. Metal used in Pu processing operations.	D002, D013, D042, D059, Reference 19	NA
Decyl alcohol	Extractant used to separate Pu from zirconium.	D069	NA
Diamond powder	Metallographic polishing compound.	D065, Reference 19	NA
Diatomaceous earth	Silica based filter aid and absorbent material.	D013, D042, D059, M010, Reference 19	NA
Diammonium citrate	Formed as a result of early Pu purification process.	D069, M010	NA
Dibutyl butyl-phosphonate (DBBP)	Actinide R&D reagent.	Reference 19	NA
Dicesium hexachloroplutonate (DCHP)	Residue precipitation reagent.	Reference 19	NA
Diethylenetriamine	Metallographic sample mounting.	D002, D059, D065, Reference 19	NA
Diethyl oxalate	Actinide R&D recovery operations reagent.	Reference 19	NA
Dihexyl N, N-diethylcarbamoylmethyl phosphonate (DHDCMP)	Extraction solvent reagent.	Reference 19	NA
Diisopropyl benzene	Extraction solvent, diluent, and actinide R&D reagent.	D038, Reference 19	NA
Dimethyl sulfoxide	Actinide R&D reagent.	Reference 19	NA
n-Dodecane	Actinide R&D solvent diluent and chloride extraction reagent.	Reference 19	NA
Dowanol EB	Sodium metal neutralization reagent.	Reference 19	NA
Duco cement	Sealing cuvettes.	D065, M010, Reference 19	NA
Epoxy cement (e.g., Epon Resin 8132)	Metallographic sample mounting. Retrieval operations.	D002, D065, M010, P014, Reference 19	NA
Ethanol	Used for cleaning capsules and tools during Pu-238 oxide sampling. R&D and recovery reagent. Contaminant of cement fixation.	D002, D042, D059, D065, Reference 19	NA
Ethylenediaminetetra-acetic acid (EDTA)	Extraction reagent and decon solution.	D013, D042, D047, D059	NA

Table 11. Chemical Identification and Use Summary (Continued)

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Ethylene glycol	Pu-238 oxide sampling suspension. Particle analysis of oxides.	D065, M010, Reference 19	NA
Ethyl ether	Actinide R&D/actinide reagent and cleaning solvent.	D038, D042, D069, Reference 19	NA
Fantastik (fantastic)	Pu-238 oxide sampling and spray cleaner for machining. Used during decontamination operations.	C027, D065, D070, M010, Reference 19	NA
Ferric ammonium sulfate hydrate	Nitrate operations reagent.	Reference 19	NA
Ferric hydroxide	Plutonium precipitation reagent.	D042, D053, D059, D065	NA
Ferric nitrate	Waste solidification and dissolution reagent.	D002, D013, D059, D065, Reference 19	NA
Ferrous ammonium sulfate	Nitrate anion-exchange and Actinide R&D recovery operations reagent.	D002, D013, D059, Reference 19	NA
Ferrous chloride	Residue precipitation reagent.	D065, Reference 19	NA
Ferrous sulfamate	Ash leaching reagent.	Reference 19	NA
Fluoristan (stannous fluoride)	Actinide R&D recovery operations reagent.	Reference 19	NA
Fluorosulfonic acid	Actinide R&D reagent.	Reference 19	NA
Formamide	Actinide R&D recovery operations reagent.	Reference 19	NA
Formic acid	Dissolution and plutonium recovery reagent.	D059, Reference 19	NA
Freon TF (1,1,2-trichloro, 1,2,2-trifluoroethane)	Miscellaneous processing contaminant and recovery operations reagent. Cleaning, cooling, and ultrasonic degreasing operations solvent.	D037, D038, D065, P003, P007, Reference 19	F001, F002
Gallium	Actinide R&D and casting reagent. Metal used in electrorefining and compatibility testing.	D013, D042, D059, Reference 19	NA
GoJo cleaner (kerosene derivative)	Parts cleaning solution.	Reference 19	NA
Gold	Metal used in welding operations, coating material, and component of transfer boat used in plutonium reduction.	Reference 19	NA
Graphite	Graphite aeroshells and insulators, molds, blocks, and powder for fire suppression.	D013, D059, D065, Reference 19	NA
Gypsum cement (Envirostone)	Cement used in cement fixation process.	D065, M010, Reference 19	NA
Hafnium oxide	Metal used in Pu processing operations.	D013, D059, D065	NA
Hexane	Miscellaneous processing contaminant and R&D solvent for actinide chemistry.	D065, Reference 19	NA
Hydrazine dihydrochloride	Actinide R&D and sensors/instrumentation development reagent.	Reference 19	NA
Hydrazine hydrochloride	Actinide R&D reagent.	Reference 19	NA
Hydriodic acid	Metallographic sample etching and polishing.	D042, D048, D059, D065	NA
Hydrobromic acid	Metallographic sample etching.	D065, Reference 19	NA
Hydrochloric acid	Dissolution and recovery, sample etching, and actinide R&D recovery operations reagent. Chloride ion-exchange reagent.	D042, D048, D059, D065, Reference 19	NA

Table 11. Chemical Identification and Use Summary (Continued)

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Hydrofluoric acid	Dissolution of oxide pellets, scrap processing, decontamination, sample etching, actinide R&D recovery operations reagent, and metal leaching.	D004, D059, D065, Reference 19	NA
Hydrofluorous acid	Chemical used in the 1940s to recover Pu.	D069	NA
Hydrogen peroxide	Actinide R&D recovery operations reagent, peroxide precipitation, and dissolution.	D002, D041, D065, Reference 19	NA
Hydroxylamine hydrochloride	Actinide R&D and ion-exchange reagent.	D013, D059, Reference 19	NA
Hydroxylamine nitrate	Scrap processing, actinide R&D recovery operations, ion-exchange, and hydroxide precipitation reagent.	D043, D065, Reference 19	NA
Indium	Metal used in compatibility testing and Pu processing operations.	D013, D042, D059, Reference 19	NA
Iodine	Actinide R&D and Pu reduction reagent.	D002, D013, D059, Reference 19	NA
Iridium	Metal used in Pu including Pu-238 processing operations.	D007, D013, D042, D049, D059	NA
Isopar H (isoparaffin solvent)	Actinide R&D reagent.	Reference 19	NA
Isopropanol	Miscellaneous processing waste contaminant, cleaning agent, and actinide R&D reagent.	D065, Reference 19	NA
Kerosene	Metallurgical sample preparation and Pu extraction solvent.	D039, D042, D059, D069, M010, Reference 19	NA
Lactic acid	Metallographic sample etching and polishing.	D019, D047	NA
Lanthanide metals	Actinide chemistry R&D reagents and Pu processing operations.	D013, D042, D059, Reference 19	NA
Lanthanum nitrate	Plutonium dissolution and precipitation.	D013, D059, Reference 19	NA
Lead	Leaded gloves, shielding, sheeting, and discs. Contaminant of actinide separation waste, analytical solutions, ash, hydroxide cake, plutonium feed, and solder. Solvent metal used in electrorefining. Component of paint.	C014, D002, D004, D007, D036, D037, D038, D039, D040, D041, D050, D065, M002, M010, Reference 19	D008
Lead hydroxide, oxide, and nitrate	Actinide R&D reagents.	Reference 19	D008
Liqui-Moly (molybdenum lubricant)	Pellet press die lubricant.	Reference 19	NA
Lithium chloride	Direct oxide reduction reagent salt.	Reference 19	NA
Lithium fluoride	Metallographic sample etching.	D002, D013, D059	NA
Lithium metal/oxide	Actinide R&D and direct oxide reduction reagent.	Reference 19	NA
Lonzest SML-20 organic liquid emulsifier	Cement fixation liquid emulsification.	Reference 19	NA
Lutetium	Metal operations reagent.	Reference 19	NA
Magnesium chloride	Molten salt processing reagent.	D065, Reference 19	NA
Magnesium hydroxide	Dissolution and pyrochemical operations reagent.	Reference 19	NA

Table 11. Chemical Identification and Use Summary (Continued)

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Magnesium metal/oxide	Actinide R&D reagent, crucibles, and magnesia sand.	D002, D037, D065, Reference 19	NA
Magnesium perchlorate	Water vapor removal reagent.	Reference 19	NA
Manganese	Metal used in Pu processing operations.	D013, D042, D059	NA
Mercuric nitrate	Catalyst used in nitrate operations.	Reference 19	D009
Mercury	Contaminant of plutonium feed, hydroxide cake, ash, actinide separation waste, evaporator sludge, and analytical solutions. Component of paint.	D002, D007, D009, D036, D039, D041, D042, D065, M010, Reference 19	D009
Metalprep 79 (phosphoric acid-based metal cleaner)	Metal cleaner.	D059, M010, Reference 19	NA
Methanol	Cleaning solvent, diluent, contaminant of cement fixation process. Chloride and nitrate operations reagent.	D002, C015, D036, D038, D039, D042, D065, Reference 19	NA
Methylene chloride	Paint stripper, contaminant of cement fixation, hydroxide cake, and miscellaneous processing. Chloride operations and actinide R&D reagent. Component of REZ-N-Bond.	C015, D036, D038, D039, D065, M002, Reference 19	F001, F002
Methyl ethyl ketone	Degreasing solvent.	D037, D065, Reference 19	F005
Methyl isobutyl ketone (Hexone)	Solvent extraction reagent.	D042	NA
Molybdenum metal/oxide	Metal used in machining operations, fuel elements, salt stripping reagent, and component of Liqui-Moly.	D059, Reference 19	NA
MolyKote	Silicon-based lubricant used during the hand pressing of oxide pellets.	P004, D059, M010, Reference 19	NA
Neutracleaner #1 and #2	Machining operations cleaner.	Reference 19	NA
Nickel metal/powder	Reactor fuel development sintering aid. Metal used in Pu processing operations.	D013, D042, D059, Reference 19	NA
Niobium	Metal used in welding operations, fuel elements, and electrorefining reagent.	D059, Reference 19	NA
Nitric acid	Dissolution and recovery, etching, scrap processing, decontamination, leaching, nitrate ion-exchange, and cement fixation pH adjustment.	D002, D004, D065, C069, Reference 19	NA
Oakite 90/ruststripper	Caustic metal cleaner.	Reference 19	NA
Octylphenyl di-isobutyl carbamoylmethyl phosphine oxide (CMPO)	Actinide R&D reagent and extraction solvent.	Reference 19	NA
Oil (e.g., 3-in-1, Dow Corning 2000, Fomblin Pump, hydraulic, mineral, Texaco Regal 32, and Vactra 2 oil)	Metal preparation, machining, cutting, grinding, polishing, and cooling operations.	D002, D042, D060, M010, P002, Reference 19	NA
Organicstrip	Non-regulated paint stripper.	Reference 19	NA
Osmium	Metal used in Pu processing operations.	D013, D042, D059	NA
Oxalic acid	Laboratory and anion-exchange reagent, scrap processing, oxide/pellet dissolution and precipitation, and actinide R&D recovery operations reagent.	D002, D065, Reference 19	NA

Table 11. Chemical Identification and Use Summary (Continued)

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Paint (e.g., Krylon Clear)	Used during maintenance and contamination control activities. Retrieval operations.	D002, D013, M010, P014	D005, D006, D007, D008, D009
Palladium	Metal used in Pu processing operations.	D013, D042, D059	NA
Pentane	R&D solvent for actinide chemistry.	Reference 19	NA
Perchloric acid	Actinide R&D and laboratory reagent.	Reference 19	NA
Phenolphthalein	Reagent (pH indicator).	D065, Reference 19	NA
Phosphoric acid	Plutonium recovery reagent and component of Metalprep 79.	D059, Reference 19	NA
Picric acid	Contaminate of concern in D&D operations.	D068	NA
Platinum	Plutonium recovery operations and actinide R&D reagent. Component of electrodes, filters/screens, fuel element sleeves, and furnace can linings.	D042, D059, Reference 19	NA
Polychlorinated biphenyls (PCBs)	In capacitors of fluorescent light ballasts.	Reference 19	NA
Polyethylene glycol (Carbowax)	Fuel fabrication reagent.	D019, D044, D045, M010, Reference 19	NA
Polyoxyethylene-20-sorbitan laurate (surfactant)	Plutonium recovery operations.	Reference 19	NA
Polyvinyl pyridine (resin)	Dissolution and recovery operations ion-exchange resin.	D065, Reference 19	NA
Portland cement	Cement fixation, waste packaging absorbent, and retrieval operations.	D065, M010, P014, Reference 19	NA
Potassium carbonate	Plutonium operations reagent.	D013, D059	NA
Potassium chloride	Electrorefining and molten salt extraction reagent.	D002, D013, D059, D065, Reference 19	NA
Potassium chromate	Dissolution and chloride anion-exchange reagent.	Reference 19	D007
Potassium dichromate	Silver nitrate titrations, hydroxide precipitation, and chloride solvent extraction reagent.	D036, D038, M002, Reference 19	D007
Potassium ferricyanide	Metallographic sample etching and polishing.	D019, D065	NA
Potassium fluoride	Dissolution and leaching operations reagent.	D013, D059, Reference 19	NA
Potassium hydroxide	Caustic scrub solution for thermal decomposition, dissolution, and reactive chemical neutralization.	D002, Reference 19	NA
Potassium iodide	Plutonium recovery operations reagent.	D013, D042, D059	NA
Potassium nitrate	Plutonium recovery operations reagent.	D013, D042, D059	NA
Potassium permanganate	Pretreatment, decontamination, and R&D reagent.	D013, D059, Reference 19	NA
Potassium pyrosulfate	Dissolution and scrap recovery operations reagent.	D002, D042, D029, Reference 19	NA
Potassium thiocyanate	Dissolution operations reagent.	Reference 19	NA
Primene JMT (Tert-Alkylamines)	Extractant used to separate Pu from zirconium.	D069, M010	NA
Pyridine	Uranium triiodide reagent, R&D solvent, and cement fixation process contaminant.	D038, Reference 19	F005

Table 11. Chemical Identification and Use Summary (Continued)

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
REZ-N-Bond	Solvent bonding (contains methylene chloride).	Reference 19	F002
Rhenium	Metal used in fuel elements.	Reference 19	NA
Rhodium	Actinide R&D reagent and component of fuel element sleeves.	D013, D042, D059, Reference 19	NA
Ruthenium	Metal used in Pu processing operations.	D013, D042, D059	NA
Selenium	Contaminant of liquids, filtrates, ash, hydroxide cake, and analytical solutions.	D038, D059, D063, Reference 19	D010
Sensor Coat, Strippable Coating	Used to remove loose contamination in the D&D process.	D070, M010	NA
SF-2I (3M secondary fluid)	Machining coolant/fluid.	Reference 19	NA
Silicon	Metal used in Pu processing operations.	D039, D044, D059, D065	NA
Silicone adhesive (e.g., sylgard 184)	Vessel handling and unloading. Compound used in compatibility testing.	Reference 19	NA
Silicone defoamer (GE 9120)	Cement fixation reagent.	D065, M010, Reference 19	NA
Silicone lubricant	Metal operations lubricant.	Reference 19	NA
Silver	Contaminant of plutonium feed, hydroxide cake, ash, actinide separation waste, cement fixation contaminant, and laboratory reagent.	C014, C016, C023, D007, D036, D038, D039, D040, D041, D042, D065, P007, Reference 19	D011
Silver nitrate	Leaching, solvent extraction, and laboratory reagent.	D041, Reference 19	D011
Sodium acetate	Chemical used in 1944 to extract/precipitate Pu.	D069	NA
Sodium bicarbonate	Dissolution and ash fluorination reagent.	Reference 19	NA
Sodium bromate	Plutonium recovery reagent.	D013, D042, D059, D069	NA
Sodium carbonate	Actinide R&D and plutonium recovery operations reagent.	D013, D059, U002, Reference 19	NA
Sodium chloride	Electrochemical and plutonium recovery operations reagent salt.	D002, D013, D059, D065, Reference 19	NA
Sodium chlorite	Actinide R&D and plutonium recovery operations reagent.	Reference 19	NA
Sodium chromate	Plutonium dissolution and precipitation.	Reference 19	D007
Sodium citrate retarder	Cement fixation reagent.	D013, D059, D065, M010, Reference 19	NA
Sodium dithionate	Actinide R&D and dissolution reagent.	Reference 19	NA
Sodium fluoride	Dissolution and scrap recovery operations reagent.	D002, D013, D059, Reference 19	NA
Sodium hydroxide	Cement fixation (pH adjustment), Pu-238 purification, caustic scrubber solution, dissolution, electrorefining, and actinide R&D recovery operations reagent.	D002, D004, C069, Reference 19	NA
Sodium metal/oxide	Actinide R&D reagent, electrorefining, fuel cladding, sodium bonding, and oxide reduction.	Reference 19	NA
Sodium metaphosphate	Heat source fabrication operations.	Reference 19	NA
Sodium nitrate	Ion-exchange, scrap processing, and actinide R&D recovery operations reagent.	D013, D059, Reference 19	NA

Table 11. Chemical Identification and Use Summary (Continued)

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Sodium nitrite	Dissolution, leaching, and actinide R&D recovery operations reagent.	D002, D065, D069, Reference 19	NA
Sodium oxalate	Dissolution and precipitation reagent.	Reference 19	NA
Sodium pyrophosphate	Sucrose recovery of Pu-238.	D065, Reference 19	NA
Sodium sulfate	Electrolytic decontamination reagent.	Reference 19	NA
Sodium tetraborate	Pressure testing reagent.	Reference 19	NA
Sodium thiosulfate	Plutonium recovery reagent.	D013, D042, D059	NA
Stannous chloride	Plutonium recovery reagent.	Reference 19	NA
Stearic acid	Fuel production reagent, recovery operations, and component of silicone adhesive.	Reference 19	NA
Sucrose	Sucrose recovery of Pu-238 and microspherical fuel reagent.	D065, Reference 19	NA
Sulfamic acid	Plutonium recovery reagent.	D013, D042, D059	NA
Sulfuric acid	Peroxide precipitation, dissolution, R&D, Pu-238 recovery from iridium, etching, and actinide R&D recovery operations reagent.	D002, D013, D059, D065, Reference 19	NA
Tantalum	Metal used in welding operations, fuel elements, and crucibles. Dissolution and electrorefining reagent.	D013, D042, D059, Reference 19	NA
Tap Magic	Machining coolant (contains 1,1,1-trichloroethane).	Reference 19	F002
Tetrachloroethylene	Degreasing, cleaning solvent, diluent, contaminant of cement fixation process and hydroxide solids. Chloride operations reagent.	C015, D036, D038, D039, D065, M002, Reference 19	F001, F002
Tetraethylamine chloride	Actinide R&D reagent.	Reference 19	NA
Tetraethylammonium hydroxide	Actinide R&D reagent.	Reference 19	NA
Tetrahydrofuran	Synthesis R&D reagent, actinide R&D reagent, Np and Pu metal cleaner.	D038, Reference 19	NA
Thenoyltrifluoroacetone	Solvent extraction reagent.	D013, D042, D059, D069	NA
Thionyl chloride	Plutonium chlorination reagent.	Reference 19	NA
Titanium	Metal used in welding operations and electrorefining reagent. Component of electrodes and miscellaneous equipment.	D042, D059, D065, Reference 19	NA
Toluene	Actinide R&D reagent.	D038, Reference 19	F005
Tributyl phosphate (TBP)	Actinide R&D, plutonium processing, and solvent extraction reagent.	D042, D043, D069, Reference 19	NA
Trichloroethylene	Clean and polish machined parts. Miscellaneous process and hydroxide cake contaminant. Plutonium processing and solvent extraction reagent.	D002, D037, D038, D039, D065, Reference 19	F001, F002
Triethylenetetramine	Metallography epoxy catalyst.	D002, D013, D059	NA
Trilaurylamine	Plutonium extraction reagent.	D013, D042, D059, D069	NA
Tri-n-octylamine (Trioctylamine)	Uranium extraction reagent.	D013, D042, D044, D059, D069	NA
Trioctylphosphine oxide (TOPO)	Plutonium operations reagent and cement fixation contaminant.	Reference 19	NA

Table 11. Chemical Identification and Use Summary (Continued)

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Tungsten	Metal used in welding operations and equipment, fuel elements, measure physical properties standard, and electrorefining reagent.	Reference 19	NA
UCAR C-34	Epoxy used for sealing aeroshells.	D065, M010, Reference 19	NA
Urea	Plutonium recovery operations, Pu-238 purification, and actinide R&D reagent.	D002, D042, D065, Reference 19	NA
Vacuum grease	Vessel handling and unloading and machining operations reagent.	Reference 19	NA
Vanadium	Metal used in machining and welding operations.	Reference 19	NA
Vanadium pentoxide	Salt distillation and stripping reagent.	Reference 19	NA
Varian Torr Seal epoxy	Sealing oxide sample containers.	Reference 19	NA
Vermiculite	Hydrated magnesium-aluminum-iron silicate material used to absorb samples and liquid waste.	Reference 19	NA
Waste Lock 770	Bentonite powder absorbent material used during repackaging operations.	C027, M010	NA
WD-40	Vessel handling and unloading.	Reference 19	NA
Windex	Machining cleaner.	Reference 19	NA
Xylene	Chloride, actinide R&D, and metallography operations reagent. Cement fixation contaminant.	C015, D036, D039, D065, Reference 19	NA
Yttrium metal/oxide	Mixed with plutonium in heat source processing and electrorefining reagent.	D065, Reference 19	NA
Zeolite	Silicate mineral absorbent material used during disassembly operations.	Reference 19	NA
Zinc	Metal used in Pu processing operations.	D013, D043, D059	NA
Zinc chloride	Plutonium operations reagent salt.	Reference 19	NA
Zinc stearate	Fuel production anti-sticking reagent.	Reference 19	NA
Zirconium metal/oxide	Electrorefining reagent and metal used in machining.	D059, D065, Reference 19	NA

Note:
Some of these chemicals may exhibit the characteristic of ignitability, corrosivity, and/or reactivity in their pure form. However, potentially ignitable, corrosive, or reactive materials (e.g., liquids and pressurized containers) identified during RTR, VE, or repackaging will be remediated or removed from the waste container prior to shipment to the WIPP. In addition, based on an analysis of the generating operations and waste management practices, no pure or unused chemicals would have been introduced into the debris waste stream.

5.4.3.1 F-Listed Waste

Based on review of AK relative to chemicals used or present in the facility and operations potentially contaminating the debris waste, LA-MHD04.001 may contain or be mixed with F-listed hazardous wastes from non-specific sources listed in 40 Code of Federal Regulations (CFR) 261.31 (Reference 11). As shown in Table 11, F001, F002, F003, and F005-listed solvents were used in TA-21 DP West operations. F003 constituents, including acetone, n-butyl alcohol, ethyl ether, methanol, methyl isobutyl ketone, and xylene, are listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is not liquid; therefore, F003 is not assigned. Waste stream LA-MHD04.001 is assigned F-listed EPA HWNs F001, F002, and

F005 for 1,1,1-trichloroethane, 1,1,2-trichloro, 1,2,2-trifluoroethane, benzene, carbon tetrachloride, chlorobenzene, methylene chloride, methyl ethyl ketone, pyridine, trichloroethylene, tetrachloroethylene, and toluene (References 19, D013, D036, D037, D038, D039, D040, D059, and DR001).

5.4.3.2 Toxicity Characteristic Waste

Based on review of AK relative to chemicals used or present in the facility and operations potentially contaminating the debris waste, LA-MHD04.001 may be contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24, as summarized in Table 11 (Reference 11). Where a constituent has been identified and there is no quantitative data available to demonstrate that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is added to this waste stream.

The AK identified the potential presence of additional toxicity characteristic compounds; however, the more specific F-listed EPA HWNs have been assigned to waste stream LA-MHD04.001 for the following constituents: benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), methyl ethyl ketone (D035), pyridine (D038), tetrachloroethylene (D039), and trichloroethylene (D040). These characteristic EPA HWNs are not assigned to the waste stream. Waste stream LA-MHD04.001 is assigned characteristic HWNs D004, D005, D006, D007, D008, D009, D010, D011, and D022 (References 19, D007, D009, D036, D037, D038, D039, D040, D041, D059, and DR001).

5.4.3.3 Ignitable, Corrosive, and Reactive Wastes

The waste material in waste stream LA-MHD04.001 does not meet the definition of ignitability as defined in 40 CFR 261.21 (Reference 11). LANL waste management practices prohibit liquids in any container of solid waste materials. In 1975, an inventory of the chemicals used in the plutonium processing areas during one calendar year was compiled, with more than 40 reagents identified. Preliminary estimates at the time indicated that only minute quantities of these reagents contaminated waste items. Many organic liquids in use had high vapor pressures. Ignitable solvents (e.g., acetone, toluene) would have been air-dried to remove any potential for ignitability, because hazardous waste treatment under RCRA was not a consideration at DP West in the 1970s. This material will not cause fire through friction, absorption of moisture, or spontaneous chemical changes. The materials are not compressed gases, nor does the waste contain compressed gases. Although oxidizers (e.g., aluminum nitrate, ferric nitrate) were identified as being used at DP West, these reagents were used in small quantities as needed, and should only be present as trace contaminants. The materials are not liquid, and RTR or VE is performed to ensure the absence of liquids. The materials in this waste stream are, therefore, not ignitable D001 wastes (References 19, C001, D001, D013, D058, D059, and D060).

The waste material in waste stream LA-MHD04.001 is not liquid and does not contain unreactive corrosive chemicals; therefore, it does not meet the definition of corrosivity as defined in 40 CFR 261.22 (Reference 11). Waste management practices required corrosive liquids (e.g., hydrochloric acid, nitric acid, sodium hydroxide) be transferred to the

liquid waste treatment facility at Building 257 or solidified. A detailed study of the composition of the DP West waste in 1975 verified the absence of any liquid, indicating that these chemicals entered the waste stream only as contaminants absorbed onto waste items. RTR or VE is performed to ensure the absence of liquids. The materials in this waste stream are, therefore, not corrosive D002 wastes (References 19, D001, D002, D013, D058, D059, and D060).

The waste material in waste stream LA-MHD04.001 does not meet the definition of reactivity as defined in 40 CFR 261.23 (Reference 11). For items contaminated with salt waste, it has been demonstrated that the unspent calcium metal in DOR salts is not pyrophoric. Experimental results on the reactivity of LANL DOR salts with water and the reactivity in air of heated calcium metal nodules from DOR salts indicate the absence of "dangerous when wet" materials and pyrophoricity in these salts. However, any discarded DOR salts potentially contained pyrophoric plutonium metal (References 19, D013, D058, D059, and D060).

In the 1970s, the lids of TRU waste drums were fitted with a permeable gasket that was not sealed with adhesive. Consequently, internal gases have been continually exchanged with the atmosphere as the result of the daily temperature cycle and atmospheric pressure changes. It is unlikely that, after 17 to 29 years of storage in an oxidizing environment, any plutonium metal in the TA-21 waste drums has remained unoxidized. In addition, screening tests on similar pyrochemical salts and residues (that contain higher amounts of plutonium) at the former Rocky Flats Environmental Technology Site had shown (1) no autoignition, (2) no spontaneous combustion, and (3) no sparking (References C008, D015, D017, and D059).

In one document discussing chemicals of concern during a D&D operation, picric acid is listed as a possible concern. No usage of picric acid was listed in that document and no usage of picric acid was found in any other source document. There is no evidence to indicate that picric acid is in any of the waste containers. The caution statement specified in the D&D document is considered a generic concern for any D&D operation (Reference D068).

The materials are stable and will not undergo violent chemical change without detonating. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The materials do not contain sulfides and are not capable of detonation or explosive reaction. Reactive materials present or used during plutonium operations were excluded from waste packaging or reacted prior to disposal. The materials in this waste stream are, therefore, not reactive D003 wastes (References 19, D001, D013, D058, D059, and D060).

5.4.3.4 P- and U-Listed Waste

Review of the AK record did not identify any specific source or incident where DP West combustible debris waste was mixed with or contaminated with discarded commercial chemical product, an off-specification commercial chemical product, or a container residue

or spill residue thereof as defined in 40 CFR 261.33 (Reference 11). No listed chemicals were identified in the container-specific documentation. Beryllium from metal operations, in general, would be in the form of classified shapes and would, therefore, not be in this waste stream. In some cases, beryllium turnings were generated during machining operations. However, it is assumed that, if present, beryllium is a minor contaminant, well below one weight percent in any given waste container. Hydrofluoric acid was used during sample dissolution; however, there is no indication that unused acid or materials from spills of the acid were disposed of in this waste stream. Additionally, as described above, liquids were evaporated, treated, or absorbed prior to disposal. Waste stream LA-MHD04.001 is, therefore, not assigned a P- or U-listed HWN (References 19, D013, D059, P003, and P007).

5.4.3.5 K-Listed Waste

The material in this waste stream is not hazardous from specific sources since it was not generated from any of the processes listed in 40 CFR 261.32 (References 11, 19, D013, and D059).

5.4.4 Polychlorinated Biphenyls (PCBs)

Based on documentation reviewed during the AK investigation and summarized in lists of inputs referenced in this report, no PCBs were identified in this TRU waste stream. Oils were used in the operations, including heat-treating, hydraulic, lubricating, machining, and vacuum pump oils. None of these oils are known to contain PCBs. Ballasts in fluorescent light fixtures could contain PCBs, but these light fixtures were located outside the gloveboxes and are not expected to have entered the TRU waste stream. However, characterization activities of the TA-55 debris waste stream have identified the presence of light ballasts. Therefore, if there is reason to suspect that an item may contain PCBs (based on AK, RTR, or VE), the waste container will be managed as a Toxic Substances Control Act (TSCA) waste under 40 CFR 761 (References 17, 19, D013, and D059).

5.4.5 Prohibited Items

The DP West TRU wastes addressed in this report are expected to contain prohibited items. Procedures in place during the 1970s did not prohibit the disposal of sealed containers greater than four liters. Prohibited quantities of liquid including small vials containing liquids and some aerosol cans are also likely to be found. It is anticipated that many 55-gallon drums will contain overpacked 30-gallon drums. Lead shielding was sometimes used to increase safety, and thick shielding may obscure RTR observations, requiring VE of these waste containers (References D013, D058, D059, and D060).

Prohibited items are detected by RTR or VE and reported with the characterization results. Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new drums, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items removed and segregated, if necessary, prior to certification and shipment. Waste items with high dose rates may be

repackaged into a POC. Repackaged waste items that are placed into a new drum(s) or POC are from a single parent drum. Some secondary waste generated during remediation/repackaging operations may be added to the waste containers, including but not limited to: absorbent (e.g., Waste Lock 770), Fantastik bottles used during decontamination, miscellaneous hand tools, paper/plastic tags and labels, plastic/metal wire ties, PPE, plastic sheeting used for contamination control, rags and wipes (Kimwipes), and original packaging material (e.g., plastic bags, plywood sheathing, rigid liner cut into pieces) (References C027, C034, D013, D058, D060, P010, P011, P012, P021, P030, and P032).

Hazardous waste not occurring as co-contaminants with TRU waste is not present in the DP West TRU debris waste. The container-specific AK data indicates that all DP West debris waste containers are contaminated with TRU radionuclides. Explosives are not expected to be present in the DP West TRU waste. No evidence of the use of explosives in DP West operations was found during the AK compilation. Most gases were stored outside the glovebox and plumbed into the glovebox. Consequently, compressed gas cylinders are not expected to be in any of the DP West TRU waste containers. In 1985, six 30-gallon drums of Pu-238 debris waste generated in 1974 at DP West were retrieved from storage and visually examined as part of the LANL TRU-Waste Sampling Program. Liquids were observed in two drums; however, no pyrophoric materials, explosives, or compressed gases were observed. Controls are in place to ensure chemical compatibility for the waste contents and the TRUPACT-II shipping containers (References D023 and D059).

In one document discussing chemicals of concern during a D&D operation, picric acid is listed as a possible concern. No usage of picric acid was listed in that document and no usage of picric acid was found in any other source document. There is no evidence to indicate that picric acid is in any of the waste containers. The caution statement specified in the D&D document is considered a generic concern for any D&D operation (Reference D068).

Based on interviews with site personnel performing VE and prohibited item disposition repackaging of TA-55 waste streams, internal cans (both shielded and unshielded) have been measured for dose rate during repackaging and found to contain waste with radiation levels exceeding 200 millirem per hour (Reference 19).

5.5 Waste Packaging

The DP West TRU debris waste is primarily contained in 15-gallon, 30-gallon, 55-gallon, and 85-gallon drums. Most of the inventory (approximately 90 percent) is presently in below-grade retrievable storage. The condition of the below-grade containers is unknown and may require repackaging. It is expected that debris waste from waste management operations would usually be packaged into standard U.S. Department of Transportation (DOT) 7A, Type A 55-gallon steel drums, which may include either up to two 5-mil to 12-mil plastic liner bags, or one 90-mil/125-mil rigid polyethylene liner with lid. Liner bags were closed using the standard twist and tape method. Waste could also be packaged in

15-gallon or 30-gallon drums, and later overpacked into 55- and/or 85-gallon drums. Lead shielding may have also been used. Large or heavy waste items may be packaged in DOT 7A, Type A unlined SWBs (References 19, C037, D001, D002, D013, D023, D058, D059, D060, D062, P028, and P035).

Filter vents were not installed in the containers; rather, permeable lid gaskets were used to ventilate the drums. The packaging configurations for the waste are expected to vary from overpacked 30-gallon drums to multiple layers of inner plastic bags and/or metal cans. The method of bag closure is unknown. In 1985, six 30-gallon drums of Pu-238 debris waste generated in 1974 at DP West were retrieved from storage and visually examined as part of the LANL TRU-Waste Sampling Program. Plastic liners and filter vents were not present in any of these drums (References D023 and D059).

Since 1995, several changes have been introduced to the packaging procedures. Plastic liner bags could still be present, but they are typically closed by folding, not by taping. All waste containers (e.g., 55-gallon drums) are vented with approved filter vents (e.g., Nucfil-013) prior to disposal. Since 1997, plastic bags with filters are typically used. The waste in 15-, 30-, 85-, and 110-gallon drums, crates (e.g., FRPs), and nonstandard containers (e.g., cargo container) will be repackaged into TRAMPAC-compliant payload containers (e.g., 55-gallon drums, unlined SWBs) prior to certification and shipment. Waste could also be repackaged into a POC. Waste placed into a POC may be packaged into a single filtered plastic bag which may include a fiberboard liner/sleeve inside the plastic bag. POCs contain a pipe component in a standard 55-gallon steel drum that is lined with a punctured rigid liner with packing material between the pipe component and liner. POCs are closed once predetermined SNM or weight limits are met, or when the pipe component is physically full. Remediated/repackaged waste placed in a 55-gallon drum may be packaged with or without a single plastic liner bag with one of the following drum liner configurations depending on the remediation facility: no liner, a fiberboard liner, or a 90-/125-mil rigid polyethylene liner without lid (References 19, C025, D058, D059, D060, P010, P011, P012, P021, P028, P029, P030, P032, P033, and P034).

During waste management and drum storage activities following initial waste generation, 55-gallon drums may be overpacked into larger drums (i.e., 85-gallon drums or larger) or SWBs to correct/address external contamination, fissile gram equivalent (FGE) limits, and drum integrity problems such as pin hole corrosion, dents, etc. If drums are overpacked in an SWB (up to four 55-gallon drums), no closed liner bags are used in the SWBs (References D026, D079, D081, P010, P021, P028, and P030).

Containers in this waste stream include a variety of configurations with up to six layers of confinement. RTR or VE will confirm TRUCON code LA225. LA225 describes the broadest type of materials and bounds all waste packages in this waste stream. However, TRUCON codes LA215, LA216, LA217, LA218, LA219, and LA223 have been identified as suitable TRUCONs for individual containers in this waste stream. These TRUCON codes may be assigned for the eventual certification and transportation of payload containers in this waste stream, pending further evaluation of container-specific information. For high wattage drums, TRUCON codes LA154 or SQ154 may also be used for shipping and they

would be assigned by Waste Certification Officials. Vent dates for individual containers are provided in the AK Tracking Spreadsheet (References C028, D028, D058, D059, D060, and M014).

6.0 REQUIRED WASTE STREAM INFORMATION FOR LA-MSG04.001

This section presents the mandatory waste stream AK required by the WIPP-WAP (Reference 2). Attachment 1 of CCP procedure CCP-TP-005 (Reference 1) provides a list of the TRU waste stream information required to be developed as part of the AK record.

6.1 Area and Building of Generation

The soil waste included in waste stream LA-MSG04.001 was generated during D&D and associated operations (e.g., sampling operations) at the TA-21 DP West Facility as described in Section 4.4. Container specific records have been reviewed for each container to verify the physical composition and origin of the waste stream inventory included in the most current AK Tracking Spreadsheet (References C033, C037, M004, and M020).

6.2 Waste Stream Volume and Period of Generation

Waste stream LA-MSG04.001 is mixed contaminated soil generated from February 1978 to September 2011. Table 12, Waste Stream LA-MSG04.001 Volume, summarizes the current inventory of waste represented by this report. Some of the DP West soil inventory is presently in below-grade retrievable storage at TA-54, Area G. Of the current population of 82 soil containers, 45 are currently stored below-grade at Area G. The projected volume may change based on the radiological characteristics of the waste containers, the condition of the retrievably stored below-grade containers, and repackaging operations. No future additional waste stream volume has been identified; however, it is expected that additional TRU waste could be generated during future D&D projects (e.g., cleanup of MDAs A and T) (References C033, C037, D058, D059, D060, M004, M009, and M020).

Table 12. Waste Stream LA-MSG04.001 Volume

Containers	Volume (m^3)
48 55-gallon drums	10.1
15 Crates	38.4*
19 SWBs	35.7
82 Total	84.2

* Generator reported volumes.

6.3 Waste Generating Activities

Waste generated in TA-21 originated from materials used to produce metal and alloys of plutonium and other TRU elements from nitrate solution feedstock; fabricate the metals and alloys into precision shapes; measure the chemical and physical properties of plutonium metal and alloys; recover and recycle plutonium; and research and recover americium. Waste was also generated during D&D, waste repackaging, and retrieval operations. The operations are described in detail in Section 4.4 and include:

- Plutonium recovery operations
- Pyrochemical operations
- Metal operations
- Pu-239 fuels programs
- Americium processing operations
- Pu-238 processing
- Miscellaneous and special processing
- D&D operations
- Waste repackaging and prohibited item disposition
- Below-grade retrieval project

6.4 Types of Waste Generated

This section describes the process inputs, Waste Matrix Code assignment, radionuclide contaminants, and RCRA hazardous waste determinations for contaminated soil waste stream LA-MSG04.001. The waste stream is characterized based on knowledge of the materials, knowledge of the operations generating the waste, and physical descriptions of the waste.

6.4.1 Material Input Related to Physical Form

Waste stream LA-MSG04.001 consists of mixed contaminated soil generated during D&D and associated operations (e.g., sampling operations) at the TA-21 DP West Facility. The waste is comprised of dirt or soil, dust, sand, silt, rock, and gravel contaminated with TRU material. Available AK indicates the contaminated soil primarily originated from spills and/or the removal of acid wells and lines, tunnels below buildings, MDAs, tank systems, and various locations immediately surrounding the DP West buildings. Acid wells and lines were part of the liquid waste treatment process. Liquid wastes that had plutonium concentrations less than the DL, but that did not meet the waste acceptance criteria for the TA-50 Radioactive Liquid Waste Treatment Facility, were sent to the liquid waste treatment process. Contaminated soil from tunnels below DP West buildings typically originated from the cleanup of nonstandard events. However, some of the containers in this waste stream do not identify specific waste generating locations. Contaminated soil also originated from the investigation, excavation, and remediation of MDAs and tank systems. This waste could have been generated in any DP West building or surrounding area. Consequently, this soil could be contaminated with any of the materials and chemicals from the operations described in Section 4.4. The waste stream may also include a small fraction of absorbent

material used to absorb residual liquid such as vermiculite. Debris waste (mainly plastic packaging, blacktop, concrete, insulation, and piping) may also be present. Any payload container consisting of more than 50 percent by volume of debris will be excluded from this waste stream (References C033, D006, D008, D035, D058, D059, D060, D069, M003, M004, M009, M020, P036, and P037).

6.4.1.1 Waste Matrix Code

Based on the evaluation of the materials contained in this waste stream and LANL waste management practices, waste stream LA-MSG04.001 is comprised of at least 50 percent, but no greater than 95 percent, by volume soil, sand, silt, or rock and gravel, with rock and gravel volumes totaling less than 50 percent of the matrix and the balance of the matrix being debris. Therefore, Waste Matrix Code S4200, Soil/Debris, is assigned to waste stream LA-MSG04.001. Although the waste stream, as a whole, is comprised of more than 50 to 95 percent soil, any container may include nearly any percentage of the WMPs listed in Section 6.4.1.2. This means individual containers may contain greater than 95 percent soil. However, these containers match the waste stream description, they were generated from the operations described in the AK Summary report, and their inclusion in the waste stream is appropriate (References 15, C033, D058, D059, D060, M003, M004, and M020).

6.4.1.2 Waste Material Parameters

To estimate the WMPs for waste stream LA-MSG04.001, WMP data were obtained from the Waste Data System (WDS), formerly known as the WIPP Waste Information System database. The WMP data were derived from RTR of this waste stream by the CCP TRU Waste Certification Program (TWCP) at LANL.

The WMPs for waste stream LA-MSG04.001 were estimated by reviewing the WDS data for five containers. The WDS data provides a weight for packaged waste materials, which were categorized into the following WMPs: iron-based metals/alloys, plastics, and soils/gravel. Although not identified in RTR data, WMPs other inorganic materials (e.g., concrete, insulation) and inorganic matrix (e.g., vermiculite) are expected to be present in this waste stream. Therefore, these WMPs are identified as being present and are listed at concentrations of less than one weight percent. Average, minimum, and maximum WMP weight percentages were calculated using this data, and the results of this analysis are presented in Table 13, Waste Material Parameter Estimates for LA-MSG04.001.

The statistical analysis of the data will be documented in a memorandum (included with Attachment 6) as required by CCP-TP-005 (Reference 1).

Table 13. Waste Material Parameter Estimates for LA-MSG04.001

Waste Material Parameter	Average Weight Percent	Weight Percent Range
Iron-Based Metals/Alloys	5.15%	3.53% - 8.53%
Aluminum-Based Metals/Alloys	0.00%	0.00% - 0.00%

Waste Material Parameter	Average Weight Percent	Weight Percent Range
Other Metals	0.00%	0.00% - 0.00%
Other Inorganic Materials	<1.00%	0.00% - <1.00%
Cellulosics	0.00%	0.00% - 0.00%
Rubber	0.00%	0.00% - 0.00%
Plastic (waste materials)	0.89%	0.71% - 1.42%
Organic Matrix	0.00%	0.00% - 0.00%
Inorganic Matrix	<1.00%	0.00% - <1.00%
Soils/Gravel	93.96%	90.04% - 95.77%
Total Organic Waste Avg.	**0.89%**	
Total Inorganic Waste Avg.	**99.11%**	

6.4.2 Radiological Characterization

6.4.2.1 Pu-238, Pu-239, Pu-240, Pu-241, and Pu-242

The assignment of MTs is used to describe the isotopic composition of common blends of radioactive materials used within the DOE complex. The primary plutonium MT inputs for LANL activities are listed in Section 5.4.2.2, Table 7. However, other MTs are occasionally introduced as feed material. The primary uranium MT inputs are listed in Section 5.4.2.2, Table 8 (References C021, D034, D058, D059, and D060).

The primary documentation source used to develop the radiological characterization of waste stream LA-MSG04.001 is generator reported data for individual waste containers. An RSWD or TWSR was available and was reviewed for each of the containers in this waste stream. The waste generators did not record MTs for the containers in this waste stream; however, individual isotopic data was reported for each container (References C033, C037, M004, M009, and M020).

6.4.2.2 U-233, U-234, U-235, and U-238

U-233 and U-238 were not normally components of the plutonium types handled at TA-21. U-235 is present from the decay of Pu-239 only at 0.1 percent by weight of the total plutonium content. However, all three isotopes have been introduced as special material. In addition, uranium-plutonium oxide mixtures have been processed to recover the plutonium. Significant quantities of U-234 will be present from the decay of Pu-238 in containers originating from heat source plutonium operations. U-234 content must be estimated since this isotope cannot be reliably measured using NDA techniques. The content of U-234 is calculated as the sum of the contributions expected from decay of Pu-238 and from uranium input to the operation, with the value of 0.014 conservatively used for the ratio of abundances of U-234 to U-235 in typical uranium material (References 19, C019, C020, D058, D059, and D060).

In general, uranium and its isotopes are expected to be present only at trace levels, if at all, if the feed material did not purposely contain uranium. However, some reactor fuel

development, uranium-plutonium separation, and pit disassembly have uranium material as the feed material (References 19, D058, D059, and D060).

6.4.2.3 Am-241

AK on the inputs provides the basis for estimating an upper boundary for Am-241 content based on the rate of decay of the precursor, Pu-241. The purpose of such bounding calculations is to provide a basis for identifying significant enrichment or depletion of Am-241 based on radioassay results for individual waste containers. The calculations assume that (a) none of these isotopes were initially present in the material, (b) the oldest plutonium material in inventory dates back to January 1, 1960, and (c) the legacy waste was packaged on January 1, 1996, making it 36 years old at that time. In general, wastes from the plutonium recovery process are enriched with Am-241, because a primary intent of the recovery process is to reduce the americium content of the retained plutonium (References 19, C021, D058, D059, and D060).

No correlation is expected among the different radioelements, Pu, Np, U, Pa, or Am. The differences in valence states and chemical affinities among these elements are expected to result in substantial fractionation during several recovery operations, including ion-exchange, solvent extraction, hydroxide precipitation, and dissolution (References C017, C018, D058, D059, and D060).

6.4.2.4 Other Radionuclides Present Due to Decay

Other radionuclides will be present in most of the wastes from the decay of a plutonium isotopic precursor or as a contaminant in the feed material (References C017, C018, D031, D058, D059, and D060):

- Np-237, the decay product of Am-241 (half-life, 458 yr), is expected to be present in minor amounts in most waste from recovery operations.
- Am-243, the decay product of Pu-243 (half-life, 5.0 hr), is expected to be present in minor amounts in most wastes from recovery operations. Pu-243 is produced by neutron capture on Pu-242 during fuel irradiation.
- Pa-231, the decay-chain daughter of U-235, is expected to be present in trace amounts in some wastes due to its widespread presence as a contaminant in recovery operations.
- Ac-227, the decay-chain daughter of Pa-231, is expected to be present in trace amounts where Pa-231 is present, but at several orders of magnitude less than Pa-231.

6.4.2.5 Cs-137 and Sr-90

Cs-137

Cs-137 is a product of the spontaneous fission of Pu-238, Pu-239, and especially Pu-240. Cs-137 is also a trace contaminant in purified plutonium from the production reactors. In the latter case, the remaining cesium could be on the order of 0.5 ng/g plutonium. In the former instance, the formation of Cs-137 due to spontaneous fission would lead to about 0.4 pg/g plutonium in plutonium that is 10 years old. Because Cs-137 due to spontaneous fission is about a factor of a thousand less than that due to residual contamination from the original separation on the production fuel, the latter is the dominant source of cesium in waste (References C017, C018, D058, D059, and D060).

Sr-90

Like Cs-137, Sr-90 is a high yield fission product and is unlikely to be present except as a trace remnant from plutonium production/processing. Unlike Cs-137, however, Sr-90 (together with its Y-90 daughter) emits no significant gamma radiation that would allow it to be quantified by direct gamma counting. Therefore, no reliable means exists for the direct NDA of Sr-90. However, because of the requirement that an estimate of Sr-90 content be made, the following approach is taken. In plutonium production runs, Cs-137 and Sr-90 are produced at approximately the same level. These two nuclides have very similar half-lives (~ 30 y) and will, therefore, be present at roughly the same activity level prior to commencement of any processing operations. If it is assumed that strontium and cesium are not fractionated from one another during chemical processing, Cs-137 may be used as a marker for Sr-90 activity at a ratio of 1:1 (References 19, D058, D059, and D060).

6.4.2.6 Estimated Predominant Isotopes and 95 percent Total Activity

The radiological distribution for this waste stream is listed in Table 14, Estimated Radionuclide Distribution for the LA-MSG04.001 Waste Stream. The distribution represents existing generator-reported radionuclide data for each container in the waste stream. However, some of the containers list "zero" assay values. It is not known why the zero assay values are listed. This could indicate that assay was not performed on these containers although they were managed as TRU waste. It could also indicate low assay containers that did not contain activity levels above the lower limit of detection. Finally, it could indicate measured or estimated plutonium mass values below 0.5 grams. The "Total Radionuclide Weight%" values in Table 14 are the gram value for each radionuclide over the entire waste stream divided by the total radiological mass in the waste stream. The same calculation produced the values for the "Total Radionuclide Curie%" using the sum of activity values for each radionuclide over the entire waste stream. The columns "Radionuclide Weight% Range for Individual Containers" and "Radionuclide Curie% Range for Individual Containers" illustrate the reported ranges of radionuclides in individual containers by identifying the maximum and minimum values for each radionuclide on a

container-by-container basis over the entire waste stream (References C033, C037, M004, M009, and M020).

From the data presented in Table 14, the two predominant radionuclides by mass percent are U-238 and Pu-239, while 95 percent of the activity over the entire waste stream is from Pu-239 (References C033, C037, M004, M009, and M020).

Table 14. Estimated Radionuclide Distribution for the LA-MSG04.001 Waste Stream

Radio-nuclide	Number of Drums with Reported Nuclide	Total Nuclide Weight%[1,5]	Total Nuclide Curie%[2,5]	Nuclide Weight% Range for Individual Drums[3,5]	Nuclide Curie% Range for Individual Drums[4,5]	Expected Present
WIPP Required Radionuclides						
Am-241[6]	57	Trace	0.54%	0 - 16.30%	0 - 91.50%	Yes
Pu-238	57	Trace	0.12%	0 - Trace	0 - 0.71%	Yes
Pu-239	75	**8.38%**	**99.00%**	0 - 100.00%	0 - 100.00%	Yes
Pu-240	1	Trace	0.05%	0 - 0.43%	0 - 38.07%	Yes
Pu-242	1	Trace	Trace	0 - 0.05%	0 - 0.08%	Yes
U-233	1	Trace	Trace	0 - Trace	0 - 0.01%	Yes
U-234	19	0.01%	0.01%	0 - 0.39%	0 - 0.15%	Yes
U-238	19	**87.71%**	0.01%	0 - 98.77%	0 - 0.12%	Yes
Sr-90	19	Trace	0.04%	0 - Trace	0 - 0.26%	Yes
Cs-137	18	Trace	0.21%	0 - Trace	0 - 1.33%	Yes
Additional Radionuclides						
H-3	19	Trace	Trace	0 - Trace	0 - Trace	Yes
I-125	1	Trace	Trace	0 - Trace	0 - 0.02%	Yes
I-129	1	Trace	Trace	0 - 0.05%	0 - Trace	Yes
Np-237	1	Trace	Trace	0 - 0.13%	0 - 0.04%	Yes
Pb-210	1	Trace	Trace	0 - Trace	0 - 0.48%	Yes
Pu-244	1	0.20%	Trace	0 - 69.36%	0 - 0.48%	Yes
Ra-226	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Th-234	1	Trace	0.01%	0 - Trace	0 - 4.62%	Yes
U-235	56	3.70%	Trace	0 - 75.93%	0 - 0.14%	Yes

1 This listing indicates the total weight percent of each radionuclide over the entire waste stream.
2. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
3. This listing is the weight percent range of each radionuclide on a container-by-container basis.
4. This listing is the curie percent range of each radionuclide on a container-by-container basis.
5. "Trace" indicates <0.01 weight or activity (curie) percent for that radionuclide.
6. Maximum weight percent and curie percent ranges based upon preliminary CCP NDA analyses, not generator reported data.

6.4.3 Chemical Content Identification – Hazardous Constituents

Waste stream LA-MSG04.001 has historically been managed in accordance with the generator site requirements and in accordance with the requirements of the New Mexico Environmental Department. Based on historical waste management and LANL's TRU Program (Reference LANL waste stream LA-MSG01-DD), LANL managed the waste as

nonhazardous. However, the LANL TRU program identified that further AK investigation was required. A review of available AK documentation has determined that this waste is hazardous for arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), silver (D011), and chloroform (D022) and F-listed solvents (F001, F002, and F005). This waste stream could have been contaminated with liquids and/or residues form any of the plutonium processing operations described in Section 4.4. The following sections further describe the characterization rationale for the assignment of EPA HWNs to waste stream LA-MSG04.001.
Table 15, Waste Stream LA-MSG04.001 Hazardous Waste Characterization Summary, summarizes the waste codes assigned to this waste stream (References 19, D059, D060, and DR005).

Table 15. Waste Stream LA-MSG04.001 Hazardous Waste Characterization Summary

Waste Stream	EPA HWNs
LA-MSG04.001	D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, and F005

To assign EPA HWNs, available AK documentation is reviewed to assess chemical usage and to identify potentially hazardous materials that may have been introduced into the waste stream. In addition, MSDSs and other manufacturer information are obtained for the commercial products to determine the presence of RCRA-regulated compounds. Based on the rationale provided in Section 6.4.1, the contaminated soil waste in this waste stream contains the same or similar hazardous constituents identified for waste stream LA-MHD04.001 and will carry all the same EPA HWNs. Section 5.4.3, Table 11, lists the specific chemicals identified and associated HWNs assigned to the waste stream (Reference DR005).

6.4.3.1 F-Listed Waste

Based on review of AK relative to chemicals used or present in the facility and operations potentially contaminating the soil waste, LA-MSG04.001 may contain or be mixed with F-listed hazardous wastes from non-specific sources listed in 40 CFR 261.31 (Reference 11). As shown in Section 5.4.3, Table 11, F001, F002, F003, and F005-listed solvents were used in TA-21 DP West operations. F003 constituents, including acetone, n-butyl alcohol, ethyl ether, methanol, methyl isobutyl ketone, and xylene are listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is not liquid; therefore, F003 is not assigned. Waste stream LA-MSG04.001 is assigned F-listed EPA HWNs F001, F002, and F005 for 1,1,1-trichloroethane, 1,1,2-trichloro,1,2,2-trifluoroethane, benzene, carbon tetrachloride, chlorobenzene, methylene chloride, methyl ethyl ketone, pyridine, trichloroethylene, tetrachloroethylene, and toluene (References 19, D013, D036, D037, D038, D039, D040, D059, and DR005).

6.4.3.2 Toxicity Characteristic Waste

Based on review of AK relative to chemicals used or present in the facility and operations potentially contaminating the soil waste, LA-MSG04.001 may be contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24, as summarized in Section 5.4.3, Table 11 (Reference 11). Where a constituent has been identified and there is no quantitative data available to demonstrate that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is added to this waste stream. The AK identified the potential presence of additional toxicity characteristic compounds; however, the more specific F-listed EPA HWNs have been assigned to waste stream LA-MSG04.001 for the following constituents: benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), methyl ethyl ketone (D035), pyridine (D038), tetrachloroethylene (D039), and trichloroethylene (D040). These characteristic EPA HWNs are not assigned to the waste stream. Waste stream LA-MSG04.001 is assigned characteristic HWNs D004, D005, D006, D007, D008, D009, D010, D011, and D022 (References 19, D007, D009, D036, D037, D038, D039, D040, D041, D059, and DR005).

6.4.3.3 Ignitable, Corrosive, and Reactive Wastes

The waste material in waste stream LA-MSG04.001 does not meet the definition of ignitability as defined in 40 CFR 261.21 (Reference 11). LANL waste management practices prohibit liquids in any container of solid waste materials. In 1975, an inventory of the chemicals used in the plutonium processing areas during one calendar year was compiled, with more than 40 reagents identified. Preliminary estimates at the time indicated that only minute quantities of these reagents contaminated waste items. Many organic liquids in use had high vapor pressures. Ignitable solvents (e.g., acetone, toluene) would have been air-dried to remove any potential for ignitability, because hazardous waste treatment under RCRA was not a consideration at DP West in the 1970s. This material will not cause fire through friction, absorption of moisture, or spontaneous chemical changes. The materials are not compressed gases, nor does the waste contain compressed gases. Although oxidizers (e.g., aluminum nitrate, ferric nitrate) were identified as being used at DP West, these reagents were used in small quantities as needed, and should only be present as trace contaminants. The materials are not liquid, and RTR is performed to ensure the absence of liquids. The materials in this waste stream are, therefore, not ignitable D001 wastes (References 19, C001, D001, D013, D058, D059, and D060).

The waste material in waste stream LA-MSG04.001 is not liquid and does not contain unreactive corrosive chemicals; therefore, it does not meet the definition of corrosivity as defined in 40 CFR 261.22 (Reference 11). Waste management practices required corrosive liquids (e.g., hydrochloric acid, nitric acid, sodium hydroxide) be transferred to the liquid waste treatment facility at Building 257 or solidified. A detailed study of the composition of DP West waste in 1975 verified the absence of any liquid in the solid wastes, indicating that these chemicals entered the waste stream only as contaminants absorbed onto waste items. RTR is performed to ensure the absence of liquids. The materials in this waste stream are, therefore, not corrosive D002 wastes (References 19, D001, D002, D013, D058, D059, and D060).

The waste material in waste stream LA-MSG04.001 does not meet the definition of reactivity as defined in 40 CFR 261.23 (Reference 14). The materials are stable and will

not undergo violent chemical change without detonating. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The materials do not contain sulfides and are not capable of detonation or explosive reaction. Reactive materials present or used during plutonium operations were excluded from waste packaging or reacted prior to disposal. The materials in this waste stream are, therefore, not reactive D003 wastes (References 19, D001, D013, D058, D059, and D060).

In one document discussing chemicals of concern during a D&D operation, picric acid is listed as a possible concern. No usage of picric acid was listed in that document and no usage of picric acid was found in any other source document. There is no evidence to indicate that picric acid is in any of the waste containers. The caution statement specified in the D&D document is considered a generic concern for any D&D operation (Reference D068).

6.4.3.4 P- and U-Listed Waste

Review of the AK record did not identify any specific source or incident where DP West soil waste was mixed with or contaminated with discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof as defined in 40 CFR 261.33 (Reference 11). No listed chemicals were identified in the container-specific documentation. Beryllium from metal operations, in general, would be in the form of classified shapes or turnings and would, therefore, not be in this waste stream. However, it is assumed that, if present, beryllium is a minor contaminant, well below one weight percent in any given waste container. Regardless, the beryllium contamination in this waste does not meet the definition of a P-listed waste because it was used for its intended purpose. Hydrofluoric acid was used during sample dissolution; however, there is no indication that unused acid or materials from spills of the acid were disposed of in this waste stream. Additionally, as described above, liquids were evaporated, treated, or absorbed prior to disposal. Waste stream LA-MSG04.001 is, therefore, not assigned a P- or U-listed HWN (References 19, D013, D058, D059, D060, M004, M020, P003, and P007).

6.4.3.5 K-Listed Waste

The material in this waste stream is not hazardous from specific sources since it was not generated from any of the processes listed in 40 CFR 261.32 (References 11, 19, D013, D059, D060, M004, and M020).

6.4.4 Polychlorinated Biphenyls (PCBs)

Based on documentation reviewed during the AK investigation and summarized in lists of inputs referenced in this report, no PCBs were identified in this TRU waste stream. Oils were used in the operations, including heat-treating, hydraulic, lubricating, machining, and vacuum pump oils. None of these oils are known to contain PCBs. Therefore, this waste

stream is not regulated as a TSCA waste under 40 CFR 761 (References 17, 19, D013, D058, D059, and D060).

6.4.5 Prohibited Items

Based on the review of container documentation and documented waste management practices, no prohibited items are specifically identified in the waste stream. However, the presence of liquids due to dewatering is possible. In addition, procedures allowed containers greater than four liters, sealed with tape, to be used for waste packaging until LANL WIPP-approved procedures were implemented (References D013, D058, D059, and D060).

Prohibited items are detected by RTR and reported with the characterization results. Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new drums, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items removed and segregated if necessary prior to certification and shipment. Some secondary waste generated during remediation/repackaging operations may be added to the waste containers, including but not limited to: absorbent (e.g., Waste Lock 770), Fantastik bottles used during decontamination, miscellaneous hand tools, paper/plastic tags and labels, plastic/metal wire ties, PPE, plastic sheeting used for contamination control, rags and wipes (Kimwipes), original packaging material (e.g., plastic bags, plywood sheathing rigid liner lids cut into pieces) (References C027, C034, D013, D058, D060, P010, P011, P012, P021, P030, and P032).

6.5 Waste Packaging

The DP West contaminated soil waste is primarily contained in 55-gallon drums. Some of the inventory (approximately 50 percent) is presently in below-grade retrievable storage. The condition of the below-grade containers is unknown and may require repackaging. It is expected that soil waste from waste management operations would usually be packaged directly into standard DOT 7A, Type A 55-gallon steel drums, which may include up to two 5-mil to 12-mil plastic liner bags, twist and taped closed with tape, or one 90-mil/125-mil rigid polyethylene liner with or without a lid. Absorbent material such as vermiculite may have been used to absorb residual liquid. The soil waste may have also been placed in one or two inner bags. Large or heavy waste items (e.g., soil) may be packaged in DOT 7A, Type A unlined SWBs. Since 1995, several changes have been introduced to the packaging procedures. Plastic liner bags could still be present, but they are typically closed by folding, not by taping. All waste containers (e.g., 55-gallon drums) are vented with approved filter vents (e.g., Nucfil-013) prior to disposal. Since 1997, plastic bags with filters are typically used. The containers in this waste stream can include up to two layers of confinement. The waste in crates will be repackaged into TRAMPAC-compliant payload containers (e.g., 55-gallon drums, unlined SWBs) prior to certification and shipment. Waste could also be repackaged into a POC. Waste placed into a POC may be packaged into a single filtered plastic bag which may include a fiberboard liner/sleeve inside the plastic bag. POCs contain a pipe component in a standard 55-gallon steel drum that is lined with a punctured rigid liner with packing material between the pipe component and liner. POCs

are closed once predetermined SNM or weight limits are met, or when the pipe component is physically full. Remediated/repackaged waste placed in a 55-gallon drum may be packaged with or without a single plastic liner bag with one of the following drum liner configurations depending on the remediation facility: no liner, a fiberboard liner, or a 90-/125-mil rigid polyethylene liner without lid (References 19, C037, D001, D002, D013, D023, D058, D059, D060, D062, M020, P010, P011, P012, P021, P028, P029, P030, P032, P033, P034, and P035).

During waste management and drum storage activities following initial waste generation, 55-gallon drums may be overpacked into larger drums (i.e., 85-gallon drums or larger) or SWBs to correct/address external contamination, FGE limits, and drum integrity problems such as pin hole corrosion, dents, etc. If drums are overpacked in an SWB (up to four 55-gallon drums), no closed liner bags are used in the SWBs (References D026, D079, D081, P010, P021, P028, and P030).

RTR will confirm TRUCON code LA211. However, TRUCON code SQ211 has been identified as suitable for individual containers in this waste stream. This TRUCON code may be assigned for the eventual certification and transportation of payload containers in this waste stream pending further evaluation. Vent dates for individual containers are provided in the AK Waste Containers List (References D058, D059, D060, and M020).

7.0 CONTAINER SPECIFIC INFORMATION

Several data sources were reviewed relating to container-specific information about the radiological, physical, and chemical characterization of containers in these waste streams including archived and active site database information and generator records. The list of containers included in these waste streams is provided in the current AK Tracking Spreadsheet.

8.0 REFERENCES

1. CCP-TP-005, *CCP Acceptable Knowledge Documentation*, Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

2. *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan*, New Mexico Environment Department, Santa Fe, New Mexico

3. DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, Carlsbad, New Mexico, U.S. DOE, Carlsbad Field Office

4. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*, Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

5. 42 U.S.C 10101, *Nuclear Waste Policy Act of 1982*, U.S. Congress.

6. DOE Order 5820.1, *Management of Transuranic Contaminated Material*, U.S. DOE, Washington, D.C., (Dated September 30, 1982)

7. DOE Order 5820.2, *Radioactive Waste Management*, U.S. DOE, Washington, D.C., (Dated September 30, 1984)

8. DOE/WIPP 01-3194, *CH-TRU Waste Content Codes (CH-TRUCON)*, U.S. DOE, Carlsbad

9. DOE/CAO-95-1121, *Transuranic Waste Baseline Inventory Report*, U.S. DOE, Carlsbad, NM, 1995

10. CCP-PO-002, *CCP Transuranic Waste Certification Plan*, Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

11. Title 40 *Code of Federal Regulations*, Part 261, *Identification and Listing of Hazardous Waste, U.S. EPA*

12. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*, Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

13. AEC 0511-01, AEC Manual: Chapter 0511, *Radioactive Waste Management*, U.S. Atomic Energy Commission, Washington, D.C., 1973

14. 20.4.1.200 NMAC, *New Mexico Administrative Code* Title 20, Chapter 4, Part 1, Subpart II, *Identification and Listing of Hazardous Waste* (incorporating 40 CFR Part 261)

15. DOE/LLW-217, *DOE Waste Treatability Group Guidance,* Revision 0, T.D. Kirkpatrick, Idaho National Engineering Laboratory, Lockheed Idaho Technologies Co., Idaho Falls, Idaho, January 1995

16. DOE/TRU-12-3425, *Annual Transuranic Waste Inventory Report – 2012*, U.S. DOE, Carlsbad Field Office

17. Title 40 Code of Federal Regulations, Part 761, *Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and use Prohibitions*, U.S. EPA

18. CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination,* Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

19. CCP-AK-LANL-006, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory TA-55 Mixed Transuranic Waste, Waste Streams: LA-MHD01.001, LA-CIN01.001, LA-MIN02-V:001, LA-MIN04-S.001,* Nuclear Waste Partnership, Carlsbad, NM

20. DOE Order 435.1, *Radioactive Waste Management*, U.S. Department of Energy, Environmental Management, 2001

21. Public Law 102-579, *The Waste Isolation Pilot Plant Land Withdrawal Act*

22. CCP-AK-LANL-500, *Central Characterization Program Acceptable Knowledge Summary Report For 16 Canisters of Remote-Handled Transuranic Debris Waste From Los Alamos National Laboratory Chemistry and Metallurgy Research Facility Waste Stream: LA-MHD03.002*, Nuclear Waste Partnership, Carlsbad, NM

9.0 AK SOURCE DOCUMENTS

Source Document Tracking Number	Title
C001	Interview of Tom Keenan: DP Connections Arising Out of the Pu-238 Space Heat Program and J. Foxx summary "Plutonium-238 Heat Source Fabrication for Space and Artificial Heart R&D Activities at TA-21 West and CMR Building from 1970 to 1978"
C002	Record of Communication with Jim Foxx - TA-21 Operations at Buildings 2,3,4,5 and 150 and Pu-238 questions
C003	Interview of Jim Foxx: DP, Pu-238 information at TA-21 West
C005	Interview: TA-21 DP West Plutonium Processing Operations, 1970-1977, Waste Management Practices
C006	TA-21 Processing in Reactor Fuel Development, e-mail to C. Smith
C007	Interview of J. Foxx: TA-21 DP West Plutonium Processing Operations, 1970-1977, Lack of Operating Procedures
C008	WACCC Audit Finding #1 (April 27 - May 1, 1987)
C009	Interview of J. Foxx: TA-21 DP West Plutonium-238 Operations, 1970-1977, Purity of Pu-238 feed material, commingling of Pu-238 with other material types.
C011	Interview of J. Foxx: TA-21 DP West Plutonium-238 Operations, 1970-1977, Production-scale Evaporator Not in Operation
C013	[UCNI] Email to G. Miller, re: AK Record [Response from Jim Foxx regarding bomb reduction and plutonium peroxide]
C014	[UCNI] Answers to General Questions About Pyrochemical Salts, Posed by P. Rogers
C015	Review Sheet Documenting An Interview With Jim Foxx on CLS-1 Solvents
C016	Answers and Questions About Various P/S Codes
C017	Interview of J. Foxx: Sources of Cs-137 and Pa-231 in TA-55 TRU waste
C018	Interview of J. Foxx: Sources of Cs-137, Pa-231, and Cm-244 in TA-55 Waste
C019	Memo Assay of U-234
C020	Memo regarding U-234 and Sr-90 Calculations for NDA Reporting
C021	Material Type Isotopic Compositions and Am-241 Content in Solid Transuranic Waste
C022	Commingling of Defense and Nondefense TRU Waste-Memo to TWCP Records Center
C023	Interview of Jim Foxx: Answers to questions about various P/S codes
C025	Fiberboard Drum Liner use at Los Alamos National Laboratory
C026	Memo: David Barnes to John Gallimore, re: Decommissioning and De-con of Building 4 Hot Cells at TA-21 DPW
C027	Email re: Secondary Waste Discussion to be Added to AK4 and AK6
C028	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD04.001
C030	Decontamination and Volume Reduction System (DVRS) Information
C031	Change of LA Waste Stream Designation For TRU Oversize Crates at TA-54
C032	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD04.001

Source Document Tracking Number	Title
C033	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MSG04.001
C034	Secondary Waste Generated by the Remediation/ Repackaging Processes at Dome 231 and WCRRF
C035	Record of Communication: Drum Washing of Drums Retrieved from Below-Grade
C036	TA-54 Building 412 vs. DVRS Facility
C037	Evaluation of Volume and Period of Generation Waste Streams LA-MHD04.001 and LA-MSG04.001, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD04.001
D001	Guidelines for the Interim Storage of AEC-Generated Solid Transuranic Wastes [Excerpt, thru p. 14]
D002	Characterization of Transuranic Solid Wastes from a Plutonium Processing Facility
D003	Fused Salt Electrorefining of Molten Plutonium and Its Alloys
D004	A Review of Operating Experience at the Los Alamos Plutonium Electrorefining Facility, 1963-1977
D005	The Atom: Heart Power
D006	Demolition of Building 12, An Old Plutonium Filter Facility
D007	TA-55 Plutonium Facility Acceptable Knowledge Report - Process Acceptable Knowledge Report for Plutonium-238 Operations at TA-55
D008	Historic Building Assessment for the DOE Conveyance and Transfer Project
D009	Acceptable Knowledge Report for Newly generated Waste from Metal/Pyrochemical Operations at TA-55
D010	TA-21 Operable Unit RFI Work Plan for Environmental Restoration
D011	Nuclear Materials Processing At the Los Alamos National Laboratory
D013	Review Comments on Draft of TA-21 DP West Facility AK Operations Report
D014	Final Safety Analysis Report for TRANSIT RTG Volume 1, Reference Design Document - Intro and Table 1-1 only
D015	Characterization of Direct Oxide Salts (U)
D016	Plutonium Research: Historical Role of DP-West in The Atom
D017	Backlog Waste Reassessment Baseline Book
D018	The Atom, Remaking DP West
D019	Plutonium-238 Heat Source Fabrication for Space and Artificial Plutonium-238 Heat Fabrication for Space and Artificial Heart R&D Activities at TA-21 West and CMR Building from 1970 to 1978
D020	The Atom, Nuclear Power for an Artificial Heart
D021	Data Sheets for PMC Isotopic Fuel
D022	Institutional Plan FY2002-FY2007
D023	TRU Waste-Sampling Program
D025	Fused Salt Processing of Impure Plutonium Dioxide to High-Purity Plutonium Metal
D026	Los Alamos TRU Waste Certification Plan for Newly Generated TRU waste, Nov 1984
D027	Direct Reduction of 238-PuO2 and 239-PuO2 to Metal

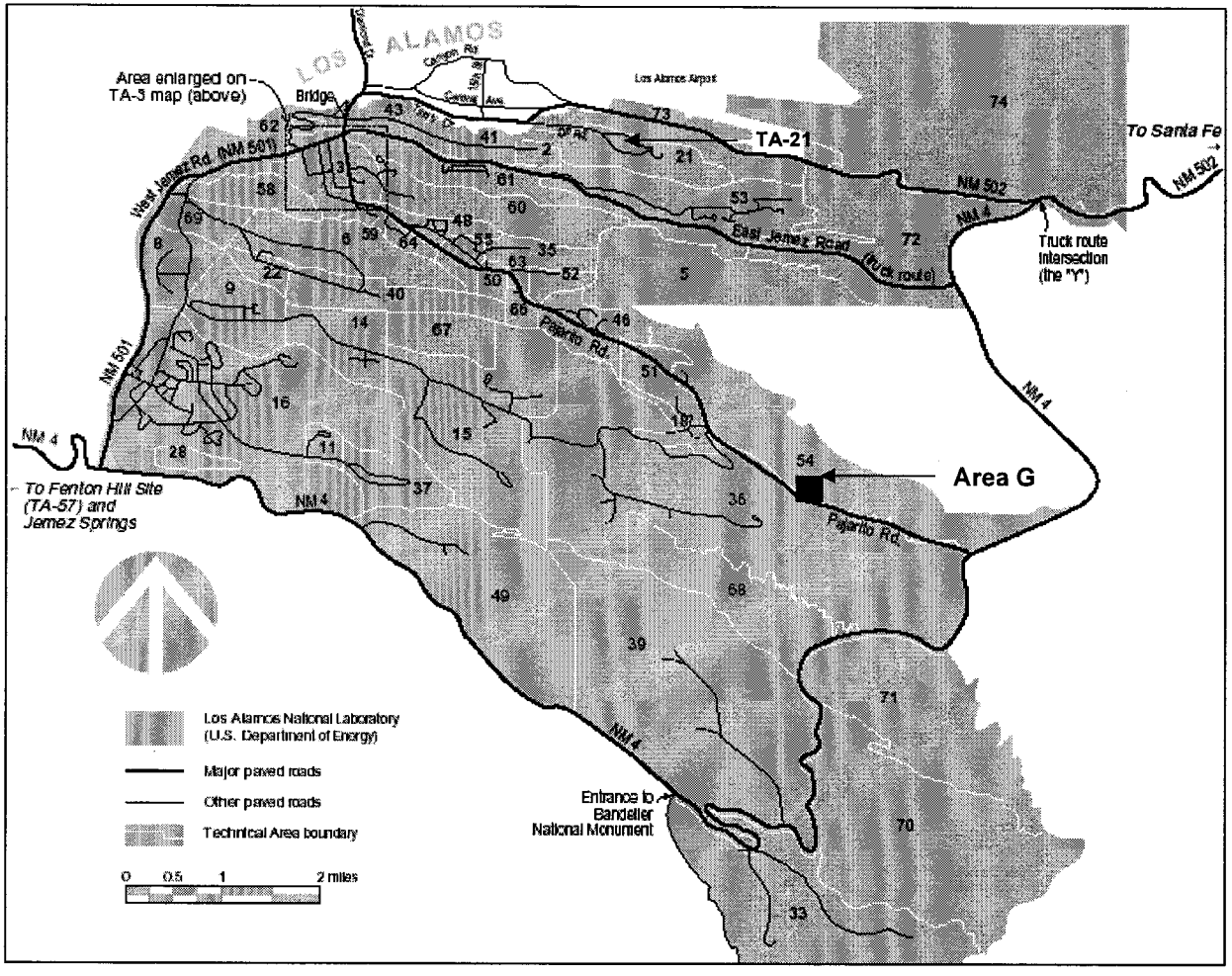
Source Document Tracking Number	Title
D028	LANL Transuranic Waste Characterization Sampling Plan-June 1999
D029	Six-Kilogram Scale Electrorefining of Plutonium Metal
D031	Lightweight Radioisotope Heater Unit (LWRHU) Production for the Cassini Mission
D032	Bi-Monthly Progress Report - Multi-Hundred Watt Radioisotope Thermoelectric Generator Program
D033	Waste Management Site Plan
D034	Final Documentation for RadWaste ORACLE Database's List of Acceptable Radioisotopes, Specific Activities, Categories, and Regulatory Limits
D035	Los Alamos DP West Plutonium Facility Decontamination Project 1978-1981
D036	Process AK Report for Chloride Operations at TA-55, TWCP-15411
D037	Process AK Report for Metal Operations Processes at TA-55, TWCP-15412
D038	Process AK Report for Miscellaneous Operations at TA-55, TWCP-15413
D039	Process AK Report for Nitrate Operations at TA-55, TWCP-15414
D040	Process AK Report for Pyrochemical Processes at TA-55, TWCP-15415
D041	Process AK Report for Special Processing at TA-55, TWCP-15416
D042	Plutonium Processing at the Los Alamos Scientific Laboratory
D043	Waste from Plutonium Conversion and Scrap Recovery Operations
D044	Preparation and Development of Medical-Grade Plutonium-238 Fuels, July 1, 1967 - June 30, 1971
D045	Preparation and Evaluation of Medical-Grade Plutonium-238 Fuels July 1, 1971- June 30, 1973
D046	Plutonium-238 Fuel and Heat Source Development for Nuclear-Powered Artificial Heart Program July 1-September 30, 1976
D047	Plutonium-238 Space Electric Power Fuel Development Program January 1-March 31, 1970
D048	Helium Release of Pu-238-Molybdenum Cermet Fuel
D049	Initial Development and Characterization of Plutonia-Iridium Cermets
D050	Data Sheets for PPO Radioisotopic Fuel
D051	The Relationship of Fabrication Parameters to selected Properties of PuO2 Radioisotopic Fuels
D052	Waste Determination Report for Waste Stream TA-55-43 Lot No. 01
D053	Plutonium Recovery At The Los Alamos Scientific Laboratory
D054	Present Status of Plutonium Metal Production and Purification at Los Alamos - 1982
D055	Radioactive Waste Management Site Plan, 1974
D056	Plutonium Scrap Processing at the Los Alamos Scientific Laboratory
D057	Status of Am-241 Recovery and Purification at Los Alamos Scientific Laboratory
D058	Los Alamos National Laboratory Transuranic Waste Characterization Acceptable Knowledge Information Summary (AKIS)
D059	Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility (Draft Report)

Source Document Tracking Number	Title
D060	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams
D062	Los Alamos Scientific Laboratory Health, Safety, and Environment Manual, Chapter XVIII-Material Disposal
D063	Acceptable Knowledge Summary report for Combustible/Noncombustible, Metallic, and HEPA Filter Waste resulting from Pu-238 Fabrication Activities
D065	LANL Project 2010 Acceptable Knowledge Report - Acceptable Knowledge Operations Report for Plutonium-238 Processes at LANL Facilities
D066	The Decommissioning of TA-21-153, A Ac-227 Contaminated Old Filter Building
D067	Nuclear Criticality Safety in D&D Operations – A Los Alamos Experience
D068	Decontamination and Demolition of a Former Plutonium Processing Facility's Process Exhaust System, Firescreen, and Filter Plenum Buildings
D069	A History of Waste Disposal at Technical Area 21, 1943 - 1978
D070	Decontamination and Size reduction of Plutonium Contaminated Process Exhaust Ductwork and Gloveboxes
D071	Upgrade and Performance Testing for the LINC Systems at TA-54 Area G
D072	Retrieval Plan for TA-54, Area G TRU Waste Containing Corrugated Metal Pipes (CMP)
D073	Project Management Objectives for Pit 9 TRU Waste Retrieval
D074	Retrieval Plan for TA-54, Area G TRU Waste for Pit 9
D075	TA-54, Area G Pit 9 Waste Description
D076	TA-54, Area G Pit 9 Waste Description
D077	TA-54, Area G CMP Waste Description
D078	TA-54, Area G Trenches A-D Waste Description
D079	TA-54 Area G Documented Safety Analysis
D080	Attachment A (Waste Analysis Plan) of the LANL Hazardous Waste Permit
D081	LANL Waste Acceptance Criteria
DR001	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers
DR002	Discrepancy Resolution Form for Waste Stream Volume Evaluation – TA-21 Mixed Heterogeneous Combustible and Non-Combustible Debris
DR003	Acceptable Knowledge Source Document Discrepancy Resolution – TA-21 Homogeneous Solids Containing Greater Than 50% Heterogeneous Debris
DR005	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers for Waste Stream LA-MSG04.001
M001	Table 1. TA-21 Plutonium Processing Operations, TA-21-Operations Report, Crosswalk to TA-55 Operations
M002	An excerpt from Archive generator's databases 95 drum
M003	Waste Streams from Buildings TA-21, TA-55, TA-50, and TA-00 at LANL. Appendices B, C, D, E and F (Changes to Sampling Plan)
M004	TA-55 NMT Waste Management System (CONCERT Database)
M008	Excerpt from CONCERT Database

Source Document Tracking Number	Title
M009	AKIR Database Extracted DP West (TA-21) Radionuclides in Grams
M010	Miscellaneous Material Safety Data Sheets (MSDSs) for Commercial Products and other Chemicals Identified in the TA-21 Processes
M011	Radioactive Solid Waste Disposal (RSWD) Records for LA-MHD04.001
M012	Radioactive Solid Waste Disposal (RSWD) Records from TA-50 Documenting TA-21 Repackaged Waste
M013	Evaluation of Additional Containers for LANL-10 Waste Stream LA-MHD04.001 (TA-21)
M014	Vent Date Information 6/26/2007 – 4/17/2008
M015	TWSRs for Containers 80126, 80128, 80354, 80356, 80358, 80360, 80380, 80388
M016	Pu-238 Storage Facility Logbook
M017	CMPs Logbook Area T, TA-21
M018	TA-54, Area G, Pit 9 Waste Information Spreadsheet
M020	RSWD/TWSR Records for LA-MSG04.001
M021	RSWD/TWSR Records for LA-MHD04.001
P001	Plutonium Electrorefining
P002	Button Breaking Press
P003	Safe Operating Procedure for Pit Disassembly
P004	Measuring Physical Properties
P007	Pit Disassembly
P009	Operating Instructions, Procedures, and Equipment for the Los Alamos Plutonium Electrorefining Plant
P010	Prohibited Item Dispositioning in Dome 231 Permacon, and TA-54 Area G Sludge Remediation Activities
P011	Processing Waste in the Waste Characterization Glovebox
P012	Standard Waste Visual Examination and Prohibited Item Dispositioning
P013	Trenches A – D Retrieval Operations
P014	TA-54, Area G CMP Retrieval Operations
P015	General Waste Management Requirements
P016	Managing Radioactive Waste
P017	Hazardous and Mixed Waste
P018	Review and Completion of the TWSR
P019	Waste Generator Guidance for Completing the TRU Waste Storage Record (TWSR)
P020	Waste Profile Form Guidance
P021	Sort, Segregate, Size Reduction, and Repackaging
P028	TA-54 Area G TRU SWB/Drum Operations
P029	TA-54-231 PermaCon Upgrades
P030	Sort, Segregate, Size Reduction, and Repackaging Activity
P032	TA-54 Area G TRU Crate SSSR Activities
P033	WCRRF Waste Characterization Glovebox Operations

Source Document Tracking Number	Title
P034	TA-54-375 TRU Oversized Box Processing Capability Project
P035	MDA-B TRU Waste Container Packaging in SWBs
P036	Waste Management Plan for Material Disposal Area (MDA) B
P037	Waste Management Procedure for Environment Program TA-21 Closure Project Activities (U)
U001	A Brief History of C-AAC
U002	Memorandum to E.L. Albenesius, re: Description of Mound and LASL Solid Pu-238 Waste Stored at SRP

Figure 1. Location of Technical Areas



Technical Areas

TA	Nomenclature
2	Omega Site
3	South Mesa Site
5	Beta Site
6	Two-Mile Mesa South Site
8	Anchor West Site
9	Anchor East Site
11	K-Site
14	Q-Site
15	R-Site
16	S-Site
18	Pajarito Laboratory
21	DP-Site
22	TD-Site
28	Magazine Area A
33	HP-Site
35	Ten Site
36	Kappa Site
37	Magazine Area C
39	Ancho Canyon Site
40	DF-Site
41	W-Site
43	Health Research Laboratory/ DOE Headquarters
46	WA-Site
48	Radiochemistry Site
49	Frijoles Mesa Site
50	Waste Management Site
51	Environmental Research Site
52	Reactor Development Site
53	Los Alamos Neutron Science Center
54	Waste Disposal Site
55	Plutonium Facility
57	Fenton Hill Site
58	Two-Mile Mesa North Site
59	OH-Site
60	Sigma Mesa Site
61	East Jemez Site
62	Northwest Site
63	Pajarito Service Site
64	Central Guard Site
66	Central Technical Support Site
67	Pajarito Mesa Site
68	Water Canyon Site
69	Anchor North Site
71	Southeast Site
72	East Entry Site
73	Airport Site
74	Otowi Site

Figure 2. TA-21 Facility Map

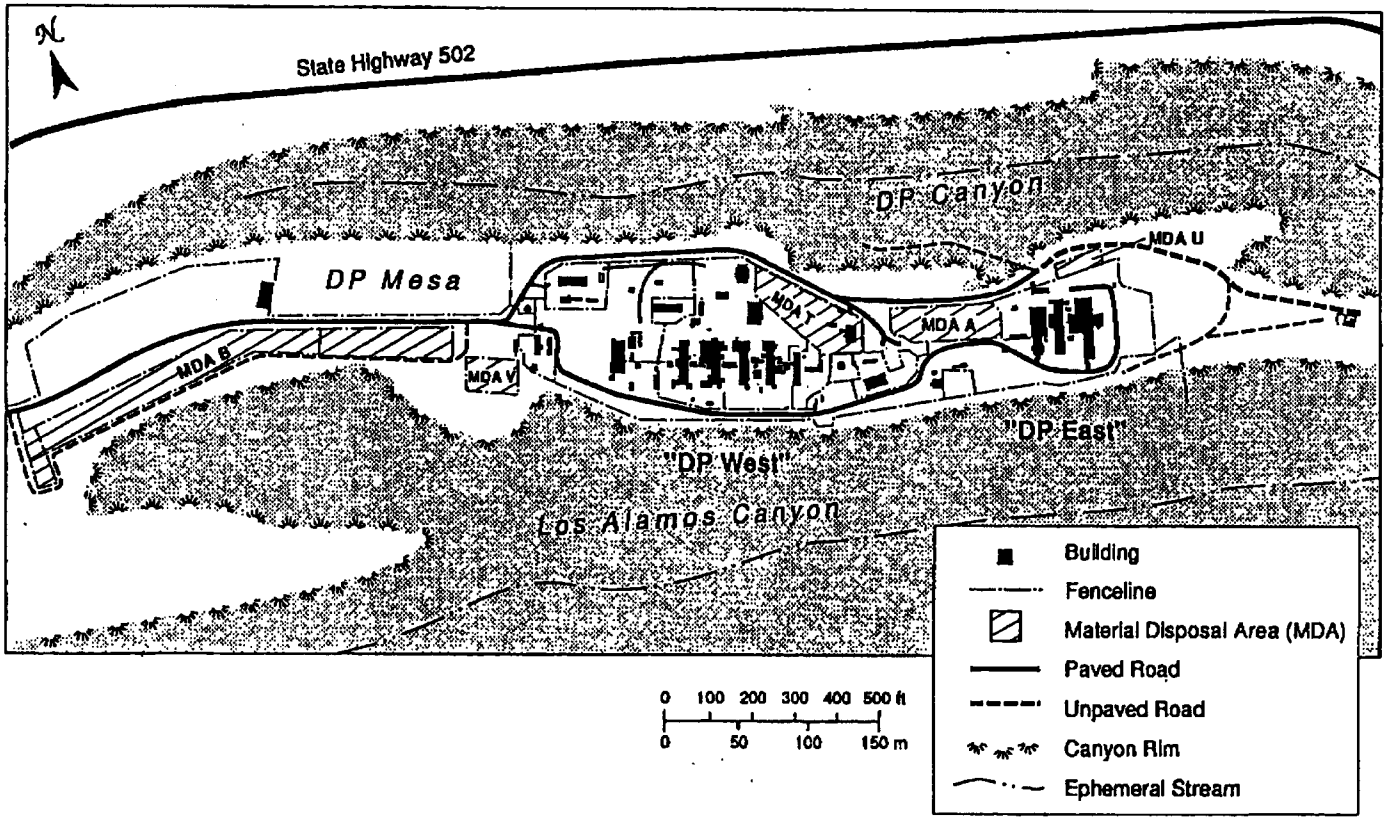


Figure 3. DP West Building Map

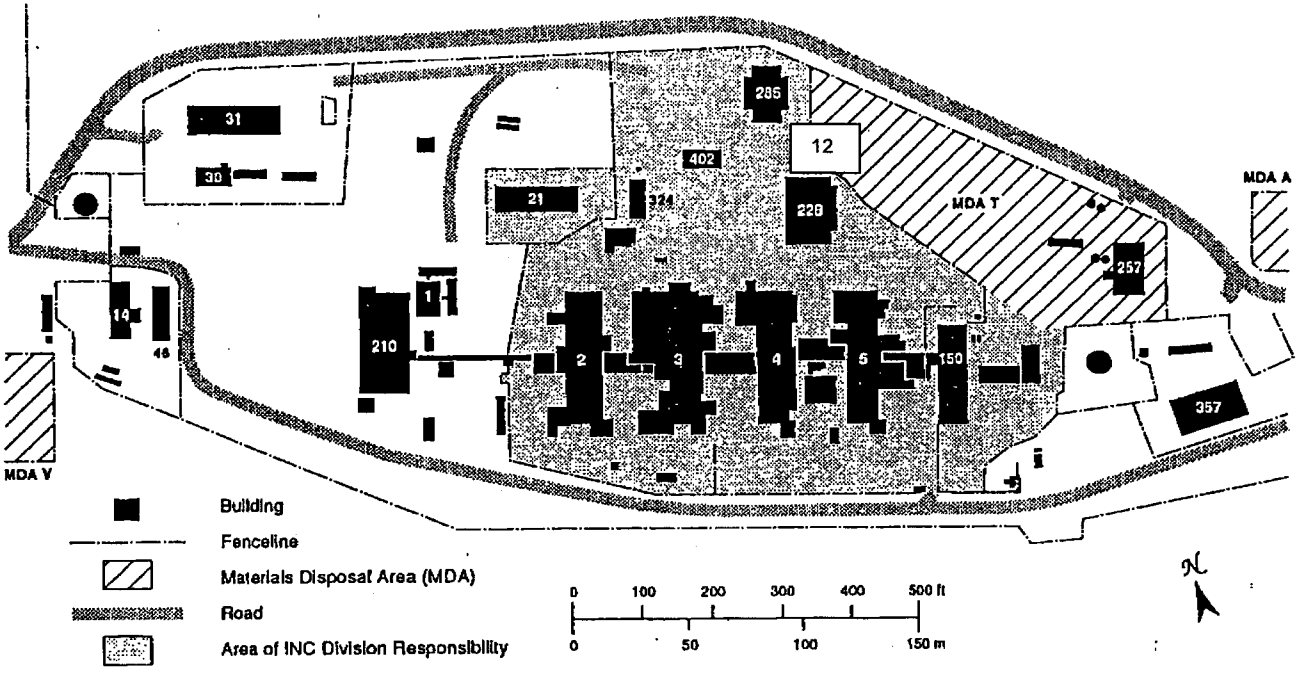


Figure 4. DP West Plutonium Recovery Operations Circa 1968

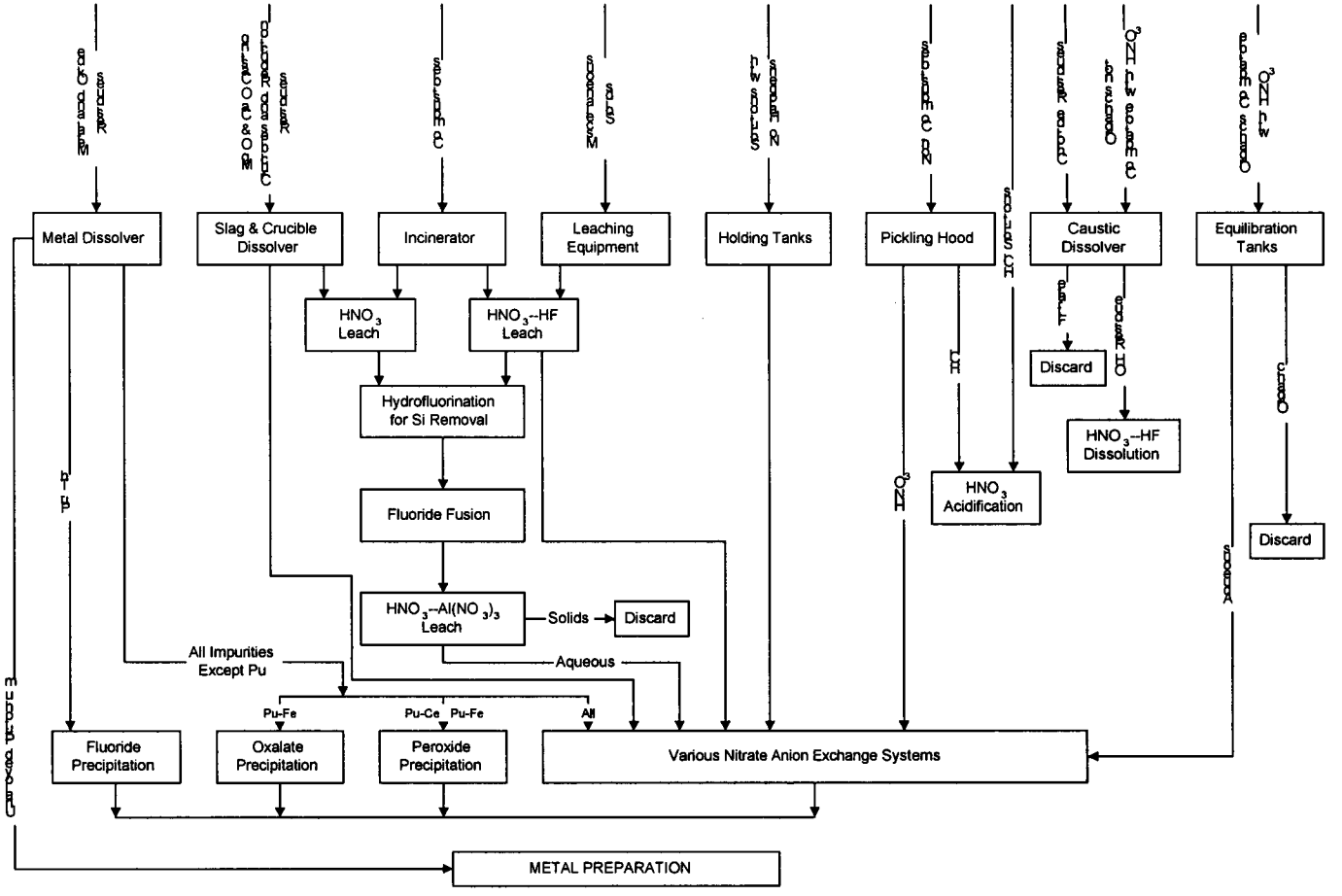


Figure 5. DP West Plutonium Recovery Operations Circa 1975

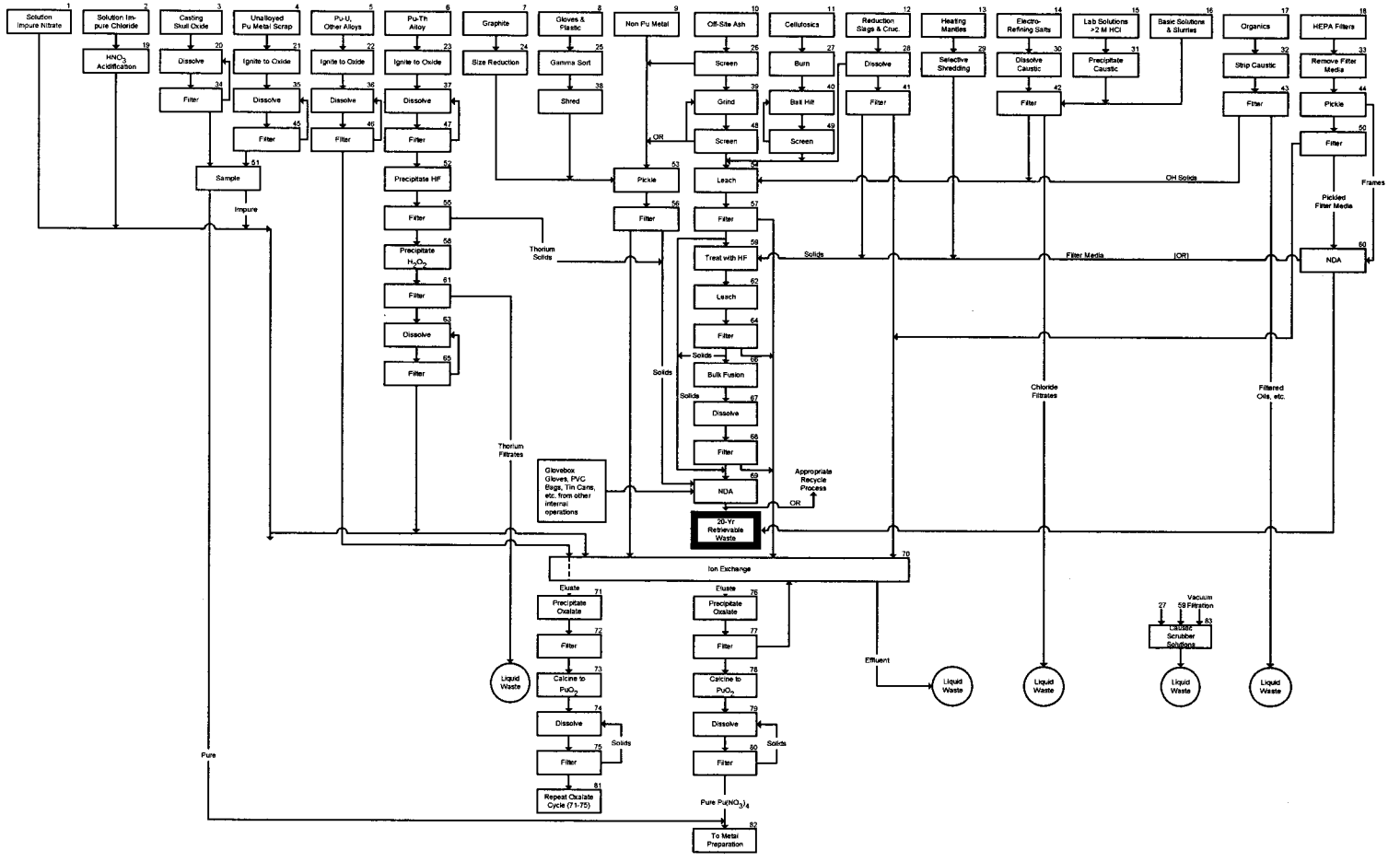


Figure 6. TA-55 Plutonium Recovery Operations Circa 1979

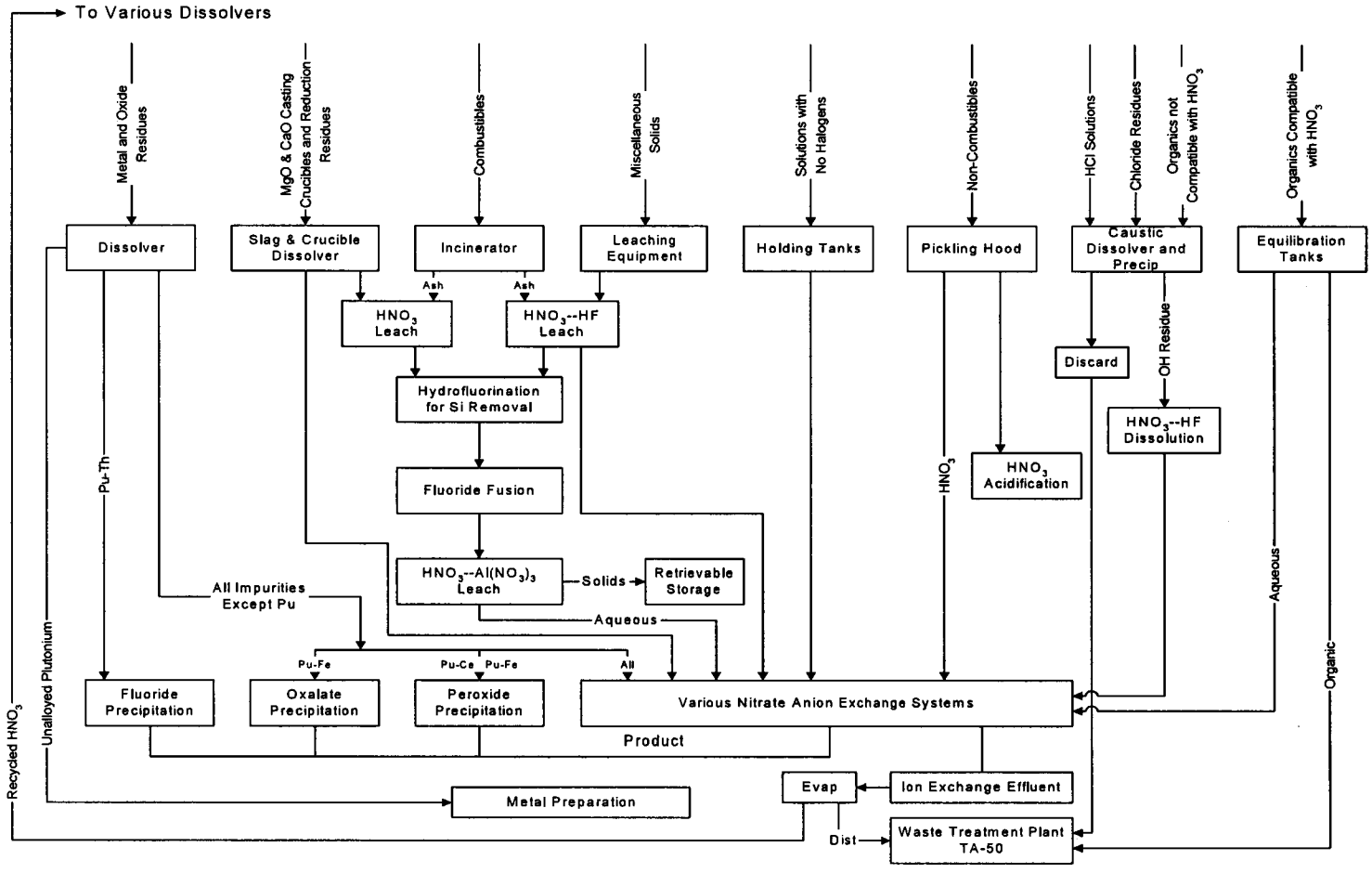


Figure 7. DP West Incineration Process Flow Diagram

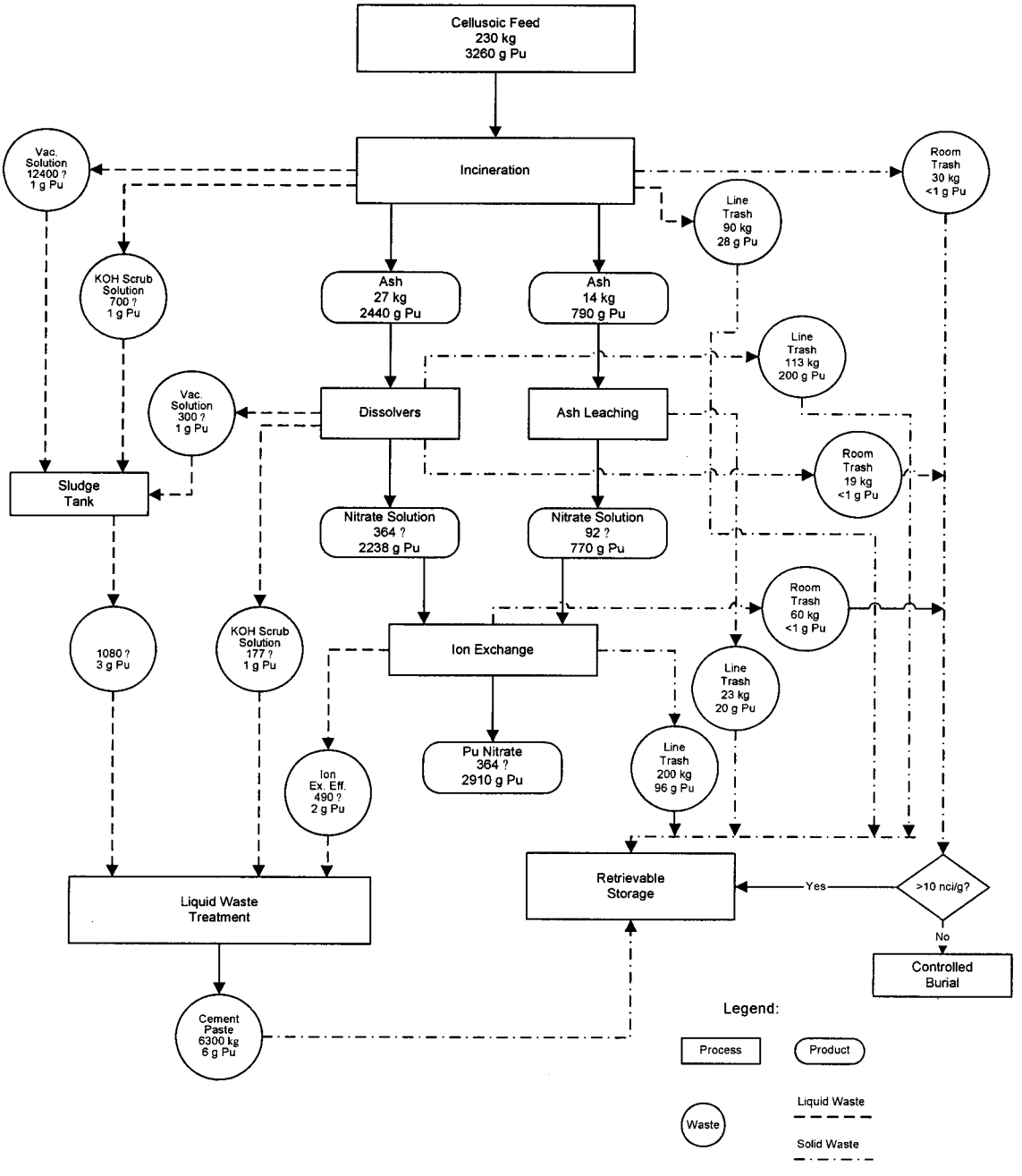


Figure 8. DP West Plutonium Metal Cycle

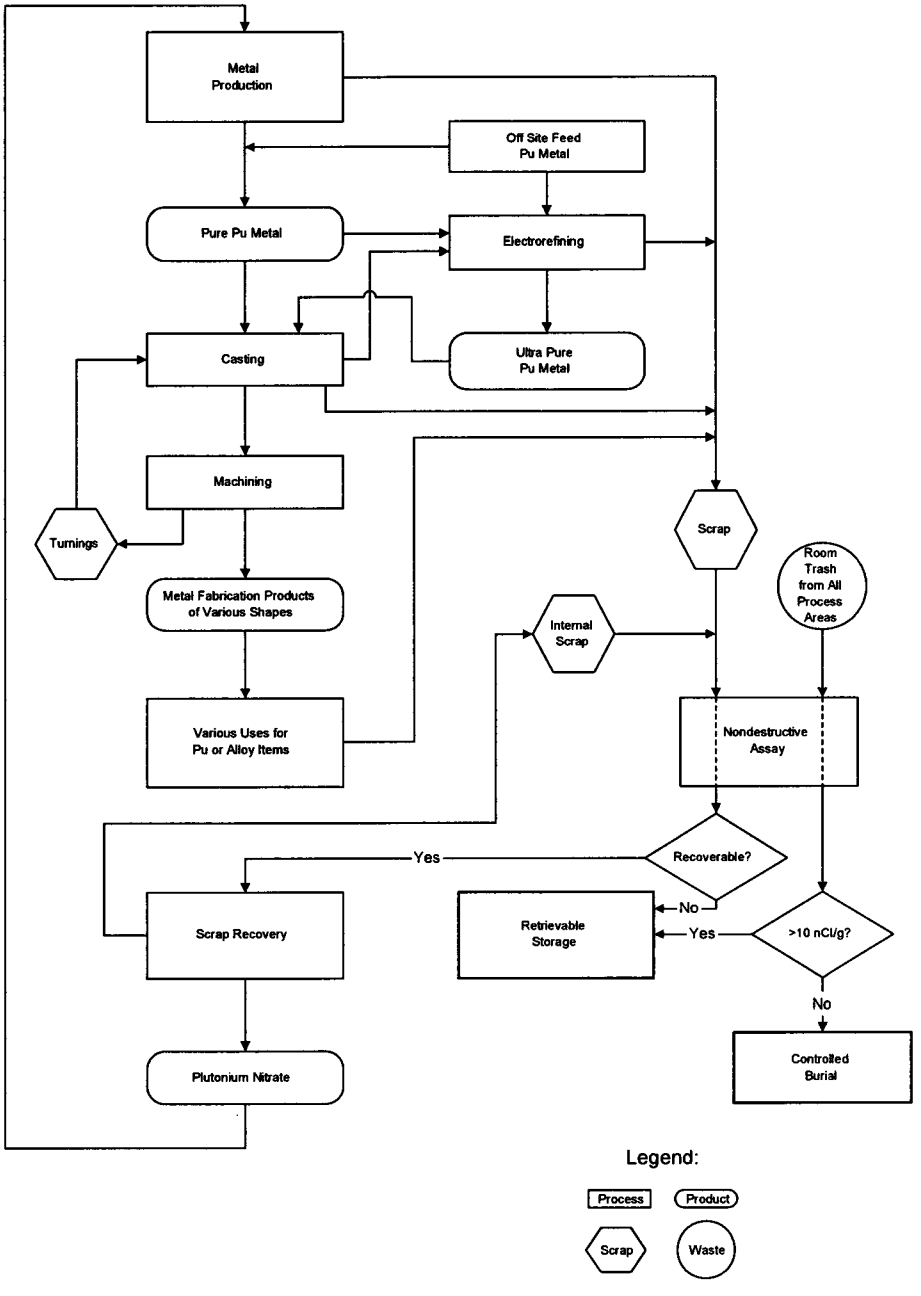


Figure 9. DP West Plutonium Metal Production Flow Diagram

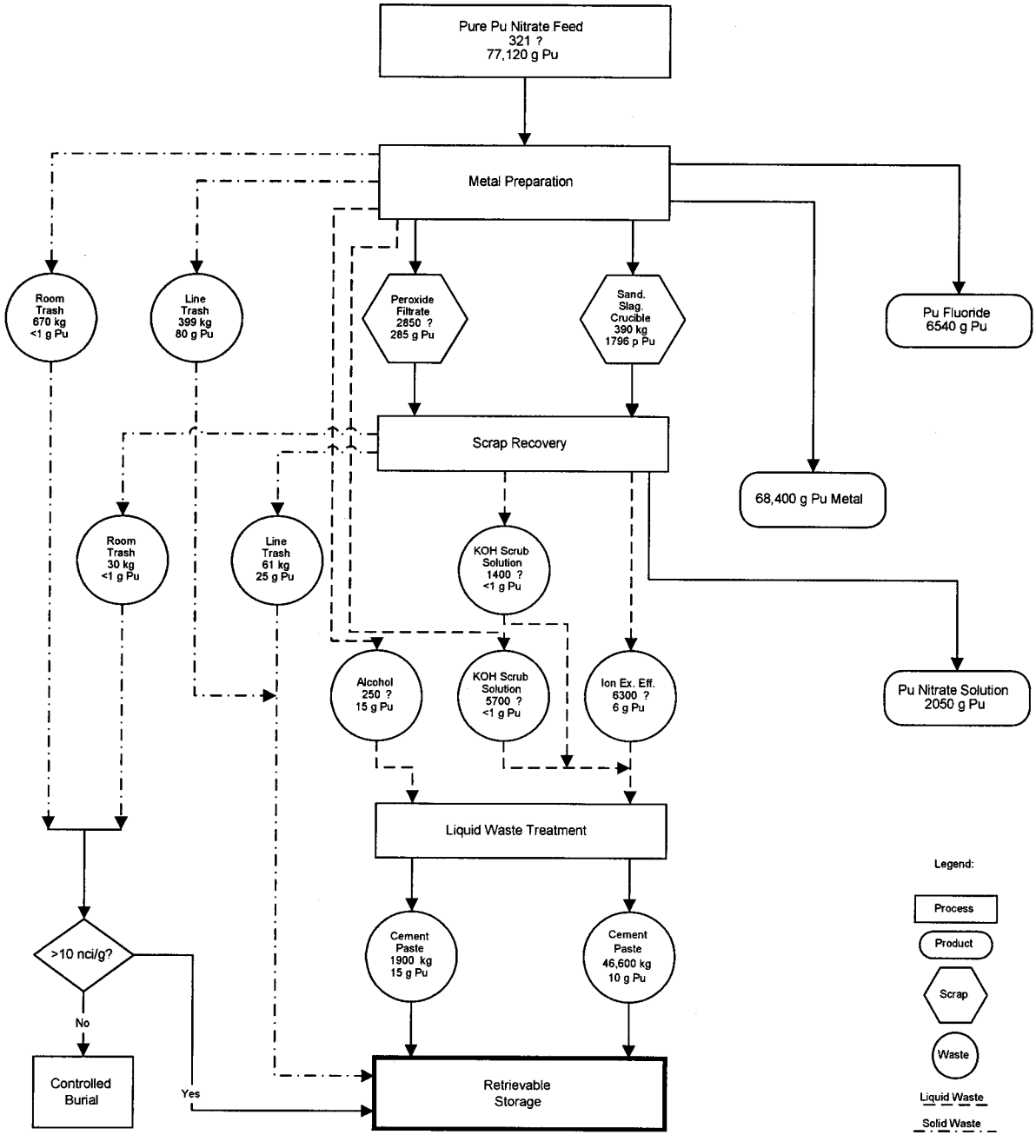


Figure 10. LANL Ceramic Grade Plutonium Oxide Production Circa 1980

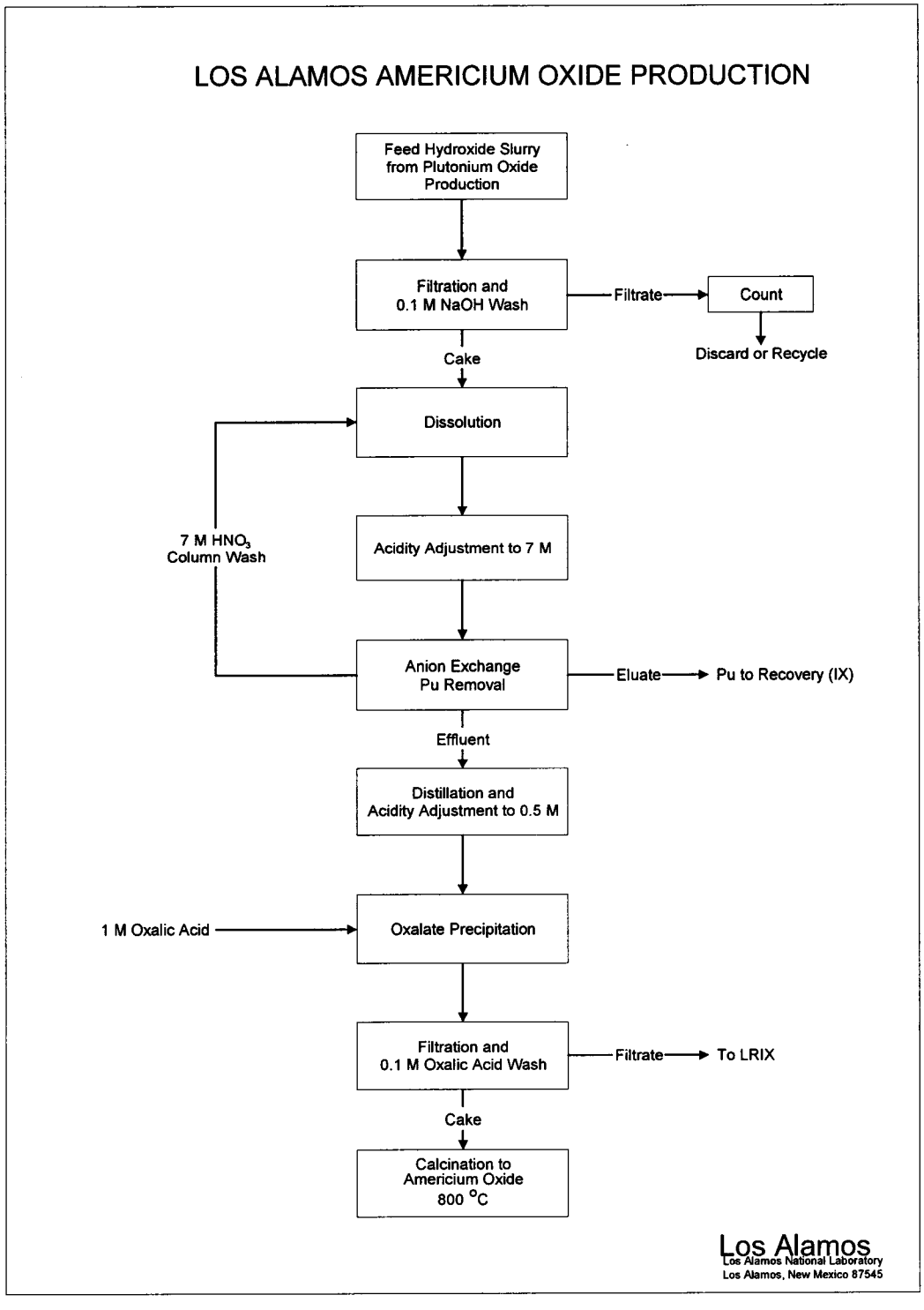


Figure 11. Waste Repackaging and Prohibited Item Disposition Flow Diagram

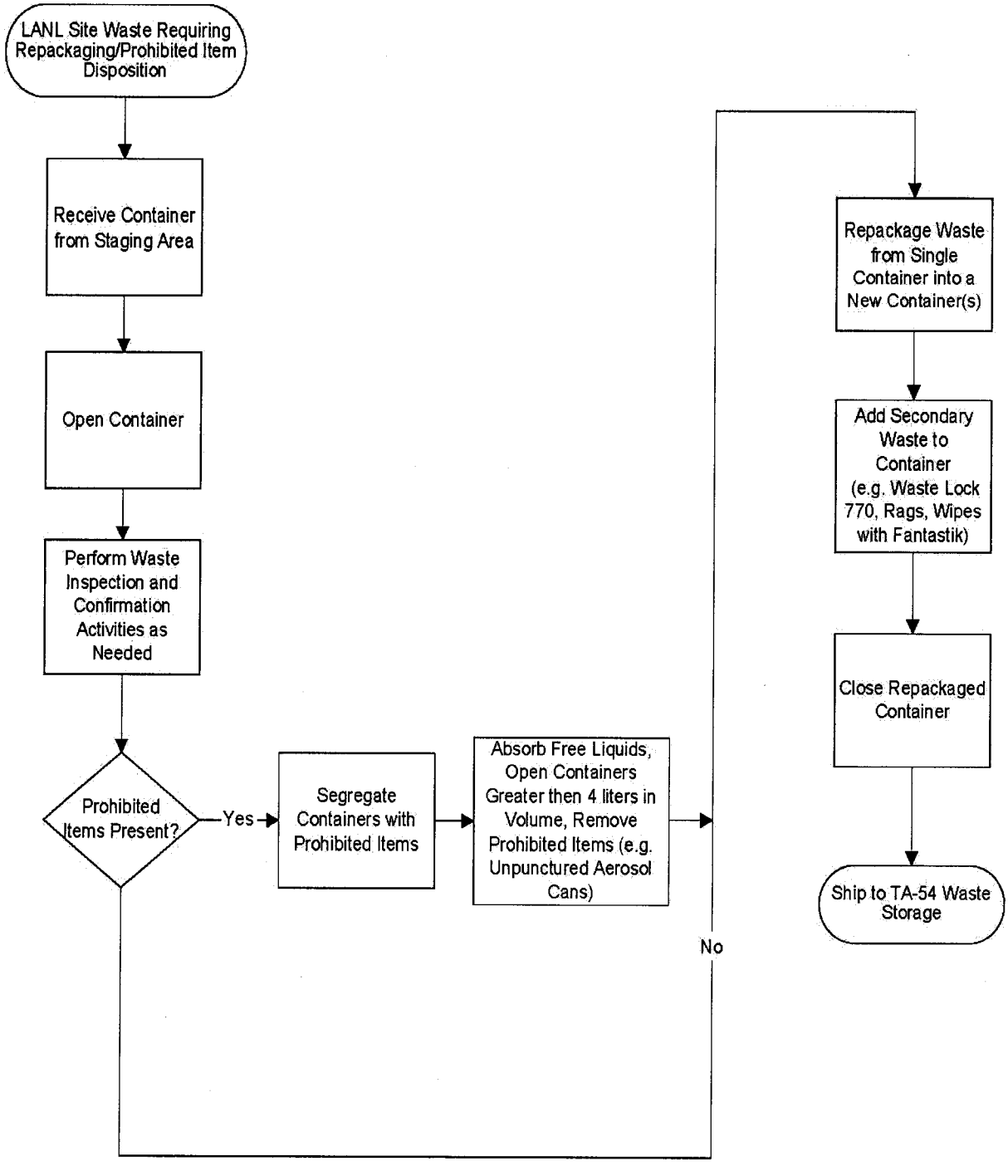


Figure 12. Below-Grade Drum Retrieval Flow Diagram

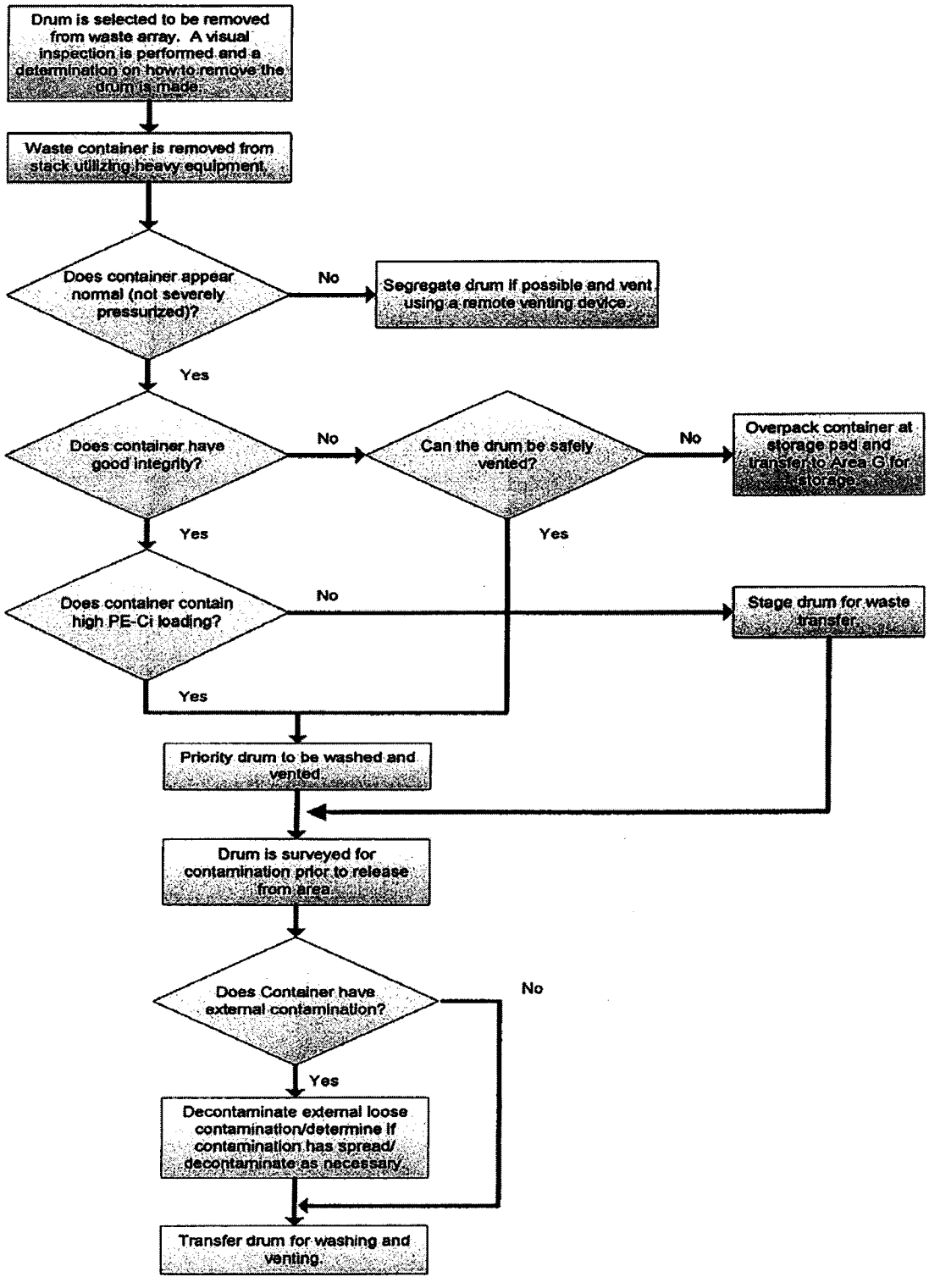
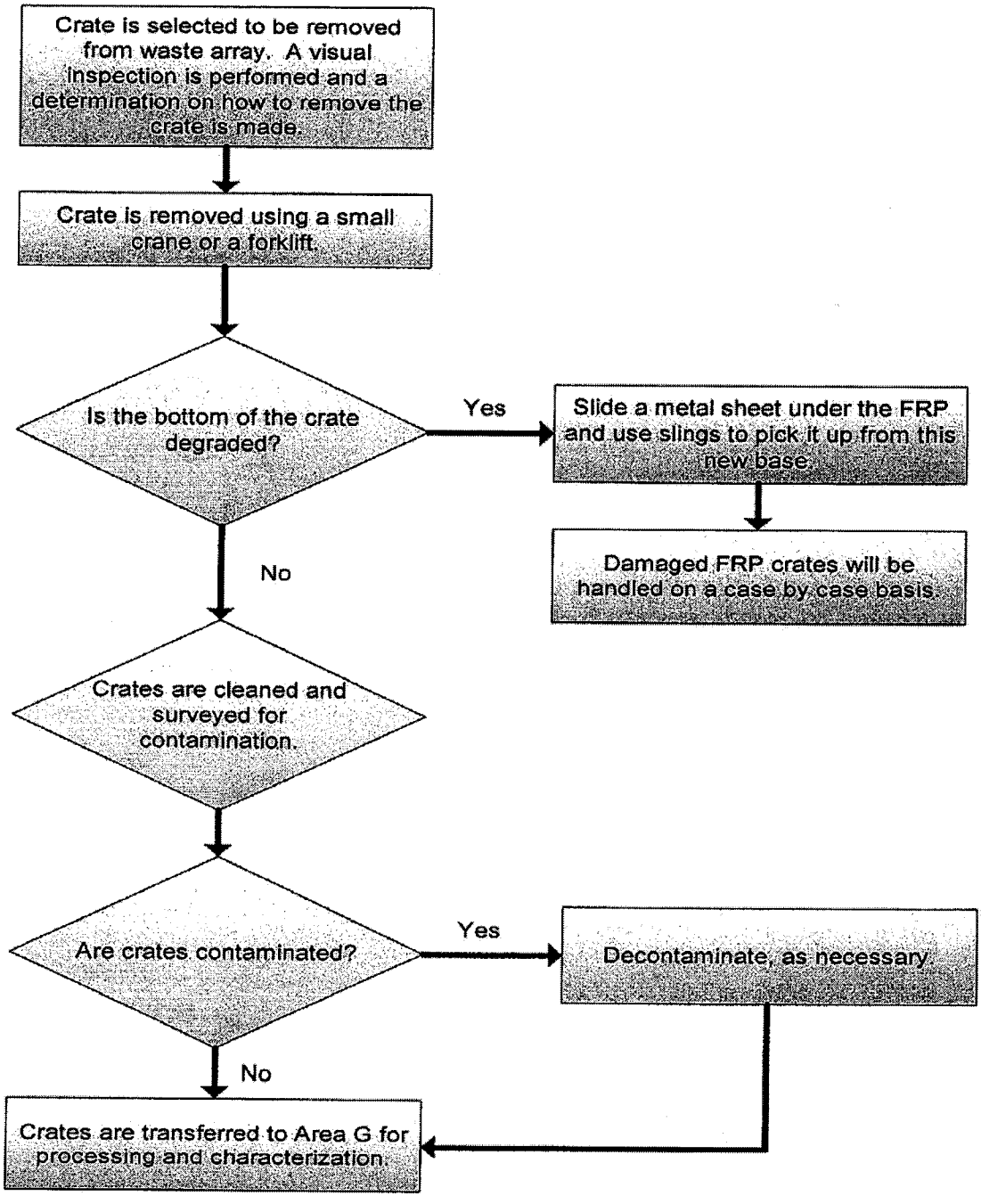


Figure 13. Below-Grade Crate Retrieval Flow Diagram



AK3

P2010-3273

Controlled
Copy

CCP-AK-LANL-008

Central Characterization Project
Acceptable Knowledge Summary Report
For

LOS ALAMOS NATIONAL LABORATORY
OFF-SITE SOURCE RECOVERY PROJECT
SEALED SOURCES

WASTE STREAMS: LA-OS-00-01.001, LA-OS-00-03, AND LA-OS-00-04

Revision 9

May 3, 2012

Mike Ramirez
Printed Name

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	03/03/2005	Initial issue.
1	04/13/2005	Corrected and added source document references and revised attachments to address comments from CBFO audit team (Audit A-05-09).
2	05/13/2005	Revised to add chloromethane.
3	09/22/2005	Revised to update Acceptable Knowledge (AK) Source information, add new headspace gas volatile organic compound (VOC) concentrations for other packaging configurations, and address beryllium concentrations in payload container.
4	07/18/2006	Revised to add approximately 560 containers of Am-241 and Pu-238 waste sealed sources that were recently determined to be defense-related, as well as about 14 generated since the last report revision.
5	01/04/2007	Revised to add sealed sources for waste stream LA-0S-00-03 that require Headspace Gas Sampling and Analysis. Addressed impact of WIPP RCRA 311 permit modifications signed October 16, 2006.
6	05/20/2008	Revised to add mixed Waste Stream LA-OS-00-04 containing sealed sources with heavy metal constituents and clarifies LA-OS-00-03 Waste Stream description. Revised to add Combination Sources Am-241/Be/Cs-137 to Waste Stream LA-OS-00-01.001.
7	03/10/2009	Revised to add lithium sources to waste stream LA-OS-00-01.001. Also, revised waste stream volume to reflect the addition of lithium sources and to update for newly generated waste. Revised the waste stream description for LA-OS-00-03 for clarification and made editorial changes to the document. Also, added clarification to waste material parameter (WMP) sections.

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
8	02/22/2010	Revised and updated Attachment 2, projected OSRP waste volumes. Also added additional source documents to Section 11.0 of the report from Attachment 4 along with minor editorial changes to the document.
9	05/03/2012	Revised and updated Section 5.4.3.3 Ignitables, Reactives, and Corrosives, to support Lithium as non-reactive in sealed sources using best engineering judgment including observation and manufacturers information. Also added additional source documents along with reorganization of the report to meet current acceptable knowledge (AK) report standards.

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 10
2.0 WASTE STREAM IDENTIFICATION SUMMARY 12
2.1 Waste Stream LA-OS-00-01.001 (Defense Sealed Sources) 12
2.2 Waste Stream LA-OS-00-03 (Defense Sealed Sources not in POCs) 14
2.3 Waste Stream LA-OS-00-04 (Mixed Waste Sealed Sources) 15
3.0 ACCEPTABLE KNOWLEDGE DATA AND INFORMATION 17
4.0 REQUIRED PROGRAM INFORMATION 20
4.1 Facility Location 20
4.2 Facility Description 20
4.3 Facility Mission 21
4.3.1 Off-Site Recovery Project 21
4.4 Defense Waste Assessment 22
4.5 High-Level Waste and Spent Nuclear Fuel Assessment 22
4.6 TRU Waste Management 23
4.6.1 Types and Quantity of TRU Waste Generated 23
4.6.2 Correlation of Waste Streams Generated from the Same Building and Process 24
4.6.3 Waste Stream Identification, Categorization, and Delineation 24
4.7 Description of Waste Generating Processes 24
4.7.1 Overview of Waste Stream Characteristics 24
4.7.2 Waste Generating Process 25
4.8 Waste Certification Procedures 26
5.0 REQUIRED WASTE STREAM INFORMATION – LA-OS-00-01.001 27
5.1 Area and Building of Generation 27
5.2 Waste Stream Volume and Period of Generation 27
5.3 Waste Generating Activities 27
5.4 Types of Wastes Generated 27
5.4.1 Material Input Related to Physical Form 28
5.4.1.1 Waste Matrix Code 28
5.4.1.2 Waste Material Parameters (WMPs) 28
5.4.2 Radiological Characterization 29
5.4.3 Chemical Content Identification – Hazardous Constituents 33
5.4.3.1 F-Listed Constituents 35
5.4.3.2 Toxicity Characteristic Constituents 36
5.4.3.3 U- and P- Listed Constituents 36
5.4.3.4 K-Listed Constituents 36
5.4.3.5 Ignitables, Corrosives, Reactives 37
5.4.4 Polychlorinated Biphenyls 38
5.4.5 Prohibited Items 39
5.5 Waste Packaging 39
5.5.1 Payload Containers 39
5.5.2 Layers of Confinement 40

5.5.3 Filter Vents 40
5.5.4 Waste Identifiers 40

6.0 REQUIRED WASTE STREAM INFORMATION LA-OS-00-03 41
6.1 Area and Building of Generation 41
6.2 Waste Stream Volume and Period of Generation 41
6.3 Waste Generating Activities 41
6.4 Type of Wastes Generated 41
6.4.1 Material Input Related to Physical Form 41
6.4.1.1 Waste Matrix Code 42
6.4.1.2 Waste Material Parameters 42
6.4.2 Radiological Characterization 42
6.4.3 Chemical Content Identification – Hazardous Constituents 43
6.4.3.1 F-Listed Constituents 43
6.4.3.2 Toxicity Characteristic Constituents 43
6.4.3.3 U- and P- Listed Constituents 44
6.4.3.4 K-Listed Constituents 44
6.4.3.5 Ignitables, Corrosives, Reactives 44
6.4.4 Polychlorinated Biphenyls 46
6.4.5 Prohibited Items 46
6.5 Waste Packaging 47
6.5.1 Payload Containers 47
6.5.2 Layers of Confinement 47
6.5.3 Filter vents 47
6.5.4 Waste Identifiers 47

7.0 REQUIRED WASTE STREAM INFORMATION LA-OS-00-04 48
7.1 Area and Building of Generation 48
7.2 Waste Stream Volume and Period of Generation 48
7.3 Waste Generating Activities 48
7.4 Types of Wastes Generated 48
7.4.1 Material Input Related to Physical Form 48
7.4.1.1 Waste Matrix Code 49
7.4.1.2 Waste Material Parameters 49
7.4.2 Radiological Characterization 50
7.4.3 Chemical Content Identification – Hazardous Constituents 50
7.4.3.1 F-Listed and Constituents 50
7.4.3.2 Toxicity Characteristic Constituents 50
7.4.3.3 U- and P- Listed Waste 51
7.4.3.4 K-Listed Waste 51
7.4.3.5 Ignitables, Corrosives, Reactives 51
7.4.4 Polychlorinated Biphenyls 53
7.4.5 Prohibited Items 53
7.5 Waste Packaging 54
7.5.1 Payload Containers 54
7.5.2 Layers of Confinement 54
7.5.3 Filter vents 55
7.5.4 Waste Identifiers 55

8.0 CONTAINER SPECIFIC INFORMATION 56
9.0 REFERENCES 57
10.0 AK SOURCE DOCUMENTS 59

LIST OF TABLES

Table 5-1. Waste Material Parameters – Metals 29
Table 5-2. Summary of Representative Radionuclide Distribution and Associated Uncertainties for Pu-238 Sealed Sources 31
Table 5-3. Summary of Representative Radionuclide Distribution and Associated Uncertainties for Pu-239 Sealed Sources 32
Table 5-4. Summary of Representative Radionuclide Distribution and Associated Uncertainties for Am-241 Sealed Sources 32
Table 5-5. Summary of Representative Radionuclide Distribution and Associated Uncertainties for Am-241/Be/Cs-137 Combination Sealed Sources 33
Table 5-6. Conservative LANL Sealed Source Packaging Container Headspace Gas VOC Concentrations for use in WIPP Waste Data System (WDS) 35
Table 6-1. Waste Material Parameters – Metals and Plastic 42
Table 7-1. Waste Material Parameters – Metals 50

LIST OF FIGURES

Figure 1. Location Map for LANL Technical Areas (TA) (Reference M029) 72
Figure 2. Detailed Map of LANL Technical Area (TA)-3 (Reference M029) 73
Figure 3. Map of TA-18 Interim Storage (Reference M030) 74
Figure 4. Map of TA-54 TRU Waste Storage Domes (Reference M030) 75
Figure 5. Map of TA-55 (Reference M030) 76

LIST OF ATTACHMENTS

Attachment 1 – Figures 71
Attachment 2 – Projected OSRP Waste Volumes 77
Attachment 3 – Schematic of OSRP Process 79
Attachment 4 – Regulatory Definitions 80
Attachment 5 – Description of Typical OSRP Sealed Sources 81

LIST OF ACRONYMS AND ABBREVIATIONS

AEC	U.S. Atomic Energy Commission
Ag	silver
AK	acceptable knowledge
Al	aluminum
Am	americium
ANSI	American National Standards Institute
ATWIR	Annual Transuranic Waste Inventory Report
Au	gold
Be	beryllium
BDR	Batch Data Report
C	Cellulosics
CCP	Central Characterization Project
Cd	cadmium
Cf	californium
CFR	Code of Federal Regulations
CH	contact-handled
Ci	curie(s)
CMR	Chemistry, Metallurgy, and Research Facility
Cm	curium
Co	cobalt
Cs	cesium
Cu	copper
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
Fe	iron
FTL	Field Team Leader
FY	Fiscal Year
g	gram
HLW	High-level waste
HSG	headspace gas
HWN	Hazardous Waste Number
IAEA	International Atomic Energy Agency
Ir	iridium
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security
Li	lithium
LLNL	Lawrence Livermore National Laboratory
Mg	magnesium
Na	sodium
NDA	non-destructive assay
Ni	nickel
NRC	U.S. Nuclear Regulatory Commission
NRD	Nuclear Radiation Development
NMMSS	Nuclear Materials Management and Safeguards System

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

NNSA	DOE/National Nuclear Security Administration
NTS	Nevada Test Site
NUMEC	Nuclear Materials and Equipment Corporation
NWPA	*Nuclear Waste Policy Act of 1982*
OM	Other Metals
OSRP	Off-Site Source Recovery Project
Pb	lead
PCB	polychlorinated biphenyl
Pd	palladium
PP	Plastic Packaging
ppm	part(s) per million
ppmv	part(s) per million by volume
POC	pipe overpack component
PRQL	Program Required Quantitation Limits
Pt	platinum
Pu	plutonium
QA	Quality Assurance
QAPjP	Quality Assurance Project Plan
Ra	radium
RCRA	Resource Conservation and Recovery Act
SCATR	Source Collection and Threat Reduction
SFC	Special Form Capsule
Si	silicon
SNF	Spent Nuclear Fuel
Sr	strontium
ST	Stainless Steel
Ta	tantalum
TA	(LANL) Technical Area
TCLP	toxicity characteristic leaching procedure
TID	tamper indication device
TRAMPAC	Transuranic Authorized Methods for Payload Control
TRU	transuranic
TRUCON	TRUPACT-II Content Code
TRUPACT-II	Transuranic Waste Package Transporter-II
TSCA	Toxic Substance Control Act
TWCP	TRU Waste Certification Program
UC	University of California
U.S.	United States
VE	visual examination
VOC	volatile organic compound
vol%	volume percent
W	tungsten

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

WDS	Waste Data System
WIPP-WAC	*Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*
WIPP-WAP	*Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan*
WIPP	Waste Isolation Pilot Plant
WMP	waste material parameter
wt%	weight percent
WWIS	WIPP Waste Information System

1.0 EXECUTIVE SUMMARY

This acceptable knowledge (AK) summary report has been prepared for the Central Characterization Project (CCP) for contact-handled (CH) transuranic (TRU) waste generated and managed at the Los Alamos National Laboratory (LANL). This report was prepared in accordance with CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1), to implement the AK requirements of the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan* (WIPP-WAP) (Reference 2); and DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP-WAC) (Reference 4).

The WIPP-WAP AK requirements are addressed in CCP-PO-001, *CCP Transuranic Waste Quality Assurance Project Plan* (QAPjP) (Reference 6). The WIPP-WAC AK requirements are addressed in CCP-PO-002, *CCP Transuranic Waste Certification Plan* (Reference 16). Additionally, this report provides the AK information required by CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control* (CCP CH-TRAMPAC) (Reference 7).

The CCP is tasked with certification of TRU waste for transportation to and disposal at the Waste Isolation Pilot Plant (WIPP). This report was developed in accordance with CCP-TP-005 (Reference 1), which describes how AK is collected, reviewed, and managed by the CCP. The CCP is responsible for collection, review, and management of AK documentation in accordance with CCP-TP-005 and reviews and approves this AK Summary Report and maintains this document as a CCP quality assurance (QA) record. The CCP maintains responsibility for this AK Summary Report and all CCP-TP-005 generated forms and records as QA records. In addition, CCP maintains a copy of the "historical source documents" as non-QA records.

Waste stream LA-OS-00-01.001 consists of americium (Am)-241, plutonium (Pu)-238, and Pu-239 sealed sources placed in special form capsules (SFCs) or Lexan (plastic polymer) containers which are packaged into 55-gallon metal pipe overpack component (POC) configuration drums. Waste stream LA-OS-00-03 consists of Am-241 foil-type sealed sources from smoke detectors placed in metal pails, packaged directly in 55-gallon drums with no need for sealed containers. Waste stream LA-OS-00-04 is expected to be virtually identical to waste stream LA-OS-001.001 except for cadmium (Cd) and/or lead (Pb) cladding integral to the sealed source construction. The waste in all three waste streams originated from Off-Site Source Recovery Project (OSRP) activities. Sealed sources are collected and packaged at various off-site locations and stored at Los Alamos National Laboratory Technical Areas (TAs) TA-3, TA-54, or TA-55 prior to disposal at WIPP. This report, along with referenced supporting documents, provides a defensible and auditable record of AK for the designated waste streams from the recovery of sealed sources. The references and AK sources used to prepare this report are listed in Sections 10.0 and 11.0. The AK sources referenced within this report are identified by alphanumeric designations corresponding to a unique Source Document Tracking Number (i.e., C001, D001, DR001, M001, and U001).

This report includes information relating to the facility's history, configuration, equipment, process operations, and waste management practices. Information contained in this report

was obtained from numerous sources, including database information, historical document archives, generator and storage facility waste records and documents, and interviews with cognizant personnel.

This report and supporting references provide the mandatory waste program management and waste stream-specific AK information for sealed sources heterogeneous debris waste generated since January 2001.

2.0 WASTE STREAM IDENTIFICATION SUMMARY

Site Where TRU Waste Was Generated:

Los Alamos National Laboratory
P.O. Box 1663
Los Alamos, New Mexico 87545

Facility Where TRU Waste Was Generated:

The following LANL facilities may be used for the receipt, storage, or packaging of OSRP sealed sources (Reference P004): TAs TA-3, TA-54, and TA-55. Sealed sources are collected and packaged at various off-site locations.

Facility Mission:

The mission of the OSRP is to recover and manage radioactive sealed sources generated by the public and private sector that present a risk to public health or homeland security. The sealed sources are excess to the U.S. Nuclear Regulatory Commission (NRC) Agreement State Licensee or government site owner, and either a U.S. Department of Energy (DOE) responsibility under Public Law 99-240, Low-Level Radioactive Waste Policy Amendments Act of 1985 (Reference 3), or are already owned by the DOE (References D004 and P003). The OSRP mission has been expanded to include US-origin foreign owned excess sources (References C059 and D025). The OSRP has been tasked with disposal of sealed sources for which recycling and reuse are not viable options and that the DOE has declared waste. In addition, due to the potential for terrorist use of radioactive materials in explosive devices, the NRC, the DOE, and the U.S. Congress have identified excess sealed sources as high risk and have directed DOE to accelerate recovery of such materials. Drums in waste streams are packaged by either consolidating sealed sources in metal or plastic containers, then into 55-gallon metal POC configuration drums, or by packaging sources directly into 55-gallon drums. Only defense TRU sealed-source recoveries are eligible for WIPP disposal and they constitute waste streams: LA-OS-00-01.001, LA-OS-00-03, and LA-OS-00-04 (References C004, C005, C006, C032, C042, C061, C062, D031, and P004).

2.1 Waste Stream LA-OS-00-01.001 (Defense Sealed Sources)

Summary Category Group:	S5000 – Debris Waste
Waste Matrix Code Group:	Uncategorized Metal
Waste Matrix Code:	S5100
Transuranic Waste Package Transporter-II (TRUPACT-II) Content Code (TRUCON):	LA120A/220A

Annual Transuranic Waste Inventory Report (ATWIR) Identification Number (Reference 12): LA-OS-00-01.001

Maximum Layers of Confinement: 1

Waste stream LA-OS-00-01.001 consists of Waste Material Type II.2 in metal cans or Lexan (plastic polymer) containers packaged in POCs, which does not have any gas generation potential.

Waste Stream Description:

Waste stream LA-OS-00-01.001 consists of manufactured sealed sources in metal or Lexan containers which are placed inside 55-gallon metal POC configuration drums. The sealed sources are encapsulated in various metals (e.g. stainless steel, Armco 17-4 PH steel, beryllium [Be], aluminum [Al], tantalum [Ta], platinum [Pt]-20%, iridium [Ir], silicon sodium-magnesium [Si-Na-Mg] oxide, tungsten [W], silver [Ag], palladium [Pd], nickel [Ni], copper [Cu], gold [Au], cesium [Cs], and iron [Fe] metals). The confining barrier (the metal capsule) prevents dispersion of the radioactive material under normal and most accidental conditions related to the use of the source. The sealed sources contain varying amounts and combinations of Pu, Am, or other TRU nuclides, and may contain Be, lithium (Li), or other light elements (e.g., boron, carbon, and fluorine) to create neutron emission (References C032, C035, D003, D031, and M133). There are also combination sources containing Cs-137 in this waste stream. Primarily, they consist of, but are not limited to, Am-241/Be, Pu-238/Li, or Am-241/Li coupled with a Cs-137 gamma emitter as a single inseparable unit to provide both neutron and gamma emissions. The material in this waste stream meets the following definition of a sealed source: "Radioactive material that is contained in a sealed capsule, sealed between layers of non-radioactive material, or firmly fixed to a non-radioactive surface by electroplating or other means" (Reference 5). The applicable regulatory definitions referenced in the WIPP-WAP are provided in Attachment 4, Regulatory Definitions (Refer to Section 5.4.1).

The two most prevalent radionuclides for waste stream LA-OS-00-01.001 are Pu-239 and Am-241 (Refer to Section 5.4.2).

Waste stream LA-OS-00-01.001 is not hazardous and contains no Resource Conservation and Recovery Act (RCRA) regulated constituents; therefore, no Environmental Protection Agency (EPA) hazardous waste numbers (HWNs) are assigned (Refer to Section 5.4.3).

There are no expected prohibited items in this waste stream. OSRP visual examination (VE) personnel verify that there are no prohibited items in the containers (Refer to Section 5.4.4).

Sealed sources are consolidated in either a metal SFC or Lexan (plastic polymer) container then placed into the 55-gallon metal POC configuration drums with or without fiberboard dunnage, aluminum bracing/blocking, or neutron-shielding material. The packaging configurations used for POCs include a standard pipe overpack with 12-inch pipe component, S100 overpack, S200 overpack, and S300 overpack (Refer to Section 5.5).

Waste Stream LA-OS-00-01.001 meets the WIPP-WAP waste stream definition. The waste stream consists of waste materials (sealed sources), that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity (Refer to Section 4.5).

2.2 Waste Stream LA-OS-00-03 (Defense Sealed Sources not in POCs)

Summary Category Group: S5000 – Debris Waste

Waste Matrix Code Group: Uncategorized Metal

Waste Matrix Code: S5100

TRUCON: LA120B/220B

Waste Stream ATWIR Identification: LA-OS-00-03

Maximum Layers of Confinement: 2

This waste stream consists of Waste Material Type II.2 in metal cans with no gas generation potential.

Waste Stream Description:

Waste stream LA-OS-00-03 consists of manufactured Am-241 foil-type sealed sources from smoke detectors that are packaged into 55-gallon drums. The sources are made from Am embedded in an Au foil matrix. The thin Au-Am foil is then sandwiched between an Ag backing and a Pd or Au laminate (References C063, D026, and D027). The confining barrier prevents dispersion of the radioactive material under normal and most accidental conditions related to the use of the source. The sealed sources contain varying amounts and combinations of Am-241. The sources containing silver have analytical results that show the waste is non-hazardous. The material in this waste stream meets the definition of a sealed source as follows: "Radioactive material that is sealed between layers of non-radioactive material, or firmly fixed to a non-radioactive surface by electroplating or other means" (Reference 5). The applicable regulatory definitions referenced in the WIPP-WAP are listed in Attachment 4 (Refer to Section 6.4.1).

The two most prevalent radionuclides for this waste stream are Am-241 and Pu-239 (Refer to Section 6.4.2).

Waste stream LA-OS-00-03 is not hazardous and contains no RCRA regulated constituents; therefore, no EPA HWNs are assigned (Refer to Section 6.4.3).

There are no expected prohibited items in this waste stream. OSRP VE personnel verify that there are no prohibited items in the containers (Refer to Section 6.4.4).

Sealed sources in waste stream LA-OS-00-03 are packaged directly in standard 55-gallon drums with up to two plastic liner bags that are closed using a horse tail method. Sources

may be packaged in vented metal cans (minimum ½ inch hole), so they are not considered a layer of confinement. The maximum layers of confinement will be two (Refer to Section 6.5).

Waste Stream LA-OS-00-03 meets the WIPP-WAP waste stream definition. The waste stream consists of waste materials (sealed sources), that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity (Refer to Section 4.5).

2.3 Waste Stream LA-OS-00-04 (Mixed Waste Sealed Sources)

Summary Category Group: S5000 – Debris Waste

Waste Matrix Code Group: Uncategorized Metal

Waste Matrix Code: S5100

TRUCON: LA120A/220A

Waste Stream ATWIR Identification: None

Maximum Layers of Confinement: 1

Waste stream LA-OS-00-04 consists of Waste Material Type II.2 in metal cans or Lexan (plastic polymer) containers packaged in POCs, which does not have any gas generation potential.

Waste Stream Description:

Waste stream LA-OS-00.04 consists of manufactured sealed sources in metal or Lexan (plastic polymer) containers which are placed inside 55-gallon metal POC configuration drums. Waste stream LA-OS-00-04 contains non-volatile hazardous constituents present in the encapsulating material or as shielding, particularly Cd and Pb. Therefore, this is a mixed waste stream with EPA HWNs D006 and D008.

Waste stream LA-OS-00.04 consists of sealed sources that are encapsulated in various metals that include stainless steel, Armco 17-4 PH steel, Be, Al, Ta, Pt-20% Ir, Si-Na-Mg oxide, W, Ag, Pd, Ni, Cu, Au, Cs, and Fe metals. The confining barrier (the metal capsule) prevents dispersion of the radioactive material under normal and most accidental conditions related to the use of the source. The sealed sources contain varying amounts and combinations of Am, or other TRU nuclides, and may contain Be or other light elements to create neutron emission (Reference D003 and M133). The material in this waste stream meets the following definition of a sealed source: "Radioactive material that is contained in a sealed capsule, sealed between layers of non-radioactive material, or firmly fixed to a non-radioactive surface by electroplating or other means" (Reference 5). The applicable regulatory definitions referenced in the WIPP-WAP are provided in Attachment 4 (Refer to Section 7.4.1).

The two prevalent isotopes in this waste stream are Pu-239 and Pu-240 (Refer to Section 7.4.2).

This waste stream was determined to contain RCRA-regulated constituents and is assigned EPA HWNs D006 and D008 (Refer to Section 7.4.3).

There are no expected prohibited items in this waste stream. OSRP VE personnel verify that there are no prohibited items in the containers (Refer to Section 7.4.4).

Sealed sources in waste stream LA-OS-00-04 are consolidated in either a metal SFC or Lexan (plastic polymer) container then placed in the 55-gallon metal POC configuration drums with or without fiberboard dunnage, aluminum bracing/blocking, or neutron-shielding material. POC packaging configurations include a standard pipe overpack with 12-inch pipe component, S100 overpack, S200 overpack, and S300 overpack. There will be no more than one layer of confinement (Refer to Section 7.5.2).

Waste Stream LA-OS-00-04 meets the WIPP-WAP waste stream definition. The waste stream consists of waste materials (sealed sources), that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity (Refer to Section 4.5).

3.0 ACCEPTABLE KNOWLEDGE DATA AND INFORMATION

TRU waste destined for disposal at the WIPP must be characterized prior to shipment. Development of knowledge of the materials and processes that generate and control the waste is required to provide a clear and convincing argument about the characteristics of each waste stream. The AK characterization documented herein complies with the requirements of the WIPP-WAP (Reference 2) and was developed in accordance with CCP-PO-001 (Reference 6), and CCP-TP-005 (Reference 1).

The waste streams in this report were characterized using AK from a variety of sources. The AK search for information on WIPP-eligible OSRP sealed sources resulted in collection of the following documents (Reference P004). One or more sources were utilized for AK on each sealed source.

1. Review of source manufacturer's sales catalogues to identify sealed source models, isotopes, activity, neutron/gamma emission rates, and dimensional drawings (References C017, D008, D010, D031, M041, M042, M046, M100, M106, M109, M111, M114, M143, M144, M152, M154, M159, M161, M162, M164, M171, M177, M183, M198, M210, M226, and M236).

2. Review of original purchase records to identify design information for a specific source (identified by a unique serial number). This information may include encapsulation requirements, source loading information, source model used, American National Standards Institute (ANSI) test conducted, and special form qualifications (References D023, D031, DR011, M007, M024, M025, M026, M038, M054, M076, M078, M079, M080, M082, M086, M088, M089, M091, M094, M095, M110, M123, M124, M125, M127, M129, M143, M149, M150, M151, M152, M154, M155, M156, M157, M158, M159, M161, M163, M167, M168, M175, M176, M177, M179, M180, M184, M185, M186, M187, M188, M189, M190, M191, M192, M193, M194, M195, M197, M198, M199, M201, M211, M234, and M236).

3. Review of Source Manufacturer's Fabrication Documents to identify activity, neutron/gamma emission rates, radioactive source materials, source configuration, source loading, and source testing (References C023, D008, D027, D028, D029, D031, M005, M007, M025, M026, M038, M069, M070, M071, M074, M075, M076, M077, M078, M079, M080, M089, M090, M092, M094, M098, M107, M110, M117, M118, M122, M123, M124, M125, M126, M127, M128, M131, M132, M133, M134, M135, M136, M137, M138, M139, M141, M142, M143, M146, M147, M149, M155, M156, M159, M160, M161, M164, and M165).

4. Review of source manufacturer's drawings and/or photographs to determine dimensional information, containment materials, and shape of sources (References C040, C041, C060, D002, D005, D008, D010, D011, D024, D026, D027, M005, M012, M025, M026, M027, M034, M038, M041, M042, M046, M054, M069, M075, M076, M077, M078, M083, M088, M089, M090, M092, M094, M098, M101, M106, M107, M110, M111, M112, M113, M114, M117, M118, M122, M123, M124, M126, M127, M130, M131, M132, M133, M139, M140, M142, M143, M144, M145,

M150, M151, M152, M153, M155, M161, M162, M169, M171, M176, M177, M183, M187, M188, M194, M195, M198, M200, and M236).

5. Review of source manufacturer's fuel capsule assembly reports to identify material batch number, weight percent (wt%) of the isotope, isotope powder weight, welding documentation, leak test information, and neutron emission rates (References C025, M025, M044, M047, M048, M049, M070, M077, M095, M126, M127, M128, M130, M133, M143, M145, M150, M153, M171, M174, M175, M183, M184, M185, M186, M187, M188, M194, M195, M196, M198, M202, M224, M234, M235, and M236).

6. Review of source manufacturer's operational procedures to identify cleanliness requirements, testing methods, and acceptance criteria (References M007, M046, M077, M123, M127, M128, M130, M142, and M152).

7. Review of source manufacturer's shipping documents by unique serial number to identify the isotope, activity, loading, containment material, dimensions, method of sealing, neutron/gamma emission, and special form qualification (References C060, D006, D008, D023, DR002, DR003, DR006, DR008, DR009, M007, M013, M015, M016, M017, M018, M024, M025, M026, M027, M038, M043, M052, M056, M057, M058, M063, M064, M065, M066, M068, M074, M091, M093, M121, M125, M126, M127, M129, M132, M136, M143, M150, M152, M154, M159, M163, M167, M170, M175, M176, M177, M179, M186, M187, M188, M191, M192, M193, M194, M197, M198, M199, M222, M223, M234, and M237).

8. Review of source manufacturer's welding records to evaluate cleaning agents and determine acceptance of welding procedures (References D031, M007, M014, M075, M113, M117, M123, M125, M126, M128, M133, and M138).

9. Review of TRU batch material records to trace the radioactive material from the originator (Atomic Energy Commission [AEC]/DOE) to the source manufacturer and, in some cases, to source owners (References C025, C042, C061, C062, M015, M016, M017, M021, M026, M028, M081, and M124).

10. Review of a national database, Nuclear Materials Management and Safeguards System (NMMSS), using unique serial numbers to identify the source owner, material type, date of manufacturer, and isotopic grams of the nuclide. The database provides a listing of sealed sources manufactured containing Pu-238 and Pu-239 special nuclear material. The last NMMSS report was issued in 1985 (References DR001, DR002, DR003, DR004, DR005, DR006, DR007, DR009, DR010, M006, M020, and M059). Presently, Am-241 is treated as special nuclear material by the DOE and is being added to this database through the creation of NRC/DOE Form 741, "Nuclear Material Transaction Reports" (References C017, C025, D008, D031, DR002, DR003, DR004, DR006, DR009, M005, M006, M020, M066, M073, M083, M084, M085, M087, M098, M099, M101, M107, M112, M127, M132, M139, M142, M143, M144, M146, M147, M151, M153, M154, M155, M156, M157, M158, M159, M160, M161, M162, M163, M164, M165, M166, M167, M168, M170, M174, M192, M197, and P004).

11. Review of a national database, the NRC Registry of Radioactive Sealed Sources and Device Registry, to identify source device, isotope, activity, source marking, source or device diagram, and testing conducted on the sources (References C017, C025, C041, D008, D031, DR002, DR003, DR004, DR006, DR009, M005, M006, M020, M066, M073, M083, M084, M085, M087, M098, M099, M101, M107, M112, M127, M132, M139, M142, M143, M144, M146, M147, M149, M151, M153, M154, M155, M156, M157, M158, M159, M160, M161, M162, M163, M164, M165, M166, M169, M171, M174, M177, M178, M183, M193, M195, M197, M198, M200, M201, M202, M224, M236, and P004).

12. Review of NRC/DOE Form 741 to determine where radioactive material originated, material type, and batch material information (References D006, D008, D023, DR002, DR003, DR006, DR008, DR009, M007, M013, M015, M016, M017, M018, M024, M025, M026, M027, M038, M043, M052, M056, M057, M058, M063, M064, M065, M066, M068, M074, M091, M093, M121, M125, M126, M127, M129, M132, M136, M143, M150, M152, M154, M159, and M163).

13. Review of U.S. Department of Transportation (DOT) Special Form documentation and packaging information to determine whether the source has a special form certificate and if the certificate is current (References C007, C029, C037, C039, C043, C065, D005, D008, D010, D011, D012, D022, M022, M034, M045, M069, M075, M081, M082, M089, M090, M092, M096, M097, M102, M103, M104, M105, M107, M108, M109, M111, M114, M115, M116, M123, M125, M126, M129, M132, M138, M139, M141, M142, M143, M144, M145, M146, M148, M150, M151, M152, M153, M155, M156, M157, M158, M159, M160, M163, and M164).

14. Information obtained from personnel involved with waste generation and waste management activities for the OSRP (References C009, C012, C013, C016, C018, C026, C028, C030, C033, C034, C045, C064, C066, D031, DR004, M003, M019, M053, M119, and M120).

15. Review of DOE documents to ensure that there are no hazardous waste issues associated with actinide-bearing sealed sources (References C001, C002, D002, D031, M003, M004, M031, M033, M035, M039, and M061).

The references and AK sources used to prepare this report are listed in Sections 10.0 and 11.0. The AK sources referenced within this report by alphanumeric designations (e.g., C001, D001, DR001, M001, P001, and U001) correspond to the Source Document Tracking Number using the following convention:

C – Correspondence
D – Documents
DR – Discrepancy Resolution
M – Miscellaneous
P – Procedures
U – Unpublished

4.0 REQUIRED PROGRAM INFORMATION

This section presents the waste management program information required by the WIPP-WAP (Reference 2). Included is background information on the OSRP, summaries of the missions, descriptions of operations associated with the generation of these TRU waste streams, descriptions of the waste management program as it relates to these waste streams, and defense determination.

4.1 Facility Location

LANL is located in Los Alamos County in north-central New Mexico, approximately 60 miles north-northeast of Albuquerque and 25 miles northwest of Santa Fe. LANL is owned by the DOE and was operated jointly by the DOE and the University of California (UC) for over 50 years. Site management was transferred to Los Alamos National Security (LANS) in 2006. The LANL site encompasses 43 square miles subdivided into 49 TAs. Attachment 1, Figures, provides a map (Figure 1, Location Map for LANL Technical Areas [TA] [Reference M029]) identifying the location of the LANL site and the TAs at the site. Maps of the location of LANL facilities involved in the OSRP waste generating process are shown in Attachment 1. The OSRP office is located at TA-46 (Attachment 1, Figure 1). Only administrative activities occur at this location.

4.2 Facility Description

Prior to 1974, the AEC, or an AEC-licensed facility, manufactured sealed sources in the U.S. The major facilities that manufactured sealed sources during this period were Mound/Monsanto Research Corporation, Amersham, Nuclear Materials and Equipment Corporation (NUMEC), Parkwell Labs, Gamma Industries, Nuclear Radiation Development (NRD) and Gulf Nuclear Industries (References C009, D002, and M229). Many OSRP sources that are now excess and eligible for WIPP disposal, especially Pu-239-containing sources, were manufactured between 1950 and 1974 by one of these entities (References M006, M013, M017, M024, M026, M027, M038, and M229).

The following LANL facilities may be used for the receipt, storage, or packaging of OSRP sealed sources (Reference P004, Attachment 1):

- TA-3, SM-30, initial receipt of OSRP sealed sources at LANL by the LANL Shipping and Receiving Organization (Attachment 1, Figure 2, Detailed map of LANL Technical Area [TA]-3 [Reference M029]).
- TA-3, Chemistry, Metallurgy, and Research (CMR) Facility, interim storage, VE and packaging of OSRP sealed sources (Figure 2).
- TA-54, Area G, interim storage and packaging of non-Pu-239-containing OSRP sealed sources (Attachment 1, Figure 4, Map of TA-54 TRU Waste Storage Domes [Reference M030]).

- TA-55, Interim storage and packaging of OSRP sealed sources (Attachment 1, Figure 5, Map of TA-55 [Reference M030]).

- TA-18, interim storage of OSRP sealed sources (Attachment 1, Figure 3, Map of TA-18 Interim Storage [Reference M030]) used until 2007.

For Pu-239 sealed sources, interim storage may also occur at the Nevada Test Site (NTS). Most sources are recovered, consolidated, and packaged in accordance with the VE procedure (Reference P001) at an off-site location and shipped to LANL as radioactive material (Reference P001). At LANL, the material shipping containers are received, examined to ensure the tamper indication device (TID) is intact, and declared waste for future management at LANL.

4.3 Facility Mission

The mission of the OSRP is to recover and manage radioactive sealed sources generated by the public and private sector because they present a risk to public health and safety or homeland security. The sealed sources are excess to the U.S. NRC Agreement State Licensee or government site owner, and are either a U.S. DOE responsibility under Public Law 99-240 (Reference 3), or are already owned by the DOE (References D004 and P003). The OSRP mission has been expanded to include US-origin foreign-owned excess sources (References C059 and D025). The project scope was increased in 2004 to include recovery of californium (Cf)-252, curium (Cm)-244, cobalt (Co)-60, Ir-192, and radium (Ra)-226 sources, as well as Pu, Am, strontium (Sr)-90, and Cs-137 sources in all concentrations (Reference C019). The OSRP has been tasked with dispositioning those sealed sources for which recycling or reuse are not viable options and for which the DOE has declared to be waste. The project may manage other isotopes as needed; however, only alpha-emitting TRU isotopes with half lives greater than 20 years are offered for disposal at WIPP.

In addition, as the result of the attacks on the U.S. on September 11, 2001, and with additional information indicating the potential for terrorist use of radioactive materials in explosive devices, the NRC, the DOE, and the U.S. Congress have identified unacceptable risk posed by the large number of excess sealed sources remaining in the environment and have directed DOE to accelerate recovery and disposal of the backlog.

4.3.1 Off-Site Recovery Project

Beginning in the 1950s, advances in nuclear science resulted in TRU sealed sources, primarily Pu-239 and Pu-239/Be neutron sources, being manufactured and distributed by the AEC to accelerate the pace of nuclear research. By the 1960s, other TRU materials, such as Pu-238 and Am-241, were commonly being encapsulated and distributed in the form of sealed sources by the AEC and commercial companies for a wide variety of medical, industrial, and academic applications. Beginning in the 1970s, a small number of combination sources containing Am-241Be/Cs-137 were being manufactured to provide both neutron and gamma emissions for soil density gauges and research applications. The TRU nuclides used in sealed sources manufactured within the U.S. were derived from AEC-operated defense reactors and distributed through AEC-sponsored programs.

Now, 50 years after the emergence of the TRU radioactive sealed source, the country is faced with an abundance of excess sealed sources and devices. The OSRP was implemented at LANL by DOE Environmental Management to ensure that the sealed sources for which DOE is legally responsible are safely recovered, managed, and disposed of expeditiously. In 2003, the OSRP was transferred to DOE/National Nuclear Security Administration (NNSA) management under the Global Threat Reduction Program. It was estimated early in the project that between fiscal years 2000 and 2010, 18,000 sealed sources containing TRU nuclides would require recovery, management, and disposal (References C002 and D003). Once declared as radioactive waste, many DOE TRU sealed sources are acceptable for disposal at the WIPP.

The NNSA has provided guidance to the OSRP at LANL to expeditiously manage and dispose of recovered sources that are eligible for disposal at WIPP. In addition, the OSRP has received direction to remove excess sealed sources that represented a potential terrorist threat. Sources eligible for disposal at WIPP are packaged in 55-gallon metal POC configuration drums or directly packaged into 55-gallon drums as described in this report. A defense determination was made for sealed sources as part of the justification for disposal of this waste at WIPP. Additional drums of sources were identified as defense waste in 2006. This has resulted in the formation of a new waste stream.

4.4 Defense Waste Assessment

The WIPP-WAC (Reference 4) requires generator sites to use AK to determine whether the TRU waste streams to be disposed of at WIPP meet the definition of TRU defense waste. Based on guidance from DOE, TRU waste is eligible for disposal at WIPP if it has been generated in whole or part by one of the atomic energy defense activities listed in 42 U.S.C. Section 10101(3) of the *Nuclear Waste Policy Act of 1982* (NWPA) (Reference 10).

Waste streams LA-OS-00-01.001, LA-OS-00-03, and LA-OS-00-04 are comprised of Am-241, Pu-238, and Pu-239 sealed sources. All of these sealed sources meet the definition of defense waste as defined in the NWPA(References 10) because they are derived from defense nuclear materials production (References C004, C042, C044, C045, D011, D023, and D030). Am-241/Be neutron test sources and Pu-238/Be sources were used in the U.S. Naval Reactors Program, Naval Nuclear Propulsion Program, U.S. Air Force, Lawrence Livermore National Laboratory (LLNL) defense research, or other defense activities (References C002, C005, C006, C011, and D011). In addition, all such sources have been determined to be defense-related because they were derived from defense nuclear materials production and by-products management and because they are being recovered to support defense nuclear material security and safeguards (References C042, C053, D025, and D030).

4.5 High-Level Waste and Spent Nuclear Fuel Assessment

Public Law 102-579, *The Waste Isolation Pilot Plant Land Withdrawal Act* (Reference 16), bans the disposal of spent nuclear fuel (SNF) and high-level waste (HLW), as defined by the NWPA (Reference 10), at WIPP. According to the NWPA, SNF is "fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent

elements of which have not been separated by reprocessing." DOE M 435.1-1, *Radioactive Waste Management Manual* (Reference 17), expands on this definition to clarify that "Test specimens of fissionable material irradiated for research and development only, and not production of power or plutonium, may be classified as waste, and managed in accordance with the requirements of this Order when it is technically infeasible, cost prohibitive, or would increase worker exposure to separate the remaining test specimens from other contaminated material." HLW is defined by the NWPA as "the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation."

Waste streams LA-OS-00-01.001, LA-OS-00-03, and LA-OS-00-04 consist of CH-TRU waste from the recovery and disposal of excess sealed sources; therefore, these waste streams do not contain SNF or HLW and are eligible for disposal at WIPP.

4.6 TRU Waste Management

Waste stream LA-OS-00-01.001 was managed as newly generated waste under LANL's Project 2010/TRU Waste Certification Program (TWCP) until 2003 and is currently managed under the CCP. The OSRP was part of Project 2010's TWCP and characterized the first newly-generated waste stream certified at LANL (Reference P003). The waste characterization and certification procedures under which the OSRP operates are described in this report and found in the CCP TRU Waste Characterization Quality Assurance Project Plan, CCP-PO-001 (Reference 6). The three waste streams described in this report are unique in that AK may be used in lieu of headspace gas (HSG) sampling to meet the requirements of the WIPP-WAP Section C4-2c (Reference 2) and in lieu of non-destructive assay (NDA) to meet the radiological characterization requirements described in Appendix A of the WIPP-WAC (Reference 4). AK describing the chemical characteristics of LA-OS-00-01.001, LA-OS-00-03, and LA-OS-00-04, and satisfying WIPP-WAP requirements are discussed in Sections 5.4.3, 6.4.3, and 7.4.3. AK describing radiological requirements pursuant to the WIPP-WAC is discussed in Sections 5.4.2, 6.4.2, and 7.4.2, *Determination of the Radioisotopic Composition.*

4.6.1 Types and Quantity of TRU Waste Generated

There are currently 1,010 55-gallon drums in LA-OS-00-01.001, 70 55-gallon drums in LA-OS-00-03, and one (1) 55-gallon drum in LA-OS-00-04. These numbers reflect waste containers listed in the AK Tracking Spreadsheet as of January 3, 2012.
Attachment 2, Projected OSRP Waste Volumes, estimates the OSRP volume for additional WIPP-eligible sealed sources at 1,128 55-gallon drums (waste stream LA-OS-00.01.001) from fiscal year (FY) 2010 through 2025.

4.6.2 Correlation of Waste Streams Generated from the Same Building and Process

The OSRP recovers sources that have resulted from both atomic energy defense activities and non-defense applications. Only the defense-related sources are eligible for WIPP disposal and constitute waste streams LA-OS-00-01.001, LA-OS-00-03, and LA-OS-00-04 (References C004, C005, C006, C044, and P004). Non-defense sources constitute a different waste stream not addressed by this report and not eligible for disposal at WIPP. In May 2006, U.S.-origin Am-241 and Pu-238 sealed sources were determined to be defense related (Reference D025). Because of this determination, waste containers of these sources were added to waste stream LA-OS-00-01.001 and LA-OS-00-03. However, these drums were denoted on the defense determination checklists as placeholder waste streams designated LA-OS-NA-01, LA-OS-NA-02, and LA-OS-NA-03.

Waste stream LA-OS-00-04 is physically identical to LA-OS-00.01.001exceptfor the presence of hazardous, non-volatile constituents. No other LANL waste streams correlate to LA-OS-00-01.001, LA-OS-00-03, and LA-OS-00-04; they are unique, newly generated wastes and consist of sealed sources consolidated from various private sector and DOE federal locations.

4.6.3 Waste Stream Identification, Categorization, and Delineation

Sealed sources have a unique serial number or other identifying characteristics that are recorded at the time of packaging (Reference P001) on a "Container Packaging and VE Data Record" (References P001 and M031). The sources are packaged according to a list provided by the OSRP Field Team Leader (FTL) based on available source information (References P001). The VE procedure requires that each sealed source description, unique serial number, weight, and recipient drum number be entered on the Data Record. During the packaging and VE, operators verify that the outer casing is made of a non-volatile organic compound (VOC)-bearing material, that no prohibited items are present, and that the container contents match the waste stream description, physical form/summary category group, waste matrix code, and the applicable information listed in Section 5.4.3, 6.4.3, or 7.4.3, as applicable.

4.7 Description of Waste Generating Processes

4.7.1 Overview of Waste Stream Characteristics

Waste streams LA-OS-00-01.001, LA-OS-00-03, and LA-OS-00-04 are classified as debris, but sealed sources are unlike common debris waste. Sealed sources are manufactured items. Like any other precision tool, sealed sources generally have a well-defined pedigree. They have a design history and have been manufactured to a rigid set of specifications. The radioactive contents are highly purified materials provided and distributed by the AEC and DOE under rigorous quality control procedures. The amount of radioactive material contained in sealed sources is generally well known and documented. Commonly, serial numbers uniquely define each sealed source. The containment materials are well defined and the sealing procedures and process used are a matter of documented record in many cases (Reference D002).

4.7.2 Waste Generating Process

OSRP personnel confirm eligibility of sealed sources for collection by the OSRP, obtain AK documentation for them, and arrange for their recovery from off-site locations. The DOE may declare a sealed source as waste if it is not suitable for recycling or reuse. In this case, sealed sources that are designated as defense related and meet the criteria for WIPP disposal enter the process for WIPP certification (References C004, C005, C006, and P004).

OSRP personnel perform characterization and packaging activities, including assembling AK documentation and conducting VE during packaging of the sealed sources (References P001, P004, and P007). Records of the design history/specifications and radiological content are assembled and compiled as part of the AK documentation for each TRU sealed source. General AK information for LA-OS-00-01.001, LA-OS-00-03, and LA-OS-00-04 are provided in this report. Detailed, source-specific information for each individual source also is available, including documentation on the content and design/construction from the NRC Sealed Source and Device Registry and the manufacturer or owner, the original shipping paper and specification sheet, data from the NRC/DOE NMMSS, and other physical information about the source (References C041, D010, D031, M005, M007, M012, M013, M014, M017, M024, M025, M026, M027, and M038). A large volume of source-specific AK information may be compiled once a source is identified for recovery.

This information is included in the batch data reports (BDRs) prepared during packaging and radiological characterization of the source. During VE, the source is verified against the documentation and that it matches the actual source that is packaged (Reference P001).

Sealed sources that are special form (e.g., have undergone special DOT testing to ensure no dispersion in the event of an accident) may be placed in a metal or Lexan (plastic polymer) container to consolidate the sources. During recovery when non-special form sources are encountered, they are encapsulated in certified SFCs. The source containers are then either placed into standard 55-gallon drums or into 55-gallon metal POC drums that are centered within cane fiberboard dunnage or neutron shielding material (depending upon packaging configuration) (Reference P001). The packaging configurations that may be used for POCs include a standard pipe overpack with 12-inch pipe component, S100, S200, or S300 overpacks (Reference P001). Sealed source masses are typically well documented by the source manufacturers and are verified during VE (References D005, M005, M007, and P001). Sealed source waste drums are typically shipped to LANL and received at TA-3 by the LANL Shipping and Receiving Organization and dispositioned to one of the sites listed in Section 4.2 for interim storage. The waste containers are stored pending CCP characterization activities and shipment to WIPP. The waste generating process for the subject waste streams is shown schematically in Attachment 3, Schematic of OSRP Process.

4.8 Waste Certification Procedures

Waste stream LA-OS-00-01.001 was historically managed under LANL's Project 2010 TWCP waste certification program (Reference P003). Currently, the three waste streams are certified under CCP procedures. In the CCP program under which the subject waste streams will be certified for shipment to WIPP, CCP-TP-005 (Reference 1) directs compilation of AK. CCP certifies TRU waste under the program described in CCP-PO-002 (Reference 16).

5.0 REQUIRED WASTE STREAM INFORMATION – LA-OS-00-01.001

This section presents the mandatory TRU waste stream specific information required by the WIPP-WAP (Reference 2) and the WIPP-WAC (Attachment 4) for LA-OS-00-01.001. Attachment 1 of procedure CCP-TP-005 (Reference 1) provides a list of the TRU waste stream information required to be developed as part of the AK record. The area of generation, waste stream volume, period of generation, prohibited items, waste packaging, and the physical, chemical, and radiological composition of the waste stream are described.

5.1 Area and Building of Generation

Most sealed sources in LA-OS-00-01.001 are recovered, consolidated as needed, and visually examined during packaging at off-site locations, after which they are shipped to LANL (Reference P004). Once received, they are examined to ensure the TID is intact and declared waste for future management at one or more of the LANL facilities identified in Section 4.2 (Reference P001). The OSRP is based at LANL TA-46.

5.2 Waste Stream Volume and Period of Generation

There are currently 1,010 55-gallon drums in LA-OS-00-01.00. Attachment 2 provides a projection of 1,128 containers to be added to the waste stream LA-OS-00-01.001 over the FY 2010 – 2025 period (References C020 and M055). Generation of waste stream LA-OS-00-01.001 began in December 2000 and the waste stream continues to be generated (References D004, M001, M031, and M133).

5.3 Waste Generating Activities

Waste generating activities are summarized in Section 4.7.1. There is no change in the chemical or physical form of a sealed source when it is declared waste. The sealed source is not altered when packaged for disposal (Reference P001). Sealed sources that are unaltered or undamaged but have evidence of leakage are placed in a "cigar tube" and verified free of contamination prior to being received by the OSRP recovery team. The OSRP recovery team will then encapsulate the cigar tube in a stainless steel overpack that is qualified as DOT special form as discussed in Section 5.5.2 (References C066 and P004).

5.4 Types of Wastes Generated

This section describes the process inputs, Waste Matrix Code assignment, radionuclide contaminants, and RCRA hazardous waste determinations for waste stream LA-OS-00-01.001. The waste stream is characterized based on knowledge of the materials and processes generating the waste, and physical descriptions of the waste.

5.4.1 Material Input Related to Physical Form

Attachment 5, Description of Typical OSRP Sealed Sources, summarizes the physical characteristics of typical LA-OS-00-01.001 sealed sources. The physical waste form is solid, inorganic, actinide metals or metal oxides in protective metal coverings (i.e., metal jackets or casings) (References D005, M005, M037, and M133). The metal coverings and other materials within the sealed sources includes several types of stainless- steel, Armco 17-4 PH steel, Be, Al, Ta, Pt-20%, Ir, Si-Na-Mg Oxide, W, Ag, Pd, Ni, Cu, Au, Cs, and Fe metals (References C024, D002, D005, D006, D010, D011, D012, D014, D015, M005, M012, M014, M025, M026, M027, M033, M034, M041, M042, M046, M047, M058, M062, and M133). This configuration is similar to packaging in a metal can. However, in the case of sealed sources, the "metal can" is hermetically sealed, and metal is the first and only material in contact with the actinides. Consequently, these sealed sources are Waste Material Type II.2 (Reference 7) with no gas generation potential.

5.4.1.1 Waste Matrix Code

Sealed sources are inorganic debris. The following waste designators are applied to the subject sealed source waste stream:

- Summary Category Group - S5000 (debris waste)
- Waste Matrix Code - S5100 (inorganic debris)

The S5100 waste matrix code is defined as waste estimated to be at least 80 percent by volume inorganic debris materials (Reference 9). All of the waste materials qualify as inorganic debris, including the actinide oxide, Be if present, encapsulating metals, and stainless- steel SFCs.

5.4.1.2 Waste Material Parameters (WMPs)

Waste stream LA-OS-00-01.001 is assigned the Waste Material Parameters (WMPs) Iron Based Metals/Alloys and Other Metals (OM). The waste constituents, including actinide oxide, Be, and encapsulating materials, are all described by the "Other Metals" WMP. Other WMPs expected for OSRP waste packaging materials are Stainless steel (ST), Plastic Packaging (PP), and Cellulosics (C) (Reference P001). The basis for estimation of these WMPs is manufacturer documentation collected for the sources and VE. The sources are packaged under the requirements for TRUCONs LA 120A and LA 220A (Reference 8).

In accordance with CCP-TP-005, WMPs shall be estimated on a wt% basis for the waste stream, documenting the assumptions and justification for deriving the estimated WMP. All TRU sources recovered by OSRP and shipped to WIPP are encapsulated in stainless steel. Most encapsulation is 304 austenitic stainless, but other Fe based alloys are occasionally encountered. All are Fe based alloys. SFCs developed and used by the OSRP are also made of 304 austenitic stainless. Metal composition of the source compounds are given in the International Atomic Energy Agency (IAEA) Certificate of

Competent Authority, which has been issued for the OSRP SFCs (M145). These materials are categorized as Iron Based Metals/Alloys and Other Metals as shown in Table 5-1, Waste Material Parameters - Metals. The evaluation shown in Table 5-1 is documented in a memorandum (included with Waste Form, Waste Material Parameters, Prohibited Items, and Packaging completed per CCP-TP-005) (Reference 1).

Table 5-1. Waste Material Parameters – Metals

Waste Material Parameter	Average Weight Percent	Weight Percent Range
Iron Based Metals/Alloys*	85%	0.0-100.0%
Other Metals**	15%	0.0-30.0%

* 304 SS, 316 SS, 8-18 SS
** See table of source compounds for metal composition (M145)

5.4.2 Radiological Characterization

Waste stream LA-OS-00-01.001 comprises actinide-bearing sealed sources, and the primary radionuclides contributing to the curie (Ci) content of LA-OS-00-01.001 are Pu-238, Pu-239, Am-241, Pu-240 (References D003, D031, M001, M036, M058, and M133). Cs-137 is also present in the sources. Other radionuclides are present as impurities or as a result of decay and nuclear interactions within the sources (References C003, D006, and D007). Although, AK has identified Co-60 as a potential component of the actinide lithium sources in waste stream LA-OS-00-01.001 (Reference D031). OSRP has not recovered any combination actinide Co-60-Li sources, nor does it have any plans to do so at this time. The radiological characterization of LA-OS-00-01.001 makes use of the extensive documentation and information on the nuclear material content of each source and the radionuclide distributions within the nuclear material.

AK is used in lieu of NDA because current WIPP-approved NDA equipment and techniques do not reliably measure the radioactive contents of sealed sources (Reference D007). In the atypical case where adequate AK information and documentation is not available for a particular sealed source, it will not be offered for disposal (References P002 and P004).

In general, the radiological characterization approach for the sealed source waste streams involves three steps. The first step is the determination and quantification of the primary radionuclide in a sealed source based on AK and data, as well as an estimated manufacturer date. The second step is the application of the specific radionuclide distribution and uncertainties that have been developed from AK for the primary radionuclide material in the source. The third step is the decay correction of the source material from the time of manufacture to the time of shipment for disposal (References C010, D007, and D008).

When determining the primary radionuclide and the quantity, values may be derived from a set of documents that are considered primary information sources. Primary information sources contain all of the necessary information to establish the source type (primary

radionuclide) and the quantity of radionuclide material, documents were qualified as suitable for this use by a peer review panel (References D007, D008, D031, and P002). The primary information source documents include:

- Source Certificates (References D031, M022, and M034)
- Source Shipping Data Forms (References D031, M007, M025, M026, M027, M038, and M237)
- NMMSS Database (References M006 and M020)
- Source Fabrication Documents (References D031, M007, M026, and M027)

Secondary information source documents may also be used to address the identification and quantity of the primary radionuclide in the sealed source, but are not sufficient alone. Secondary information may include the following:

- Source and Device Markings (usually etched or stamped on the source) (References D031 and M023)
- NRC Device Registry (References C038, C041, and M005)
- Source Manufacturer's Sales Catalogues (References D010, M133, and M210)
- Source Drawings or Photos (References C040, C041, D031, M012, M023, M025, M026, and M027)
- Source Physical Dimensions (measured at the time of recovery)
- NRC or Agreement State Licenses (References C014, M022, and M223)
- Source Manufacturer Databases (Reference D008)

The derivation of radionuclide distributions and quantification of uncertainties are based on analytical data sheets for different production batches of source materials, source manufacturers' certifications on individual sources that also include the isotopic content of the batch of source material, AK information on material types from WIPP approved LANL AK documents, and other data (References D009, D020, M021, M026, M028, M040, M050, and M051). The representative distributions were developed based on available analytical information for each sealed source type (i.e., Pu-238, Pu-239, Am-241, and Cs-137). The data, calculations, and results of the calculations to derive the representative radionuclide distributions and uncertainties are described in the LANL Technical Report "Radiological Characterization of Actinide Sealed Source Waste for Disposal at WIPP" and supporting calculation documents (References D007, D013, D016, D017, D018, D019, D021, M008, M009, M010, M011, and M133).

Summaries of the representative radionuclide distributions taken from the above technical report for both mass and activity are provided in Table 5-2, Summary of Representative Radionuclide Distribution and Associated Uncertainties for Pu-238 Sealed Sources, Table 5-3, Summary of Representative Radionuclide Distribution and Associated Uncertainties for Pu-239 Sealed Sources, and Table 5-4, Summary of Representative Radionuclide Distribution and Associated Uncertainties for Am-241 Sealed Sources, for Pu-238, Pu-239, and Am-241, respectively. The tables also provide the total uncertainty in the distributions. Table 5-5, Summary of Representative Radionuclide Distribution and Associated Uncertainties for Am-241/Be/Cs-137 Combination Sealed Sources, summarizes the isotopic distribution and associated uncertainties for combination sources.

Table 5-2. Summary of Representative Radionuclide Distribution and Associated Uncertainties for Pu-238 Sealed Sources

Radionuclide	Mass Fraction (gram of Isotope per gram of Pu in source)	Curie (Ci) of isotope per gram of Pu in source	Total Uncertainty
Pu-238	8.03E-1	1.39E+01	1.5%
Pu-239	1.61E-1	1.01E-04	3.2%
Pu-240	2.63E-2	6.05E-03	3.7%
Pu-241	6.90E-3	7.17E-01	23.0%
Pu-242	2.33E-3	9.25E-06	54.3%
Am-241	2.84E-4	9.84E-04	23.0%
U-233	NA	NA	NA
U-234	3.40E-9	2.15E-11	1.5%
U-235	4.25E-7	9.32E-13	3.2%
U-238	1.7E-4	5.77E-11	51.4%
Cs-137	2.31E-7	2.04E-05	81.5%
Sr-90	1.33E-7	1.83E-05	81.5%

Sources: References C022, M008, M009, and C027

Table 5-3. Summary of Representative Radionuclide Distribution and Associated Uncertainties for Pu-239 Sealed Sources

Radionuclide	Mass Fraction (gram of isotope per gram of Pu in source)	Curie (Ci) of isotope per gram of Pu in source	Total Uncertainty
Pu-238	1.48E-04	2.56E-03	150.8%
Pu-239	9.32E-01	5.86E-02	2.4%
Pu-240	6.50E-02	1.50E-02	23.7%
Pu-241	2.44E-03	2.53E-01	64.2%
Pu-242	3.62E-04	1.44E-06	244.5%
Am-241	2.84E-04	9.84E-04	64.2%
U-233	NA	NA	NA
U-234	3.40E-09	2.15E-11	150.8%
U-235	4.25E-07	9.32E-13	2.4%
U-238	1.70E-04	5.77E-11	51.4%
Cs-137	2.31E-07	2.04E-05	81.53%
Sr-90	1.33E-07	1.83E-05	81.53%

Source: References C034, M008, M010, and C027

Table 5-4. Summary of Representative Radionuclide Distribution and Associated Uncertainties for Am-241 Sealed Sources

Radionuclide	Mass Fraction (gram of isotope per gram of Am-241 in source)	Curie (Ci) of isotope per gram of Am-241 in source	Total Uncertainty
Am-241	1.00E+00	3.47E+00	1.4%
Pu-238	2.06E-06	3.56E-05	55.6%
Pu-239	2.76E-03	1.74E-04	54.4%
Pu-240	5.57E-04	1.28E-04	54.5%
Pu-241	3.98E-05	4.14E-03	54.4%
Pu-242	1.20E-05	4.75E-08	55.6%
U-233	NA	NA	NA
U-234	1.15E-11	7.26E-14	55.6%
U-235	1.44E-09	3.14E-15	54.4%
U-238	5.73E-07	1.95E-13	74.8%
Cs-137	7.80E-10	6.87E-08	98.0%
Sr-90	4.48E-10	6.18E-08	98.0%

Source: References C033, D007, M008, M011, and C027

Table 5-5. Summary of Representative Radionuclide Distribution and Associated Uncertainties for Am-241/Be/Cs-137 Combination Sealed Sources

Radionuclide	Mass Fraction (gram of isotope per gram of Am-241 in source)	Curie (Ci) of isotope per gram of Am-241 in source	Total Uncertainty
Am-241	1.00E+00	3.47E+00	1.4%
Pu-238	1.85E-06	3.20E-05	55.6%
Pu-239	2.84E-03	1.79E-04	54.4%
Pu-240	5.72E-04	1.31E-04	54.5%
Pu-241	1.74E-05	1.81E-03	54.4%
Pu-242	1.23E-05	4.89E-08	55.6%
U-233	NA	NA	NA
U-234	2.73E-07	1.73E-09	55.6%
U-235	1.43E-06	3.13E-12	54.4%
U-238	5.89E-07	2.00E-13	74.8%
Cs-137	8.96E-03	7.88E-01	25.5%
Sr-90	1.03E-06	1.42E-04	25.5%

Source: References D007, M008, M011, and C027
Note: An assumed Source Date of Birth of 1/1/1990 (ΔT = 16.75yr.) was used to allow decay and in-growth.

The decay of the radioactive material in a sealed source begins at the time of manufacture and produces a variety of daughter radionuclides, including U-233. Each type of source (i.e., Am-241, Pu-238, Pu-239) decays to common and unique radionuclides. To account for radioactive decay of the materials in the sealed sources from the time of manufacture to the time of shipment, the OSRP uses a commercially developed software product (Reference D007). This software requires entry of an initial radionuclide quantity and a beginning and end date for the decay period. The output includes those radionuclides produced by decay processes and the activity present after the specified period of decay. The contribution of radionuclides from fission and activation were found to be very small relative to uncertainties in material impurity concentrations (References M008, M009, M010, M011, M050, and M133). Also, the half lives of the TRU isotopes prevent significant decreases in their quantities during decay correction.

Completed characterization reports and supporting documentation are submitted with Radiological Characterization BDRs for certification (Reference P002).

Applying the isotopic ratios shown above in Tables 5-2 through 5-5, Pu-239 is the prevalent radionuclide for the waste stream LA-OS-00-01.001 at approximately 77.2 wt%, followed by Am-241 at approximately 18.5 wt%, and Pu-238 at approximately 4.3 wt%. Cs-137 is less than 1 wt% of waste stream LA-OS-00-01.001 (Reference M036 and M133).

5.4.3 Chemical Content Identification – Hazardous Constituents

The chemicals present in waste stream LA-OS-00-01.001 are derived from manufacturing information and include: Pu or Am metal or oxides, salts (chloride, Cs salts, or aluminosilicates), Be, Li (hydroxide, hydride, metal, or oxide) or other light metals, and the

metal jackets (usually welded tantalum or stainless steel) (Attachment 5) (References C035, D002, D005, D031, M005, and M133). Low-energy gamma Am sources also contain oxides of silicon, sodium, and magnesium (Reference D002).

The WIPP-WAP allows for exemption from HSG sampling and analysis of every container in this waste stream, providing that the following requirements are met:

1) Waste container contents meet the definition of sealed sources per 10 Code of Federal Regulations (CFR) 30.4, *Rules of General Applicability to Domestic Licensing* (Reference 13), and 10 CFR 835.2, *Occupational Radiation Protection* (References 14, D005, D008, M021, M022, M023, M024, M025, M031, M053, P001, and P004)

2) Sealed sources are "special form" material as defined in 49 CFR 173.403, *Shippers – General Requirements for Shipments and Packagings* (References 15, C007, D011, D012, M022, M031, M034, and M045), as verified at the time of recovery (Reference P004)

3) Sealed sources are verified by contamination survey to be non-leaking (References C066, M022, M024, M025, M027, M032, and P001)

4) Sealed sources do not contain VOCs or VOC-bearing materials as constituents and the outer casing of each sealed source is a non-VOC bearing material (References C001, D002, D014, M003, M004, M005, M031, and M033)

5) Supplemental AK must include sufficient information to derive adequate understanding of source construction and history to ensure no VOCs are present, as described in the WIPP-WAP

Requirement 1 is satisfied before sources are packaged based on review of source manufacturing information (References D002, D005, and M005). No other radioactive or chemical waste materials are added during packaging, and the sources are not treated or cleaned with any form of solvents between recovery and packaging (Reference P001). Any solvents used in the manufacturing process were used to clean the sources prior to non-destructive testing. The sources were then wiped clean so that only minimal residues could have been present at the time the source was shipped. For applicable drums, other requirements related to VE also apply and are addressed on VE BDRs.

Waste containers that do not meet Requirements 1 through 5 must undergo HSG sampling and analysis. Due to former (pre-2006) WIPP-WAP requirements, HSG samples were taken from aged drums containing TRUPACT-II-approved packaging materials without radioactive sealed sources (References C015, D001, M061, and P005). Acetone, chloromethane, cyclohexane, and toluene were detected in some samples, but none of these gases were present in excess of CCP-PO-001 Program Required Quantitation Limits (PRQL) (References C015, D001, M002, and M061). This HSG sampling shows that the drum packaging contents, by themselves, do not generate significant quantities of flammable VOCs. Table 5-6, Conservative LANL Sealed Source Packaging Container

Headspace Gas VOC Concentrations for use in WIPP Waste Data System (WDS), formerly known as the WIPP Waste Information System (WWIS), shows the required packaging VOC source term resulting from this sampling effort.

Table 5-6. Conservative LANL Sealed Source Packaging Container Headspace Gas VOC Concentrations for use in WIPP Waste Data System (WDS)

Compound	Concentration (parts per million by volume [ppmv])
Acetone	18.35
Benzene	1.96
Bromoform	2.25
Butanol (n-butyl alcohol)	26.79
Carbon Tetrachloride	1.5
Chlorobenzene	2.56
Chloromethane	3.22
Chloroform	1.97
Cyclohexane	2.17
1,1-Dichloroethane	1.65
1,2-Dichloroethane	1.81
1,1-Dichloroethylene	2.17
cis-1,2-Dichloroethylene	2.14
trans-1,2-Dichloroethylene	3.39
Ethyl Benzene	3.22
Ethyl Ether	2.72
Methanol	26.73
Methyl Ethyl Ketone	16.44
Methyl Isobutyl Ketone	37.67
Methylene Chloride	1.07
1,1,2,2-Tetrachloroethane	5.81
Tetrachloroethylene	4.78
Toluene	3.47
1,1,1-Trichloroethane	2.04
Trichloroethylene	1.43
1,1,2-Trichloro-1,2,2-trifluoroethane	1.61
1,3,5-Trimethylbenzene	2.05
1,2,4-Trimethylbenzene	2.42
P/m-Xylene	4.87
o-Xylene	2.87
Hydrogen	0.09 volume percent (vol%)
Methane	0.06 vol%
Source: References C015, D001, M002, and M061	

5.4.3.1 F-Listed Constituents

Waste stream LA-OS-00-01.001 is not mixed with or derived from the treatment of a waste listed in 40 CFR 261, *Identification and Listing of Hazardous Waste*, Subpart D, as a hazardous waste from non-specific sources (40 CFR 261.31) (Reference 11).

Waste stream LA-OS-00-01.001 is not hazardous waste due to the presence of F-listed solvents because there are no solvents present in the manufacturing or waste generation

processes (References C001, D002, and D003). Acetone, chloromethane, cyclohexane, and toluene were detected in some samples but are associated with packaging materials and are in concentrations below PRQLs (Reference D001 and M001).

5.4.3.2 Toxicity Characteristic Constituents

Sealed sources in waste stream LA-OS-00-01.001 do not exhibit the characteristic of toxicity for metals as defined in 40 CFR 261, Subpart C (40 CFR 216.24) (Reference 11). This waste stream does not contain any constituents that qualify as toxicity characteristic hazardous waste (References C001, C002, D002, D003, M003, M004, M033, and M133). Analytical data on typical source jacket material (stainless steel and silver solder which is 85 percent silver and 15 percent manganese) do not exceed the toxicity characteristic leaching procedure (TCLP) concentrations that would meet the RCRA characteristic of toxicity for metals (Reference D002).

Lead may be present in POC package assemblies as shielding. Lead as packaging is not considered waste and is not hazardous waste (References M039, P001, and P004).

Waste stream LA-OS-00-01.001 does not contain solvents or any other constituents that qualify as toxicity characteristic waste; therefore, LA-OS-00-01.001 does not exhibit the characteristic of toxicity for organic compounds as defined in 40 CFR 261, Subpart C (40 CFR 261.24) (References 11, C001, C002, D002, D003, M003, M004, M033, and M133).

5.4.3.3 U- and P- Listed Constituents

Waste stream LA-OS-00-01.001 is not mixed with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue thereof (40 CFR 261.33) (Reference 11). Consequently, P- and U-listed EPA hazardous waste numbers are not assigned to this waste stream.

Some of the sources contain Be metal that is sealed within the source. The Be wt% in the waste does not exceed 1 wt% for any payload container (Reference M060). The physical form of the Be is typically powder or sintered solid (References D005 and D011). However, the U.S. EPA has concurred that Be-containing sealed sources are not P- listed because the Be is not a sole active ingredient (References C001 and D002).

5.4.3.4 K-Listed Constituents

Waste stream LA-OS-00-01.001 has been determined not to be hazardous waste (References C001, D002, M003, M004, and M033), including P- or U-listed waste. AK documentation is reviewed to ensure that the sealed sources waste stream does not include P- or U- listed waste.

Waste stream LA-OS-00-01.001 does not contain hazardous waste due to the specific sources listed in 40 CFR 261.32 and therefore is not a K-listed waste (References 11, C001, and D002).

5.4.3.5 Ignitables, Corrosives, Reactives

Sealed sources constitute closed systems (solid isotopic sources sealed in metal jackets or casings) that preclude the introduction of extraneous materials (such as liquids) that would be ignitable, reactive, or corrosive (Reference D005 and M005). The waste is not ignitable, reactive, or corrosive (References C001, D002, D003, and M133).

Ignitability

A solid waste exhibits the characteristic of ignitability as defined in 40 CFR 261.21 if it has any of the following properties: 1) It is a flammable liquid (flash point less than 60°C), 2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical change, 3) It is an ignitable compressed gas, or 4) It is an oxidizer (a substance such as a chlorate, permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter) (Reference 11).

Waste stream LA-OS-00-01.001 does not meet the definition of ignitibility as defined in 40 CFR 261.21 (Reference 11). Sealed sources constitute closed systems (manufactured, solid isotopic sources sealed in metal jackets or metal casings) that preclude the introduction of extraneous materials (such as liquids) that would be ignitable (Reference D005 and M005). The sources will not cause fire through friction, absorption of moisture, or spontaneous chemical changes. The sources are not compressed gases or oxidizers (References C001, D002, D003, and M133). Therefore, waste stream LA-OS-00-01.001 is not assigned EPA hazardous waste number D001.

Corrosivity

A solid waste exhibits the characteristic of corrosivity as defined in 40 CFR 261.22 if it has any of the following properties: 1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, or 2) It is a liquid and corrodes steel at a rate greater than 0.25 inches per year (Reference 11).

Waste stream LA-OS-00-01.001 does not meet the definition of corrosivity as defined in 40 CFR 261.22 (Reference 11). Sealed sources constitute closed systems (manufactured, solid isotopic sources sealed in metal jackets or metal casings) that preclude the introduction of extraneous materials (such as liquids) that would be corrosive (References D005 and M005). Therefore, LA-OS-00-01.001 is not assigned EPA hazardous waste number D002.

Reactivity

A solid waste exhibits the characteristic of reactivity as defined in 40 CFR 261.23 if it has any of the following properties: 1) It is normally unstable and readily undergoes violent change without detonating, 2) It reacts violently with water, 3) It forms potentially explosive mixtures with water, 4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment, 5) It is a

cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment, 6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement, 7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure, or 8) It is a forbidden explosive, or Class A or Class B explosive as defined in 49 CFR 173, *Shippers – General Requirements for Shipments and Packagings* (References 11 and 15).

Lithium is present in some of the sources in this waste stream. All lithium sources are doubly encapsulated, with the nuclide/lithium mixture contained in a welded stainless steel cylinder additionally encapsulated in an outer welded stainless steel capsule. The EPA allows the use of best engineering judgment when determining if a material is reactive. Best engineering judgment includes observation of the waste material and the use of manufacture information. Based on the lithium containing sources construction, they would not react violently with water or generate toxic gases harmful to human health or the environment. In addition, the lithium sources are not expected to rupture or react violently if exposed to a strong initiating source or if heated under confinement. The sources as manufactured articles are not reactive which is substantiated by the fact that manufacturers do not manage these sources as reactive (Reference D031). Conservative calculations addressing the potential for radiolytic decay estimate that the sources could withstand approximately 750 degrees Fahrenheit of heat before a rupture is possible. A similar observation and position was made for small arms ammunition (i.e., the ammunition was exposed to 160 degrees Fahrenheit of heat for 48 hours and showed no evidence of detonation or explosion) and the EPA concurred that the material was nonreactive. Further, the sources are packaged in OSRP SFCs, which are tested to withstand 800 degrees Celsius without leaking and meet other requirements in 49 CFR. Therefore this waste is not reactive as defined in 40 CFR 261.23, and is not assigned EPA hazardous waste number D003 (References 11, 16, C032, C039, and D031).

VE performed during packaging of the sealed sources into drums is used to verify the absence of ignitable, reactive, or corrosive wastes, including liquids (References M031 and P001).

5.4.4 Polychlorinated Biphenyls

Waste stream LA-OS-00-01.001 does not contain polychlorinated biphenyls (PCBs) greater than 50 parts per million (ppm), and therefore is not regulated as a Toxic Substance Control Act (TSCA) waste under 40 CFR 761 (Reference 18).

OSRP review of manufacturing documentation verifies the absence of PCBs in waste stream LA-OS-00-01.001 (References M005 and D005). Sealed sources are strictly inorganic and do not contain organic material, such as PCBs (Reference D002). In addition, OSRP VE personnel verify the absence of PCBs and free liquids in waste containers during packaging as documented on the Container Packaging and VE Data Record (References M031 and P001).

5.4.5 Prohibited Items

Prohibited items have not been identified for this waste stream. OSRP VE personnel verify that there are no prohibited items in containers in LA-OS-00-01.001 (References M031 and P001).

Compressed Gases

Sealed sources are produced from a closed system (manufactured, isotopic sources sealed in metal jackets or casings) that precludes the introduction of extraneous materials, such as pressure vessels containing compressed gases (References D005 and M005). VE performed during packaging of OSRP sealed sources into drums explicitly verifies the absence of "potentially pressurized containers" (References M031 and P001).

Liquids

There are no liquids in the waste stream LA-OS-00-01.001 (References D005 and M005). VE performed during packaging of OSRP sealed sources into drums verifies the absence of liquids (Reference P001).

Non-radionuclide Pyrophorics

OSRP review of manufacturer documentation verifies the absence of non-radionuclide pyrophorics in the waste stream LA-OS-00-01.001 (References D005 and M005). VE performed during packaging of OSRP sealed sources into drums verifies the absence of any indicators of non-radionuclide pyrophorics (Reference P001).

Sealed Containers Greater Than 4 Liters in Volume

For waste stream LA-OS-00-01.001, each sealed source is or will be contained in a rigid sealed container, less than or equal to four liters in size. VE during packaging confirms the absence of sealed containers greater than four liters (Reference P001). OSRP sealed sources are Waste Material Type II.2 (i.e., solid inorganic materials packaged with a metal container as the innermost layer of confinement [Reference 7]).

Explosives

OSRP review of manufacturer documentation verifies the absence of explosives and explosive mixtures in the waste stream LA-OS-00-01.001 (References D005 and M005). VE performed during packaging of waste stream LA-OS-00-01.001 into drums verifies the absence of any indicators of explosives (Reference P001).

5.5 Waste Packaging

5.5.1 Payload Containers

Sealed sources may be consolidated in- metal cans, SFCs, or Lexan (plastic polymer) containers then placed into the 55-gallon metal POC configuration drums with or without fiberboard dunnage, aluminum bracing/blocking, or neutron-shielding material (depending

upon packaging configuration driven by shielding needs) (References C008, D022, and P001). The packaging configurations used for POCs include a standard pipe overpack with 12-inch pipe component, S100 overpack, S200 overpack, and S300 overpack (References C016 and P001). Drums are inspected upon receipt and again immediately prior to packaging (Reference P001).

5.5.2 Layers of Confinement

Waste stream LA-OS-00-01.001 is packaged in 55-gallon POC configuration drums without the use of plastic bags or sheeting. In the case of leaking sources, the source is placed in a "cigar tube" and verified free of contamination prior to being received by the OSRP recovery team. The OSRP recovery team will then encapsulate the cigar tube in a stainless steel SFC (References C006 and P001). Cigar tubes are capped, stainless steel tubes of varying size (less than four liters); the size of the cigar tube is dependent on the size of the leaking source. The metal POC has an approved filter vent installed. Shielding layers are not sealed. Lexan (plastic polymer) containers that may be used for special form sealed sources (in lieu of SFCs) do not qualify as a layer of confinement due to multiple holes in the cylinders. Rigid liners are procured with a minimum one half-inch hole, so these are not considered a layer of confinement. Therefore, the maximum possible number of layers of confinement is one in the POC configuration.

5.5.3 Filter Vents

Filter vents must be present on both the external payload container or drum and on the internal POC (Reference P001). OSRP VE personnel are required to record the model, serial number, and manufacture date of these filter vents on the Container Packaging and VE Data Record (References M031 and P001).

5.5.4 Waste Identifiers

Each drum into which sources are packaged has a unique numerical identifier that is entered on the VE Data Record (Reference P001).

6.0 REQUIRED WASTE STREAM INFORMATION LA-OS-00-03

This section presents the mandatory TRU waste stream specific information required by the WIPP-WAP (Reference 2) and the WIPP-WAC (Attachment 4) for LA-OS-00-03. Attachment 1 of procedure CCP-TP-005 (Reference 1) provides a list of the TRU waste stream information required as part of the AK record. The area of generation, waste stream volume, period of generation, prohibited items, waste packaging, and the physical, chemical, and radiological composition of the waste stream are described.

6.1 Area and Building of Generation

Most sealed sources in LA-OS-00-03 are recovered, consolidated as needed, and visually examined during packaging at off-site locations, after which they are shipped to LANL (Reference P004). Once received, they are examined to ensure the TID is intact and declared waste for future management at one or more of the LANL facilities identified in Section 4.2 (Reference P001). The OSRP is based at LANL TA-46.

6.2 Waste Stream Volume and Period of Generation

There are 70 55-gallon drums in waste stream LA-OS-00-03 (References C021 and M067). Generation of waste stream LA-OS-00-03 began in December 2005 and ended in March 2006. Currently, there is no anticipation of future generation of this waste stream (References D004 and M031).

6.3 Waste Generating Activities

Waste generating activities are summarized in Section 4.7.2. There is no change in the chemical or physical form of the source material when it is declared to be waste, nor is a sealed source altered in any manner when packaged for disposal as part of this waste stream (Reference P001).

6.4 Type of Wastes Generated

This section describes the process inputs, Waste Matrix Code assignment, radionuclide contaminants, and RCRA hazardous waste determinations for waste stream LA-OS-00-03. The waste stream is characterized based on knowledge of the materials, knowledge of the processes generating the waste, and physical descriptions of the waste.

6.4.1 Material Input Related to Physical Form

Attachment 5 summarizes the physical characteristics of typical LA-OS-00-03 sealed sources. The physical waste form is solid, inorganic, actinide metals or metal oxides in protective metal coverings (i.e., metal encapsulating layer), see Section 5.4.1 (References D005, D027, and M005). Consequently, these sealed sources are Waste Material Type II.2 (Reference 7).

6.4.1.1 Waste Matrix Code

Sealed sources are inorganic. The following waste designators are applied to the subject sealed source waste stream:

- Summary Category Group - S5000 (debris waste)
- Waste Matrix Code - S5100 (inorganic debris)

The S5100 waste matrix code is defined as waste estimated to be at least 80 percent by volume inorganic debris materials (Reference 9). All of the waste materials qualify as inorganic debris, including the actinide oxide, encapsulating metals.

6.4.1.2 Waste Material Parameters

Waste stream LA-OS-00-03 is assigned the WMPs Iron Based Metals/Alloys and OM. The basis for estimation of this WMP is manufacturer documentation collected for the sources and VE at the time of packaging. In some cases, plastic external to the sealed sources may also be present at <1 wt% (Reference M067). They are packaged under the requirements for TRUCON LA 120B/LA 220B (Reference 8).

In accordance with CCP-TP-005, WMPs shall be estimated on a wt% basis for the waste stream, documenting the assumptions and justification for deriving the estimated WMP. The sources are made from Am-241 embedded in a gold foil matrix. The thin, gold americium foil is then sandwiched between a silver backing and a palladium laminate. Given the foil composition and the activities of the various containers for disposal, the excess mass of the waste material can be assumed to be made up of metal (iron based) source bracketing (holder) used for enclosure and housing of the foils, and the enclosure cans (References C036 and C063).

These materials are categorized as Iron Based Metals/Alloys as shown in Table 6-1, Waste Material Parameters – Metals and Plastic. The evaluation shown in Table 6-1 is documented in a memorandum (included with Waste Form, Waste Material Parameters, Prohibited Items, and Packaging completed per CCP-TP-005) (Reference 1).

Table 6-1. Waste Material Parameters – Metals and Plastic

Waste Material Parameter	Average Weight Percent	Weight Percent Range
Iron Based Metals/Alloys	99.8%	0.0 - 100.0%
Other Metals	<1.0%	0.0 - 10.0%
Plastic[1]	<1.0%	0.0 - <1.0%

[1] Per telcon with recovery team member and logbook review (Reference C036)

6.4.2 Radiological Characterization

Waste stream LA-OS-00-03 comprises actinide-bearing sealed sources and the primary radionuclide contributing to the Ci content of the waste stream LA-OS-00-03 is Am- 241, consistent with the Am-241 sealed source isotope distribution shown in Table 5-4 (References C033, D007, M008, and M011). Other radionuclides are present as

impurities or as a result of decay and nuclear interactions within the sources (References C003, D007, and M011). The radiological characterization of LA-OS-00-03 makes use of the extensive documentation and information on the nuclear material content of each source and information and data on the radionuclide distributions within the nuclear material (Reference C025). The two most prevalent radionuclides for this waste stream are Am-241 and Pu-239. Americium-241 is a byproduct of Pu-239 production in defense reactors and it was also recovered from plutonium components of weapons, so it should be expected that the Pu-239 impurity is the second most prevalent radionuclide (References C053 and D025).

As stated in Section 4.7.1, the waste stream does not meet the WIPP-WAC definition of high Pu content material/waste.

6.4.3 Chemical Content Identification – Hazardous Constituents

The chemicals present in waste stream LA-OS-00-03 are derived from manufacturing information and include: Am metal or oxides, the metal foil which consists primarily of Au layers with a Ag backing (for the toxicity analysis of Ag, see Section 6.4.3.4), and Pd laminates (Attachment 5) (References C063, D002, D005, D026, D027, and M005). No additional hazardous constituents are expected from these sealed sources which have not been placed in SFCs. This waste stream also meets the WIPP-WAP, requirements for exemption from HSG sampling as summarized in section 5.4.3 (References C001, D026, M021, M031, and M032).

6.4.3.1 F-Listed Constituents

Waste stream LA-OS-00-03 is not mixed with or derived from the treatment of a waste listed in 40 CFR 261, Subpart D, as a hazardous waste from non-specific sources (40 CFR 261.31) (Reference 11).

Waste stream LA-OS-00-03 is not hazardous waste due to the presence of F-listed solvents because there are no solvents present in the manufacturing or waste generation processes (References C001, D002, and D003).

6.4.3.2 Toxicity Characteristic Constituents

Sealed sources in waste stream LA-OS-00-03 do not exhibit the characteristic of toxicity for metals as defined in 40 CFR 261, Subpart C (40 CFR 216.24) (Reference 11). Sealed sources in waste stream LA-OS-00-03 contain silver, which is a toxicity characteristic hazardous waste constituent (References C001, C002, D002, D003, M003, M004, and M033). Manufacturing data indicate that the radionuclide is sandwiched between layers of gold that total up to 0.0009-inch thickness as well as a silver layer that may be up to 0.009-inch thickness (References C063, D026, D027, and M073). In single foils, a layer of gold or palladium flash plating may also be present (References D026 and D027). However, TCLP data obtained by LANL show no detectable silver leachate present in the representative source and source holder configurations sampled (Reference M072), which

is consistent with the special form nature of the foils. Also, gold and palladium are not RCRA toxicity characteristic metals. Therefore, these sources are not RCRA hazardous for toxicity characteristic metals.

Waste stream LA-OS-00-03 does not contain solvents or any other constituents that qualify as toxicity characteristic hazardous waste; therefore, LA-OS-00-03 does not exhibit the characteristic of toxicity for organic compounds as defined in 40 CFR 261, Subpart C (40 CFR 216.24) (References 11, C001, C002, C025, D002, D026, D027, M003, M004, and M033).

6.4.3.3 U- and P- Listed Constituents

Waste stream LA-OS-00-03 is not mixed with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue thereof (40 CFR 261.33) (Reference 11). No P- or U-listed constituents are anticipated in this waste stream, including Be powder (References D026 and D027). Consequently, P- and U-listed EPA hazardous waste numbers are not assigned to this waste stream.

Waste stream LA-OS-00-03 has been determined not to be hazardous waste (References C001, D002, M003, M004, and M033), including P- or U-listed waste. AK documentation is reviewed to ensure that the LA-OS-00-03 waste stream does not include P- or U- listed waste.

6.4.3.4 K-Listed Constituents

Waste stream LA-OS-00-03 does not contain hazardous waste due to the specific sources listed in 40 CFR 261.32 and therefore is not a K-listed waste (References 11, C001, and D002).

6.4.3.5 Ignitables, Corrosives, Reactives

Sealed sources constitute closed systems (References D005 and M005) that preclude the introduction of extraneous materials (such as liquids) that would be ignitable, reactive, or corrosive. The waste itself is not ignitable, reactive, or corrosive (References C001, D002, and D003).

VE performed during packaging of the sealed sources into drums is used to verify the absence of any indicators of ignitable, reactive, or corrosive wastes, including liquids (References M031 and P001).

Ignitability

A solid waste exhibits the characteristic of ignitability as defined in 40 CFR 261.21 if it has any of the following properties: 1) It is a flammable liquid (flash point less than 60°C), 2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical change, 3) It is an ignitable compressed gas, or 4) It is an oxidizer (a substance such as a chlorate,

permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter) (Reference 11).

Waste stream LA-OS-00-03 does not meet the definition of ignitibility as defined in 40 CFR 261.21 (Reference 11). Sealed sources constitute closed systems (manufactured, solid isotopic sources sealed in metal jackets or metal casings) that preclude the introduction of extraneous materials (such as liquids) that would be ignitable (References D005 and M005). The sources will not cause fire through friction, absorption of moisture, or spontaneous chemical changes. The sources are not compressed gases or oxidizers (References C001, D002, D003, and M133). Therefore, waste stream LA-OS-00-03 is not assigned EPA hazardous waste number D001.

Corrosivity

A solid waste exhibits the characteristic of corrosivity as defined in 40 CFR 261.22 if it has any of the following properties: 1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, or 2) It is a liquid and corrodes steel at a rate greater than 0.25 inches per year (Reference 11).

Waste stream LA-OS-00-03 does not meet the definition of corrosivity as defined in 40 CFR 261.22 (Reference 11). Sealed sources constitute closed systems (manufactured, solid isotopic sources sealed in metal jackets or metal casings) that preclude the introduction of extraneous materials (such as liquids) that would be corrosive (References D005 and M005). Therefore, LA-OS-00-03 is not assigned EPA hazardous waste number D002.

Reactivity

A solid waste exhibits the characteristic of reactivity as defined in 40 CFR 261.23 if it has any of the following properties: 1) It is normally unstable and readily undergoes violent change without detonating, 2) It reacts violently with water, 3) It forms potentially explosive mixtures with water, 4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment, 5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment, 6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement, 7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure, or 8) It is a forbidden explosive, or Class A or Class B explosive as defined in 49 CFR 173 (References 11 and 15). Waste stream LA-OS-00-03 does not meet the definition of ignitibility reactivity, or corrosivity as defined in 40 CFR 261.21-23 (Reference 11). Sealed sources constitute closed systems (manufactured, solid isotopic sources sealed in a metal jackets or metal casings) (References D005 and M005) that preclude the introduction of extraneous materials (such as liquids) that would be ignitable, reactive, or corrosive. The sources will not cause fire through friction absorption of moisture or spontaneous chemical changes. The sources are not compressed gases or oxidizers. The sources will not react violently with water, from potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The

sources are not sulfide or cyanide bearing waste and not capable of detonation or explosive reaction. The waste is therefore not ignitable, reactive, or corrosive (References C001, D002, D003, and M133). Therefore, this waste is not reactive as defined in 40 CFR 216.23, and is not assigned EPA hazardous waste number D003.

6.4.4 Polychlorinated Biphenyls

Waste stream LA-OS-00-03 does not contain PCBs greater than 50 ppm, and therefore is not regulated as a TSCA waste under 40 CFR 761 (Reference 18).

OSRP review of manufacturer documentation verifies the absence of PCBs in LA-OS-00-03 (References D026, D027, and M072). Sealed sources are strictly inorganic and do not contain any organic material, including PCBs (Reference D002). In addition, OSRP VE personnel verify the absence of PCBs and liquids in waste containers during packaging (Reference P001), as documented on the Container Packaging and VE Data Record (Reference M031).

6.4.5 Prohibited Items

OSRP VE personnel verify that there are no prohibited items in containers in the waste stream LA-OS-00-03 (References M031 and P001).

Compressed Gases

Sealed sources are produced from a closed system (manufactured, isotopic sources sealed in metal jackets or casings) that precludes the introduction of extraneous materials, such as pressure vessels containing compressed gases (References D026, D027, and M072). VE, performed during packaging of sealed sources into drums, is used to verify the absence of "potentially pressurized containers" (References M031 and P001).

Liquids

There are no liquids in the waste stream LA-OS-00-03 (References D026 and D027). VE performed during packaging of waste stream LA-OS-00-03 into drums verifies the absence of liquids (Reference P001).

Non-radionuclide Pyrophorics

OSRP review of manufacturer documentation verifies the absence of non-radionuclide pyrophorics in the waste stream LA-OS-00-03 (References D026 and D027). VE performed during packaging of waste stream LA-OS-00-03 into drums verifies the absence of any indicators of non-radionuclide pyrophorics (Reference P001).

Sealed Containers Greater Than 4 Liters in Volume

Sealed sources that are special form are packaged directly in 55-gallon drums with no need for sealed containers. In some cases, sources may have been placed in 1-gallon metal paint cans vented with minimum one-half-inch holes so that they are not sealed or confining. VE during packaging confirms the absence of sealed containers greater than

four liters (Reference P001). Waste stream LA-OS-00-03 is Waste Material Type II.2 (i.e., solid inorganic materials packaged with a metal container as the innermost layer of confinement [Reference 7]).

Explosives

OSRP review of manufacturer documentation verifies the absence of explosives and explosive mixtures in the waste stream LA-OS-00-03 (References D026 and D027). VE performed during packaging of OSRP sealed sources into drums verifies the absence of any indicators of explosives (Reference P001).

6.5 Waste Packaging

6.5.1 Payload Containers

Waste stream LA-OS-00-03 is packaged directly in standard 55-gallon drums (References P001 and P007).

6.5.2 Layers of Confinement

Waste stream LA-OS-00-03 is directly packaged into 55-gallon drums with up to two plastic liner bags closed using a horse tail method (References P001 and P007). Sources may be packaged in metal cans that have been vented with a minimum one-half-inch hole so they would not be considered a layer of confinement. Therefore, the maximum possible number of layers of confinement is two in the direct-packaged configuration.

6.5.3 Filter vents

Filter vents must be present on the external payload container or drum (Reference P001). OSRP VE personnel are required to record the model, serial number, and manufacture date of these filter vents on the Container Packaging and VE Data Record (References M031 and P001).

6.5.4 Waste Identifiers

Each drum into which sources are packaged has a unique numerical identifier that is entered on the Data Record (Reference P001).

7.0 REQUIRED WASTE STREAM INFORMATION LA-OS-00-04

This section presents the mandatory TRU waste stream specific information required by the WIPP-WAP (Reference 2) and the WIPP-WAC (Attachment 4) for LA-OS-00-04. Attachment 1 of procedure CCP-TP-005 (Reference 1) provides a list of the TRU waste stream information required to be developed as part of the AK record. The area of generation, waste stream volume, period of generation, prohibited items, waste packaging, and the physical, chemical, and radiological composition of the waste stream are described.

7.1 Area and Building of Generation

As discussed in Section 4.1, the OSRP is based at LANL TA-46. However, most sealed sources in the subject waste stream are recovered, consolidated as needed, and visually examined during packaging at off-site locations, after which they are shipped to LANL (Reference P004). Once received, they are examined to ensure the TID is intact and declared waste for future management at one or more of the LANL facilities identified in Section 4.2 (Reference P001).

7.2 Waste Stream Volume and Period of Generation

Waste stream LA-OS-00-04 currently contains a sufficient number of sources to fill one drum. OSRP personnel estimate that projected generation is about one drum per year for this waste stream (Reference C024). The waste stream begins when the first drum was generated on October 12, 2011, through present.

7.3 Waste Generating Activities

Waste generating activities are summarized in Section 4.7.2. There is no change in the chemical or physical form of the source material when it is declared waste, nor is a sealed source altered in any manner when packaged for disposal as part of this waste stream (Reference P001). Sealed sources are overpacked in stainless steel SFC that is qualified as DOT special form (Reference P004).

7.4 Types of Wastes Generated

This section describes the process inputs, Waste Matrix Code assignment, radionuclide contaminants, and RCRA hazardous waste determination for this waste stream. The waste is characterized based on knowledge of the materials, knowledge of the waste-generating processes, and physical descriptions of the waste.

7.4.1 Material Input Related to Physical Form

The physical materials found in the subject waste stream are identical to those described in Section 5.4.1, with the exception of Cd plated Cu in the source encapsulating layers and potentially Pb used in the source holders or otherwise associated with the source in such a

way that it is difficult to remove without damaging the source (References C024, M058, and M062).

7.4.1.1 Waste Matrix Code

Sealed sources are inorganic. The following waste designators are applied to the subject sealed source waste stream:

- Summary Category Group - S5000 (debris waste)
- Waste Matrix Code - S5100 (inorganic debris)

The S5100 waste matrix code is defined as waste estimated to be at least 80 percent by volume inorganic debris materials (Reference 9). All of the waste materials qualify as inorganic debris, including the actinide oxide, and encapsulating metals.

7.4.1.2 Waste Material Parameters

Waste stream LA-OS-00-04 is assigned the WMPs Iron Based Metals/Alloys and OM. The basis for estimation of this WMP is manufacturer documentation collected for the sources and VE at the time of packaging. Other WMPs expected for OSRP waste are the packaging materials ST, C, and PP (Reference P001). The sources are packaged in accordance with the requirements for TRUCON LA120A/LA220A (Reference 8).

In accordance with CCP-TP-005, WMPs shall be estimated on a wt% basis for the waste stream, documenting the assumptions and justification for deriving the estimated WMP. As in the case of waste stream LA-OS-00-01.001, LA-OS-00-04 is assigned the WMPs Iron Based Metals/Alloys and OM. The waste constituents, including actinide oxide, Be, and encapsulating materials, are all described by the "Other Metals" WMP. What differentiates this waste stream from LA-OS-00-01.01 is that the sources in this may be encapsulated in cadmium-plated copper and/or have lead as an integral part of the source holder (References C024, M058, and M062). These sources are then placed in SFCs (Reference P004). SFCs developed and used by the OSRP are made of 304 austenitic stainless. Metal composition of the source compounds are given in the IAEA Certificate of Competent Authority which has been issued for the OSRP SFCs (Reference M145). These materials are categorized as Iron Based Metals/Alloys and OM as shown in Table 7-1, Waste Material Parameters – Metals. The evaluation shown in Table 7-1 is documented in a memorandum (included with Waste Form, Waste Material Parameters, Prohibited Items, and Packaging completed per CCP-TP-005) (Reference 1).

Table 7-1. Waste Material Parameters – Metals

Waste Material Parameter	Average Weight Percent	Weight Percent Range
Iron Based Metals/Alloys*	85%	0.0-100.0%
Other Metals**	15%	0.0-30.0%

*304 SS, 316 SS, 8-18 SS
** See table of source compounds for metal composition (M145)

7.4.2 Radiological Characterization

Waste stream LA-OS-00-04 will have a radioisotopic composition consistent with that described in Section 5.4.2 and Tables 5-2, 5-3, and 5-4. The sources currently in the waste stream are Pu-239 sealed sources of a composition consistent with Table 5-3 (References C034, M058, and M237). As such, the prevalent radionuclides by mass are Pu-239 and Pu-240. The radiological characterization approach is also identical to that described in Section 5.4.2.

7.4.3 Chemical Content Identification – Hazardous Constituents

The chemical content of the LA-OS-00-04 waste stream is consistent with that described in Section 5.4.3, including the conditions for exemption from HSG sampling, except that sources in this waste stream contain or are physically inseparable from Cd or Pb (References C024, M058, and M062). Therefore, this waste stream is considered mixed waste and assigned EPA HWNs D006 and D008.

7.4.3.1 F-Listed and Constituents

Waste stream LA-OS-00-04 is not mixed with or derived from the treatment of a waste listed in 40 CFR 261, Identification and Listing of Hazardous Waste, Subpart D, as a hazardous waste from non-specific sources (40 CFR 261.31) (Reference 11).

Waste stream LA-OS-00-04 is not hazardous waste due to the presence of F-listed solvents because there are no solvents present in the manufacturing or waste generation processes (References C001, D002, and D003).

7.4.3.2 Toxicity Characteristic Constituents

Waste stream LA-OS-00-04 exhibits the characteristic of toxicity for metals as defined in 40 CFR 261.24, Subpart C (Reference 11).

This waste stream contains sealed sources that are either encapsulated or surrounded by lead or cadmium materials (References C024, M058, and M062). Sources encapsulated in copper-plated cadmium have been determined to contain about 0.76 wt% Cd, which is substantially higher than the RCRA toxicity characteristic threshold of 1 ppm (Reference M062).

In addition, sources in holders that contain lead or otherwise have lead associated with them are expected to be hazardous for lead (Reference C024).

Therefore, this waste stream is considered mixed waste and assigned EPA HWNs D006 (Cd) and D008 (Pb).

Waste stream LA-OS-00-04 does not contain solvents or any other constituents that qualify as toxicity characteristic waste; therefore, LA-OS-00-04 does not exhibit the characteristic of toxicity for organic compounds as defined in 40 CFR 261, Subpart C (40 CFR 261.24) (References 11, C001, C002, D002, D003, M003, M004, M033, and M133).

7.4.3.3 U- and P- Listed Waste

Waste stream LA-OS-00-04 is not mixed with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue thereof (40 CFR 261.33) (Reference 11). Consequently, P- and U-listed EPA hazardous waste numbers are not assigned to this waste stream.

Some of the sources contain Be metal that is sealed within the source. The Be wt% in the waste does not exceed 1 wt% for any payload container (Reference M060). The physical form of the Be is typically powder or sintered solid (References D005 and D011). However, the U.S. EPA has concurred that Be-containing sealed sources are not P- listed because the Be is not a sole active ingredient (References C001 and D002).

7.4.3.4 K-Listed Waste

Waste stream LA-OS-00-04 has been determined not to be hazardous waste (References C001, D002, M003, M004, and M033), including P- or U-listed waste. AK documentation is reviewed to ensure that the sealed sources waste stream does not include P- or U-listed waste.

Waste stream LA-OS-00-04 does not contain hazardous waste due to the specific sources listed in 40 CFR 261.32 and therefore is not a K-listed waste (References 11, C001, and D002).

7.4.3.5 Ignitables, Corrosives, Reactives

Sealed sources constitute closed systems (solid isotopic sources sealed in metal jackets or casings) that preclude the introduction of extraneous materials (such as liquids) that would be ignitable, reactive, or corrosive (References D005 and M005). The waste is not ignitable, reactive, or corrosive (References C001, D002, D003, and M133).

Ignitability

A solid waste exhibits the characteristic of ignitability as defined in 40 CFR 261.21 if it has any of the following properties: 1) It is a flammable liquid (flash point less than 60°C),

2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical change, 3) It is an ignitable compressed gas, or 4) It is an oxidizer (a substance such as a chlorate, permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter) (Reference 11).

Waste stream LA-OS-00-04 does not meet the definition of ignitibility as defined in 40 CFR 261.21 (Reference 11). Sealed sources constitute closed systems (manufactured, solid isotopic sources sealed in metal jackets or metal casings) that preclude the introduction of extraneous materials (such as liquids) that would be ignitable (References D005 and M005). The sources will not cause fire through friction, absorption of moisture, or spontaneous chemical changes. The sources are not compressed gases or oxidizers (References C001, D002, D003, and M133). Therefore, waste stream LA-OS-00-01.04 is not assigned EPA hazardous waste number D001.

Corrosivity

A solid waste exhibits the characteristic of corrosivity as defined in 40 CFR 261.22 if it has any of the following properties: 1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, or 2) It is a liquid and corrodes steel at a rate greater than 0.25 inches per year (Reference 11).

Waste stream LA-OS-00-04 does not meet the definition of corrosivity as defined in 40 CFR 261.22 (Reference 11). Sealed sources constitute closed systems (manufactured, solid isotopic sources sealed in metal jackets or metal casings) that preclude the introduction of extraneous materials (such as liquids) that would be corrosive (References D005 and M005). Therefore, LA-OS-00-04 is not assigned EPA hazardous waste number D002.

Reactivity

A solid waste exhibits the characteristic of reactivity as defined in 40 CFR 261.23 if it has any of the following properties: 1) It is normally unstable and readily undergoes violent change without detonating, 2) It reacts violently with water, 3) It forms potentially explosive mixtures with water, 4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment, 5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment, 6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement, 7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure, or 8) It is a forbidden explosive, or Class A or Class B explosive as defined in 49 CFR 173 (References 11and 15).

Lithium is present in some of the sources in this waste stream. All lithium sources are doubly encapsulated, with the nuclide/lithium mixture contained in a welded stainless steel cylinder additionally encapsulated in an outer welded capsule. The EPA allows the use of

best engineering judgment when determining if a material is reactive. Best engineering judgment includes observation of the waste material and the use of manufacture information. Based on the lithium containing sources construction, they would not react violently with water or generate toxic gases harmful to human health or the environment. In addition, the lithium sources are not expected to rupture or react violently if exposed to a strong initiating source or if heated under confinement. The sources as manufactured articles are not reactive which is substantiated by the fact that manufacturers do not manage these sources as reactive (Reference D031). Conservative calculations addressing the potential for radiolytic decay estimate that the sources could withstand approximately 750 degrees Fahrenheit of heat before a rupture is possible. A similar observation and position was made for small arms ammunition (i.e., the ammunition was exposed to 160 degrees Fahrenheit of heat for 48 hours and showed no evidence of detonation or explosion) and the EPA concurred that the material was nonreactive. Further the sources are packaged in OSRP SFCs, which are tested to withstand 800 degrees Celsius without leaking and meet other requirements in 49 CFR. Therefore this waste is not reactive as defined in 40 CFR 261.23, and is not assigned EPA hazardous waste number D003 (References 11, 16, C032, C039, and D031).

VE performed during packaging of the sealed sources into drums is used to verify the absence of ignitable, reactive, or corrosive wastes including liquids (References M031 and P001).

7.4.4 Polychlorinated Biphenyls

Waste stream LA-OS-00-04 does not contain PCBs greater than 50 ppm, and therefore is not regulated as a TSCA waste under 40 CFR 761 (Reference 18).

OSRP review of manufacturing documentation verifies the absence of PCBs in waste stream LA-OS-00-04 (References D005 and M005). Sealed sources are strictly inorganic and do not contain organic material, such as PCBs (Reference D002). In addition, OSRP VE personnel verify the absence of PCBs and liquids in waste containers during packaging as documented on the Container Packaging and VE Data Record (References M031 and P001).

7.4.5 Prohibited Items

Prohibited items have not been identified for this waste stream. OSRP VE personnel verify that there are no prohibited items in the containers in LA-OS-00-04 (References M031 and P001).

Compressed Gases

Sealed sources are produced from a closed system (manufactured, isotopic sources sealed in metal jackets or casings) that precludes the introduction of extraneous materials, such as pressure vessels containing compressed gases (References D005 and M005). VE performed during packaging of OSRP sealed sources into drums explicitly verifies the absence of "potentially pressurized containers" (References M031 and P001).

Liquids

There are no liquids in the waste stream LA-OS-00-04 (References D005 and M005). VE performed during packaging of OSRP sealed sources into drums verifies the absence of liquids (Reference P001).

Non-radionuclide Pyrophorics

OSRP review of manufacturer documentation verifies the absence of non-radionuclide pyrophorics in the waste stream LA-OS-00-04 (References D005 and M005). VE performed during packaging of OSRP sealed sources into drums verifies the absence of any indicators of non-radionuclide pyrophorics (Reference P001).

Sealed Containers Greater Than 4 Liters in Volume

For waste stream LA-OS-00-04, each sealed source is or will be contained in a rigid sealed container, less than or equal to four liters in size. VE during packaging confirms the absence of sealed containers greater than four liters (Reference P001). OSRP sealed sources are Waste Material Type II.2 (i.e., solid inorganic materials packaged with a metal container as the innermost layer of confinement [Reference 7]).

Explosives

OSRP review of manufacturer documentation verifies the absence of explosives and explosive mixtures in the waste stream LA-OS-00-04 (References D005 and M005). VE performed during packaging of waste stream LA-OS-00-04 into drums verifies the absence of any indicators of explosives (Reference P001).

7.5 Waste Packaging

7.5.1 Payload Containers

The sealed sources in this waste stream are packaged in metal cans, SFCs, or Lexan (plastic polymer) containers, then placed into the 55-gallon metal POC configuration drums with or without fiberboard dunnage, aluminum bracing/blocking, or neutron-shielding material (depending on the packaging configuration) (Reference P001). POC packaging configurations include a standard pipe overpack with 12-inch pipe component, S100 overpack, S200 overpack, and S300 overpack (References C016 and P001).

7.5.2 Layers of Confinement

Waste stream LA-OS-00-04 is packaged in 55-gallon POC drum configurations without the use of plastic bags or sheeting. In the case of leaking sources, the source is placed in a cigar tube and verified free of contamination prior to being received by the OSRP recovery team. The OSRP recovery team will then encapsulate the cigar tube in a stainless steel SFC (References C066 and P001). Such bags constitute <1 wt% of the total waste weight.

The metal POC has an approved filter vent installed. Shielding layers are not sealed. Lexan (plastic polymer) containers that may be used for special form sealed sources (in lieu of SFCs) do not qualify as a layer of confinement due to multiple holes in the cylinders. Rigid liners are procured with a minimum one half-inch hole, so these are not considered a layer of confinement. Therefore, the maximum possible number of layers of confinement is one in the POC configuration.

7.5.3 Filter vents

Filter vents must be present on both the external payload container or drum and on the internal POC (Reference P001). OSRP VE personnel are required to record the model, serial number, and manufacture date of these filter vents on the Container Packaging and VE Data Record (References M031 and P001).

7.5.4 Waste Identifiers

Each drum into which sources are packaged has a unique numerical identifier that is entered on the VE Data Record (Reference P001).

8.0 CONTAINER SPECIFIC INFORMATION

Several data sources were reviewed that provided information about the radiological, physical, and chemical characterization of waste containers and the associated sealed sources in these waste streams, including the NRC of Radioactive Sealed Sources and Devices (References C038, C041, and M005), manufacturer or owner documentation on defense applications (References C004, C005, and C006), NMMSS Report listing of sealed sources (References M006 and M020), Container Packaging and VE Data Records (Reference M031), reports from informal project databases (Reference M001), and contamination survey results (Reference M032).

In accordance with procedure CCP-TP-005 (Reference 1), a CCP Waste Containers List (Attachment 8 of the procedure) is completed and maintained as a quality record for waste tracking purposes. Information tracked includes container identification number, waste stream numbers, and the closure date for each container. However, because the waste streams are newly generated and continue to be generated, the list is expected to be modified periodically.

9.0 REFERENCES

1. CCP-TP-005, *CCP Acceptable Knowledge Documentation*, Carlsbad, New Mexico, Washington TRU Solutions, LLC.

2. *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan*, New Mexico Environment Department, Santa Fe, New Mexico

3. Public Law 99-240, *Title I-Low-Level Radioactive Waste Policy Amendments Act of 1985*

4. DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, Carlsbad, New Mexico, U.S. Department of Energy, Carlsbad Field Office

5. GN5400.9/MI, *Implementing Guide for Occupational Radiation Protection Sealed Radioactive Source Accountability and Control*

6. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan,* Carlsbad, New Mexico, Washington TRU Solutions, LLC.

7. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*, Carlsbad, New Mexico, Washington TRU Solutions, LLC.

8. DOE/WIPP 89-004, *TRUPACT-II Content Codes (TRUCON)*

9. DOE/LLW-217, *DOE Waste Treatability Group Guidance,* T.D. Kirkpatrick, Idaho National Engineering Laboratory, Lockheed Idaho Technologies Co., Idaho Falls, Idaho, January 1995

10. 42 U.S.C. 10101 (3), *Nuclear Waste Policy Act of 1982*, U.S. Congress

11. Title 40 Code of Federal Regulations, Part 261, *Identification and Listing of Hazardous Waste*, U.S. Environmental Protection Agency

12. DOE/TRU-11-3425, *Annual Transuranic Waste Inventory Report – 2011,* U.S. Department of Energy, Carlsbad Field Office

13. Title 10 Code of Federal Regulations, Part 30, *Rules of General Applicability to Domestic Licensing of Byproduct Material,* U.S. Nuclear Regulatory Commission

14. 10 Code of Federal Regulations, Part 835, *Occupational Radiation Protection,* U.S. Department of Energy

15. Title 49 Code of Federal Regulations Part 173, *Shippers – General Requirements for Shipments and Packagings,* U.S. Department of Transportation

16. CCP-PO-002, *CCP Transuranic Waste Certification Plan*, Carlsbad, New Mexico, Washington TRU Solutions, LLC.

17. DOE M 435.1-1, *Radioactive Waste Management Manual*, U.S. Department of Energy, Office of Environmental Management

18. Title 40 Code of Federal Regulations, Part 761, *Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and use Prohibitions*, U.S. Environmental Protection Agency

10.0 AK SOURCE DOCUMENTS

Source Document Number	Document Title
C001	Letter to R. Scott re: "RCRA Status of AmBe Sealed Sources"
C002	Letter to J. Browne (LANL) re: Approval to Generate OSRP Waste with No Disposal Path
C003	Memo to LANL TWCP Records Management re: Estimation of U-234 Resulting from Pu-238 Decay
C004	Memos and Other Documentation Supporting Pu-239 Defense Relationship
C005	Memo to K. Hargis re: Transfer Planning Letter for Shipment of Special Nuclear Material (UCNI)
C006	Memos to S. Leonard and other re: Release of Sources to DOE (UCNI)
C007	Memo and Supporting Documentation to L. Leonard re: Special Form Character of MRC-N-SS-W-AmBe Sealed Sources
C008	Memo to J. Whitworth re: Drum Weights with RTR Scale
C009	Email to J. Whitworth re: Major TRU Sealed Source Manufacturers
C010	Memo re: Evaluating the Radionuclide Characterization of the OSRP Waste Stream LA-OS-00-01
C011	Defense Documentation for Eight SRS-Owned Sealed Sources
C012	Memo to J. Whitworth re: MRC Pu8Be-47A and 47B
C013	Memo to OSRP File re: SRS Source SN: MRPU8BE47 A & B, Two Capsules Recovered
C014	Memo to R. Williams, Department of Army, re: Interagency Agreement for Plutonium Number 3004 License SNM 318
C015	Memo to OSRP File, L. Porter, and M. Pearcy re: Packaging VOC Source Term for OSR Drums
C016	Memos re: POC Packaging Practices for Sealed Source Waste
C017	Memo to S. Schafer and OSRP File re: Radiological Characterization of Source N800I25
C018	Memo to T. Taulbee re: Radioactive Sources at the Portsmouth Gaseous Diffusion Plant (PORTS)
C019	Memo to R. Erickson (LASO) re: Expanded Scope for the Off-Site Source Recovery Program
C020	Memo to J. Whitworth re: Projected Recovery Numbers
C021	Memo to OSRP File re: Number of Containers in OSR Waste Stream
C022	Memo to J. Whitworth re: Data Input for Pu-238 Source Characterization
C023	Memo to A. Feldman re: Selection Criteria for Manufacture Dates for sources in BDR LA06-OSR-Ch-017
C024	Sources with Lead
C025	Methodology Used to Determine Input Parameters for Characterization of NRD Recovered Sources
C026	SOURCE RECOVERY AT CPN April 4,2007
C027	Memorandum: EXPLANATION OF TABLE REVISIONS TO CCP-AK-LANL-008 FOR INCORPORATION OF 241-Am / Be / 137 Cs COMBINATION SOURCES

Source Document Number	Document Title
C028	Attachment 8: OSRP Email Requests for VE BDR Drums approved and entered by CCP into the AKTSS. LA07-OSR-VE-009, 011, 012, 014, and LA08-OSR-VE-001, 002, 003, 004, 007.
C029	OSRP email requests for drums characterized between May 2007 to April 2008 to be added to the LANL AK tracking spreadsheet
C030	Texas Department Of Health Records: Request: For Gulf Nuclear (L02995) Sealed Source Logbook
C031	Recommendations for Determination of Default Manufacture Date for Americium 241 Sources With No Documented Date of Manufacture
C032	OSRP Correspondence on Lithium Sources are nonreactive and confirmation to be added into Waste Stream LA-OS-00-01.001
C033	Isotopic Mass % Evaluation For NRD Waste Stream LA-OS-00-03
C034	Isotopic Mass % Evaluation For Mixed Waste Stream LA-OO-0S-04
C035	Waste Stream # LA-OS-00-01.001Characterization of Sources Containing "Other Light Metals"
C036	Waste Material Parameters For Mixed Waste Stream LA-OS-00-03
C037	OSRP email requests for drums characterized between April 2008 to March 2009 to be added to the LANL AK tracking spreadsheet
C038	Universal application of the Registry of Radioactive Sealed Sources and Devices for NSR-F model sources
C039	OSRP email requests for drums characterized between April 2009 to February 2010 to be added to the LANL AK tracking spreadsheet
C040	Field Differentiation Between NSR-D and NSR-F Sources
C041	Use of the NRC Registry of Radioactive Sealed Sources and Devices for Characterization of NSR-D Model Sources
C042	Source of Am-241 Purchased by NRD for Sealed Source Manufacture
C043	OSRP email requests for drums to be characterized between March 2010 to April 2011 to be added to the LANL AK tracking spreadsheet
C044	Memorandum from Donald L. Cook regarding Offsite Source Recovery Project Request for Approval to Generate Waste with No Disposal Pathway, dated March 4, 2011
C045	Interview of Patrick Goff by Christopher Chancellor regarding UC Berkeley Am-241 foil generation dates
C053	Letter from S.R. Sapirie to Dr. C.E. Larson regarding Np-237 and Am-241 Distribution
C059	Memorandum from Julia Whitworth regarding Use of Foreign-Origin Radioactive Material in Sealed Sources
C060	Engineering Evaluation of Nuclear Powered Pacemakers as Special Form Radioactive Material
C061	Memorandum from Alex Feldman to Julia Whitworth regarding History of Non-US Origin Transuranics In Sources of US Manufacture
C062	Memorandum from Alex Feldman to Ben Gutierrez regarding Acceptable Methods for Establishing a Default Manufacturer Date of Birth for Sealed Sources with No Documented Date of Manufacture
C063	Memorandum from J. Andrew Tompkins to Rick Rasmussen regarding Acceptable Knowledge for Am-241 foil sources used in Smoke Detectors
C064	Gammatron approximate last date of manufacture for NSR-GB sealed sources
C065	OSRP email requests for drums to be characterized between July 2011 to December 2011 to be added to the LANL AK Tracking Spreadsheet

Source Document Number	Document Title
C066	Interview of Jim Matzke and Jerry McAlpin re: Cigar tubes for leaky sources
D001	Headspace Gas Sampling and Analysis Evaluation for LANL Sealed Sources
D002	RCRA Designation of Discarded Americium/Beryllium Sealed Sources
D003	Hazardous Waste Determination for Actinide-Bearing Sealed Sources to be Received at LANL
D004	The Off-Site Source Recovery Project at Los Alamos
D005	Summary of Sealed Source Types, OSR Project
D006	Encapsulation and Source Activities of Alpha-n Neutron Sources
D007	Radiological Characterization of Actinide Sealed Source Waste for Disposal at WIPP
D008	Sealed Sources Peer Review Report
D009	Acceptable Knowledge Report for Debris Waste Streams Containing Pu-239
D010	Amersham Source Catalogue, Manufacturer Data
D011	Special Form Documentation for AmBe and PuBe Neutron Test Sources (UCNI)
D012	Engineering Evaluation of New England Nuclear Model NER-478C Sealed Sources as Special Form Radioactive Material
D013	Development of Representative Radionuclide Distributions for Use in Radiological Characterization of Sealed Sources Based on Acceptable Knowledge Information
D014	Inspection and Recanning Program of PuBe Neutron Sources
D015	Characterization of Actinide-Bearing Sealed Sources by Acceptable Knowledge - Justification and Methods
D016	Manual for Nuclear Materials Management and Safeguards System Reporting and Data Submission
D017	An Evaluation of the Use of Calorimetry for Shipper-Receiver Measurements of Plutonium
D018	American National Standard Calibration- Techniques for the Calorimetric Assay of Plutonium-Bearing Solids Applied to Nuclear Materials Control
D019	Standard Test Methods for Nondestructive Assay of Plutonium, Tritium, and Am-241 by Calorimetric Assay
D020	Acceptable Knowledge Report for Legacy Debris TA-55 Waste Streams Containing Pu-239, LA-UR-02-6665
D021	Handbook of Nuclear Safeguards Measurement Methods
D022	Test Report for Los Alamos National Laboratory on 3" Special Form Radioactive Material Capsules
D023	WIPP Eligibility Determination of U.S. Army Research Laboratory Pu-239 Fission Foils
D024	Statement of Work, Mitigate Radioactive Sources at Savannah River Site, 777-10A
D025	Transuranic Waste Defense Determination Approval Forms
D026	IAEA Certificate of Competent Authority Special Form Radioactive Materials Certificate Number USA/0036/S, Revision 7
D027	NRD - Your Source for Alpha Foils
D028	Summary of Nuclear Atomcell Characteristics and Testing

Source Document Number	Document Title
D029	Neutron Soil Density and Moisture Gauges MC-1, MCM-2 And MC-3 (CPN International) Registry of Radioactive Sealed Sources and Devices Safety Evaluation
D030	Transuranic Waste Defense Determination Approval Forms, Waste Stream LA-OS-NS-04
D031	Waste Determination of Encapsulated Radioactive Sources Containing Small Quantities of Lithium
DR001	Discrepancy Resolution re: Difference Between NMMSS and Shipping Data for Seven LLNL Sealed Sources
DR002	Discrepancy Resolution re: Source MRC-PuBe-8-8
DR003	Discrepancy Resolution re: Manufacture Dates on Recanned Monsanto Sources
DR004	Discrepancy Resolution re: Source Pu8Be47-A&B from SRS
DR005	Discrepancy Resolution re: Pu Value on Source M-1228
DR006	Discrepancy Resolution re: Pu Value on Source M561
DR007	Discrepancy Resolution re: Sources MRPUBE346-348
DR008	Discrepancy Resolution re: Sources in Container 60384
DR009	Discrepancy Resolution re: Sources MRPU228-252
DR010	Discrepancy Resolution re: Certain Dates in NMMSS Database
DR011	Discrepancy Resolution of manufacturing orders for AmBe neutron sources made by Monsanto Research Corp. for Schlumberger Well Services.
M001	Summary of Waste Stream Containers/Spreadsheet of OSR Defense Related drums
M002	Batch Data Report Number LA02-HGAS/la-006 for Headspace Gas Analysis to Deterrmine OSR Packaging Source Term
M003	Facilities Review, Neutron Source Storage at TA-55 AREA G
M004	LANL WASTE PROFILE FORM # 31353
M005	Query of "Registry of Radioactive Sealed Sources and Devices," May 21, 1982
M006	NMMSS Report SS-2 From "Nuclear Material Management and Safeguards System" (Listing of Sealed Sources by RIS as of 12/31/85)
M007	Manufacturer Data from Mound Monsanto and GE Schenectady-Navy
M008	Calculation: Verification Check Calculation of ACCESS Characterization Calculations Performed in the OSR Characterization Database
M009	Calculation: Development of Radionuclide Distribution and Uncertainties in Pu-238 Sealed Source Material
M010	Calculation: Development of Radionuclide Distribution and Uncertainties in Pu-239 Sealed Source Material
M011	Calculation: Development of Radionuclide Distribution and Uncertainties in Am-241 Sealed Source Material
M012	Sealed Source Drawings
M013	Shipping Data Sheets from Monsanto Chemical Company (Mound) to Westinghouse
M014	Welding Test Records
M015	Purchase Orders for Pu-238 Batch Material

Source Document Number	Document Title
M016	Purchase Orders for Am-241 Batch Material
M017	Purchase Records for Am-241 Batch Material
M018	Memo to S. Leonard re: Examples of NRC Form 741 for the ARCO Nuclear Pacemakers
M019	Special Form Traveler Sheets
M020	NMMSS Listing of Sealed Sources by RIS
M021	Am-241 Analysis on Product Batches in the DOE Sales Pool
M022	Manufacturer's Data For Sources MRPUBE-315, 1501-NK, and C-589
M023	Manufacturer's Data for Kentucky Sources
M024	Manufacturer's Data For NUMEC Sources at Cornell College, 320C23
M025	Manufacturer's Data for LLNL Sources (LLNL - MRC-Pu-Be- 8-1, MRC - PuBe-8-7, MRC - PuBe-8-15, MRC-PuBe-8-9, MRC-Pu8Be-26, MRC-PuBe-28)
M026	Pu-239/Be Sealed Source Supporting Documentation
M027	Manufacturer Data for Monsanto Sources at Knolls Atomic Power Lab
M028	Analytical Chemistry Reports for Am Oxide Batches
M029	Visitor's Guide, Los Alamos National Laboratory
M030	Maps from the LANL Website
M031	Container Packaging and VE Data Records
M032	Contamination Survey Forms
M033	LANL Waste Profile Form #32779
M034	Special Form Certificates
M035	Waste Stream Profile Form for LA-OS-00-01, Change Notice #1
M036	Calculation of Prevalent Radionuclides for the OSR Waste Stream
M037	OSR Plutonium Weight Percent Calculation
M038	Mound Site Purchase Orders and Shipping Data
M039	Regulatory Information on the Status of Lead used as Shielding in Waste Containers
M040	Specification for Plutonium-238-Beryllium Annular Pellets (OUO)
M041	NUMEC Plutonium-Beryllium Neutron Sources Catalog
M042	Monsanto Radioactive Source Catalog
M043	Oak Ridge Data Sheets for Pu-238 Shipments
M044	General Atomic Battery Data
M045	Documentation of Sources in Special Form Capsules
M046	ARCO Nuclear Technical Document, 039274
M047	General Atomic QA Data on PuN Capsules

Source Document Number	Document Title
M048	General Atomic QA Data on Battery 3b89
M049	General Atomic QA Data on Battery 3b73
M050	Calculation re: Estimation of the Sr-90/Cs-137 Ratio in Sealed Source Materials
M051	Isotopic Composition of U and Th Mixtures
M052	Shipping Documents from Donald Douglas to Gulf Atomic
M053	Information on U.S. Army TACOM Sealed Sources
M054	Monsanto Data for Pu-238/Be Neutron Sources Shipped to Gulf Energy
M055	Current Projection of OSR Waste Stream Volume LA-OS-00-01
M056	Shipping Data for Recanned Sealed Sources
M057	Shipping Data Form for Source MRC-PuBe-8-8
M058	Shipping Data Form for Sources MRC-TD-Pu-228 through -254
M059	Evaluation of Isotopic Activity as a Function of Source Date of Birth
M060	Analysis for Beryllium Weight Percent for Waste Stream LA-OS-00-01
M061	Analytical Batch Data Report for LA05-HGAS/LA-046, Standard POC with Cane Fiberboard Insert
M062	Calculation of Cadmium Weight Percent in Drum 61603
M063	Shipping Data Sheet for Source "Q" at Brookhaven NL
M064	Shipping Data Form for U-Nebraska Sources
M065	Shipping Data Form for Source MRC-PuBe-230
M066	Form 741 Nuclear Material Transaction Report to Arco
M067	OSR VE Operator Logbook from NRD Recovery (OUO)
M068	NRD Spreadsheet Data on Source-Containing Cans and Drum Log Correction Spreadsheets
M069	Amersham International Transport Containers MNEMONICS
M070	Amersham Corp Product Specifications Report
M071	Logbook : Amersham, Source number. Serial number and Model number
M072	Certificate of Analysis - GEL Laboratories LLC.
M073	Registry of Radioactive Sealed Sources and Devices Safety Evaluation of Sealed Sources
M074	Nuclear Sources and Services Inc. Sealed Source Certificates NSR-GB 2104 to 4471-Schlumberger Well Services (Owner)
M075	OSR - Manufacturer's Data -Pkg-002, Monsanto - Texas Nuclear Division; Pu8Be-497
M076	OSR - Manufacturer's Data -Pkg-002, Monsanto - Schlumberger Well Services; AmBe-2155 thru 2176
M077	OSR - Manufacturer's Data - Pkg-002 Medtronic - Battery Data Technical Report on the Medtronic TM Model 9000 Isotopic Pulse Generator
M078	OSR -Manufacturer's Data - Pkg-002 Monsanto - Schlumberger; AmBe-3353 thru 3507

Source Document Number	Document Title
M079	OSR - Manufacturer's Data - Pkg-002 TWCP - 05659 Mound/Monsanto Source Design Data Monsanto - Schlumberger; AmBe-3016 thru 3080
M080	OSR - Manufacturer's Data - Pkg-002 Mound/Monsanto Source Design Data Monsanto - Schlumberger; SWS-3548 thru 3587
M081	Radioactive Source Test Report
M082	Material Transfer Form - Leased Material (Monsanto Research Corporation to University of Nebraska)
M083	Registry of Radioactive Sealed Sources and Devices
M084	Registry of Radioactive Sealed Sources and Devices
M085	Registry of Radioactive Sealed Sources and Devices (No: IL-604-D-801-S)
M086	RDECOM Edgewood; C5279
M087	Manufacturer's Data- Pkg-002 VA Medical Center; Siemens Anatomical Markers Registry of Radioactive Sealed Sources and Devices
M088	OSR-Manufacturer's Data - Pkg-002 Commonwealth Virginia; AmBe-1557; Model 2725
M089	OSR-Manufacturer's Data - Pkg-002 TWCP- 05659 Mound/Monsanto Monsanto -J.L. Shepherd, Inc.; Serial Numbers Pu8Be-436 and 437; Model #2725B
M090	OSR-Manufacturer's Data - Pkg-002 Gulf Nuclear - Test Data Test Results on Model 71-1
M091	Brookhaven; Foils #1,2,3,4, 9649, 6286LA; S1828; Shipping record and NMMIS record
M092	OSR-Manufacturer's Data - Pkg-002 Monsanto -Seismograph Service Corp; Pu8Be 273 thru 292
M093	Shipping Data Plutonium Neutron Source
M094	OSR-Manufacturer's Data - Pkg-002 Monsanto - J.L. Shepherd & Associates; MRC- Pu8Be-496 and 437; Model #2725B?
M095	U.S. Department of Energy Nuclear Material Transaction Report
M096	Sealed Radioactive Source Test Report
M097	Sealed Radioactive Source Test Report
M098	Registry of Radioactive Sealed Sources and Devices
M099	Registry of Radioactive Sealed Sources and Devices Safety Evaluation of Device (Amended in its Entirety)
M100	Neutron Sources
M101	Registry of Radioactive Sealed Sources and Devices
M102	Radioactive Source Test Report
M103	Radioactive Source Test Report
M104	Radioactive Source Test Report
M105	Sealed Radioactive Source Test Report
M106	Amersham Catalog Information (partial)
M107	IAEA Certificate of Competent Authority Special Form Radioactive Material Certificate Number USA/0357/S, Revision 6
M108	Qal-Tek Associates Instrumentation and Professional Services

Source Document Number	Document Title
M109	Sources Catalog from AEA Technology
M110	OSR-Manufacturer's Data - Pkg-002 Monsanto-Defense Personnel Support Center; Am-1506 thru 1525; Model 2704
M111	Amersham Catalog (portion)
M112	Registry of Radioactive Sealed Sources and Devices (Amended in its Entirety)
M113	OSR-Manufacturer's Data - Pkg-002 Monsanto-Ohmart Corp; Am--241; Model 2438
M114	Amersham Catalog
M115	OSR-Manufacturer's Data - Pkg-002 Schlumberger - Sealed Source Certificates NSR-F A-1111 A2325
M116	OSR-Manufacturer's Data - Pkg-002 Halliburton - Source Certificates
M117	OSR - Manufacturer's Data - Pkg-002 TWCP-05659 Mound/Monsanto Source Design Data Monsanto- Schlumberger; AmBe-3016 thru 3080
M118	OSR - Manufacturer's Data - Pkg-002 Monsanto- Portland Gas and Electric; Pu8Be-359; Model 2722-B
M119	CH AK8 Evaluation to Add Containers to CCP-AK-LANL-8; 5/15/06 - 4/11/07
M120	Table of Excess Sealed Sources of Isotopic Material
M121	Shipping Data Forms for Monsanto Sources at Brookhaven
M122	Monsanto Manufacturing Orders for Pu-238/Be Sources for Brookhaven
M123	Manufacturing Specifications for Sources for Schlumberger Well Services
M124	Manufacturing Specifications for Sources for Seismograph Service Corp
M125	"Manufacturer Data (NSSI), Gammatron to Birdwell, Sealed Source Certificates for Serial Number BP-01 T0-28 AND BP-100 TO -105
M126	Engineering Specifications for Sources for Seismograph/Birdwell.
M127	Accufix Correspondence to LANL Radioactive Materials License, Reports on Nuclear Ommni-Stanicor Pacer Model 184A, 184B,
M128	Registry of Radioactive Sealed Sources and Devices, Safety Evaluation of Devices for Nuclear Powered Cardiac Pacemakers (NR-975-D-801-S) and Miniature Nuclear Batteries (CA309D102S, CA309D101S)
M129	Mound/Monsanto Source design Data, Monsanto to Kennedy Space Center, NASA, Pu8Be Model 2723, TWCP-07185.
M130	Gulf General Atomic, Battery Data, Radiological Safety of Miniature Nuclear Batteries
M131	Gulf General Atomic, Alcatel, Hitman, Miniature Nuclear Battery Design Specifications, TWCP- 05666
M132	NMMSS Report extracts as of 12-31-85 on Sealed Sources # SS-1 and # SS-2, MRC Shipping Data to Seismograph and to JF Kennedy Space Center-NASA, Gulf General Atomic Data on Miniature Nuclear Batteries.
M133	Characterization of AM-241/Be/CS-137 Combination Sources
M134	Amersham source test reports for Am241/Be sources in drum LA00000062310
M135	Troxler Source Data from Monsanto Research Corporation Engineered Products Department
M136	Amersham and Monsanto Source Activity Information for Am241/Be Sources in drum LA00000062753

Source Document Number	Document Title
M137	Amersham Radioactive Sealed Source Test Reports for Am241/Be Sources "NJ series" in drum LA00000062753
M138	Registry of Sealed Sources and Devices Safety Evaluation of Sealed Source (Amended In Its Entirety) AMN.V997, AMN.V340
M139	Registry of Radioactive Sealed Sources and Devices, Safety Evaluation of Device, Troxler Depth Moisture Probe model 1255 and 1257
M140	Shipping File Documentation Listing Location: Florida State University
M141	Amersham International and Monsanto Corp. Source Activity Information on Am241/Be Sources Present in drum LA00000062305
M142	OSR-Registry of Radioactive Sealed Sources and Devices, Safety Evaluation of Device, Troxler Asphalt Content Gauge containing Amersham Sources Model No. AMNV.340, AMNV.339
M143	AK Documentation for Characterization BDR LA07-OSR-CH-013, drums LA00000061600, LA00000061661, LA00000061566, LA00000061596, LA00000062761
M144	AK Documentation for Characterization BDR LA08-OSR-CH-001, drums 64000, 64001, 64003, 64004, 64005, 64006, 64007, 64008, 64009, 64010, 64012
M145	IAEA Certificate of Complete Authority Special Form Radioactive Materials Certificate Number USA/0695/S-96, Revision 3
M146	AK Documentation for Characterization BDR LA08-OSR-CH-002, drums: LA00000061459, LA00000061460, LA00000061461, LA00000061570, LA00000061659, LA00000064014
M147	AK Documentation for Characterization BDR LA07-OSR-CH-010, drums: LA00000062775, 62774, 62773, 62772, 62771, 61591, 62762
M148	AK Documentation for Characterization BDR LA08-OSR-CH-003, drum LA00000061567
M149	Registry of Radioactive Sealed Sources and Devices Safety Evaluation of Device (LA08-OSR-VE-004)
M150	Manufacturing order for MRC AmBe neutron source model 2726-B, serial number AmBe 2951 for IAEA project in Ecuador, TWCP-07079
M151	AK Documentation for Characterization BDR LA08-OSR-CH-006, drums: LA00000058701, LA00000058727, LA00000058798, LA00000061509, LA00000062720, LA00000062721
M152	AK Documentation for Characterization BDR LA08-OSR-CH-005, drum: LA00000060281
M153	AK Documentation for Characterization BDR LA08-OSR-CH-008, drums: LA00000064002, LA00000064011, LA00000062763, LA00000062764, LA00000059909, LA00000059918, LA00000059919
M154	AK Documentation for Characterization BDR LA08-OSR-CH-010, drums: LA00000062708, LA00000062712, LA00000062713
M155	AK Documentation for Characterization BDR LA08-OSR-CH-009, drums: LA00000058684, LA00000059901, LA00000060090, LA00000060207
M156	AK Documentation for Characterization BDR LA08-OSR-CH-012 drum: LA00000060302
M157	AK Documentation for Characterization BDR LA08-OSR-CH-014 drums: LA00000060216, LA00000060364, LA00000060341, LA00000060358, LA00000060327, LA00000060344, LA00000060380, LA00000060343, LA00000060368
M158	AK Documentation for Characterization BDR LA08-OSR-CH-015 drums: LA00000060346, LA00000060348, LA00000060351, LA00000060352, LA00000060354, LA00000061403, LA00000061404, LA00000061405
M159	AK Documentation for Characterization BDR LA08-OSR-CH-016 drums: LA00000060374, LA00000060375, LA00000060388, LA00000060394, LA00000061687

Source Document Number	Document Title
M160	AK Documentation for Characterization BDR LA08-OSR-CH-017 drums: LA00000058638, LA00000060223, LA00000060389, LA00000060391, LA00000062388, LA00000064038
M161	AK Documentation for Characterization BDR LA08-OSR-CH-018 drums: LA00000058794, 60224, 60230, 60360, 61409, 61505, 62309
M162	AK Documentation for Characterization BDR LA08-OSR-CH-019 drums: LA00000059900, LA00000061635, LA00000061662, ,LA00000062767, LA00000064069, LA00000064074, LA00000064075, LA00000064076
M163	AK Documentation for Characterization BDR LA09-OSR- CH-001 DRUMS: LA00000059961, LA00000061594, LA00000061695, LA00000064047, LA00000064049, LA00000064066
M164	AK Documentation for Characterization BDR LA09-OSR-CH-002 drums: LA00000064060, LA00000064061, LA00000064062, LA00000064063, LA00000064065
M165	AK Documentation for Characterization BDR LA09-OSR-CH-003 drum: LA 0000004046
M166	AK Documentation for Characterization BDR LA09-OSR-CH-004 drums: LA00000064040
M167	AK Documentation for Characterization BDR LAO9-OSR-CH-006 drums: LA00000061674, 61679, 61680, 61681, 61682, 61683, 61684, 61685, 61686, 61689, 61690, 61692, 62766, 64048, and 64073.
M168	AK Documentation for Characterization BDR LA09-OSR-CH-007 drums: LA00000061493, 61664, 61666, 61667, 61669, 61670, 61671, 61675, 61676,61677, 61678, 61691, 64039, 64071
M169	AK Documentation for Characterization BDR LAO9-OSR-CH-005 drums: LA00000061641, 61642, 62300, 62312, 62717, 64036, and 64070.
M170	AK Documentation for Characterization BDR LAO9-OSR-CH-015 drums: LA00000062746, 62747, 62748, 62750, 62751, 64050, 64507, 64508, 64515, 64521, 64522, 64524.
M171	AK Documentation for Characterization BDR LA09-OSR-CH-009 drums: LA00000060381, 64517, 64518, 64520.
M172	OUO - Reducing Nuclear and Radiological Threats Worldwide Office of Global Threat Reduction Internal Control Procedures to Verify and Certify Performance Results REV2. November 2008
M173	OSRP Documentation and Calculations for Current and Projected Recoveries
M174	AK Documentation for Characterization BDR LA09-OSR-CH-017 drums: LA00000062776, LA00000064523, LA00000064526, LA00000064528, LA00000064529, LA00000064530.
M175	AK Documentation for Characterization BDR LA10-OSR-CH-003 drums: LA00000058730, 58749, 58762, 59944, 59945, 59966, 59967, 59969, 59977, 59978, 59979, 59980, 59992, 59998, 60001, 60057, 60257, 60306, 60307, 60313.
M176	AK Documentation for Characterization BDR LA10-OSR-CH-005 drums: LA00000059985, 59988, 59994, 59991, 59999, 60003, 60009, 60017, 60018, 60020, 60021, 60027, 60028, 60029, 60031, 60032, 60035, 60037, 60046, and 60050.
M177	AK Documentation for Characterization BDR LA10-OSR-CH-006 drums: LA00000058728, 58729, 58731, 58732, 58733, 58734, 58735, 58736, 58737, 58738, 58739, 58740, 58741
M178	AK Documentation for Characterization BDR LA10-OSR-CH-004 drums: LA00000064041, LA00000064042, LA00000064043, LA00000064044, LA00000064549
M179	AK Documentation for Characterization BDR LA10-OSR-CH-008 drums: LA00000059952, 59953, 59955, 59957, 59958, 59984, 59986, 59987, 59989, 59990, 59991, 59993, 59996, 60013, 60015, 60033, 60034, 60036, 60038, 60043
M180	AK Documentation for Characterization BDR LA10-OSR-CH-009 drums: LA00000059933, 59935, 59937, 59939, 59946, 59947, 59951, 59964, 59965, 59970, 59974, 59975, 59976, 60041, 60055, 60058, 60060, 60068, 60069, 60071

Source Document Number	Document Title
M183	AK Documentation for Characterization BDR LA10-OSR-CH-007 drums: LA00000058742, 58743, 58744, 58745, 58746, 58747, 58769, 58770, 58776, 58787, 58788, 58789, 58790, 58791
M184	AK Documentation for Characterization BDR LA10-OSR-CH-010 drums: LA00000059962, 59963, 59968,59981,60004, 60006, 60008, 60010, 60016, 60019, 60022, 60023, 60024, 60025, 60026, 60030, 60039, 60053, 60309, 60310
M185	AK documentation for Characterization BDR LA10-OSR-CH-011 drums: LA00000060040, 60042, 60044, 60045, 60047, 60049, 60052, 60054, 60059, 60062, 60063, 60064, 60066, 60067, 60070, 60074, 60075, 60200, 60308, 60311
M186	AK documentation for Characterization BDR LA10-OSR-CH-012 drums: LA00000060077, 60237, 60238, 60241, 60242, 60246, 60248, 60250, 60253, 60254, 60255, 60274, 60275, 60312, 60325, 60328, 60330, 60333, 60339, 60340
M187	AK documentation for Characterization BDR LA10-OSR-CH-013 drums: LA00000059923, 59943, 60073, 60244, 60247, 60258, 60260, 60273, 60283, 60285, 60286, 60289, 60292, 60298, 60299, 60319, 60323, 60335, 60336, 60337
M188	AK Documentation for Characterization BDR LA10-OSR-CH-014 drums: LA00000058706, 58748, 58750, 58764, 58765, 58771, 58772, 58773, 58774, 58775, 58777, 58780, 58781, 58782, 58783, 58784, 58785, 58786, 60355, 61518
M189	Manufacturing Order for Sources A2675-A2699; A3001-A3115 - for Schlumberger
M190	Manufacturing Orders from Monsanto for Sources A3001-A3014; A3015-A3026; A3027-A3041; A3042 - A3069; A3070-A3089; and A3090-A3117
M191	AK Documentation for Characterization BDR LA10-OSR-CH-017 drums: LA00000060098, 60314, 60316, 60320, 60321, 60322, 60324, 60326, 60329, 60331, 60332, 60334, 60338, 60345, 60347, 60356, 61519, 61524,61527, & 61624.
M192	AK Documentation for Characterization BDR LA10-OSR-CH-016 drums: LA00000064051, 64052, 64577, 64578, 64583.
M193	AK documentation for characterization BDR LA10-OSR-CH-018 drums: LA00000059954, 60218, 60233, 60243, 60245, 60249, 60251, 60256, 60262, 60263, 60264, 60268, 60269, 60282, 60284, 60287, 60291, 60296, 60317, 60318
M194	AK Documentation for Characterization BDR LA10-OSR-CH-019 drums: LA00000059931, 59938, 59940, 59941, 59942, 59956, 59959, 60007, 60076, 60201, 60259, 60261, 60265, 60267, 60270, 60271, 60272, 60288, 60305, 60366
M195	AK Documentation for Characterization BDR LA10-OSR-CH-021 drums: LA00000058751, 58779, 59982, 59983, 59995, 60000, 60002, 60005, 60011, 60012, 60014, 60061, 60065, 60072, 60221, 60239, 61539
M196	AK Documentation for Characterization BDR LA10-OSR-CH-002 drum: LA00000064550.
M197	BDR LA10-OSR-CH-001 DRUMS LA00000064020, 64033, 64034, and 64536.
M198	AK Documentation for Characterization BDR LA10-OSR-CH-022 drums: LA00000058686, 59902, 59903, 59910, 60217, 60219, 60220, 60232, 60349, 60357, 60359, 61410, 61604
M199	AK Documentation for Characterization BDR LA11-OSR-CH-001 drums: LA00000064018, 64019, 64511, 64534, 64580, 64581, 64597
M200	AK Documentation for Characterization BDR LA11-OSR-CH-002 drums: LA00000058797, LA00000061411, LA00000062709, LA00000064553, LA00000064592
M201	AK Documentation for Characterization of the LA11-OSR-CH-003 drums: LA00000062710, 64554, 64582, 65404, and 65409
M202	AK Documentation for Characterization BDR LA11-OSR-CH-005 drums: LA00000065405, 65406, 65407, 65408, 65410, 65411.
M210	Catalog And Price List Alpha, Heat, And Neutron Sources From Plutonium-239 & Threshold Detectors From Plutonium-239, Neptunium-237, Uranium-238

Source Document Number	Document Title
M211	Monsanto Research Corporation Shipping Data Form
M222	Neutron Sources
M224	AK Documentation for Characterization BDR LA11-OSR-CH-004 drums: LA00000058754, 58757, 58763, 58767, 58768, 60208, 60210, 60211, 60212
M226	Sources of Alpha-, Beta-, Gamma- And Neutron Radiation Catalog
M229	AEC/DOE Isotope Sales 1964-1987
M234	AK Documentation for Characterization BDR LA11-OSR-CH-008, drums: LA00000064081, LA00000064545, LA00000064546, LA00000064547, LA00000064556, LA00000064559, LA00000064560, LA00000064561, LA00000064562, LA00000064585, LA00000065413, LA00000065460
M235	AK Documentation for Characterization BDR LA11-OSR-CH-009 drums: LA0000005443, LA00000065417
M236	AK Documentation for Characterization BDR LA11-OSR-CH-006, drums: LA00000064540 and LA00000064595
M237	AK Documentation for Characterization BDR LA11-OSR-CH-010 drum: LA00000065416.
P001	CCP-TP-069 *CCP Sealed Source Visual Examination and Packaging*
P002	CCP-TP-101, *CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization*
P003	Off-Site Source Recovery Transuranic Waste Interface Document (TWID)
P004	Recovery, Transport, and Storage of Off-Site Source Recovery Project Material
P005	OSRP - VOC Evolutions from Packaging Materials
P007	NRD Shipping File

Attachment 1 – Figures

Figure 1 – Location Map for LANL Technical Areas (TA) (Reference M029)

Figure 2 – Detailed map of LANL Technical Area (TA)-3 (Reference M029)

Figure 3 – Map of TA-18 Interim Storage (Reference M030)

Figure 4 – Map of TA-54 TRU Waste Storage Domes (Reference M030)

Figure 5 – Map of TA-55 (Reference M030)

Figure 1. Location Map for LANL Technical Areas (TA) (Reference M029)

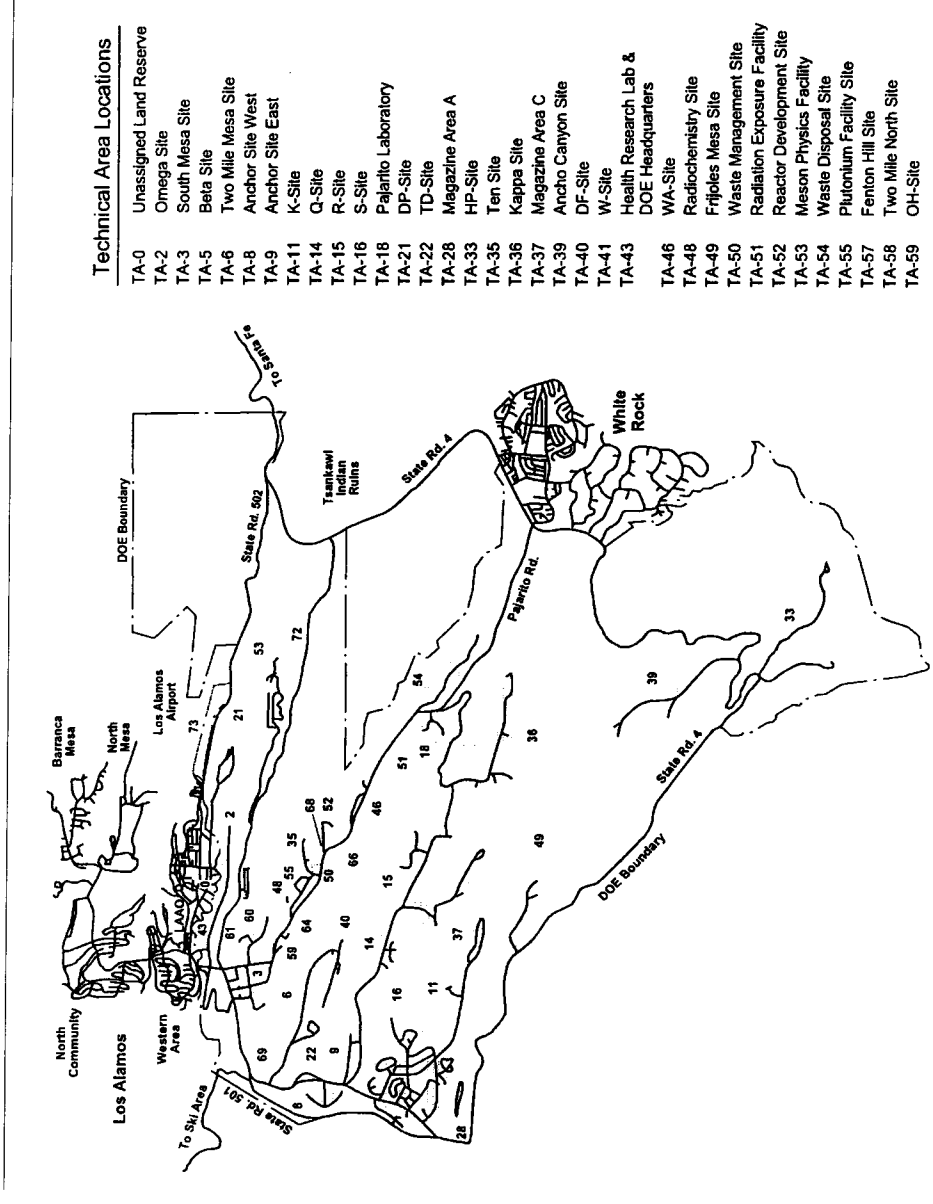
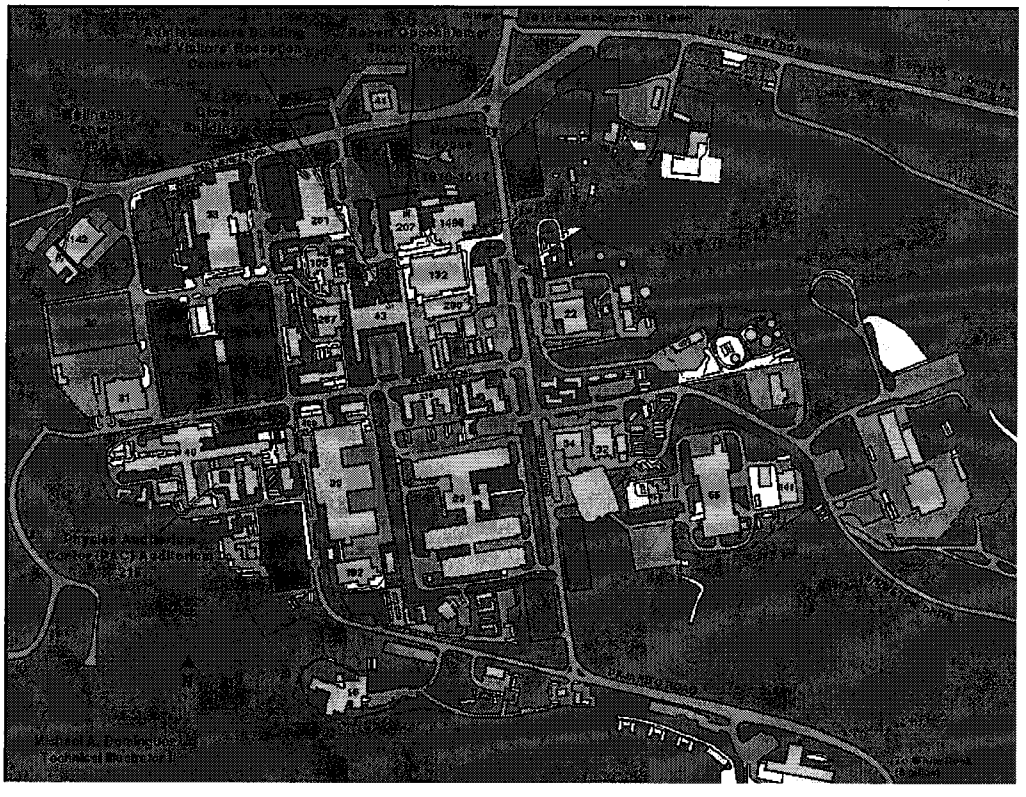


Figure 2. Detailed Map of LANL Technical Area (TA)-3 (Reference M029)



- TA-3, SM-30, initial receipt of OSRP sealed sources at LANL
- TA-3, SM-29 (CMR facility), interim storage and visual examination of OSRP sealed sources

Figure 3. Map of TA-18 Interim Storage (Reference M030)

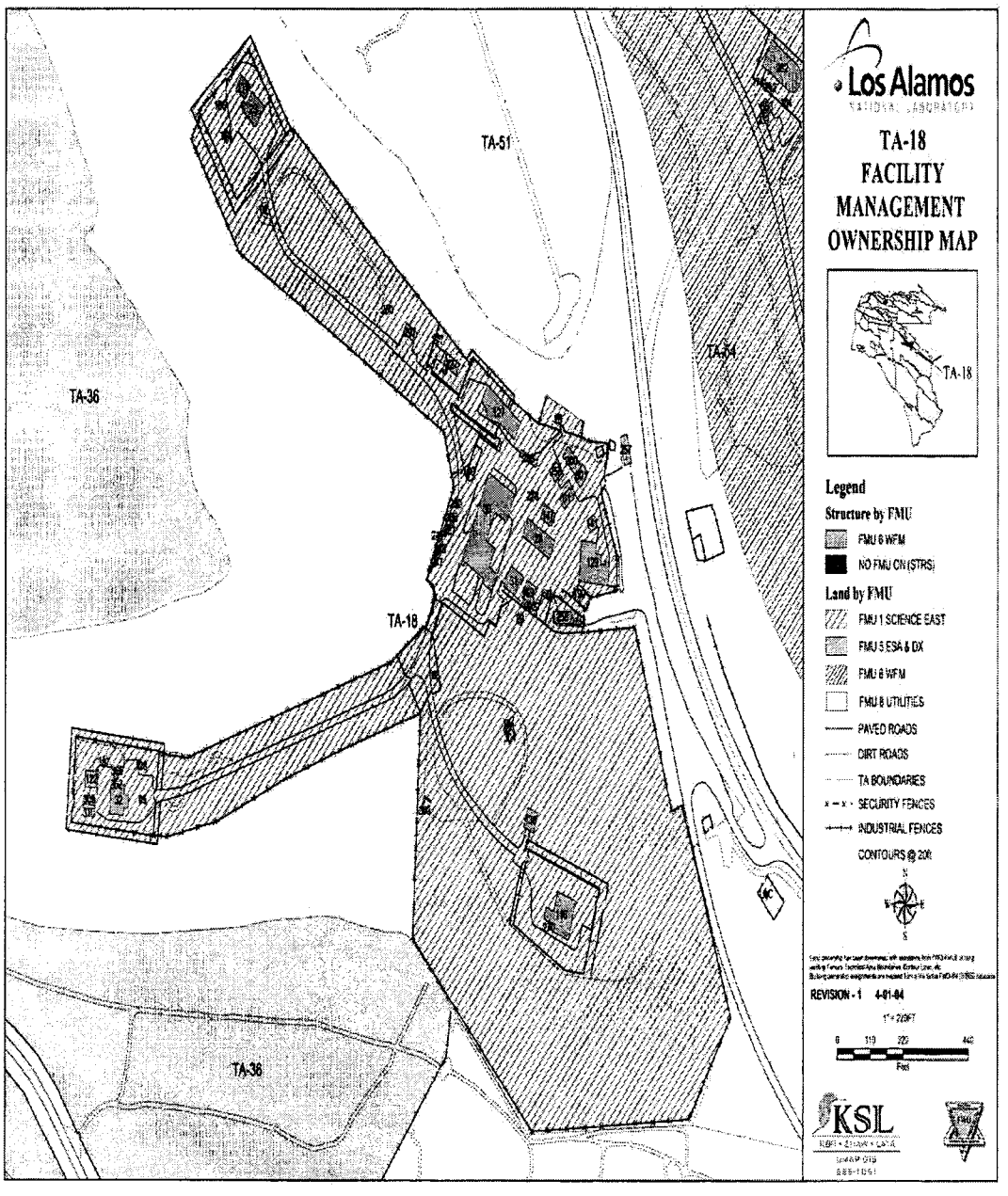


Figure 4. Map of TA-54 TRU Waste Storage Domes (Reference M030)

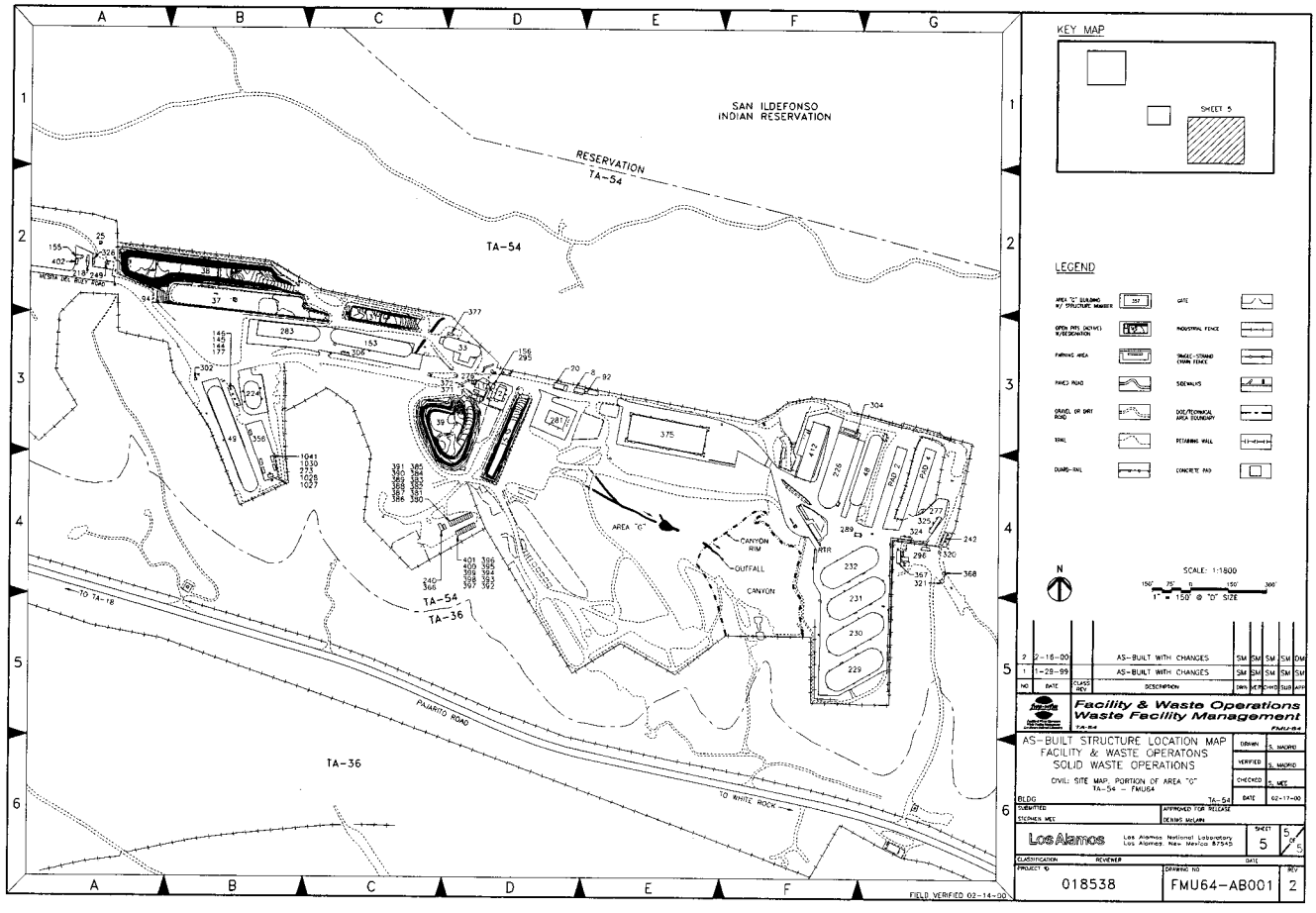
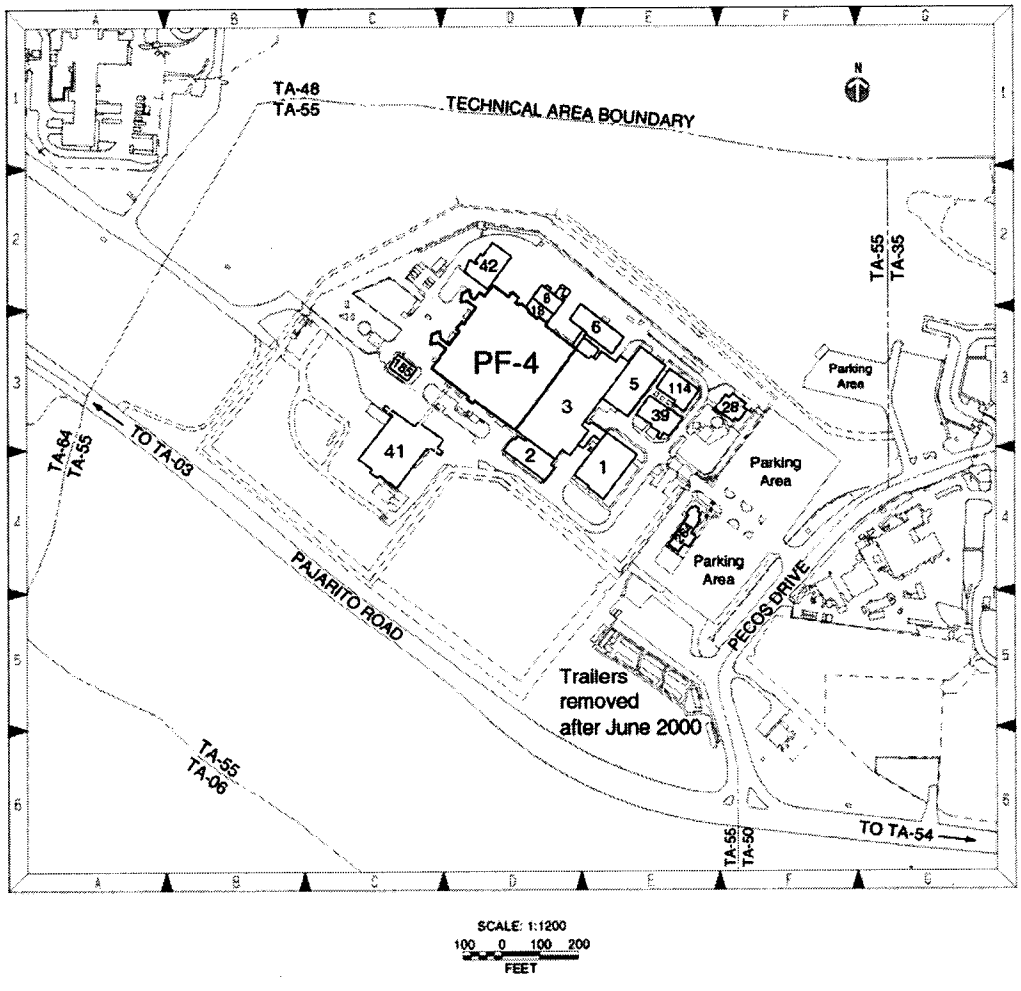


Figure 5. Map of TA-55 (Reference M030)



Note: The Plutonium Facility, Building PF-4, is labeled PF-4 on this map.

Attachment 2 – Projected OSRP Waste Volumes

Numbers of OSR Sources Recovered

Year	Alpha-Nuclides WIPP	Beta-Gamma including SCATR	Other Nuclides	α/(α+β+γ+scatr)	α/(α+β+γ+scatr+other)
FY2006	1564	386	211	0.80	0.72
FY2007	1483	199	143	0.88	0.81
FY2008	1051	950	446	0.53	0.43
FY2009 to 9/30/09	1303	2041	1029	0.39	0.30
Total Drum Predictions for FY2010-2025*					1128 drums
Source References: M172, M173					

*The Congressional metric for FY09 was 3598 total sources (includes alpha and beta-gamma and other radionuclides). FY09 is considered to be a representative year for future OSRP recoveries. The assumption for the future number of alpha/TRU sources recovered yearly will be based on the value of 40% obtained for FY09, for the ratio of TRU sources to the total number of alpha, beta, gamma, and Source Collection and Threat Reduction (SCATR) sources recovered by OSRP.

1. The number of alpha sources to be recovered in FY09 is: number of alpha sources = 0.4*3598= 1439 sources.
2. The average activity of alpha sources recovered is 1Ci.
3. Assume an average activity loading per drum of 17.5Ci, which is half of the maximum packaging limits set by transportation and contact dose, of 35Ci.
4. Calculation of number of sources per drum based on average activity drum loading and average alpha source activity: number of sources/drum = 17.5 Ci/ 1Ci/source = 17.5 sources/drum.
5. Predicted number of drums to be recovered based on the metric set for FY09 of 1439 sources, and average amount of sources/drum: number of drums = 1439 source/17.5 sources/drum = 82 drums.
6. Predicted number of TRU drums for the FY 2010-2025 assuming a total of 19739 of TRU sources to be recovered: number of drums = 19739 source/17.5 sources/drum = 1,128 drums.

Attachment 2 – Projected OSRP Waste Volumes (Continued)

Projected Recoveries for FY 2010-2025 by Isotope

	Pu-238	Pu-239	Am-241
Sources Recovered in FY 2009 to 9/30/2009	65	132	1,106
% TRU Sources Recovered by Isotope	4.99	10.13	84.88
Projected # Sources to be Recovered in FY 2010-2025	985	2,000	16,755
Drums recovered in FY 2009 to 9/30/2009	12	14	25
% Drums Recovered by Isotope	24	27	49
Projected # Drums to be Recovered in FY2010-2025	265	310	553
Source References: M172, M173			

Calculations for Projected Recoveries:

The prediction of number of sources to be recovered between FY2010-2025 is based on the % of TRU sources recovered by isotope for FY09 and the number derived out of the Congressional metric for TRU sources to be recovered for the chosen time interval.

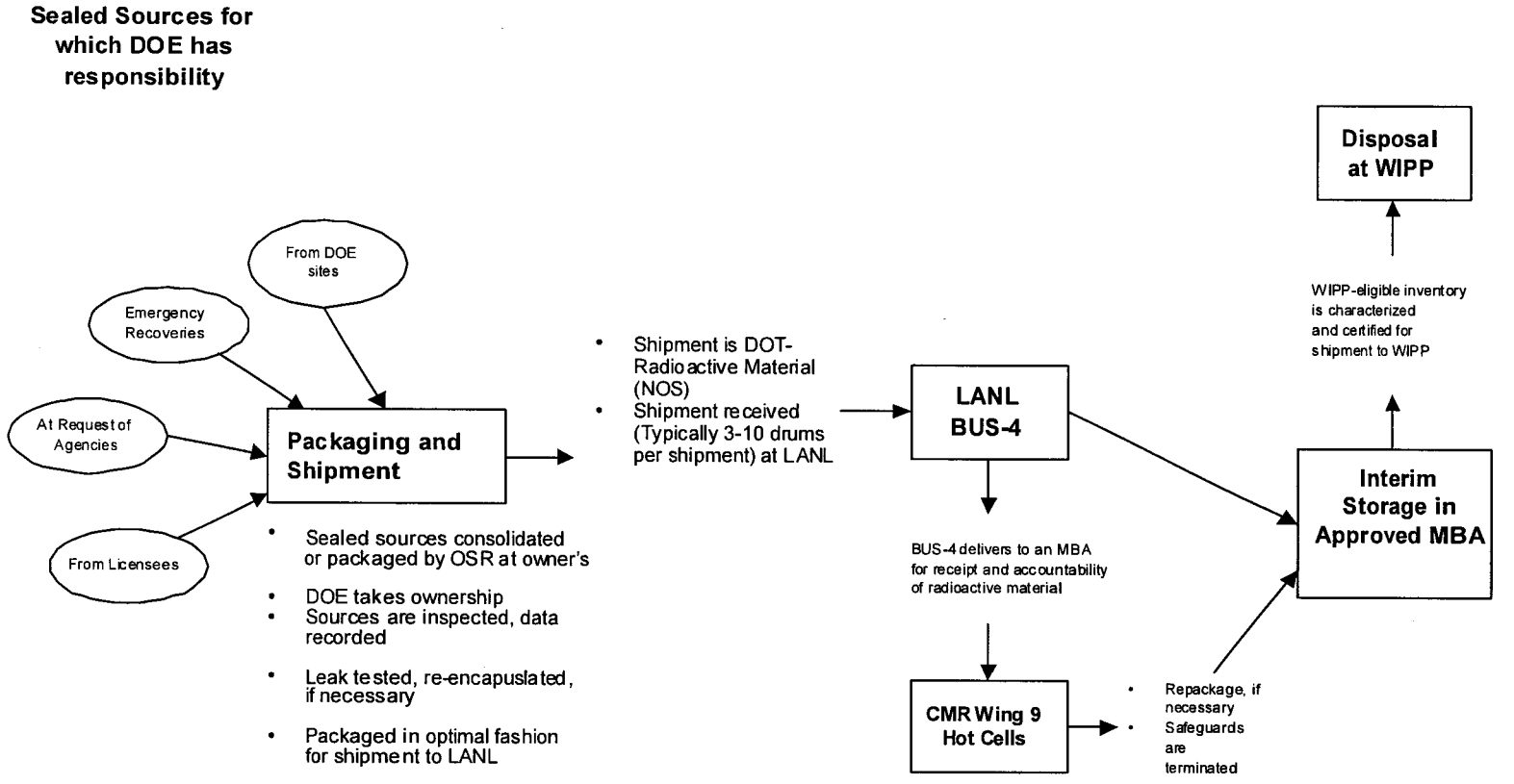
Example of calculations for Pu-238:
% of Pu-238 recovered in FY09 = 65*100/(65+132+1106) = 4.99

Projected Pu-238 #sources for FY2010-2025 = 4.99*19739/100 = 985 sources

% of Pu-238 drums recovered in FY09 = 12*100/(12+14+25) = 24

Projected Pu-238 #drums for FY2010-2025 = 0.24*1128 = 265 drums

Attachment 3 – Schematic of OSRP Process



Legend

CMR	Chemistry, Materials, and Research
MBA	Material Balance Area
NOS	Not Otherwise Specified
SM-30	LANL Receiving Facility at TA-3
BUS-4	Materials Management Organization

Attachment 4 – Regulatory Definitions

10 CFR § 30.4 (1-1-04 Edition): Sealed source means any byproduct material that is encased in a capsule designed to prevent leakage or escape of the byproduct material.

10 CFR § 835.2 (1-1-04 Edition): Sealed radioactive source means a radioactive source manufactured, obtained, or retained for the purpose of utilizing the emitted radiation. The sealed radioactive source consists of a known or estimated quantity of radioactive material contained within a sealed capsule, sealed between layers of non-radioactive material, or firmly fixed to a non-radioactive surface by electroplating or other means intended to prevent leakage or escape of the radioactive material. Sealed radioactive sources do not include reactor fuel elements, nuclear explosive devices, and radioisotope thermoelectric generators.

49 CFR § 173.403: Special Form Class 7 (radioactive) material means Class 7 (radioactive) material which satisfies the following conditions:

(1) It is either a single solid piece or is contained in a sealed capsule that can be opened only by destroying the capsule.

(2) The piece or capsule has at least one dimension not less than 5 millimeters (0.2 inch); and

(3) It satisfies the test requirements of Sec. 173.469. Special form encapsulations designed in accordance with the requirements of Sec. 173.389(g) in effect on June 30, 1983 (see 40 CFR part 173, revised as of October 1, 1982), and constructed prior to July 1, 1985 and special form encapsulations designed in accordance with the requirements of Sec. 173.403 in effect on March 31, 1996 (see 49 CFR part 173, revised as of October 1, 1995), and constructed prior to April 1, 1997, may continue to be used. Any other special form encapsulation must meet the requirements of this paragraph.

Attachment 5 – Description of Typical OSRP Sealed Sources

Type of Sealed Source*	Preparation	Typical Ratio of Mixture with Be*	Final form	Encapsulation	Typical Dimensions of Encapsulated Source	Average TRU Content
Pu-238/Be general neutron sources	Pu-238 oxide mixed with Be metal powder	10 parts Be to 1 part Pu by weight	Hard pellet	Two layers of stainless steel	3" L x 1" dia, 4.2" L x 1.62" dia, 7" L x 1.5" dia	5- 60 Ci 0.3 – 3.5 g
Pu-239/Be general neutron sources	Pu-239, as metal fused in a tantalum crucible with Be metal	2 parts Pu to 1 part Be by weight	Low-grade metal alloy clad with tantalum	Crucible is capped, welded closed, and placed in stainless steel	1" L x 1.5" dia	0.5 - 5 Ci 8 - 80 g
Pu-238 heat sources	Heat source grade Pu dioxide fuel surrounded by three metal layers (tantalum, platinum/ iridium, tantalum)	NA	Hard ceramic disk-shaped	Layer of electric generator surrounded by two layers of titanium	1.05" L x 2.75" dia	mCi - 5 Ci <0.3 g
Am-241/Be general neutron sources	Am-241, in oxide powder form, mixed with Be metal powder	5 parts Be to 1 part Am by weight	Hard pellet	Two layers of stainless steel	1.0" L x 0.5" dia	1 – 8 Ci 0.3 - 2.5 g
Am-241 gamma sources	Am-241 in oxide form, mixed with plastic or ceramic	NA	Foils or pellets	Metal	None given	µCi to mCi

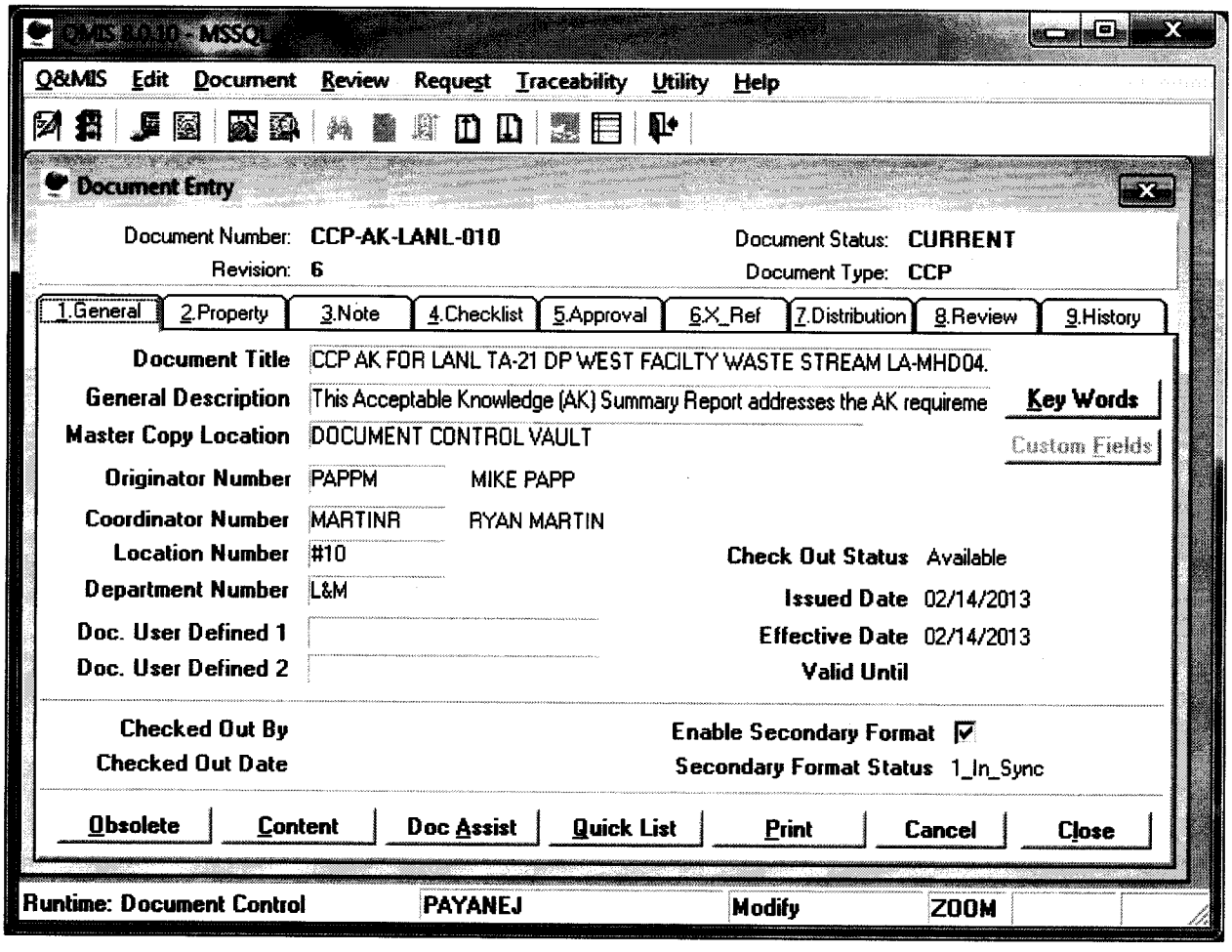
Attachment 5 – Description of Typical OSRP Sealed Sources (Continued)

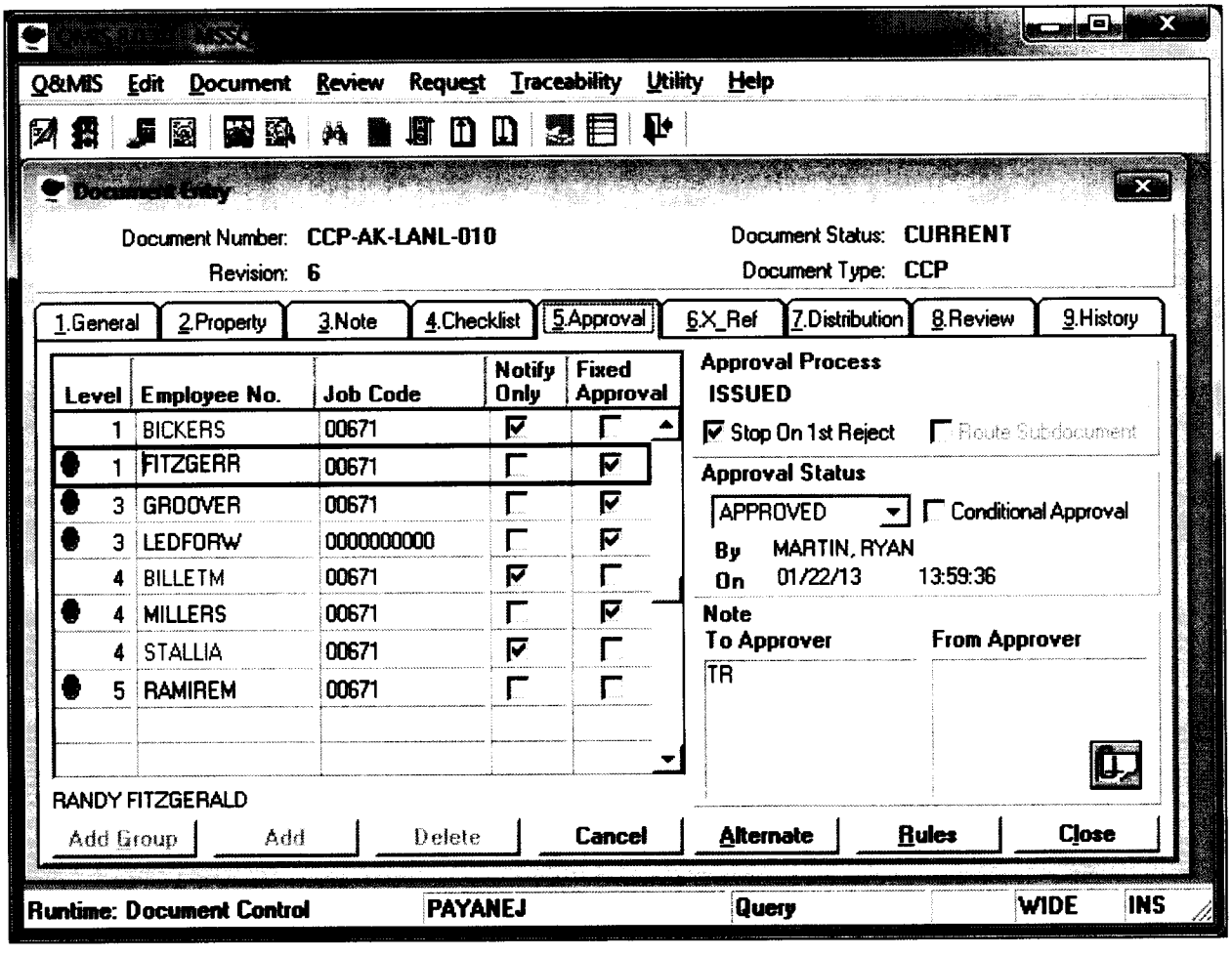
Type of Sealed Source*	Preparation	Typical Ratio of Mixture with Be*	Final form	Encapsulation	Typical Dimensions of Encapsulated Source	Average TRU Content
Am-241/Be/Cs-137 combination neutron/gamma source	Am-241 in oxide powder form mixed with Be metal powder, Cs Glass (Silicate)	5 parts Be to 1 part Am by weight	Metal encapsulated	Two Layers of stainless steel.	0.6" L x 0.5" dia	40-50 mCi Am-241 10 mCi. Cs-137

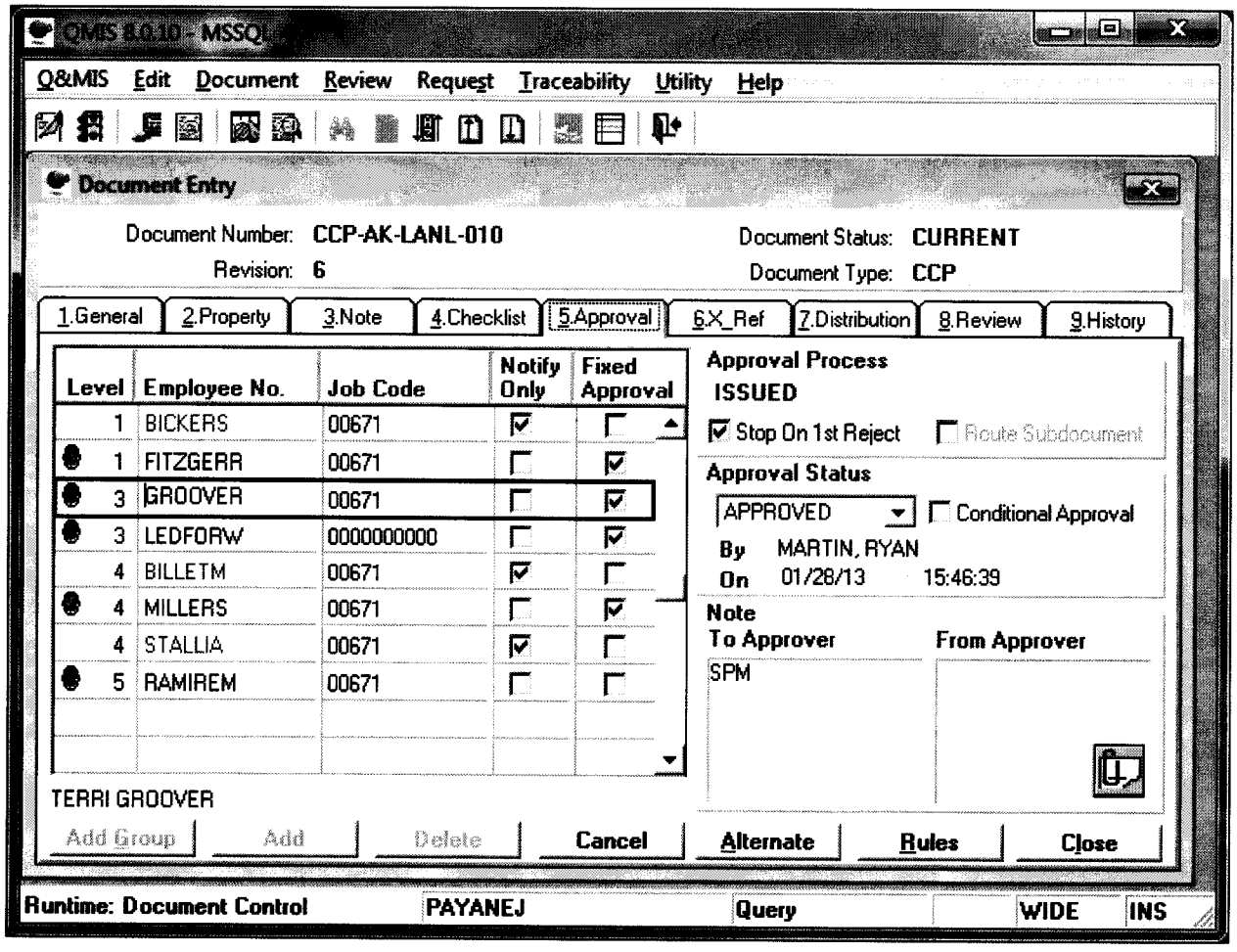
* Li or other light elements could be substituted for Be and all source characteristics remain the same.

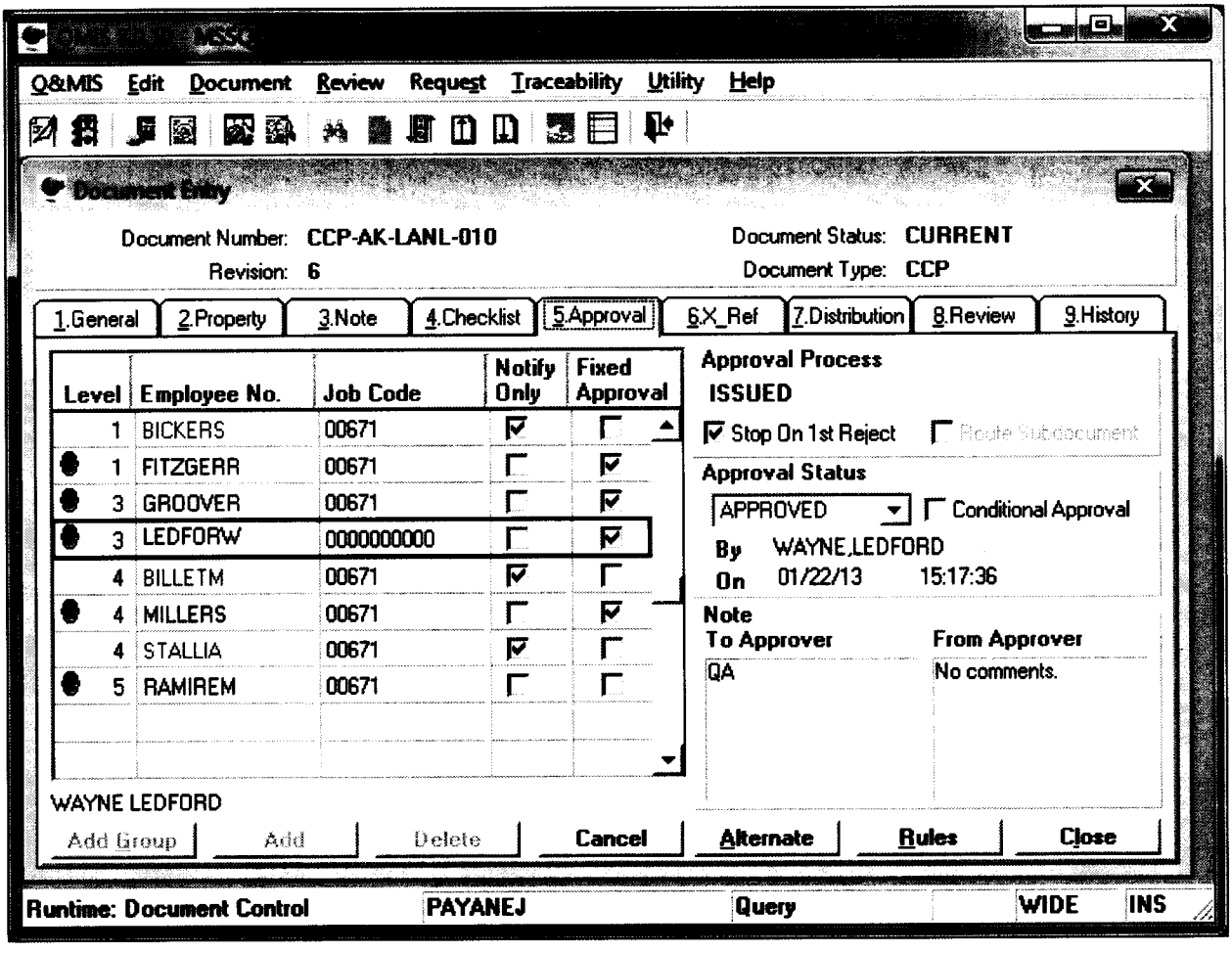
Reference: OSRP, Summary of Sealed Source Types (References D005, M210, and M211)

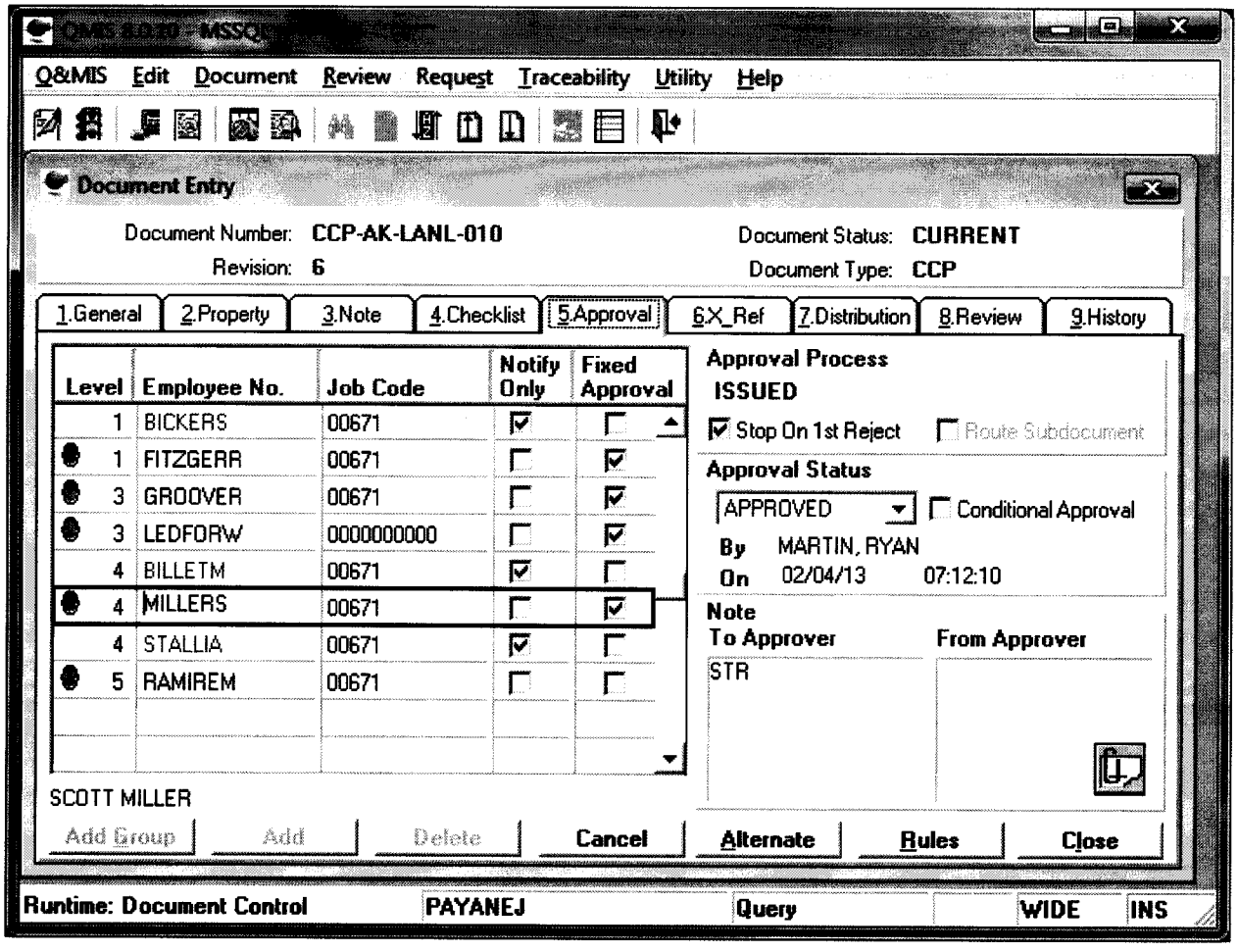
AK4

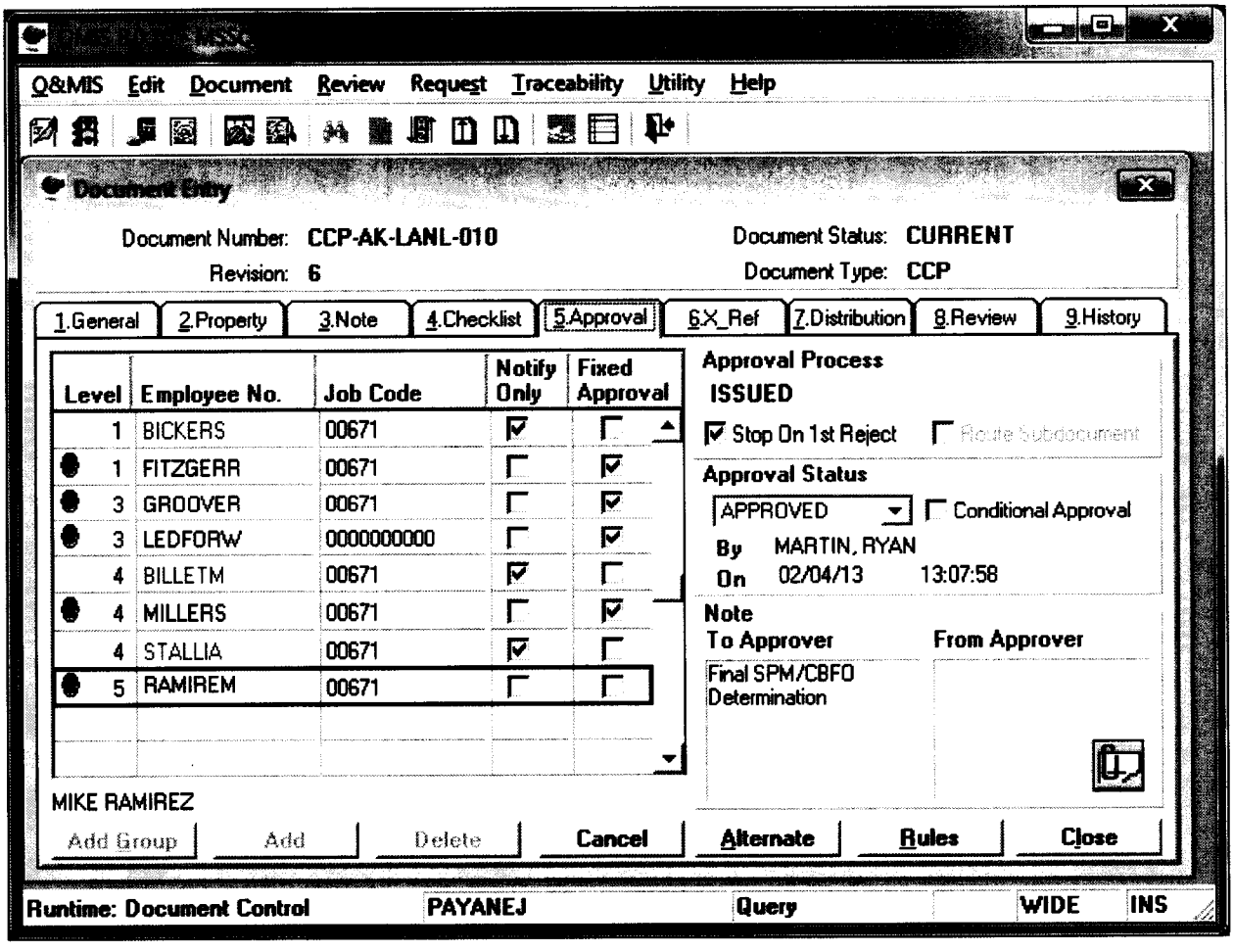

Q&MS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-010
Revision: 6
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Document Title CCP AK FOR LANL TA-21 DP WEST FACILTY WASTE STREAM LA-MHD04.
General Description This Acceptable Knowledge (AK) Summary Report addresses the AK requireme
Key Words
Master Copy Location DOCUMENT CONTROL VAULT
Custom Fields
Originator Number PAPPM MIKE PAPP
Coordinator Number MARTINR RYAN MARTIN
Location Number #10
Check Out Status Available
Department Number L&M
Issued Date 02/14/2013
Doc. User Defined 1
Effective Date 02/14/2013
Doc. User Defined 2
Valid Until
Checked Out By
Enable Secondary Format
Checked Out Date
Secondary Format Status 1_In_Sync
Obsolete Content Doc Assist Quick List Print Cancel Close
Runtime: Document Control PAYANEJ Modify ZOOM


Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-010
Revision: 6
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 BICKERS 00671
1 FITZGERR 00671
3 GROOVER 00671
3 LEDFORW 0000000000
4 BILLETM 00671
4 MILLERS 00671
4 STALLIA 00671
5 RAMIREM 00671
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MARTIN, RYAN
On 01/22/13 13:59:36
Note
To Approver
From Approver
TR
RANDY FITZGERALD
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS

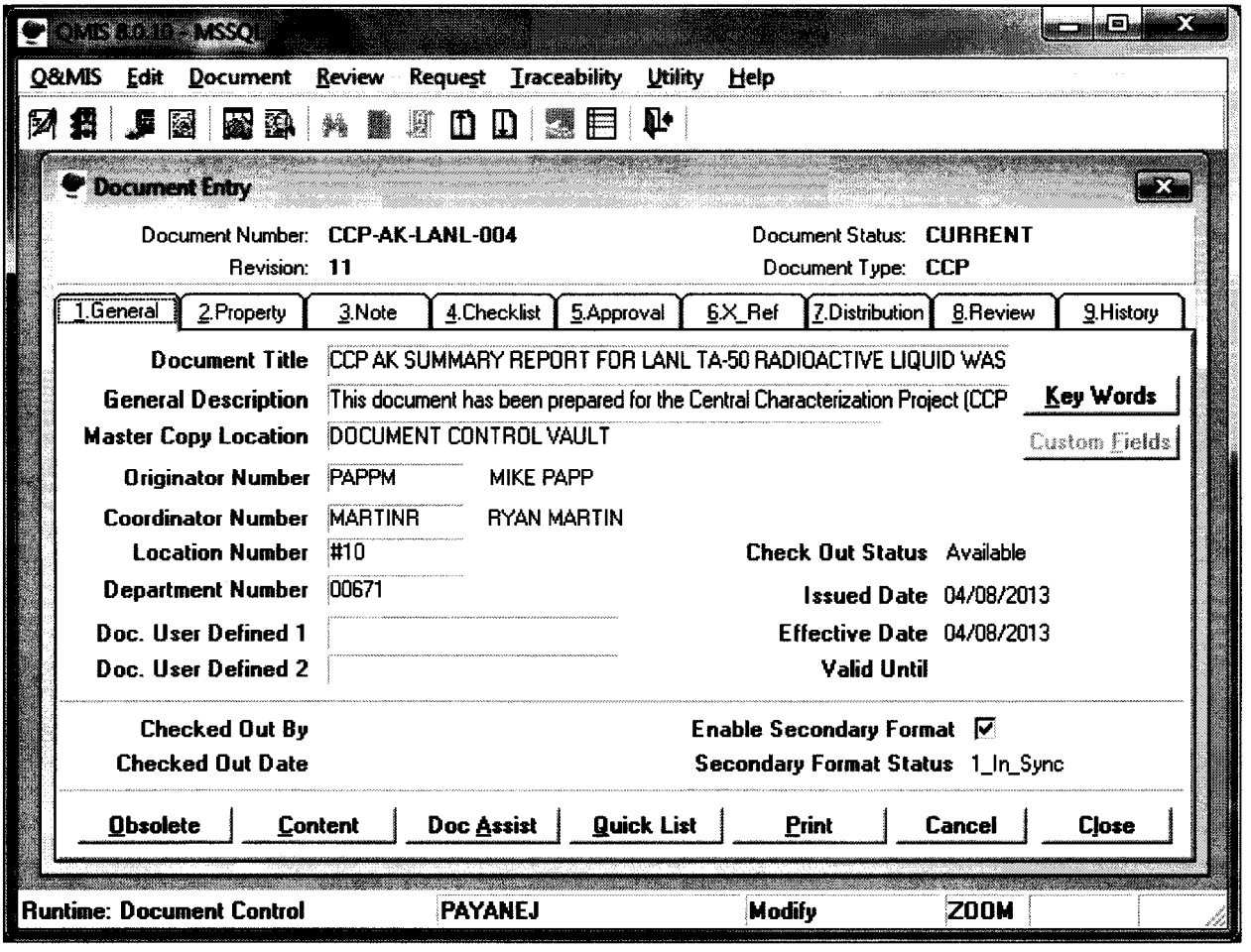

QMS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-010
Revision: 6
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 BICKERS 00671
1 FITZGERR 00671
3 GROOVER 00671
3 LEDFORW 0000000000
4 BILLETM 00671
4 MILLERS 00671
4 STALLIA 00671
5 RAMIREM 00671
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MARTIN, RYAN
On 01/28/13 15:46:39
Note
To Approver
From Approver
SPM
TERRI GROOVER
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS

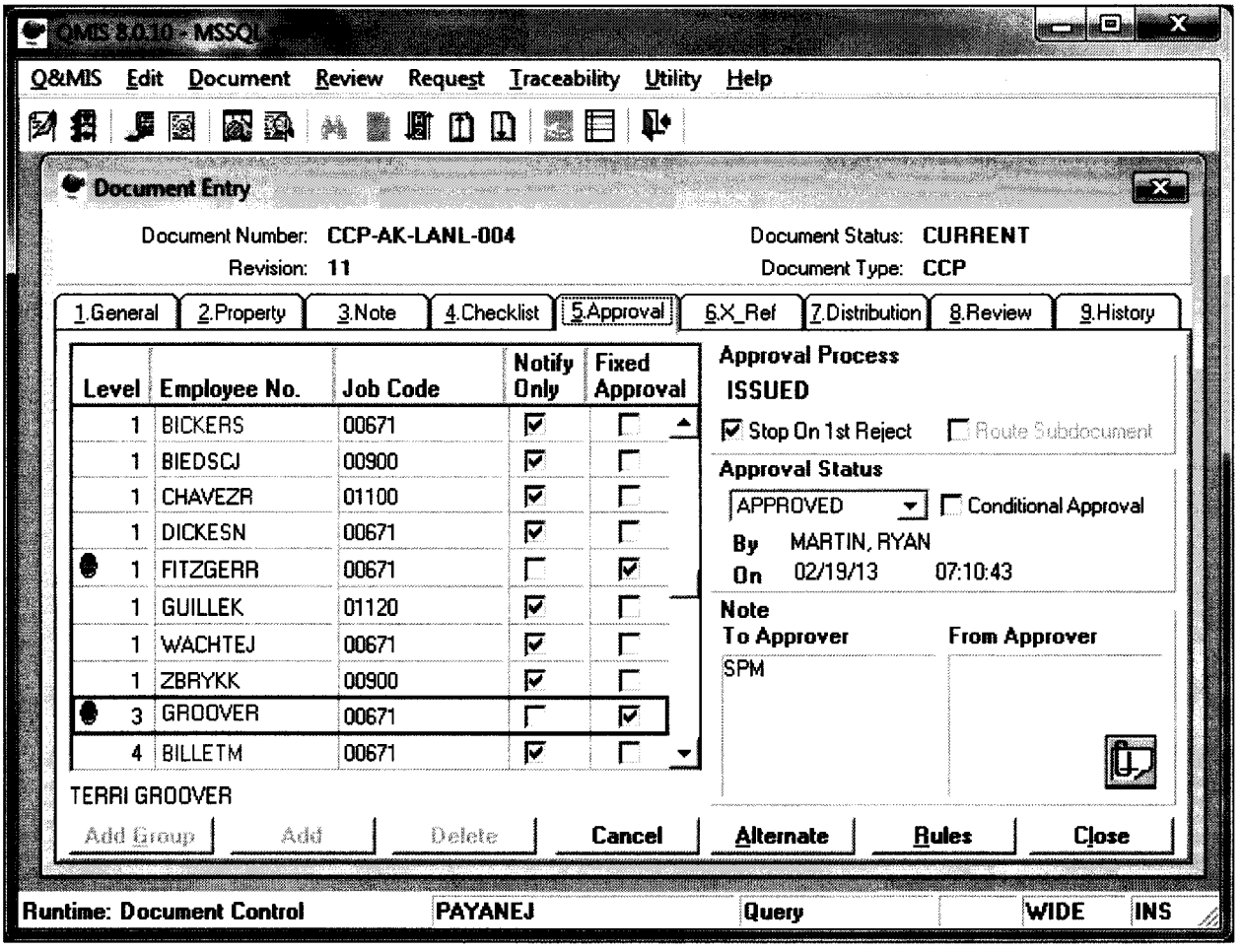

Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-010
Revision: 6
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 BICKERS 00671
1 FITZGERR 00671
3 GROOVER 00671
3 LEDFORW 0000000000
4 BILLETM 00671
4 MILLERS 00671
4 STALLIA 00671
5 RAMIREM 00671
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By WAYNE,LEDFORD
On 01/22/13 15:17:36
Note
To Approver
From Approver
QA
No comments.
WAYNE LEDFORD
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS

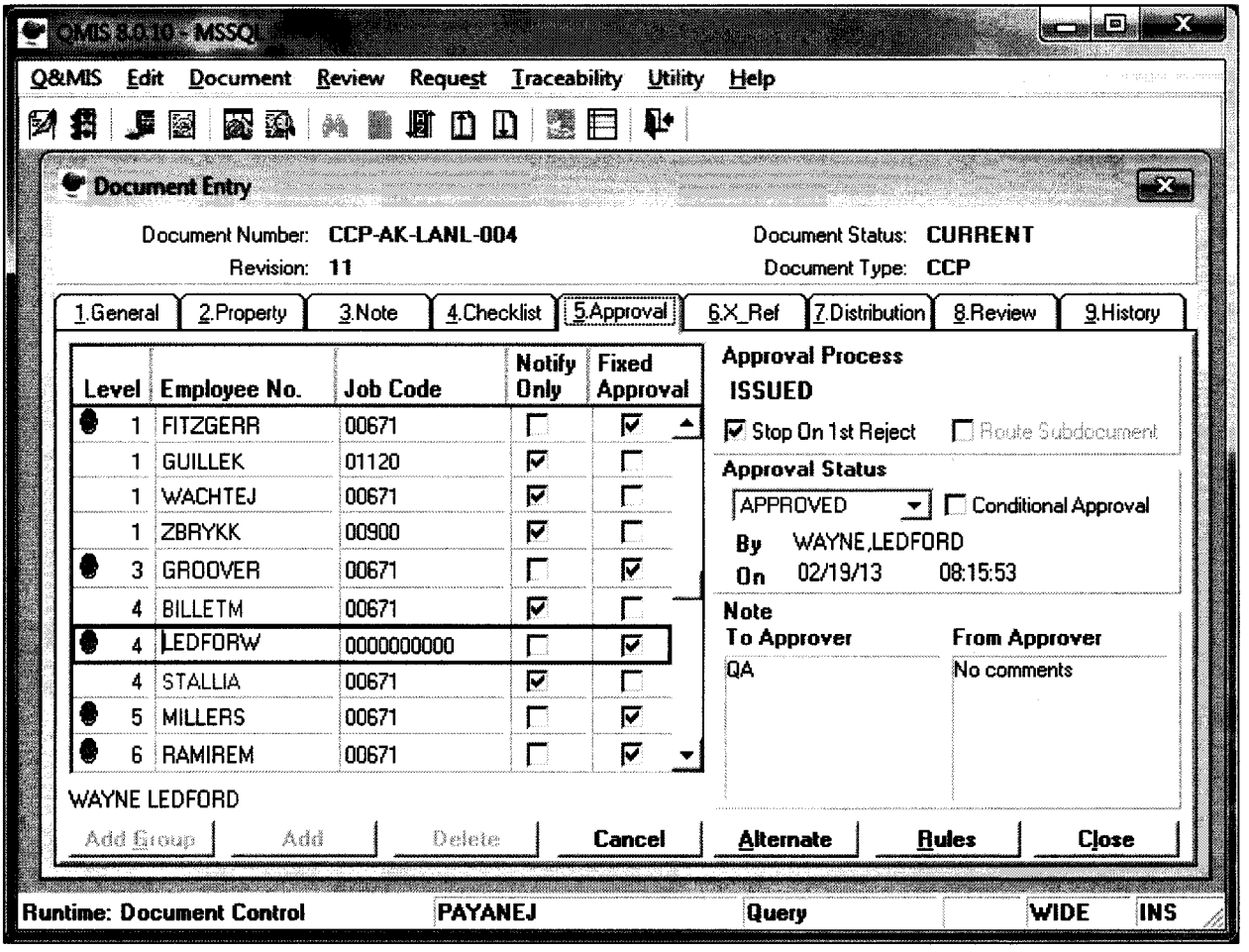

Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-010
Revision: 6
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 BICKERS 00671
1 FITZGERR 00671
3 GROOVER 00671
3 LEDFORW 0000000000
4 BILLETM 00671
4 MILLERS 00671
4 STALLIA 00671
5 RAMIREM 00671
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MARTIN, RYAN
On 02/04/13 07:12:10
Note
To Approver
From Approver
STR
SCOTT MILLER
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS

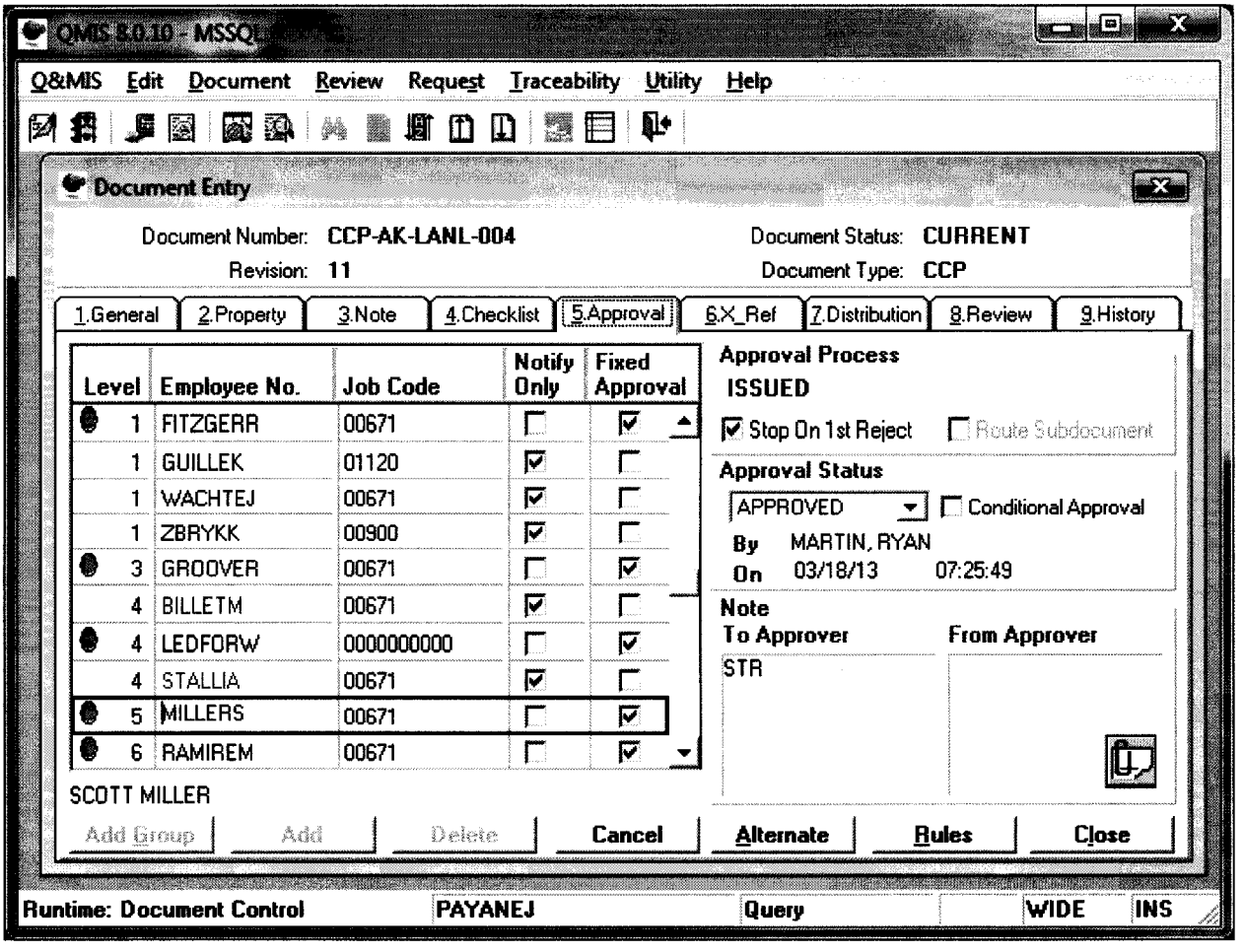

Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-010
Revision: 6
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 BICKERS 00671
1 FITZGERR 00671
3 GROOVER 00671
3 LEDFORW 0000000000
4 BILLETM 00671
4 MILLERS 00671
4 STALLIA 00671
5 RAMIREM 00671
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MARTIN, RYAN
On 02/04/13 13:07:58
Note
To Approver
From Approver
Final SPM/CBFO Determination
MIKE RAMIREZ
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS

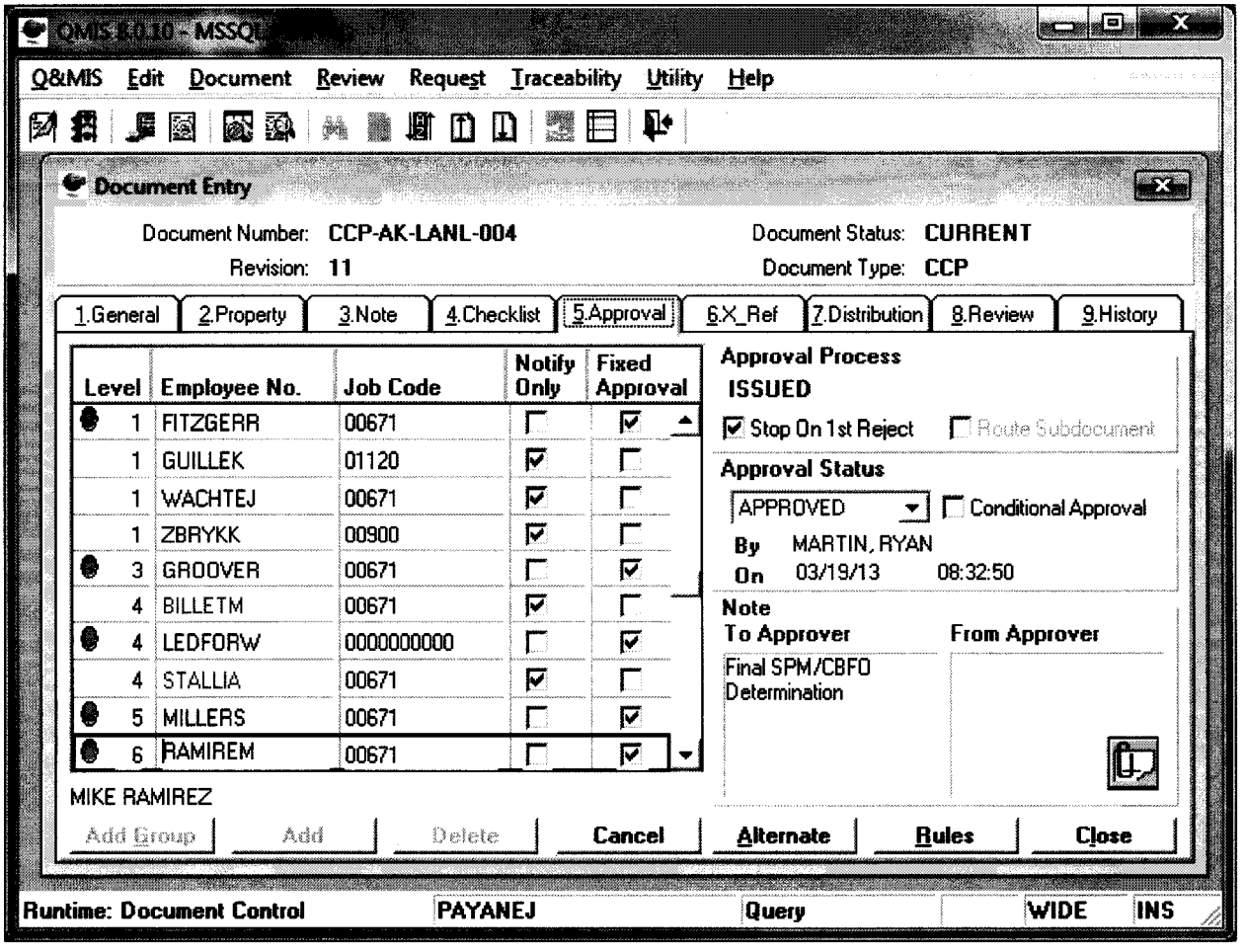
DIVIDER PAGE

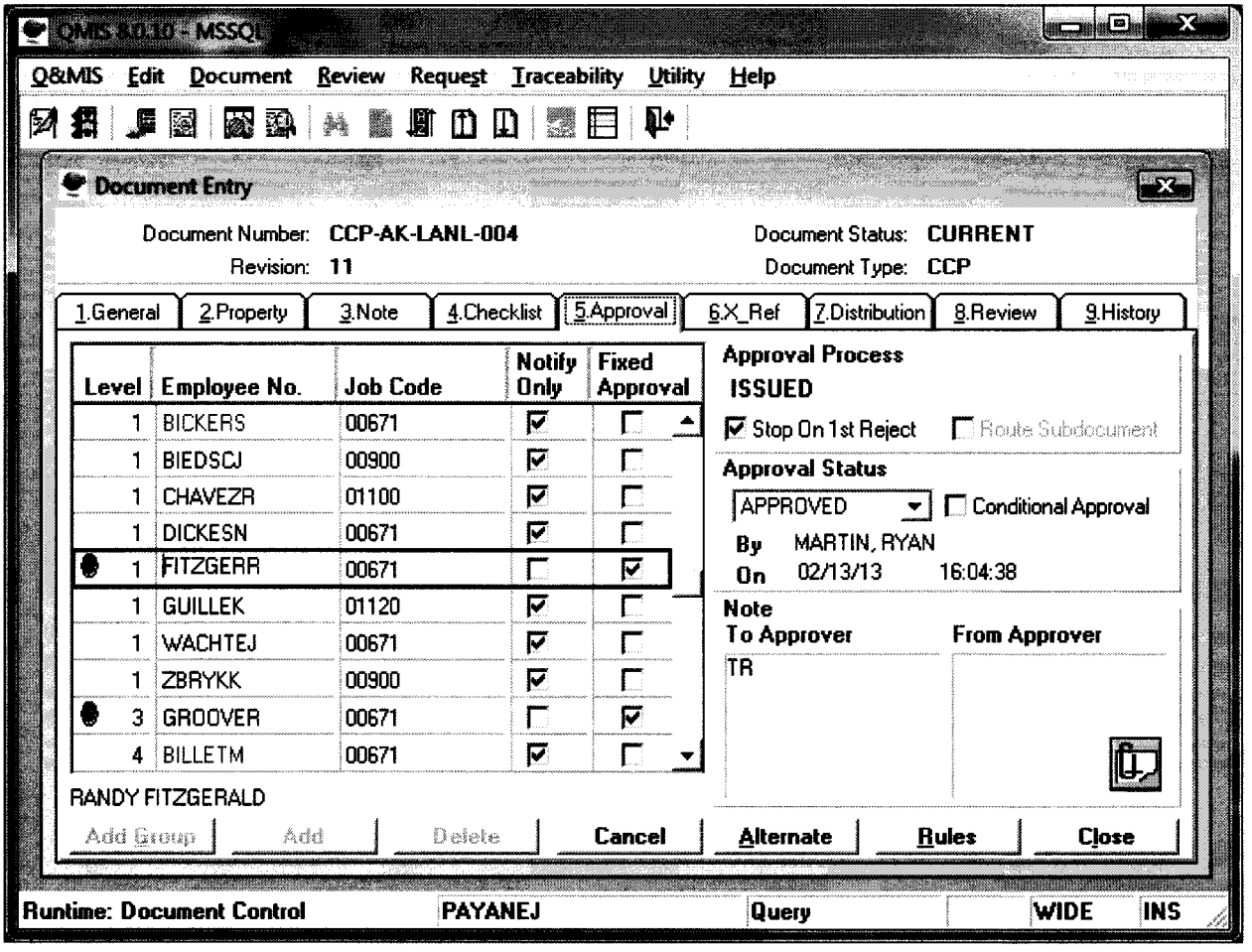

QMS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-004
Document Status: CURRENT
Revision: 11
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Document Title CCP AK SUMMARY REPORT FOR LANL TA-50 RADIOACTIVE LIQUID WAS
General Description This document has been prepared for the Central Characterization Project (CCP
Key Words
Master Copy Location DOCUMENT CONTROL VAULT
Custom Fields
Originator Number PAPPM MIKE PAPP
Coordinator Number MARTINR RYAN MARTIN
Location Number #10
Check Out Status Available
Department Number 00671
Issued Date 04/08/2013
Doc. User Defined 1
Effective Date 04/08/2013
Doc. User Defined 2
Valid Until
Checked Out By
Enable Secondary Format
Checked Out Date
Secondary Format Status 1_In_Sync
Obsolete Content Doc Assist Quick List Print Cancel Close
Runtime: Document Control PAYANEJ Modify ZOOM


Q&MIS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-004
Revision: 11
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 BICKERS 00671
1 BIEDSCJ 00900
1 CHAVEZR 01100
1 DICKESN 00671
1 FITZGERR 00671
1 GUILLEK 01120
1 WACHTEJ 00671
1 ZBRYKK 00900
3 GROOVER 00671
4 BILLETM 00671
TERRI GROOVER
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MARTIN, RYAN
On 02/19/13 07:10:43
Note
To Approver
From Approver
SPM
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS

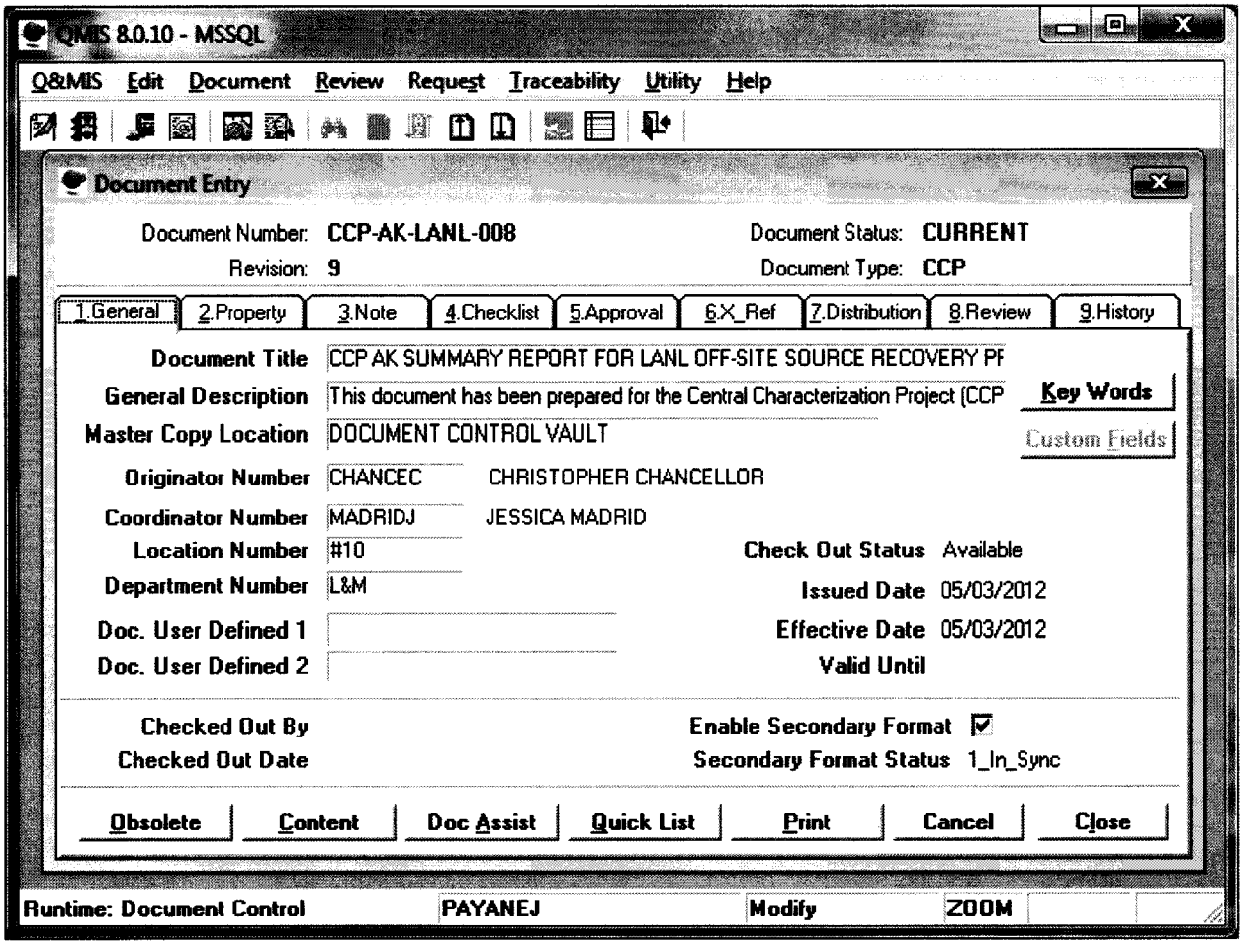

QMIS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-004
Revision: 11
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 FITZGERR 00671
1 GUILLEK 01120
1 WACHTEJ 00671
1 ZBRYKK 00900
3 GROOVER 00671
4 BILLETM 00671
4 LEDFORW 0000000000
4 STALLIA 00671
5 MILLERS 00671
6 RAMIREM 00671
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By WAYNE,LEDFORD
On 02/19/13 08:15:53
Note
To Approver
From Approver
QA
No comments
WAYNE LEDFORD
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS

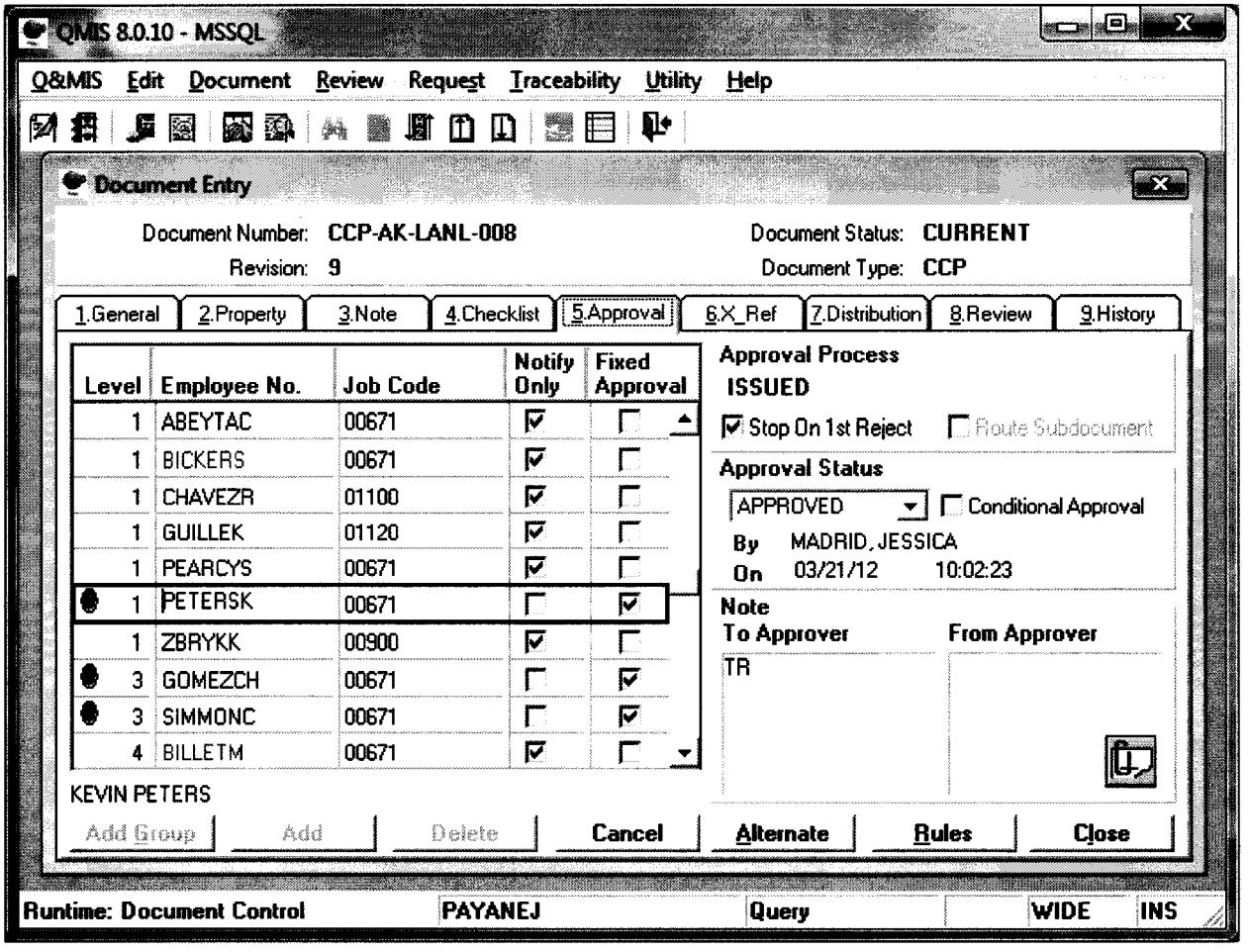

QMS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-004
Revision: 11
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 FITZGERR 00671
1 GUILLEK 01120
1 WACHTEJ 00671
1 ZBRYKK 00900
3 GROOVER 00671
4 BILLETM 00671
4 LEDFORW 0000000000
4 STALLIA 00671
5 MILLERS 00671
6 RAMIREM 00671
SCOTT MILLER
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MARTIN, RYAN
On 03/18/13 07:25:49
Note
To Approver
From Approver
STR
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS

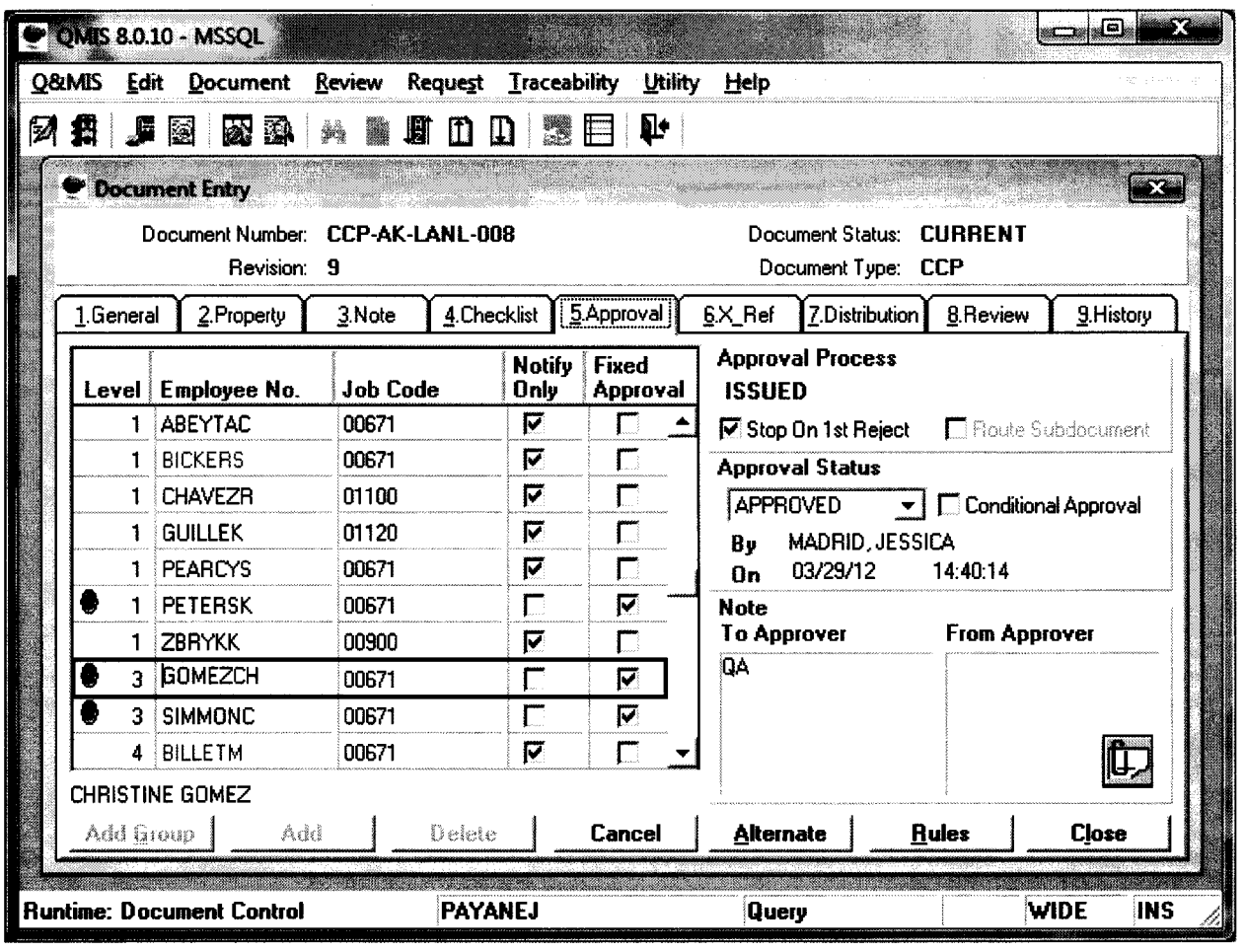

QMIS 2.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-004
Revision: 11
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 FITZGERR 00671
1 GUILLEK 01120
1 WACHTEJ 00671
1 ZBRYKK 00900
3 GROOVER 00671
4 BILLETM 00671
4 LEDFORW 0000000000
4 STALLIA 00671
5 MILLERS 00671
6 RAMIREM 00671
MIKE RAMIREZ
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MARTIN, RYAN
On 03/19/13 08:32:50
Note
To Approver
From Approver
Final SPM/CBFO Determination
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS

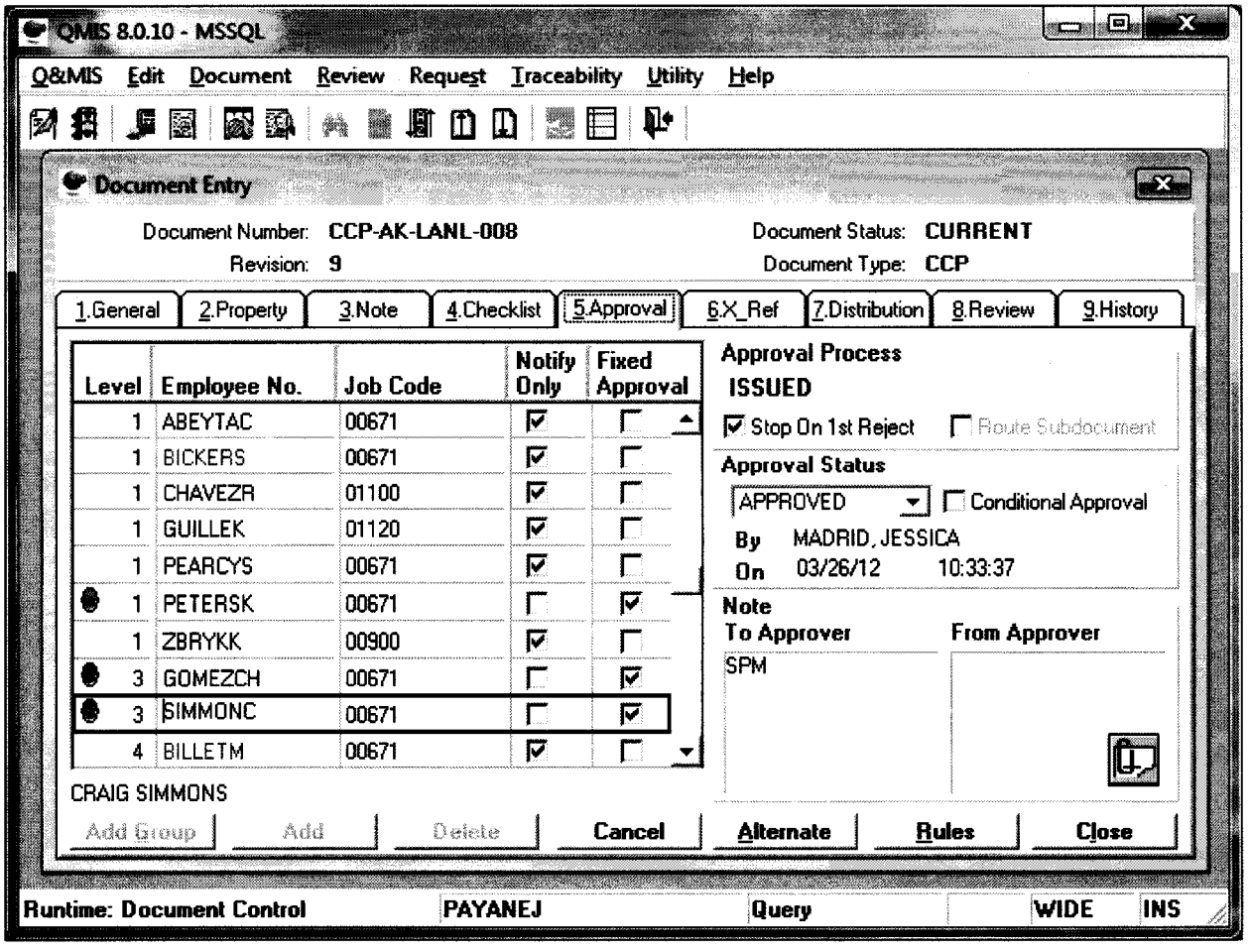

QMIS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-004
Revision: 11
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level | Employee No. | Job Code | Notify Only | Fixed Approval
1 BICKERS 00671
1 BIEDSCJ 00900
1 CHAVEZR 01100
1 DICKESN 00671
1 FITZGERR 00671
1 GUILLEK 01120
1 WACHTEJ 00671
1 ZBRYKK 00900
3 GROOVER 00671
4 BILLETM 00671
RANDY FITZGERALD
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MARTIN, RYAN
On 02/13/13 16:04:38
Note
To Approver
From Approver
TR
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS

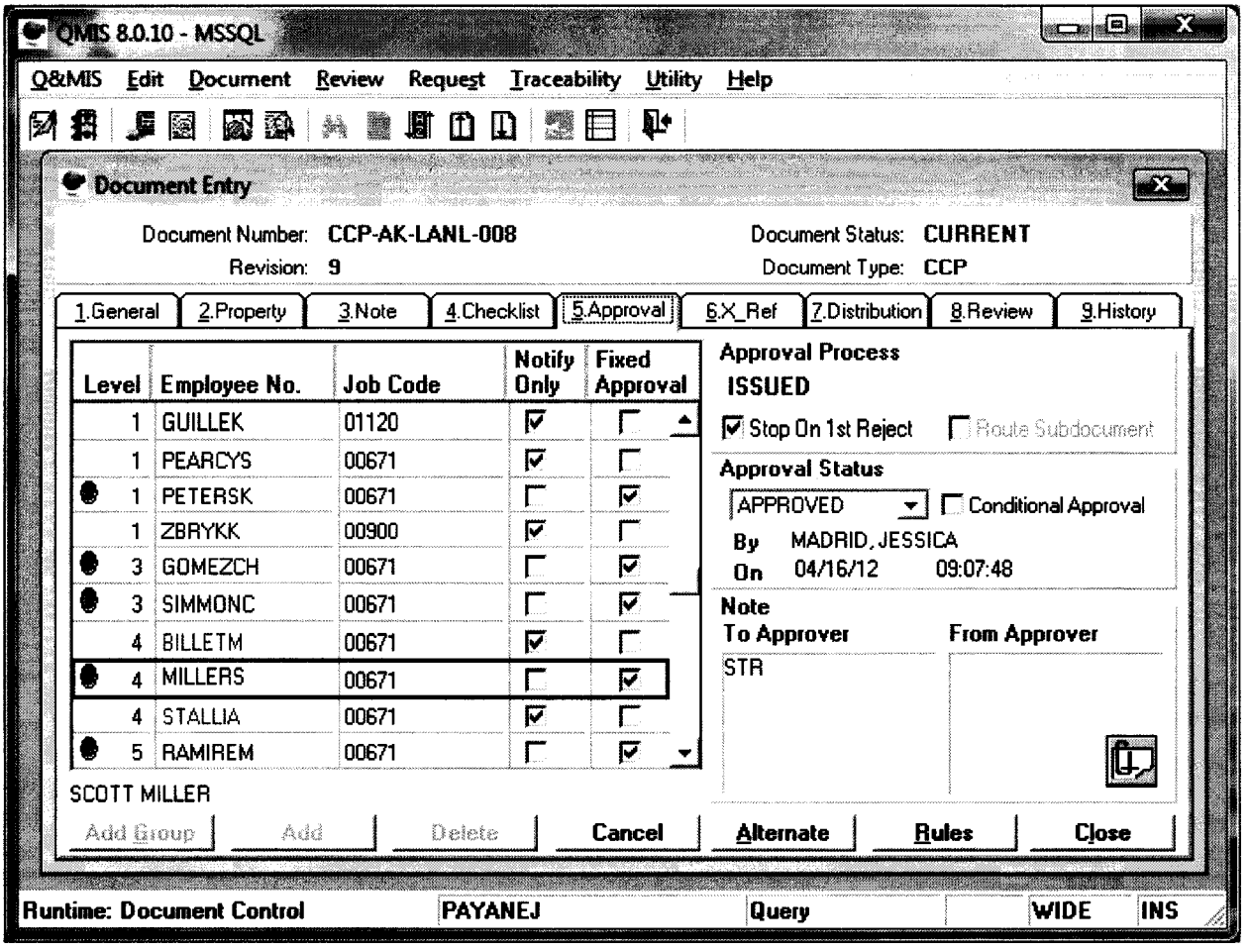
DIVIDER PAGE

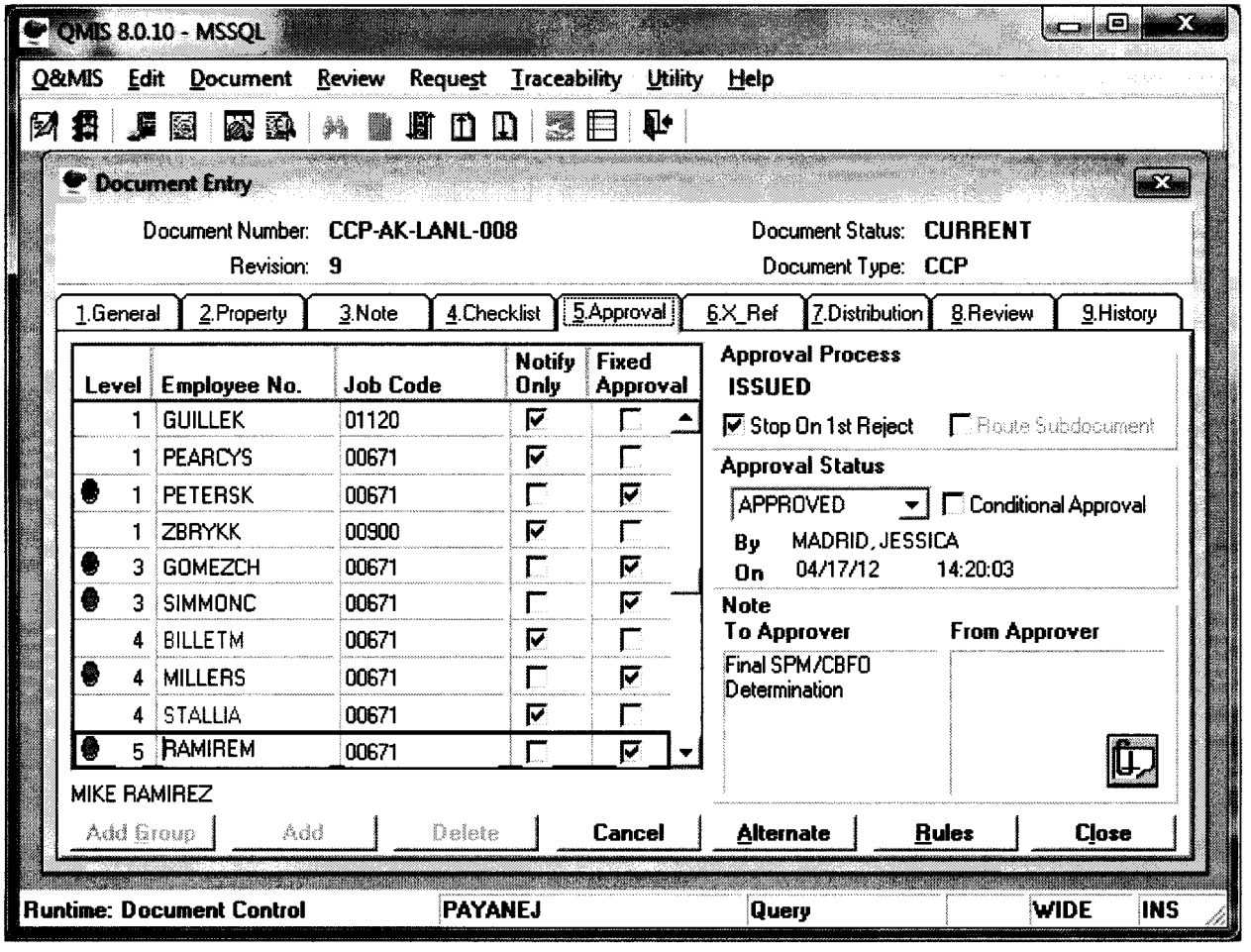

QMIS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-008
Document Status: CURRENT
Revision: 9
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Document Title
CCP AK SUMMARY REPORT FOR LANL OFF-SITE SOURCE RECOVERY PF
General Description
This document has been prepared for the Central Characterization Project (CCP
Key Words
Master Copy Location
DOCUMENT CONTROL VAULT
Custom Fields
Originator Number
CHANCEC
CHRISTOPHER CHANCELLOR
Coordinator Number
MADRIDJ
JESSICA MADRID
Location Number
#10
Check Out Status
Available
Department Number
L&M
Issued Date
05/03/2012
Doc. User Defined 1
Effective Date
05/03/2012
Doc. User Defined 2
Valid Until
Checked Out By
Enable Secondary Format
Checked Out Date
Secondary Format Status
1_In_Sync
Obsolete
Content
Doc Assist
Quick List
Print
Cancel
Close
Runtime: Document Control
PAYANEJ
Modify
ZOOM


QMIS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-008
Revision: 9
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 ABEYTAC 00671
1 BICKERS 00671
1 CHAVEZR 01100
1 GUILLEK 01120
1 PEARCYS 00671
1 PETERSK 00671
1 ZBRYKK 00900
3 GOMEZCH 00671
3 SIMMONC 00671
4 BILLETM 00671
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MADRID, JESSICA
On 03/21/12 10:02:23
Note
To Approver
From Approver
TR
KEVIN PETERS
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS


QMIS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-008
Revision: 9
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 ABEYTAC 00671
1 BICKERS 00671
1 CHAVEZR 01100
1 GUILLEK 01120
1 PEARCYS 00671
1 PETERSK 00671
1 ZBRYKK 00900
3 GOMEZCH 00671
3 SIMMONC 00671
4 BILLETM 00671
CHRISTINE GOMEZ
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MADRID, JESSICA
On 03/29/12 14:40:14
Note
To Approver
From Approver
QA
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS


QMIS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-008
Revision: 9
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 ABEYTAC 00671
1 BICKERS 00671
1 CHAVEZR 01100
1 GUILLEK 01120
1 PEARCYS 00671
1 PETERSK 00671
1 ZBRYKK 00900
3 GOMEZCH 00671
3 SIMMONC 00671
4 BILLETM 00671
CRAIG SIMMONS
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MADRID, JESSICA
On 03/26/12 10:33:37
Note
To Approver
From Approver
SPM
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS


QMIS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-008
Revision: 9
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 GUILLEK 01120
1 PEARCYS 00671
1 PETERSK 00671
1 ZBRYKK 00900
3 GOMEZCH 00671
3 SIMMONC 00671
4 BILLETM 00671
4 MILLERS 00671
4 STALLIA 00671
5 RAMIREM 00671
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MADRID, JESSICA
On 04/16/12 09:07:48
Note
To Approver
From Approver
STR
SCOTT MILLER
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS


QMIS 8.0.10 - MSSQL
Q&MIS Edit Document Review Request Traceability Utility Help
Document Entry
Document Number: CCP-AK-LANL-008
Revision: 9
Document Status: CURRENT
Document Type: CCP
1.General 2.Property 3.Note 4.Checklist 5.Approval 6.X_Ref 7.Distribution 8.Review 9.History
Level Employee No. Job Code Notify Only Fixed Approval
1 GUILLEK 01120
1 PEARCYS 00671
1 PETERSK 00671
1 ZBRYKK 00900
3 GOMEZCH 00671
3 SIMMONC 00671
4 BILLETM 00671
4 MILLERS 00671
4 STALLIA 00671
5 RAMIREM 00671
MIKE RAMIREZ
Approval Process
ISSUED
Stop On 1st Reject
Route Subdocument
Approval Status
APPROVED
Conditional Approval
By MADRID, JESSICA
On 04/17/12 14:20:03
Note
To Approver
Final SPM/CBFO Determination
From Approver
Add Group
Add
Delete
Cancel
Alternate
Rules
Close
Runtime: Document Control
PAYANEJ
Query
WIDE
INS

AK5

URS

CP:11:01561
UFC:5900.00

Washington TRU Solutions LLC

INTER-OFFICE CORRESPONDENCE

DATE: August 22, 2011

FROM: ~~C. R. Kirkes~~ M. F. RAMIREZ MR 3-7-12 — LOCATION: Certification

TO: CCP Records Custodian GSA-212 — LOCATION: Retrieval, Characterization and Transportation

SUBJECT: TRANSMITTAL OF LOS ALAMOS NATIONAL LABORATORY SITE WASTE STREAM PROFILE FORM FOR WASTE STREAM LA-MHD09.001

Please accept the attached Los Alamos National Laboratory site Waste Stream Profile Form to be placed in Records for Waste Stream #LA-MHD09.001.

CRK:jmc

Attachment

cc: (without attachment)
M. Pearcy ED
W. Weyerman ED

CCP RECORDS ORIGINAL
DATE REC'D 3/7/12

Attachment 2 – CCP Waste Stream Profile Form

(1) Waste Stream Profile Number: LA-MHD09.001							
(2) Generator site name: Los Alamos National Laboratory					(4)Technical contact: Sue Peterman		
(3) Generator site EPA ID: NM0890010515					(6) Technical contact phone number: (505)-606-2344		
(5) Date of audit report approval by New Mexico Environment Department (NMED): 8/27/04,6/23/05, 8/31/06, 6/2/08, 9/2/08, 7/24/09, 9/22/2010							
(7) Title, version number, and date of documents used for WAP Certification: CCP-PO-001, CCP Transuranic Waste Characterization Quality Assurance Project Plan, Revision 20, June 16, 2011 CCP-PO-002, CCP Transuranic Waste Certification Plan, Revision 26, July 14, 2011 CCP-PO-012, CCP/Los Alamos National Laboratory (LANL) Interface Document, Revision 8, December 29, 2010 CCP-AK-LANL-004 Central Characterization Project Acceptable Knowledge Summary Report For Los Alamos National Laboratory TA-50 Mixed Transuranic Waste, Waste Streams: LA-MIN03-NC.001, LA-CIN02.001, LA-MHD09.001 Revision 9, August 26,2009							
(8) Did your facility generate this waste	YES	X	NO				
(9) If no, provide the name and EPA ID of the original generator: NA							
Waste Stream Information							
(10) WIPP ID: LA-MHD09.001[1]					(11) Summary Category Group: S5000		
(12) Waste Matrix Code Group: Heterogeneous Debris Waste					(13) Waste Stream Name: Heterogeneous Debris Waste from TA-50		
(14) Description from the TWBIR: Mixed heterogeneous combustible and non-combustible debris from the TA-50-01 RLWTF, TA-50-37 CAI, and TA-50-69 WCRR Facility generated during facility and equipment maintenance, decontamination and decommissioning (D&D), and waste repackaging activities							
(15) Defense TRU Waste:	YES	X	NO				
(16) Check One:	CH	X	RH				
(17) Number of SWBs 11	(18) Number of Drums[3] 171				(19) Number of Canisters NA		
(20) Batch Data Report numbers supporting this waste stream characterization:							
(21) List applicable EPA Hazardous Waste Numbers:[2] D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, D043, F001, F002, F004, F005, F006, F007, and F009							
(22) Applicable TRUCON Content Numbers: LA 154, LA 215, LA 216, LA 217, LA 218, LA 219, LA 220, LA 223, LA 225, and SQ 154							
(23)**Acceptable Knowledge Information**							
(For the following, enter the supporting documentation used [i.e., references and dates])							
Required Program Information							
(23A) Map of site: CCP-AK-LANL-004, Revision 9, August 26, 2009, Figures 2							
(23B) Facility mission description: CCP-AK-LANL-004, Revision 9, August 26, 2009, Sections 4.2.1 and 4.2.2							
(23C) Description of operations that generate waste: CCP-AK-LANL-004, Revision 9, August 26, 2009, Section 4.4							
(23D) Waste identification/categorization schemes: CCP-AK-LANL-004, Revision 9, August 26, 2009, Section 4.3.1							
(23E) Types and quantities of waste generated: CCP-AK-LANL-004, Revision 9, August 26, 2009, Section 4.3.5							
(23F) Correlation of waste streams generated from the same building and process, as applicable: CCP-AK-LANL-004, Revision 9, August 26, 2009, Section 4.3.6							

(24) Waste certification procedures: CCP-TP-030, Revision 29, CCP CH TRU Waste Certification and WWIS/WDS Data Entry, April 26,2011			
(25)Required Waste Stream Information			
(25A) Area(s) and building(s) from which the waste stream was generated: CCP-AK-LANL-004, Revision 9, August 26, 2009, Section 7.1			
(25B) Waste stream volume and time period of generation: CCP-AK-LANL-004, Revision 9, August 26, 2009, Section 7.2			
(25C) Waste generating process description for each building: CCP-AK-LANL-004, Revision 9, August 26, 2009, Section 4.4			
(25D) Waste Process flow diagrams: CCP-AK-LANL-004, Revision 9, August 26, 2009, figures 3,4, and 5			
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form: CCP-AK-LANL-004, Revision 9, August 26, 2009, Section 7.4			
(25F) Waste Material Parameter Weight Estimates per unit of waste: See Table 2 of the Summation of Aspects of AK Summary Report: Waste Stream LA-MHD09.001.			
(26) Which Defense Activity generated the waste: (check one)			
	Weapons activities including defense inertial confinement fusion		Naval Reactors development
	Verification and control technology		Defense research and development
X	Defense nuclear waste and material by products management		Defense nuclear material production
	Defense nuclear waste and materials security and safeguards and security investigations		
(27)Supplemental Documentation			
(27A) Process design documents: See D071 and D072 in CCP-AK-LANL-004, Revision 9, Section 8.0			
(27B) Standard operating procedures: See D108, D113, D115, D116, M041, M087, M089, M090, M178, M190, M202, P007, P008, P013, P014, P015 and P016 in CCP-AK-LANL-004, Revision 9, Section 8.0			
(27C) Safety Analysis Reports: See D005 in CCP-AK-LANL-004, Revision 9, Section 8.0			
(27D) Waste packaging logs: See D074, D113, D115, D117 and M227 in CCP-AK-LANL-004, Revision 9, Section 8.0			
(27E) Test plans/research project reports: NA			
(27F) Site databases: See M018, M219 and M220 in CCP-AK-LANL-004, Revision 9, Section 8.0			
(27G) Information from site personnel: See C014, C017, C026, C029, C035, C037, C054, C056, C061 and C064 in CCP-AK-LANL-004, Revision 9, Section 8.0			
(27H) Standard industry documents: NA			
(27I) Previous analytical data: NA			
(27J) Material safety data sheets: NA			
(27K) Sampling and analysis data from comparable/surrogate Waste: NA			
(27L) Laboratory notebooks: NA			
Confirmation Information[2]			
For the following, when applicable, enter procedure title(s), number(s) and date(s)			
(28)	Radiography: CCP-TP-053, Revision 11, July 20, 2011, CCP Standard Real-Time Radiography (RTR) Inspection Procedure		
(29)	Visual Examination: NA		

(30) Comments:

For a list of the waste characterization procedures used, the associated reference number and date of the respective procedures, see the list of procedures on the attached CIS.

Reviewed by AK Expert: YES [X] **Date:** 6/15/2011

Reviewed by STR (if necessary): YES [X] N/A [ ] **Date:** 6/22/2011

Waste Stream Profile Form Certification:

I hereby certify that I have reviewed the information in this Waste Stream Profile Form, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

(31)	(32) Sue Peterman	(33) 8/1/11
Signature of Site Project Manager	Printed Name	Date

NOTE: (1) The waste was previously identified as the following WIPP ID numbers but was included in the LA-MHD09.001 ID number with the 2010 revision of the ATWIR: LA-TA-50-12, LA-TA-50-15, LA-TA-50-16 and LA-MHD09.001

(2) If, radiography, visual examination were used to confirm EPA Hazardous Waste Numbers, attach signed Characterization Information Summary documenting this determination

(3) This waste stream currently consists of 27 55-gallons drums, 9 85-gallon drums, and 11 other containers totaling an estimated 36 cubic meters of waste, which is equivalent to approximately 171 55-gallon drums

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD09.001

Lot 1

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 003

CCP Headspace Gas UCL_{90} Evaluation Form..... 004

Headspace Gas Summary Data..... 006

RTR/VE Summary of Prohibited Items and AK Confirmation..... 007

Reconciliation with Data Quality Objectives..... 008

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #: 1

AK Expert Review: N/A Date: N/A

SPM Review: Richard Kantrowitz Date: 7/25/2011

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA2000

Headspace Gas Sampling and Analysis (HSG):

CCP-TP-173	Rev. 1	09/30/09	CCP Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-175	Rev. 1	03/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 2	12/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	09/09/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document

CI5002

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Lot # 1

Waste Stream: # LA-MHD09.001

Container ID Number	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR		
							Sample	Analysis	
56511	2LANDA0717	LA-RTR2-10-0143	N/A	N/A	N/A	Yes*	LAHSG11001	ECL11001M	ECL11001G
56514	2LANDA0717	LA-RTR2-10-0143	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
56515	2LANDA0522	LA-RTR2-09-0181	N/A	N/A	N/A		LAHSGS100001	ECL10001M	ECL10001G
56517	2LANDA0717	LA-RTR2-10-0143	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
84607	1LANDA1206	LA-RTR2-10-0033	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
85122	2LANDA0605	LA-RTR2-10-0050	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
85160	2LANDA0613	LA-RTR2-10-0068	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
85710	2LANDA0618	LA-RTR2-10-0065	N/A	N/A	N/A		LAHSGS100002	ECL10028M	ECL10028G
S820647	2LANDA0717	LA-RTR2-10-0143	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
S820648	2LANDA0522	LA-RTR2-09-0181	N/A	N/A	N/A		LAHSGS100001	ECL10001M	ECL10001G

* Requires overpack.

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

7/25/2011
Date

C5003

CCP Headspace Gas UCL_{90} Evaluation Form

WSPF #: LA-MHD09.001

Waste Stream Headspace Gas Lot Number 1 through 1

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Hazardous Waste Number
Benzene	Log	4	10	2.30	-1.68	1.90	-0.85	10	2.30		
Bromoform	Log	0	10	-0.69	-4.04	1.27	-3.49	10	2.30		
Carbon Tetrachloride	Log	0	10	-0.60	-3.67	1.18	-3.15	10	2.30		
Chlorobenzene	Log	2	10	-0.29	-2.94	1.11	-2.45	10	2.30		
Chloroform	Log	1	10	-0.29	-2.97	1.08	-2.50	10	2.30		
Cyclohexane[a]	Log	0	10	0.30	-2.69	1.15	-2.18	10	2.30		
1,1-Dichloroethane	Log	1	10	0.26	-3.05	1.31	-2.48	10	2.30		
1,2-Dichloroethane	Log	2	10	0.14	-2.52	1.20	-2.00	10	2.30		
1,1-Dichloroethylene	Log	0	10	0.26	-3.30	1.34	-2.71	10	2.30		
cis-1,2-Dichloroethylene[c]	Log	0	10	-0.16	-2.75	1.02	-2.30	10	2.30		
trans 1,2-Dichloroethylene	Log	0	10	0.53	-2.78	1.25	-2.23	10	2.30		
Ethyl benzene	Log	3	10	0.59	-2.46	1.64	-1.75	10	2.30		
Ethyl Ether	Log	0	10	0.56	-3.03	1.39	-2.42	10	2.30		
Methylene chloride	Log	3	10	0.18	-2.09	1.23	-1.55	10	2.30		
1,1,2,2-Tetrachloroethane	Log	0	10	-0.69	-3.66	1.14	-3.16	10	2.30		
Tetrachloroethylene	Log	1	10	-0.29	-3.22	1.14	-2.72	10	2.30		
Toluene	Log	8	10	5.39	0.05	3.24	1.47	10	2.30		
1,1,1-Trichloroethane	Log	3	10	-0.22	-2.94	1.55	-2.27	10	2.30		
Trichloroethylene	Log	0	10	-0.05	-3.40	1.28	-2.84	10	2.30		
Trichlorofluoromethane[e]	Log	0	10	-0.16	-3.05	1.20	-2.53	10	2.30		
1,1,2-Trichloro-1,2,2-trifluoroethane	Log	1	10	-0.60	-3.42	1.24	-2.87	10	2.30		
1,2,4-Trimethylbenzene[a]	Log	2	10	0.05	-2.78	1.21	-2.25	10	2.30		
1,3,5-Trimethylbenzene[a]	Log	2	10	0.14	-3.01	1.22	-2.48	10	2.30		
m,p-Xylenes[b]	Log	4	10	1.46	-2.10	1.65	-1.38	10	2.30		
o-Xylene	Log	2	10	0.10	-2.41	1.36	-1.82	100	4.61		
Acetone	Log	8	10	3.04	0.49	1.68	1.23	100	4.61		
Butanol	Log	5	10	4.79	-0.90	2.49	0.19	100	4.61		
Methanol	Log	1	10	4.30	2.66	0.76	3.00	100	4.61		
Methyl ethyl ketone	Log	5	10	1.46	-1.10	1.96	-0.24	100	4.61		

CCP Headspace Gas UCL_{90} Evaluation Form

WSPF #: LA-MHD09.001

Waste Stream Headspace Gas Lot Number 1 through 1

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Hazardous Waste Number
Methyl isobutyl ketone	Log	1	10	0.18	-3.17	1.36	-2.58	10	2.30		
Chloromethane[e]	Log	3	10	2.27	-1.62	2.05	-0.73	10	2.30		
Carbon Disulfide[e]	Log	4	10	0.62	-2.19	1.42	-1.57	10	2.30		
1,2-Dichloropropane[e]	Log	0	10	-0.11	-3.18	1.17	-2.66	10	2.30		
Formaldehyde[c]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydrazine[d]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[a] These compounds are from CCP-PO-003, CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) and are flammable VOCs that do not appear in CCP-PO-001. These are not part of the target analyte list, but samples may be analyzed for these compounds.

[b] These xylene isomers cannot be resolved by the analytical methods employed in the program. m-Xylene and p-Xylene will be reported as "Total m-p-Xylene."

[c] Required only for homogenous solids and soil/gravel waste from Savannah River Site.

[d] Required only for homogenous solids and soil/gravel waste from Oak Ridge National Laboratory and Savannah River Site.

[e] These compounds are reported by the Laboratory and are included for completeness.

Comments:

(1) For analytes where there were no samples measured above the MDL value, 1/2 of the MDL value was used. (Per section C4 of the WAP, 1/2 of the MDL value is used in calculating the mean concentration.)

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

7/25/2011
Date

CTS003

CCP Headspace Gas Summary Data

Waste Stream Number LA-MHD09.001 Lot Number (s) 1

Tentatively Identified Compound	Maximum Observed Estimated Concentrations (ppmv)	# Samples Containing TIC	% Detected
None	N/A	N/A	N/A

Data Supports EPA Hazardous Waste Numbers Assigned by AK? ☑ Yes ☐ No

If no, describe the basis for assigning the EPA Hazardous Waste Codes:

SPM Signature _____ Date 7/25/2011

 CI 5006

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot(s)#: 1

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not performed on any of the containers in this Lot.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: Containers in this waste stream were characterized using RTR. RTR was selected as a characterization method for this Lot because the waste was already packaged and RTR meets all the Data Quality Objectives for NDE for waste stream LA-MHD09.001.

Site Project Manager Signature | Richard Kantrowitz (Printed Name) | 7/25/2011 (Date)

 CIS 007

CCP Reconciliation with Data Quality Objectives

WS# LA-MHD09.001 Lot # 1

Sampling Completeness

RTR:

Number of Valid Samples: 10 Number of Total Samples Analyzed: 10
Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 10 Number of Total Samples Analyzed: 10
Percent Complete: 100 (QAO is 100%)

HSG

Number of Valid Samples: 10 Number of Total Samples Collected: 10
Percent Complete: 100 (QAO is ≥90%)
Number of Valid Samples: 10 Number of Total Samples Analyzed: 10
Percent Complete: 100 (QAO is ≥90%)

Total VOC

Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

Total SVOC

Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

Total Metals

Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

CI500 Y

CCP Reconciliation with Data Quality Objectives

WS# LA-MHD09.001 Lot # 1

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
5	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
6	Y	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for each VOC in the HSG of each container were calculated and compared with the program required quantitation limits, as reported in CCP-TP-003 Attachment 3, and additional U.S. Environmental Protection Agency (EPA) Hazardous Waste Numbers were assigned as required. Samples were randomly collected (when appropriate).
7a	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for solids VOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003, Attachment 4, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7b	NA	Mean concentrations, (UCL_{90}) values for the mean concentration, standard deviations, and the number of samples collected for solids SVOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003, Attachment 5, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7c	NA	Mean concentrations, (UCL_{90}) values for the mean concentration, standard deviations, and the number of samples collected for total metals were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 6, and additional EPA HWNs were assigned as required. Samples were randomly collected.

 CIS009

CCP Reconciliation with Data Quality Objectives

WS# LA-MHD09.001 Lot # 1

8	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
9	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
10	Y	Waste stream can be classified as hazardous or nonhazardous at the 90-percent confidence level.
11	Y	Appropriate packaging configuration and Drum Age Criteria (DAC) is applied and documented in the headspace gas sampling documentation, and the drum age met prior to sampling.
12	Y	TICs were appropriately identified and reported in accordance with the requirements of Section C3-1 of the QAPjP.
13	Y	The PRQLs for headspace gas VOCs were met for all analyses as evidenced by the analytical batch data reports.
14		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA
Headspace Gas Analysis	Y	Y	Y
Solids Sampling	NA	NA	NA
Solids VOCs	NA	NA	NA
Solids SVOCs	NA	NA	NA
Solids Metals	NA	NA	NA

Comments: NONE

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

7/25/2011
Date

CS5010

SUMMATION OF ASPECTS OF AK SUMMARY REPORT: LA-MHD09.001

Overview:

Waste stream LA-MHD09.001 is Contact Handled (CH) mixed transuranic (TRU) heterogeneous combustible and non-combustible debris waste generated from the Technical Area (TA)-50 Facilities at the Los Alamos National Laboratory (LANL). Waste is generated during TA-50-01 Radioactive Liquid Waste Treatment Facility (RLWTF), TA-50-37 Controlled Air Incinerator (CAI), and TA-50-69 Waste Characterization, Reduction, and Repackaging (WCRR) Facility maintenance, decontamination and decommissioning (D&D), and waste repackaging activities. The RLWTF treats radioactive liquid generated during site operations in a manner to ensure protection of workers, the public, and the environment. The CAI was used to test the reduction and stabilization of contaminated TRU wastes by incineration. The WCRR Facility was originally designed for the size reduction of non-routine waste items (e.g., gloveboxes, equipment) that were too large to fit into standard waste containers, such as 55-gallon drums and standard waste boxes (SWBs). The facility currently performs visual examination (VE), repackaging, and prohibited item dispositioning of TRU waste. LANL's inventory of TRU waste destined for disposal at WIPP is stored at the Material Disposal Area G at TA-54.

This waste stream consists of TRU mixed waste generated in support of Department of Energy (DOE) defense nuclear waste and materials by-products management. The TA-50 Facilities treated and processed liquid and solid wastes from facilities that performed defense activities (e.g., TA-55 Plutonium Facility). Therefore, waste stream LA-MHD09.001 is defense related waste.

This Summation of the Acceptable Knowledge (AK) Summary Report includes information to support Waste Stream Profile Form (WSPF) number LA-MHD09.001 for mixed TRU debris waste. The primary source of information for this Summation is CCP-AK-LANL-004, *Central Characterization Project Acceptable Knowledge Summary Report For Los Alamos National Laboratory TA-50 Mixed Transuranic Waste, Waste Streams: LA-MIN03-NC.001, LA-CIN02.001, LA-MHD09.001, Revision 9, dated August 26, 2009.* CCP-AK-LANL-004 includes information obtained from numerous sources, including facility safety basis documentation, historical documents, generator and storage facility waste records, material safety data sheets (MSDSs), and interviews with facility personnel.

Waste Stream Identification Summary:

Waste Stream Name:	Heterogeneous Debris Waste from TA-50
Waste Stream Number:	LA-MHD09.001

Site Where TRU Waste Was Generated:	Los Alamos National Laboratory
Facility Where TRU Waste Was Generated:	TA-50 Facilities
Site Where TRU Waste is Currently Stored:	Los Alamos National Laboratory
Waste Stream Volume – Current:	171 55-gallon drums[1] 11 SWBs
Waste Stream Volume – Projected:	1 55-gallon drum/year totaling an estimated .21 cubic meters of waste
Dates of Waste Generation:	May 1980 to present
TRUCON Content Numbers:	LA 154, LA 215, LA 216, LA 217, LA 218, LA 219, LA 220, LA 223, LA 225, and SQ 154
Summary Category Group:	S5000
Waste Matrix Code:	S5400
Waste Matrix Code Group:	Heterogeneous Debris Waste
Annual Transuranic Waste Inventory Report Identification Number:	LA-TA-50-12, LA-TA-50-15, LA-TA-50-16, LA-MHD09.001
RCRA Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWNs):	D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, D043, F001, F002, F004, F005, F006, F007, and F009

Waste Stream Description and Physical Form:

Waste stream LA-MHD09.001 consists of combustible waste materials including cardboard, cellulosics, cheesecloth, cloth, filter media/paper, Kimwipes, leaded gloves, mops, paper, plastics (e.g., bags, bottles, piping, wrap), personal protective equipment (PPE), prefilters, rags, rubber (e.g., gaskets), sandpaper, Styrofoam, tape, wood, and wood-based high-efficiency particulate air (HEPA) filters. Non-combustible waste materials including aluminum foil, cans (e.g., tin), equipment and instruments (e.g., balance, pump, scale, smoke detector, vacuum gage), flanges, glass (e.g., jar, vials,

[1] This waste stream currently consists of 27 55-gallons drums, 9 85-gallon drums, and 11 other containers totaling an estimated 36 cubic meters of waste, which is equivalent to approximately 171 55-gallon drums (the 11 SWBs are addressed separately above).

windows), graphite, lead (e.g., bricks, shielding), quartz tubes, platinum metal, piping, scrap metal, size reduced gloveboxes and tanks, sources, stainless-steel, tools, and valves. The waste may also include small amounts of homogeneous solids such as absorbent/solidification material (e.g., Portland cement, vermiculite, Waste Lock 770 [polymer-based absorbent]) used to solidify liquids (e.g., grease, oils), oxides (e.g., source material), and sand. Any payload container consisting of more than 50 percent by volume of homogeneous solids will be excluded from this waste stream.

Waste stream LA-MHD09.001 is comprised of greater than 50 percent by volume heterogeneous inorganic and organic debris. Therefore, this waste stream is assigned Waste Matrix Code S5400, Heterogeneous Debris. The debris waste was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. Based on both the commingling of liquid and solid waste from contributing buildings and TA-50's internal interconnected operations, the debris waste described by this report contains the same or similar material, physical form, and hazardous constituents. Therefore, the waste materials that comprise waste stream LA-MHD09.001 have common physical form, contain similar hazardous constituents, and were generated from a single process or activity and are therefore a single waste stream.

Point of Generation

Location

Waste stream LA-MHD09.001 was generated at LANL in Los Alamos, New Mexico. The waste is currently stored at the LANL TA-50 Facilities and the Material Disposal Area G at TA-54.

Area and/or Building of Generation

Waste stream LA-MHD09.001 was generated in TA-50-01 RLWTF, TA-50-37 CAI, and TA-50-69 WCRR Facility during facility and equipment maintenance, D&D, and waste repackaging activities at LANL.

Generating Process

Description of Waste Generating Processes

Numerous LANL buildings and operations contribute liquid and solid waste to TA-50 for waste treatment. The main treatment operation concentrated and removed radioactive components from liquid wastes that were piped or trucked to RLWTF from various locations at LANL. The pretreatment operation concentrates and removes radioactive components from TA-55 liquid wastes. Maintenance and D&D activities at the RLWTF also generate solid debris wastes. The CAI was used to test the reduction and stabilization of radioactively contaminated wastes by incineration. The WCRR Facility was originally designed for the size reduction of non-routine waste items (e.g.,

gloveboxes, equipment) that were too large to fit into standard waste containers, such as 55-gallon drums and SWBs. The facility currently performs VE, repackaging, and prohibited item dispositioning of TRU waste.

Main Treatment Operation in the RLWTF

Radioactively contaminated liquid meeting the TA-50 waste acceptance criteria was sent to the TA-50-1 RLWTF for treatment. Liquid waste from the influent tanks flowed to a flash mixer where it was mixed with floc-forming chemicals and discharged to a clariflocculator. Mixing chambers mixed the dry chemical from a given feeder with water by mechanical agitation. Each chamber was equipped with a small, motor-driven mixer. Solution from each mixing chamber flowed by gravity into a flow splitter box (one per mixing chamber) which split the flow between the two flash mixers. The coagulant used was Betz Polymer 1110 (nonhazardous polymer). This polymer was manually mixed with water in a 30 cubic foot plastic tank and added directly to one of the flow splitter boxes using a small pump.

Inside the clariflocculator, calcium carbonate and ferric hydroxide floc particles form as the waste was gently mixed by rotating paddles moving between fixed baffle plates. The heavy floc particles incorporating waste contaminants fell through the bottom of the flocculation tank and settled in the bottom of the outer (clarifier) tank, forming sludge. A sludge rake collected the sludge in a conical central sump of the clarifier tank, from where it could be drained to the sludge holding tank at TA-50-2 by opening a manually operated valve. The tank was equipped with a mixer, and it had draw-off taps at six different elevations to allow separation of the supernatant and the settled sludge. The supernatant was pumped back to the influent tanks.

Sludge collected in the TA-50-2 sludge tank contained about 5 to 10 percent solids. The sludge was dewatered to about 25 to 40 percent solids via a vacuum filtering operation conducted in Room 116B of TA-50-01. Sludge from the TA-50-2 sludge tank was pumped to the vacuum filter basin. The vacuum filter consisted of a 3-foot long steel drum covered with stainless steel screen that rotated inside a covered steel basin. A mixture of perlite (lava particles) or diatomaceous earth and water was introduced to the filter basis to precoat the filter. Then, sludge was pumped into the filter basin. As the drum rotated, a vacuum was created inside it by a vacuum pump. The internal vacuum removed the water from the sludge that clung to the outside of the drum.

The dewatered sludge was removed from the drum surface by a manually retractable knife scraper and discharged into a 55-gallon drum through a manually retractable discharge chute that clamped to the top of the drum. Approximately 10 pounds of dry Portland cement was placed under the sludge and another 10 pounds on top of the sludge for moisture absorption. The sludge waste is characterized separately under approved CCP waste stream LA-MIN03-NC.001.

TA-55 Pretreatment Operation in the RLWTF

The pretreatment process in the RLWTF concentrates and removes radioactive components from liquid wastes that were trucked and are now piped to TA-50 from the Plutonium Facility (Building PF-4) located at TA-55. For several years beginning in 1979, acidic process liquids from nitrate operations were introduced into the main treatment operations of the RLWTF (see above).

Since 1983, TA-55 caustic and acidic process liquids have been fed into two holding tanks located in underground vault TA-50-66 and then into Room 60 of the RLWTF where the pretreatment process is performed. A thin sludge is generated from treating blended acidic and caustic process liquids by either of two batch methods. One method uses calcium hydroxide (lime), ferric sulfate, a flocculation aid, and enough sodium hydroxide to bring the pH to 11.5 or greater. The other method uses a mixture of ferrous sulfate, ferric sulfate, sodium hydroxide, and water. This method also increases the pH to 11.5 or greater and adds a flocculation aid. Either method produces a thin sludge containing approximately 5 percent to 25 percent solids that is always alkaline and compatible with Portland cement.

The thin sludge is subsequently cemented to form TRU cement monoliths. The cemented monoliths are produced by tumbling 55-gallon drums containing measured quantities of sludge, Portland cement, vermiculite, and sodium silicate. The cementation process uses three pre-packaged 94-pound bags of Portland cement. Approximately 4.5-pounds of vermiculite are added to the 55-gallon drum to serve as an absorbent and as an aggregate. A premeasured amount of sodium silicate (2.5-gallons) is added to the dry ingredients to assure incorporation of sludge components that may not be compatible with Portland cement. Between 22- to 23-gallons of sludge is then added to the drum, and the drum lid is installed. The assembled drum is slowly tumbled end-over-end while an operator watches for leaks. The drum is then allowed to cure. The cemented waste is characterized separately under approved CCP waste stream LA-CIN02.001.

Facility and Equipment Maintenance, D&D, and Waste Repackaging Activities

Debris waste from the TA-50-01 RLWTF, TA-50-37 CAI, and TA-50-69 WCRR Facility is generated during facility and equipment maintenance, D&D, and waste repackaging activities.

Facility and equipment maintenance activities conducted in the TA-50 Facilities include cleaning and decontamination, equipment inspection and replacement, and general housekeeping. Cleaning and decontamination activities include physical wiping and the use of cleaning solutions (e.g., Fantastik or water) to remove potential contamination and to restore work areas and equipment to their original condition. Paper, plastic, and rags with a cleaning solution are used to remove or contain the spread of contamination. Equipment inspection, calibration, and replacement activities are

performed to ensure continued operability and process efficiency. General housekeeping includes cleaning, repair, and organization of the facility/infrastructure.

D&D activities are undertaken to remove contaminated portions of buildings and processes. These buildings and processes house the equipment and material used to perform the TA-50 operations, and the waste generated during D&D operations contains the same chemical and radiological contaminants. Decontamination activities are used to accomplish several goals, such as reducing occupational exposures, limiting potential releases of radioactive materials, permitting the reuse of components, and reducing the amount of TRU waste generated. Decontamination activities include the use of mechanical and chemical cleaning techniques such as brushing, stripping, washing, and wiping to remove contamination. Commercially available, non-hazardous cleaning products, such as Fantastik, were used to remove loose contaminants. Decommissioning activities include the physical removal of contaminated equipment, furnishings, machinery, tanks, and support systems. Tanks and equipment are size reduced as necessary and packaged for disposal (size reduction was often performed at the WCRR Facility). Secondary waste such as combustibles, metal, and plastic generated during D&D activities is expected to be part of the waste.

Repackaging activities are performed in the TA-50-69 WCRR Facility which was established in 1979 as the Size Reduction Facility (SRF) to size reduce non-routine items such as decommissioned gloveboxes, ductwork, and process equipment to fit in 55-gallon drums or SWBs. The SRF historically combined waste from multiple facilities including waste from the RLWTF and the CAI, and these containers are included in the TA-50 debris waste stream. In 1993, the name of the SRF was changed to the WCRR Facility to reflect the expanded remediation and repackaging mission. Size reduction operations at the WCRR Facility were discontinued around 1997. The WCRR Facility is used to perform VE, repackaging, and prohibited item dispositioning of TRU waste. Current repackaging procedures ensure that waste items placed into a new container originate from a single parent container. Therefore if repackaging is necessary, the original characterization is retained. Some secondary waste generated during remediation/repackaging activities may be added to the waste containers including the absorbent Waste Lock 770, rags and wipes containing Fantastik used during decontamination, PPE, and rigid liner lids that have been cut into pieces.

Facilities Contributing Liquid and Solid Waste to the TA-50 Facility

Numerous facilities at LANL generated liquid and solid waste that was either piped or trucked to the TA-50 Facility for treatment or repackaging since the 1970s. The following provides a brief summary of the facilities and operations identified in the AK documentation.

TA-55, Plutonium Facility

Since 1979, the Plutonium Facility (Building PF-4) located at TA-55 has been used for the extraction and recovery of plutonium from residues and scraps generated from

operations at various LANL facilities and other DOE sites in the defense complex. Most processes at TA-55 that generate waste sent to TA-50 for treatment or repackaging are solely defense related. Although non-defense related processes are also conducted at TA-55, any waste from non-defense work is commingled with defense waste prior to being treated or repackaged at the TA-50 Facility TA-55 has conducted more than 170 individual operations; each associated with a process/status (P/S) code. The LANL Material Accountability and Safeguards System and associated P/S codes were developed to track nuclear materials throughout the main operational areas in TA-55. The main operational areas contributing waste to TA-50 include Chloride, Metal, Miscellaneous, Nitrate, Pyrochemical, Special, and Pu-238 operations.

Debris waste contaminated with or generated by TA-55 Chloride, Metal, Miscellaneous, Nitrate, Pyrochemical, Special, and Pu-238 operations is also sent to the WCRR Facility for size reductions and repackaging. The debris waste would contain or be contaminated with the same chemical and radiological constituents present in the liquid waste discharged to the RLWTF for treatment.

TA-2, Omega Site

Primary facilities located at the Omega Site were the Omega West Reactor (OWR) and an equipment building. The OWR was a water-cooled uranium-fueled reactor facility used for research and irradiation studies. The equipment building housed the ion-exchange columns used for cleanup of primary circulating cooling water and makeup water. Waste water was collected in tanks and transported by vehicle or later by pipeline to the RLWTF for final treatment.

TA-3-16, Van de Graff Facility

Building TA-3-16 had one radioactive liquid waste pipeline connection to the RLWTF. Small amounts of tritium, iodine-125, and sulfur-35 were discharged. Rooms discharging include labs, mechanical rooms, a dark room, target preparation areas, workrooms, and assembly areas. Specific sources of discharge originated from film developer rinse water, a condensed water drain, radioactive pipe strainer discharge, emergency showers, floor washings, and hand washing.

TA-3-29, Chemistry and Metallurgy Research (CMR) Building

The CMR Building, located in TA-3, was an R&D facility composed of six interconnected, but different experimental areas. Wing 9 housed an irradiated-fuel examination facility. Five other wings (Wings 2, 3, 4, 5, and 7) housed numerous and varied R&D and analytical chemistry operations. Liquid wastes were discharged to holding tanks that drained to an underground pipeline system terminating at the RLWTF. Debris waste from this facility, including gloveboxes removed during D&D activities, was also sent to the WCRR Facility for size reduction and repackaging.

TA-3-34, Cryogenics "B"

Building TA-3-34 had one drainage source to the radioactive liquid waste system that flowed into the RLWTF from sinks in laboratories and shops that may have been radioactively contaminated.

TA-3-35 (Press Building), TA-3-40 (Physics Building), TA-3-66 (Sigma Building), and TA-3-141 (Rolling Mill Building), Sigma Complex

The function of the Sigma Complex was to develop and fabricate materials for LANL programs. The Sigma Building housed seven specific sections where development work on both radioactive and non-radioactive materials was performed. The Press Building (TA-3-35) housed a portion of the Nuclear Fuels Section and was the facility where all enriched uranium-loaded graphite or carbide fuel elements were manufactured. A sink and drain connection to the industrial waste sewer system was provided for disposal of radioactive and/or chemical waste at the Press Building. Debris waste from the Press Building has also been sent to the WCRR Facility for repackaging. The Rolling Mill Building (TA-3-141) housed parts of the Nuclear Fuels Section, Coatings Section, and Metal Processing Section.

Electrochemistry wastes were generated in two buildings, TA-3-40 and TA-3-66. The Print Circuit Board Shop, located in the Physics Building, generated significant quantities of acid/base wastes heavily contaminated with copper. The Electrochemistry Section, located in the Sigma Building, performed electropolishing and acid etching. Spent concentrated plating solutions were transferred to 55-gallon drums, which were trucked to TA-50 for treatment in the Batch Treatment process. The resulting sludge and liquid from the cyanide destruction process were discharged to the treatment tanks at TA-54, were allowed to evaporate, and were subsequently managed in a different waste stream. However, if the liquid fraction met discharge limits, it could have also been released to the RLWTF. Debris waste from these facilities has been sent to the WCRR Facility for repackaging.

Although concentrated cyanide plating bath solutions were treated separately, several other liquid wastes from the plating operations were sent to the main treatment operations of the RLWTF, including liquids from the hot water rinse; lead rinse tank; gold rinse tank; copper rinse tank; nickel rinse tank; electropolishing rinse tank; anodizing line (15 percent sulfuric acid); cleaning line (sodium hydroxide); copper strike and nitric acid pickling baths; and from steam condensate. Additionally, facility personnel confirmed minor spills of concentrated cyanide plating bath were collected in the facility sump and pumped to the RLWTF.

TA-3-39 and TA-3-102, Tech Shops

Building TA-3-39 had two drainage sources to the site radioactive liquid waste treatment system. Rooms involved are storage areas, machine shops, battery charging room,

and a steam cleaning room. Debris waste from Building TA-3-102 has also been sent to the WCRR Facility for repackaging.

TA-3-65, Source Storage

Building TA-3-65 discharged radioactive liquid waste to the RLWTF. Rooms connected to the discharge included a source storage vault, work rooms, a utility room, leak test room, cart storage room, change rooms, storage rooms, and restrooms. Debris waste from these facilities, specifically sources, has also been sent to the WCRR Facility for repackaging.

TA-3-154

Building TA-3-154 had one discharge from liquid waste storage tanks to the RLWTF. This drainage source drained liquid waste from underground storage tanks outside of the CMR Building TA-3-29. The liquid waste in the storage tanks is from the CMR building, and it is pumped out "periodically".

TA-3-216, Weapons Test Support

Building TA-3-216 has one drainage source to the RLWTF consisting of discharges from sink and floor drains. Identified sources were floor washings, steam traps, hand washing (most common), Heliarc system cooling water, a hood cup and lab sinks in an equipment room, water chiller drains, condensed water, steam trap drains, vacuum pump drains, and floor washings in the restroom.

TA-3-1264

Building TA-3-1264 had three drainage sources to the RLWTF. The building was a storage/maintenance building with an exterior underground radioactive liquid waste holding tank. One drainage source was a trench drain in the truck bay of the building designed to catch any spills that might occur during radioactive liquid waste transfers to transport trucks. The second drainage source is a connection to a standpipe for pumping out the underground holding tank. The third is the discharge from the site radioactive liquid waste system to the discharge point of the holding tank.

TA-3-2009

Building TA-3-2009 had one radioactive liquid waste connection, a fume hood cup drain that discharged daily to the RLWTF from a work room.

TA-16-205, S Site

Building TA-16-205 had one drain to a waste holding tank that was ultimately disposed at the RLWTF. The drainage source waste tank in question "receives flow from the drains in the tritium processing area" that was later trucked to the RLWTF for treatment.

The liquid waste originated from recovery and process rooms, with the bulk of the flow from a sink in a process room. The remaining identified liquids were from floor washing.

TA-21 (DP Site), DP-West and DP-East

The DP-West included the site's main plutonium facility until the work was transferred to TA-55 in June 1978. Debris waste from this facility, specifically D&D waste generated after the transfer of operations to TA-55, was sent to the WCRR Facility for size reduction and repackaging. DP-West conducted nondestructive examinations involving uranium and mixed oxide irradiated reactor-fuel elements, and also housed uranium recovery operations. DP-East performed R&D work on tritiated compounds from early 1975 and generated only small quantities of waste. TA-21 waste was not processed at TA-50-1 until 1984, when it began to be pumped there by the cross-country sewer line. All of the liquid waste received from TA-21 was processed through the main treatment operations of the RLWTF. D&D waste (e.g., gloveboxes) from TA-21 was size reduced and repackaged in the WCRR Facility. Since wash down water from WCRR Facility operations was sent to the RLTWF facility for treatment, radiological, and chemical contamination from TA-21 plutonium operations may have been present/discharged.

TA-35, Ten Site

TA-35 Ten Site housed research operations including a hot cell for preparing Lanthanum-140 in kilo curie sources for plutonium research, as well as a facility for handling lithium tritide components. TA-35 also was home to the Target Fabrication Facility used for processing deuterium and tritium microsphere targets for laser operations and for processing beryllium. Radioactive liquid waste was sent to the RLWTF after 1963. Debris waste from this facility has also been sent to the WCRR Facility for repackaging.

TA-43, HRL1, Health Research

Roughly 40 percent of the facility conducted radiological work in "controlled" areas. Radiological studies produced liquid waste that was containerized and transported to the RLWTF. Debris waste from this facility has also been sent to the WCRR Facility for repackaging.

TA-48 Radiochemistry (RC) Site

Building RC-1 (TA-48-01) housed nuclear and radiochemistry operations. The facility's primary function was to obtain information on the yield and other performance parameters of nuclear test devices by the analysis of debris samples collected after underground testing at the Nevada Test Site. Debris waste from this facility has also been sent to the WCRR Facility for repackaging.

Building RC-45 (TA-48-45) was a controlled atmosphere laboratory facility for performing very precise analyses at very low concentrations in small samples. All aqueous liquid wastes generated in this facility were sent to the RLWTF.

TA-50-37, Controlled Air Incinerator

Beginning in 1980, LANL tested a CAI for the treatment of TRU and low-level waste. The primary objective of incineration was to reduce the volume of TRU wastes, followed by chemical stabilization of waste and destruction of hydrogen gas. A high-energy aqueous scrubber was selected to provide off-gas cleanup. Construction began in 1976 and the first radioactive test was conducted in 1979 using solid TRU waste from the TA-55 Plutonium facility. Other waste processed had an average 20 nanocuries per gram Pu-239 and Am-241.

Scrub solution acidity was controlled by adding caustic solution at the process sump tank. Scrub solution specific gravity and volume was also controlled at the process sump tank. As the specific gravity increased or the tank volume exceeded set limits, the rate of flow to the RLWTF increased.

RLWTF operations personnel do not believe that liquid wastes from the CAI were ever treated at the RLWTF since the CAI never went into full production. However, it is assumed that some quantities of chemical contaminants in incinerator feed material were contained in the scrub solution that may have been discharged to the RLWTF. This facility also generated debris waste from maintenance and D&D activities, including the ash glovebox that was sent to the WCRR Facility for size reduction and repackaging.

TA-50-69, Waste Characterization, Reduction, and Repackaging Facility (formerly known as the Size Reduction Facility)

The SRF reduced bulky metallic waste to meet WIPP criteria. It was used to develop volume reduction and repackaging techniques for TRU-contaminated metallic waste items. Waste equipment was brought into an enclosure, positioned, cut by a plasma-arc cutting tool, and bagged out in pieces. In 1993, the name of the SRF was changed to the WCRR Facility to reflect the expanded TRU waste remediation and repackaging mission. Prior to the dedicated pipeline, contaminated enclosure wash down water was collected in 55-gallon drums and transferred to a holding tank, which was moved to the RLWTF for treatment when full.

TA-53, Meson Physics Facility

The Clinton P. Anderson Meson Physics Facility was used to conduct experiments in medium-energy physics and nuclear chemistry for the production of radioisotopes for nuclear medicine, and for clinical experiments in the treatment of certain types of cancer. The facility also contains a separate laboratory and several sample-handling facilities where a broad range of experiments are performed. Liquid wastes from the

separate laboratory and the sample-handling facilities were fed to basement storage tanks for pump transfer to a tank truck for delivery to the RLWTF.

TA-59, Occupational Health Center

Building TA-59-1 had one liquid stream that was transferred to the RLWTF. Building TA-59-19 also had a single discharge to the system. The drainage source from Building TA-59-1 received flow from labs in the basement and first floor of the building, with sources including 91 lab sinks, 9 floor drains, an ice machine drain, and 7 dishwashers. More specifically, contributors included janitor's closets, an electron microscopy lab, and floor washings from laboratories. The drainage source for Building TA-59-19 discharged water from two lab sinks in a portable lab trailer. Debris waste from this facility has also been sent to the WCRR Facility for repackaging.

Table 1 identifies the RCRA toxicity characteristic and listed constituents identified in this waste stream.

Table 1. Toxicity Characteristic and Listed Constituents in Waste Stream LA-MHD09.001

Chemical	CAS Number	EPA HWNs
1,1,1-Trichloroethane	71-55-6	F001, F002
1,1,2-Trichloroethane	79-00-5	F002
1,1,2-Trichloro-1,2,2-trifluoroethane/1,1,2-trichlorotrifluoroethane (Freon)	76-13-1	F001, F002
1,2-Dichlorobenzene	95-50-1	F002
1,2-Dichloroethane	107-06-2	D028
1,4-Dichlorobenzene	106-46-7	D027
1,1-Dichloroethylene	75-35-4	D029
2,4-Dinitrotoluene	121-14-2	D030
2-Ethoxyethanol	110-80-5	F005
2-Nitropropane	79-46-9	F005
Arsenic	7440-38-2	D004
Barium	7440-39-3	D005
Benzene	71-43-2	F005
Cadmium	7440-43-9	D006
Carbon disulfide	75-15-0	F005
Carbon tetrachloride	56-23-5	F001
Chlorobenzene	108-90-7	F002
Chloroform	67-66-3	D022
Chromium	7440-47-3	D007
Cresols (mixed isomers)	1319-77-3	F004
Cyanides	57-12-5	F006, F007, F009
Isobutyl alcohol (isobutanol)	78-83-1	F005
Lead	7439-92-1	D008
Mercury	7439-97-6	D009
Methylene chloride	75-09-2	F001, F002
Methyl ethyl ketone	78-93-3	F005
Nitrobenzene	98-95-3	F004
Pentachlorophenol	87-86-5	D037
Pyridine	110-86-1	F005
Selenium	7782-49-2	D010
Silver	7440-22-4	D011
Tetrachloroethylene	127-18-4	F001, F002
Toluene	108-88-3	F005
Trichloroethylene	79-01-6	F001, F002
Trichlorofluoromethane	75-69-4	F001, F002
Vinyl chloride	75-01-4	D043

RCRA Determinations - Hazardous Waste Determinations

Historical Waste Management

Waste stream LA-MHD09.001 has historically been managed in accordance with the generator site requirements and in compliance with the requirements of the New Mexico Environmental Department. Based on historical waste management, the containers in this waste stream were either managed as non-hazardous or were assigned EPA HWNs for reactivity (D003), arsenic (D004), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), or F-listed solvents (F001). A review of available AK documentation has determined that this waste is hazardous for the above constituents, and it may be contaminated with any of the chemicals or metals described for waste streams LA-MIN03-NC.001 and LA-MHD03.001. However, D003 for reactivity does not apply to this waste stream and only the more specific F-listed HWNs were applied (see below Reactivity and Toxicity Characteristic subsections). Therefore, the above table identifies the expected hazardous chemical contaminants and associated HWNs applicable to the waste stream.

Ignitability, Corrosivity, Reactivity

Waste generated in this waste stream does not qualify for any of the exclusions outlined in Title 40 Code of Federal Regulations (CFR) 260 or 261. Real-time Radiography (RTR) or VE is used to verify that the waste stream is not a liquid waste and does not contain explosives, non-radioactive pyrophoric materials, compressed gases, or reactive waste. Therefore, this waste stream does not exhibit the characteristic of ignitability (D001), corrosivity (D002), or reactivity (D003).

Ignitability

This waste does not exhibit the characteristic of ignitability as defined in 40 CFR 261.21. The waste is not a liquid, an ignitable compressed gas, or an oxidizer, and is not capable of causing fire through friction, absorption of moisture, or spontaneous chemical change. Although ignitable chemicals (e.g., methyl alcohol, n-butyl alcohol) and oxidizers (e.g., aluminum nitrate, ferric nitrate) were used or were present in the contributing facilities, these reagents were used in small quantities as needed and should only be present as trace (non-liquid) contaminants in the debris waste. Liquids generated during repackaging activities were either solidified in absorbent (e.g., Portland cement, vermiculite, Waste Lock 770) or discharged to the RLWTF for treatment. To ensure the waste does not exhibit the characteristic of ignitability, liquid in excess of TSDF-WAC limits will be removed or immobilized, and compressed gases (e.g., aerosol cans) will be removed or vented prior to WIPP disposal. Therefore, this waste does not exhibit the characteristic of ignitability (D001) (References D004, D005, D056, D078, D103, P001, P015, and P016).

Corrosivity

This waste does not exhibit the characteristic of corrosivity as defined in 40 CFR 261.22. LANL waste management practices prohibit liquids in containers of solid waste materials. Although corrosive chemicals (e.g., nitric acid, sodium hydroxide, sulfuric acid) were used or were present in the contributing facilities, these reagents were used in small quantities as needed and should only be present as trace (non-liquid) contaminants in the debris waste. Liquids generated during repackaging activities were either solidified in absorbent (e.g., Portland cement, vermiculite, Waste Lock 770) or discharged to the RLWTF for treatment. To ensure the waste does not exhibit the characteristic of corrosivity, liquid in excess of TSDF-WAC limits will be removed or immobilized prior to WIPP disposal. Therefore, this waste does not exhibit the characteristic of corrosivity (D002) (References D004, D005, D056, D073, D078, D103, P001, P015, and P016).

Reactivity

This waste does not exhibit the characteristic of reactivity as defined in 40 CFR 261.23. Although reactive materials (e.g., magnesium oxide, sodium) were used or were present in the contributing facilities, these reagents were used in small quantities as needed and should only be present as trace contaminants in the debris waste. The materials are stable and will not undergo violent chemical change. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. LANL waste management policies did not allow the disposal of potentially reactive material (e.g., sodium) or the material was treated prior to disposal. To ensure the waste does not exhibit the characteristic of reactivity, liquid in excess of TSDF-WAC limits will be removed or immobilized, and compressed gases (e.g., aerosol cans) will be removed or vented prior to WIPP disposal. Therefore, this waste stream does not exhibit the characteristic of reactivity (D003) (References D004, D056, D078, D103, DR010, and P015).

Toxicity Characteristic

This waste stream exhibits the characteristic of toxicity per 40 CFR 261.24. The toxicity characteristic contaminants fall into two categories; metals and organics. Where a constituent has been identified and there is no or limited quantitative data available to demonstrate that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is applied to the waste stream.

Based on the evaluation of the AK source documentation, this waste stream contains or is contaminated with toxicity characteristic metals. Arsenic (D004), chromium (D007), lead (D008), mercury (D009), and selenium (D010) were used as a reagent, identified as a contaminant in CMR and TA-55 operations, detected in wastewater samples, and identified as an ingredient in chemicals. Barium (D005) was detected in wastewater samples and identified as a contaminant in CMR and TA-55 operations. Cadmium (D006) was used as a reagent, identified as a contaminant in CMR and TA-55

operations, and detected in wastewater samples. Silver (D011) was used as a reagent, component of plating operations, identified as a contaminant in CMR and TA-55 operations, detected in wastewater samples, and identified as ingredients in chemicals. Therefore, EPA HWNs D004, D005, D006, D007, D008, D009, D010, and D011 are assigned to waste stream LA-MHD09.001.

The AK identified the potential presence of additional organic toxicity characteristic compounds including benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), chloroform (D022), cresols (D026), 1,4-dichlorobenzene (D027), 1,2-dichloroethane (D028), 1,1-dichloroethylene (D029), 2,4-dinitrotoluene (D030), methyl ethyl ketone (D035), nitrobenzene (D036), pentachlorophenol (D037), pyridine (D038), tetrachloroethylene (D039), and trichloroethylene (D040), and vinyl chloride (D043). These materials were used during analytical analysis and preparation, sample extraction, machining, cleaning equipment, laboratory reagents and standards, and were detected in RLWTF influent and effluent samples. Benzene, carbon tetrachloride, chlorobenzene, cresols, methyl ethyl ketone, nitrobenzene, pyridine, tetrachloroethylene, and trichloroethylene are identified as F-listed solvents. Since the more specific F-listed EPA HWNs have been assigned for these compounds, the corresponding toxicity characteristic HWNs (i.e., D018, D019, D021, D026, D035, D036, D038, D039, D040) are not applied. Therefore, only HWNs D022, D027, D028, D029, D030, D037, and D043 are assigned to waste stream LA-MHD09.001 (References C013, C018, C089, D001, D002, D003, D004, D007, D029, D046, D076, D077, D078, D083, D100, D101, DR001, and DR010).

Listed Waste

F-Listed Waste

Waste stream LA-MHD09.001 was mixed with or derived from F-listed hazardous wastes from non-specific sources as listed in 40 CFR 261.31. F001, F002, F004, and F005 listed solvents were used or present in the facility and potentially contaminated the waste. F-listed solvents were used during analytical analysis and preparation, sample extraction, machining, cleaning equipment, and were detected in RLWTF influent and effluent samples. In addition, liquid wastes from cyanide plating operations (F007 and F009) conducted in the TA-3-66 Sigma Building have been treated at TA-50, and EPA HWN F006 also applies to the RLWTF waste derived from the treatment of the liquids from plating operations. Therefore, EPA HWNs F001, F002, F004, F005, F006, F007, and F009 are assigned to this waste stream (References C013, C018, D003, D004, D007, D028, D034, D046, D068, D077, D078, D083, D100, D101, DR001, and DR010).

F003 listed solvents were also used or present in the facility and potentially contaminated the waste. F003 constituents including acetone, cyclohexanone, ethyl benzene, ethyl ether, methyl alcohol, methyl isobutyl ketone, n-butyl alcohol, and xylene are listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is not in a liquid form; therefore, F003 is not assigned (Reference DR010).

The following F-listed constituents may contaminate the waste and are applied:

(F001)
Carbon tetrachloride, methylene chloride, 1,1,1-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane (Freon TF), tetrachloroethylene, trichloroethylene, trichlorofluoromethane

(F002)
Chlorobenzene, 1,2-dichlorobenzene, methylene chloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane (Freon TF), tetrachloroethylene, trichloroethylene, trichlorofluoromethane

(F004)
Cresols, nitrobenzene

(F005)
Benzene, carbon disulfide, 2-ethoxyethanol, isobutyl alcohol (isobutanol), methyl ethyl ketone, 2-nitropropane, pyridine, toluene

(F006, F007, F009)
Cyanides

U, K, and P-Listed Chemicals

Waste stream LA-MHD09.001 does not contain and is not mixed with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof as defined in 40 CFR 261.33. P- and U-listed reagents were used or present in the contributing facilities; however, no pure product or unused chemicals would have been disposed of in this waste stream. No listed chemicals were identified in the container-specific documentation and no record of a significant spill of listed chemicals was located (e.g., incident report, waste profile form).

Based on the AK documentation reviewed, the form of beryllium used does not meet the definition of commercial chemical product beryllium powder (40 CFR 261.33). The use of beryllium powder as a constituent or contaminant was not identified in this waste stream. Any beryllium present would be a result of residual contamination in waste water solutions or debris processed at TA-50. Therefore, the waste stream does not meet the definition of P015 waste.

The review of the AK source documentation did not identify the disposal of unused hydrofluoric acid (U134) or disposal of materials contaminated with spills of this acid; therefore the EPA HWN U134 is not assigned to waste stream LA-MHD09.001.

Waste stream LA-MHD09.001 does not include any of the manufacturing process wastes from the specific industries or sources listed in 40 CFR 261.32.

Therefore, this waste stream is not a U-, K-, or P-listed waste (References C018, C081, D001, D002, D003, D004, D007, D046, D076, D077, D078, D100, D101, and DR010).

Headspace Gas/Volatile Organic Compound Information

Headspace gas analysis was completed on 10 randomly selected containers in Lot 1 of this waste stream. No new EPA HWNs were assigned as a consequence of headspace gas sampling and analysis. No UCL_{90} values exceeded the respective target analyte Program Required Quantitation Limits. No tentatively identified compounds were identified. The specifics of this information are included in the attached Characterization Information Summary report.

Other Waste Streams Generated From the Same Buildings and Processes

Currently two other waste streams from the TA-50 Facilities have been identified and characterized. They are assigned different HWNs and the justification is provided below:

Waste stream LA-MIN03-NC.001 consists of homogeneous dewatered sludge generated in the TA-50-01 RLWTF main treatment process at LANL. This waste stream includes the same hazardous constituents assigned to waste stream LA-MHD09.001 except for 1,4-dichlorobenzene (D027), 1,1-dichloroethylene (D029), 2,4-dinitrotoluene (D030), and vinyl chloride (D043). These constituents are specific to debris waste from TA-03-29 (reference waste stream LA-MHD03.001) which is not present in waste stream LA-MIN03-NC.001.

Waste stream LA-CIN02.001 consists of homogeneous cemented inorganics generated in the TA-50-01 RLWTF pretreatment process at LANL. This waste stream includes the same hazardous constituents assigned to waste stream LA-MHD09.001 except for 1,4-dichlorobenzene (D027), 1,2-dichloroethane (D028), 1,1-dichloroethylene (D029), 2,4-dinitrotoluene (D030), vinyl chloride (D043), nitrobenzene (F004), and cyanides (F006, F007, and F009). Since waste stream LA-CIN02.001 is contaminated with TA-55 waste only, it would not be contaminated with these constituents.

Conclusion

The EPA HWNs that apply to the waste stream are D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, D043, F001, F002, F004, F005, F006, F007, and F009.

Polychlorinated Biphenyls (PCBs)

No sources of PCBs have been specifically identified in AK documentation for this waste stream. However, characterization activities of other LANL debris waste streams have identified the presence of light ballasts. Ballasts in fluorescent light fixtures could contain PCBs. Therefore, containers with PCB waste, identified during RTR or VE, will

be managed as a Toxic Substances Control Act waste under 40 CFR 761 (References D017, D068, and M227).

Prohibited Items

The absence of prohibited items is determined and documented through acceptable knowledge and characterization activities. RTR or VE is performed on each container to verify the absence of prohibited items. The following items have been determined as no present in the waste:

- Liquid Waste
- Non-radioactive pyrophoric materials
- Hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous waste)
- Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, or other wastes
- Explosives or compressed gases
- Waste with PCBs not authorized under an EPA PCB waste disposal authorization
- Waste exhibiting the characteristics of ignitability, corrosivity, or reactivity,
- Waste that has ever been managed as high-level waste and waste from tanks specified in Table C-8 of the WIPP Hazardous Waste Facility Permit, unless specifically approved through a Class 3 permit modification.

Each container of waste is certified and shipped only after RTR and/or VE:

- Did not identify any prohibited items in the waste container, or
- All prohibited items found in a waste container by RTR and/or VE are identified and corrected (i.e., eliminated or removed) through the site non-conformance reporting system.

Justification for the Selection of Radiography or VE

Containers in this waste stream were characterized using RTR. RTR was selected as a characterization method for this Lot because the waste was already packaged and RTR meets all the Data Quality Objectives for NDE for waste stream LA-MHD09.001.

Method for Determining Waste Material Parameter Weights per Unit of Waste

The Waste Material Parameters (WMPs) for waste stream LA-MHD09.001 were estimated by extracting generator comments describing the container contents, when available, from the CONCERT database. When generator comments were not available, the Radioactive Solid Waste Disposal, Item Description Code, or TRUCON code for each container was obtained from the CONCERT database as of January 4, 2005. The WMPs for waste stream LA-MHD09.001 were estimated by reviewing container inventory records for 53 containers generated from June 1980 to October

2002, which had net weights listed in the CONCERT database. The net weight of each container was categorized into one or more of the following WMPs.

The WMPs, average weight percent and weight percent range are presented in Table 2.

Table 2. Waste Stream LA-MHD09.001 Waste Material Parameter Estimates

Waste Material Parameter	Average Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	49.75%	0 - 57.77%
Aluminum-based Metal/Alloys	18.11%	0 - 33.33%
Other Metals	18.38%	0 - 100.00%
Other Inorganic Materials	2.02%	0 - 100.00%
Cellulosics	3.72%	0 - 100.00%
Rubber	3.43%	0 - 33.33%
Plastics	3.76%	0 - 100.00%
Organic Matrix	0.00%	0 - 0.00%
Inorganic Matrix	0.83%	0 - 92.93%
Soils/Gravel	0.00%	0 - 0.00%

List of AK Sufficiency Determinations

No AK Sufficiency Determinations were requested for this waste stream.

Transportation

This waste stream and its chemical constituents have been reviewed for consistency with listed TRUCON codes and they are consistent.

Beryllium

Beryllium will not be present in amounts greater than 1% by weight of the waste in each container.

Radionuclide Information

The two most prevalent radionuclides in this waste stream, by weight, based on the un-decayed data reported in AK are Pu-239 and U-235. The isotopes expected to be present in this waste stream are listed in Table 3.

Table 3. Summary of Waste Stream LA-MHD09.001 Radionuclides

WIPP Tracked Radionuclides	Additional Reported Radionuclides
Am-241	Am-243
Pu-238	Co-60
Pu-239	Cs-134
Pu-240	Eu-152
Pu-242	Eu-154
U-233 (not reported)	Eu-155
U-234	Na-22
U-238 (not reported)	Np-237
Cs-137	Np-239
Sr-90 (not reported)	Pu-241
	Ra-226
	Sb-125
	Th-228
	U-235

Payload management will not be utilized for this waste stream.

Attachment 1

AK Source Documents, Supplemental Documentation

Source Document Number	AK #	Title	Document Number	Date
C013	NA	Memo to B. Garcia re: Re-characterization of Wastewater Treatment Sludge in Storage at Technical Area (TA) 54 - Request for Removal from Federal Facility Compliance Order (FFCO)	NA	1/12/96
C014	S7	Interviews of Radioactive Liquid Waste Knowledgeable Personnel	TWCP-614	September 1999
C017	S7	Outstanding Questions on Vacuum Filter Sludge Waste	NA	11/13/03
C018	NA	RCRA Evaluation	April 14, 2004	NA
C026	S7	Email to J. Musgrave re: P/S Codes for Special Processing	NA	January 20, 2000
C029	S7	Interview with J. Barfield	TWCP-3546	February 25, 2000
C035	S7	Interview with J. Foxx, SME	TWCP-3541	March 15, 2000
C037	S7	Interview with M. West of NMT-2 and G. Bird of NMT-2	TWCP-3542	NA
C054	S7	Comments from J. Foxx on a draft AK Supplemental Information Report for Pu-238 Operations (September 30, 1999)	TWCP-3545	November 1999
C056	S7	Interview with J. Foxx RE: Pu-238 and Effluent to TA-50	TWCP-3545	August 31, 1999
C061	S7	Interview with J. Foxx	TWCP-3547	September 23, 1999
C064	S7	Interview with T. Hayes of TA-55 Nitrate Operations re: Draft AK Summary for TA-55 Nitrate Operations, 12-19-99 (attached)	NA	January 4, 2000
C081	NA	AK Beryllium Assessment	NA	March 28, 2005
C089	NA	Waste Stream LA-MIN03-NC.001 and LA-MHD03.001 EPA HWN Assignment Comparison	NA	5/23/07
D001	NA	Process Acceptable Knowledge Report for Special Processing at TA-55	TWCP-AK-2.1-007	5/18/02
D002	NA	Process Acceptable Knowledge Report for Pyrochemical Processes at TA-55	TWCP-AK-2.1-006	5/18/01
D003	NA	Process Acceptable Knowledge Report for Miscellaneous Operations at TA-55	TWCP-AK-2.1-004	6/18/01
D004	NA	AK Summary Report for Waste Stream TA-50-19, Vacuum Filter Cake	LA-UR-02-6472	10/4/02

Source Document Number	AK #	Title	Document Number	Date
D005	S3	Los Alamos National Laboratory TA-50/21/63 Waste Management Operations Safety Analysis Report, TA-50 Radioactive Liquid Waste Treatment Facility	LA-UR-94-1141, WASTEMGMT-REPORT-002	March 1994, October 1995
D007	NA	Process Acceptable Knowledge Report for Chloride Operations at TA-55	TWCP-AK-2.1-002	5/17/01
D017	NA	Ready, Set, ...Quit! A Review of the Controlled Air Incinerator	LA-UR-96-1102	May 1996
D028	NA	Radioactive Liquid Waste Collection System Study	RLWPO/CST-13, Rev. 0	Early 1995
D029	NA	Work Release #24, Study of Alternatives for Radioactive Wastewater Treatment Sludges	NA	8/93
D034	NA	Radioactive Liquid Waste Survey Sigma Building (TA-3 SM-66)	NA	8/23/93
D046	NA	TA-55 Plutonium Facility Acceptable Knowledge Report, Nitrate Operations	TWCP-AK-2.1-005	May 17, 2001
D056	NA	Los Alamos Transuranic Waste Size Reduction Facility	LA-UR-87-1916	1987
D068	NA	RCRA Part B Permit Application, Volume I	NA	November 1988
D071	S1	Los Alamos National Laboratory RLWTF Conceptual Design Best Demonstrated Available Technology Evaluation, Technical Memorandum 1 Segregation and Pretreatment	NA	February 15, 1995
D072	S1	Modification to Design Criteria for Upgrading of Industrial Liquid Waste Treatment Plant	NA	Circa 1981
D073	NA	Los Alamos TRU Waste Certification Plan for Newly Generated TRU Waste	WCP-HES7-CPL-01	November 1984
D074	S4	Final TRU Waste Inventory Work-Off Plan	LA-UR862932	August 1986
D076	NA	Process Acceptable Knowledge Report for Plutonium-238 Operations at TA-55	TWCP-AK-2.1-009	8/7/01
D077	NA	Process Acceptable Knowledge Report for Metal Operation Processes at TA-55	TWCP-AK-2.1-003	5/17/01
D078	NA	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams	AK-00-019	9/22/03
D083	NA	Acceptable Knowledge Summary for the TA-55 Chloride Operations	TWCP-3567, N-40	NA
D100	NA	Acceptable Knowledge Report for Newly Generated Waste from Metal/Pyrochemical Operations at TA-55	TWCP-AK-2.1-017 (LA-UR-Q2-6906)(TWCP-15421)	October 22, 2002
D101	NA	Acceptable Knowledge Report for Newly Generated Waste from Miscellaneous	TWCP-AK-2.1-014 (LA-UR-02-	November 11, 2002

Source Document Number	AK #	Title	Document Number	Date
		Operations at TA-55	6904)(TWCP-15419)	
D103	NA	Waste Management Site Plan Los Alamos National Laboratory December 1984	LA-UR-85-336	December 2004
D108	S2	General Waste Management Requirements	LIR 404-00-02.3	11/01/1998
D113	S2, S4	LANL Hazardous Waste Permit	TWCP-14341	11/30/1995
D115	S2, S4	Waste Profile Form Guidance	LIG 404-00-03.1	09/18/1997
D116	S2	Review and Completion of the TWSR	AP-SWO-006	July 2003
D117	S4	Waste Generator Guidance for Completing the TRU Waste Storage Record (TWSR)	LIG404-00-01.2	11/26/1997
DR001	NA	Resolution of RCRA Discrepancies for Waste Stream LA-MIN03-NC.001	NA	4/15/04
DR010	NA	Acceptable Knowledge Source Document Discrepancy Resolution - EPA Hazardous Waste Number Discrepancy Resolution for Waste Stream LA-MHD09.001	NA	5/26/2009
M018	S6	Spreadsheet "Area G Rad Values from Opp"	NA	10/6/2003
M041	S2	Procedure Review Sheet for 473-REC-R00, "Procedure for Eluting Plutonium from Ion Exchange Columns"	TWCP-3566	September 1999
M087	S2	Procedure 490-REC, "Catalyzed Electrochemical Plutonium Oxide Dissolver (CEPOD)"	TWCP-3566	Revs 0-1
M089	S2	Procedure 423-REC, "Ash Leaching"	TWCP-3566	NA
M090	S2	Procedure 431-REC, "Leaching of Contaminated Metals in Nitric Acid"	TWCP-3566	
M122	S2	Procedure Review Sheet - Small Scale Bomb Reduction	291-MPP (SP-23)	2/23/87, 9/14/90
M178	S2	Procedure HS-NMT9-PP-42, "Particle Size Analysis of Oxide Powders Procedure"	TWCP-3545	Revs 0-1
M190	S2	Procedure 429-REC, "Oxidation of Pu Metal and Alloys Prior to Dissolution," Passivation Furnaces	TWCP-3548	Revs 0-5
M202	S2	Procedure 470-REC, "Distillation of Am IX Column Effluents to Reduce Acidity and Volume"	TWCP-3566	Rev 1
M219	S6	CONCERT Database (MS Access Format)	TWCP-24370	2/2/05
M220	S6	Acceptable Knowledge Isotopic Ratios (AKIR) Database (MS Access Format)	TWCP-AK-00-20	9/22/03
M227	S4	RSWD and TWSR Records for Waste Stream LA-MHD09.001	NA	NA

Source Document Number	AK #	Title	Document Number	Date
P001	NA	Administrative Requirements 7-1: Radioactive Solid Waste Management	Section 7, HSE Manual	October 1979
P007	S2	Radioactive Liquid Waste	ES&H Manual, AR 10-1	May 29, 1992
P008	S2	Transuranic (TRU) Solid Waste	ES&H Manual, AR 10-5	August 15, 1993
P013	S2	Unknown	WCP-HSE7-AT-02	January 17, 1986
P014	S2	Prohibited Item Dispositioning in Dome 231 PermaCon	TRU-DOP-0334, EP-DOP-2108	9/11/06, 10/4/06, 11/28/06, 9/17/2009
P015	S2	Processing Waste in the Waste Characterization Glovebox	EP-WCRR-DOP-0233	07/16/2007
P016	S2	Standard Waste Visual Examination and Prohibited Item Dispositioning	TRU-DOP-1709	9/28/2006

Alphanumeric Designations

C Correspondence
D Documents
DR Discrepancy Resolution
M Miscellaneous
P Procedures and Published Documents
U Unpublished Documents

AK Numbers

S1 Process Design Documents
S2 Standard Operating Procedure
S3 Safety Analysis Reports
S4 Waste Packaging Logs
S5 Test plans/research project reports
S6 Site databases
S7 Information from site personnel
S8 Standard industry documents
S9 Previous analytical data
S10 Material safety data sheets
S11 Laboratory Notebooks
S12 Comparable or surrogate sampling and analysis data

AK6

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:13:01258
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: June 26, 2013

FROM: M. F. Ramirez — LOCATION: CCP Certification

Mike Ramirez

TO: NTPC Records Custodian GSA-212 — LOCATION: National TRU Program Certification

SUBJECT: TRANSMITTAL OF LOS ALAMOS NATIONAL LABORATORY SITE WASTE STREAM PROFILE FORM LA-MSG04.001 FOR WASTE STREAM LA-MSG04.001

Please accept the attached Los Alamos National Laboratory site Waste Stream Profile Form LA-MSG04.001 to be placed in records for Waste Stream # LA-MSG04.001.

MFR:jmc

Attachment

cc: (without attachment)

R. P. Kantrowitz ED
M.W. Pearcy ED

P.O. Box 2078 • Carlsbad, New Mexico USA 88221-2078
Phone: (575) 234-7200 • Fax: (575) 234-7083

NTPC RECORDS ORIGINAL
DATE REC'D 7.2.13
AH

Attachment 2 – CCP Waste Stream Profile Form

(1) Waste Stream Profile Number: LA-MSG04.001								
(2) Generator site name: Los Alamos National Laboratory						(3) Generator site EPA ID: NM0890010515		
(4) Technical contact: Terri-Anne Groover						(5) Technical contact phone number: 505-606-2344		
(6) Date of audit report approval by New Mexico Environment Department (NMED): April 18, 2013								
(7) Title, version number, and date of documents used for WIPP-WAP Certification: CCP-PO-001, CCP Transuranic Waste Characterization Quality Assurance Project Plan, Revision 20, June 16, 2011; CCP-PO-002, CCP Transuranic Waste Certification Plan, Revision 26, July 14, 2011; CCP-PO-012, CCP/Los Alamos National Laboratory (LANL) Interface Document, Revision 12, November 5, 2012								
(8) Did your facility generate this waste?	YES	X	NO					
(9) If no, provide the name and EPA ID of the original generator: NA								
Waste Stream Information								
(10) WIPP ID: LA-MSG04.001						(11) Summary Category Group: S4000 – Soils/Gravel		
(12) Waste Matrix Code Group: Soils						(13) Waste Stream Name: Contaminated Soil from TA-21		
(14) Description from the ATWIR: Mixed contaminated soil generated during D&D, sampling activities, and nonstandard events such as the cleanup of spills. The waste is comprised of dirt or soil, dust, sand, silt, rock and gravel contaminated with TRU material.								
(15) Defense TRU Waste:	YES	X	NO					
(16) Check One:	CH	X	RH					
(17) Number of SWBs[1]: 40 (17a) Number of SLB2: NA			(18) Number of Drums: 48 55-gallon drums			(19) Number of Canisters: NA		
(20) Batch Data Report numbers supporting this waste stream characterization: See Characterization Information Summary (CIS) Correlation of Container Identification Numbers to Batch Data Report Numbers.								
(21) List applicable EPA Hazardous Waste Numbers:[2] D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002 and F005								
(22) Applicable TRUCON Content Numbers: LA 211 / SQ 211								
(23)**Acceptable Knowledge Information**								
(For the following, enter the supporting documentation used [i.e., references and dates])								
Required Program Information								
(23A) Map of site: CCP-AK-LANL-010, Revision 6, February 14, 2013, Figures 1, 2 and 3								
(23B) Facility mission description: CCP-AK-LANL-010, Revision 6, February 14, 2013, Section 4.2.2								
(23C) Description of operations that generate waste: CCP-AK-LANL-010, Revision 6, February 14, 2013, Section 4.4								
(23D) Waste identification/categorization schemes: CCP-AK-LANL-010, Revision 6, February 14, 2013, Section 4.3.2								
(23E) Types and quantities of waste generated: CCP-AK-LANL-010, Revision 6, February 14, 2013, Section 4.3.4								
(23F) Correlation of waste streams generated from the same building and process, as applicable: CCP-AK-LANL-010, Revision 6, February 14, 2013, Section 4.3.5								

(24) Waste certification procedures: CCP CH TRU Waste Certification and WWIS/WDS Data Entry, CCP-TP-030, Revision 31, November 19, 2012			
(25)Required Waste Stream Information			
(25A) Area(s) and building(s) from which the waste stream was generated: CCP-AK-LANL-010, Revision 6, February 14, 2013, Section 6.1			
(25B) Waste stream volume and time period of generation: CCP-AK-LANL-010, Revision 6, February 14, 2013, Section 6.2			
(25C) Waste generating process description for each building: CCP-AK-LANL-010, Revision 6, February 14, 2013, Section 6.3			
(25D) Waste Process flow diagrams: CCP-AK-LANL-010, Revision 6, February 14, 2013, Figures 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13			
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form: CCP-AK-LANL-010, Revision 6, February 14, 2013, Section 6.4			
(25F) Waste Material Parameter Weight Estimates per unit of waste: See table entitled "Waste Material Parameter Estimates for LA-MSG04.001" in Summation of Aspects of AK Summary Report: LA-MSG04.001			
(26) Which Defense Activity generated the waste:			
	Weapons activities including defense inertial confinement fusion		Naval Reactors development
	Verification and control technology	X	Defense research and development
X	Defense nuclear waste and material by products management	X	Defense nuclear material production
	Defense nuclear waste and materials security and safeguards and security investigations		
(27)Supplemental Documentation			
(27A) Process design documents: NA			
(27B) Standard operating procedures: See D029, D080, P001, P002, P003, P004, P007, P009, P010, P011, P012, P015, P018 and P020 in the Summation of Aspects of AK Summary Report: LA-MSG04.001, Source Documents			
(27C) Safety Analysis Reports: See D014 and D079 in the Summation of Aspects of AK Summary Report: LA-MSG04.001, Source Documents			
(27D) Waste packaging logs: See M020 in the Summation of Aspects of AK Summary Report: LA-MSG04.001, Source Documents			
(27E) Test plans/research project reports: See C008, D047, D048, D050 and D051 in the Summation of Aspects of AK Summary Report: LA-MSG04.001, Source Documents			
(27F) Site databases: See M004 and M009 in the Summation of Aspects of AK Summary Report: LA-MSG04.001, Source Documents			
(27G) Information from site personnel: See C006, C007, C011, C013, C014, C015, C016, C017, C018, C019, C020 and D013 in the Summation of Aspects of AK Summary Report: LA-MSG04.001, Source Documents			
(27H) Standard industry documents: NA			
(27I) Previous Analytical Data: See D023 in the Summation of Aspects of AK Summary Report: LA-MSG04.001, Source Documents			
(27J) Material safety data sheets: See M010 in the Summation of Aspects of AK Summary Report: LA-MSG04.001, Source Documents			
(27K) Sampling and analysis data from comparable/surrogate Waste: NA			
(27L) Laboratory notebooks: See M016 and M017 in the Summation of Aspects of AK Summary Report: LA-MSG04.001, Source Documents			

Confirmation Information	
For the following, when applicable, enter procedure title(s), number(s) and date(s)	
(28)	Radiography: CCP Standard Real-Time Radiography (RTR) Inspection Procedure, CCP-TP-053, Revision 13, May 14, 2013
	Visual Examination: NA
(29) Comments: For a list of the waste characterization procedures used and date of respective procedures see the list of procedures on the attached CIS.	

Reviewed by AK Expert: YES [X] Date: 12/3/2012

Reviewed by STR (if necessary): YES [X] N/A [ ] Date: 1/17/2013

Waste Stream Profile Form Certification:

I hereby certify that I have reviewed the information in this Waste Stream Profile Form, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature of Site Project Manager	Veronica Waldram Printed Name	6/19/2013 Date

NOTE: (1) This includes 15 crates (38.4 m^3) that are expected to be repackaged into SWBs. These crates represent 21 of the 40 SWBs.

(2) If radiography or visual examination were used to confirm EPA Hazardous Waste Numbers, attach signed Characterization Information Summary documenting this determination.

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MSG04.001

Lot 1

TABLE OF CONTENTS

Characterization Information Summary Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 003

Solids Analysis VOC UCL_{90} Evaluation Form..... 004

Solids Analysis SVOC UCL_{90} Evaluation Form..... 005

Solids Analysis Metals UCL_{90} Evaluation Form..... 006

Solid VOCs Summary Data..... 007

Solid SVOCs Summary Data..... 008

RTR/VE Summary of Prohibited Items and AK Confirmation..... 009

Reconciliation with Data Quality Objectives..... 010

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MSG04.001 Lot #: 1

AK Expert Review: N/A Date: N/A

SPM Review: Richard Kantrowitz Date: 6/4/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 13	05/14/13	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 14	08/01/12	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 11	05/16/13	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000

Solids Sampling:

INST-OI-73	Rev. 4	04/07/09	Manual Drum Coring Operations
INST-OI-16	Rev. 30	04/07/09	Drum Coring Operations

Solids Analysis:

CCP-TP-180	Rev. 3	01/17/13	CCP Analytical Sample Management
CCP-TP-180	Rev. 2	12/29/10	CCP Analytical Sample Management
CCP-TP-181	Rev. 0	05/02/07	CCP Determination of Mercury by CVAA for TRU Waste Characterization
CCP-TP-182	Rev. 1	01/26/09	CCP Determination of Metals by ICP-AES for TRU Waste Characterization
CCP-TP-183	Rev. 0	05/02/07	CCP Microwave Assisted Digestion of Homogeneous Solids and Soil/Gravel
CCP-TP-184	Rev. 0	05/02/07	CCP Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry
CCP-TP-185	Rev. 1	11/18/08	CCP Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry
CCP-TP-186	Rev. 1	08/22/07	CCP Determination of Nonhalogenated Volatile Organic Compunds by Gas Chromatography
CCP-TP-187	Rev. 1	11/18/08	CCP Sample Preparation for Semivolatile Organic Compounds
CCP-TP-188	Rev. 2	12/29/10	CCP Analytical Data Recording, Review, and Reporting

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 21	05/31/13	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/13	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 12	11/05/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document

CIS002

CCP-TP-002 Rev. 25
Effective Date: 2/11/2013
CCP Reporting of DQO's and
Reporting Characterization Data

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MSG04.001 Lot # 1

Container ID Number	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDRs	Load Management/ Overpack Yes
LA00000089891	2LANDA0878	LA-RTR2-11-0116	NA	SSG12-00006	ALD12028M ALD12028N ALD12028S ALD12028V	
LA00000089892	2LANDA0878	LA-RTR2-11-0116	NA	SSG12-00006	ALD12028M ALD12028N ALD12028S ALD12028V	
LA00000089983	1LANDA1470	LA-RTR2-11-0116	NA	SSG12-00006	ALD12028M ALD12028N ALD12028S ALD12028V	
LA00000089984	1LANDA1470	LA-RTR2-11-0116	NA	SSG12-00006	ALD12028M ALD12028N ALD12028S ALD12028V	
LA00000089987	1LANDA1470	LA-RTR2-11-0116	NA	SSG12-00006	ALD12028M ALD12028N ALD12028S ALD12028V	

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

6/4/2013
Date

CIS003

CCP-TP-003 Rev 19
Effective Date: 11/02/12
CCP Data Analysis for S3000, S4000, and S5000 Characterization

CCP Solids Analysis VOC UCL_{90} Evaluation Form

WSPF #: LA-MSG04.001 **Solids Sampling Lot Number(s)** 1 through 1

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (mg/kg)	Mean (mg/kg)	SD (mg/kg)	UCL90 (mg/kg)	PRQL	Transformed PRQL (mg/kg)	UCL_{90} > PRQL Yes	EPA Code
Benzene	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
Bromoform	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
Carbon disulfide	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
Carbon tetrachloride	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
Chlorobenzene	No	0	5	0.09	0.09	0.00	0.09	10.00	N/A		
Chloroform	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
1,1-Dichloroethylene	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
1,2-Dichloroethane	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
Ethyl benzene	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
Methylene chloride	No	0	5	0.27	0.26	0.01	0.27	10.00	N/A		
m-Xylene, p-Xylene[a]	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
o-Xylene	No	0	5	0.09	0.09	0.00	0.09	10.00	N/A		
1,1,2,2-Tetrachloroethane	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
Tetrachloroethylene	No	0	5	0.09	0.09	0.00	0.09	10.00	N/A		
Toluene	No	0	5	0.09	0.09	0.00	0.09	10.00	N/A		
trans-1,2-Dichloroethylene	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
1,1,1-Trichloroethane	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
Trichloroethylene	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
1,1,2-Trichloro-1,2,2-trifluoroethane	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
1,1,2-Trichloroethane	No	0	5	0.18	0.18	0.01	0.18	10.00	N/A		
Trichlorofluoromethane	No	0	5	0.27	0.26	0.01	0.27	10.00	N/A		
Vinyl chloride	No	0	5	0.18	0.18	0.01	0.18	4.00	N/A		
Acetone	Log	0	5	3.83	1.34	1.39	2.30	100.00	4.61		
Butanol	Log	0	5	3.83	1.34	1.39	2.30	100.00	4.61		
Methanol	Log	0	5	3.54	1.06	1.39	2.01	100.00	4.61		
Methyl ethyl ketone	Log	0	5	3.83	1.34	1.39	2.30	100.00	4.61		
Ethyl ether	Log	0	5	3.83	1.34	1.39	2.30	100.00	4.61		
Isobutanol	Log	0	5	3.83	1.34	1.39	2.30	100.00	4.61		
Pyridine	Log	0	5	3.83	1.34	1.39	2.30	100.00	4.61		
Formaldehyde[b]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydrazine[c]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichlorobenzene[d]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene[d]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[a] These xylene isomers cannot be resolved by the analytical methods employed in the program. m-Xylene and p-Xylene will be reported as "Total m-p-Xylene."

[b] Required only for homogenous solids and soil/gravel waste from the Savannah River Site.

[c] Required only for homogenous solids and soil/gravel waste from Oak Ridge National Laboratory and Savannah River Site.

[d] Can also be analyzed as a SVOC. If analyzed as a SVOC, the QAO's of CCP-PO-001, Table C3-6 apply.

Comments:

(1) For analytes where there were no samples measured above the MDL value, 1/2 of the MDL value was used. (Per section C4 of the WAP, 1/2 of the MDL value is used in calculating the mean concentration.)

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

6/4/2013
Date

CIS 004

CCP-TP-003 Rev 19
Effective Date: 11/02/12
CCP Data Analysis for S3000, S4000, and S5000 Characterization

CCP Solids Analysis SVOC UCL_{90} Evaluation Form

WSPF #: LA-MSG04.001 **Solids Sampling Lot Number(s)** 1 through 1

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (mg/kg)	Mean (mg/kg)	SD (mg/kg)	UCL90 (mg/kg)	PRQL (mg/kg)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
1,2-Dichlorobenzene [a]	No	0	5	0.20	0.20	0.00	0.20	40	N/A		
1,4-Dichlorobenzene [a]	No	0	5	0.20	0.20	0.00	0.20	40	N/A		
2,4-Dinitrophenol	No	0	5	0.10	0.10	0.00	0.10	40	N/A		
2,4-Dinitrotoluene	No	0	5	0.10	0.10	0.00	0.10	2.6	N/A		
Hexachlorobenzene	No	0	5	0.10	0.10	0.00	0.10	2.6	N/A		
Hexachloroethane	No	0	5	0.20	0.20	0.00	0.20	40	N/A		
2-Methylphenol (cresols)	No	0	5	0.10	0.10	0.00	0.10	40	N/A		
3&4 -Methylphenol (cresols)	No	0	5	0.10	0.10	0.00	0.10	40	N/A		
Nitrobenzene	No	0	5	0.20	0.20	0.00	0.20	40	N/A		
Pentachlorophenol	No	0	5	0.10	0.10	0.00	0.10	40	N/A		
Pyridine[a]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[a] Can also be analyzed as a VOC. If analyzed as a VOC, the QAO's of CCP-PO-001, Table C3-4 apply.

CI5005

Comments:

(1) For analytes where there were no samples measured above the MDL value, 1/2 of the MDL value was used. (Per C4 of the WAP, 1/2 of the MDL value is used in calculating the mean concentration.)

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

6/4/2013
Date

CCP-TP-003 Rev 19
Effective Date: 11/02/12
CCP Data Analysis for S3000, S4000, and S5000 Characterization

CCP Solids Analysis Metals UCL_{90} Evaluation Form

WSPF #: LA-MSG04.001 **Solids Sampling Lot Number(s)** 1 through 1

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (mg/kg)	Mean (mg/kg)	SD (mg/kg)	UCL90 (mg/kg)	PRQL (mg/kg)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
Antimony	Log	2	5	0.99	-0.73	1.04	-0.02	100	4.61		
Arsenic	Log	5	5	1.87	0.88	0.61	1.30	100	4.61		
Barium	Log	5	5	7.09	4.70	1.35	5.63	2000	7.60		
Beryllium	Log	5	5	-1.47	-1.81	0.29	-1.61	100	4.61		
Cadmium	Log	1	5	0.10	-2.38	1.38	-1.43	20	3.00		
Chromium	Log	5	5	4.87	3.43	0.81	3.99	100	4.61		
Lead	Log	5	5	7.60	5.07	1.66	6.21	100	4.61	Yes	D008
Mercury	Log	5	5	0.88	-2.16	1.80	-0.92	4	1.39		
Nickel	Log	5	5	4.37	2.80	0.88	3.41	100	4.61		
Selenium	No	2	5	1.30	0.76	0.37	1.01	20	N/A		
Silver	Log	1	5	-1.31	-2.66	0.76	-2.14	100	4.61		
Thallium	No	1	5	2.40	0.72	0.94	1.36	100	N/A		
Vanadium	SQRT	5	5	6.00	5.39	0.50	5.73	100	10.00		
Zinc	Log	5	5	6.76	4.44	1.31	5.34	100	4.61	Yes	(2)

CIS006

Comments:

(1) For analytes where there were no samples measured above the MDL value, 1/2 of the MDL value was used. (Per section C4 of the WAP, 1/2 of the MDL value is used in calculating the mean concentration.)

(2) Zinc is not listed under 40 CFR 261.24 or as a toxicity characteristic compound per 40 CFR 261.20.

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

6/4/2013
Date

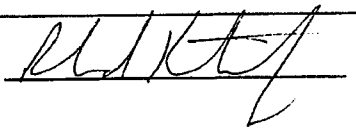
CCP Solid VOCs Summary Data

Waste Stream Number LA-MSG04.001 Solids Sampling Lot Number(s) 1 through 1

Tentatively Identified Compound	Maximum Observed Estimated Concentrations (ppmv)	# Samples Containing TIC	% Detected
None	N/A	N/A	N/A

Data Supports EPA Hazardous Waste Numbers Assigned by AK? Yes ☑ No ☐

If no, describe the basis for assigning the EPA Hazardous Waste Codes:

SPM Signature  Date 6/4/2013

CIS007

CCP-TP-002 Rev. 25
Effective Date: 02/11/2013
CCP Reporting of DQO's and
Reporting Characterization Data

CCP Solid SVOCs Summary Data

Waste Stream Number LA-MSG04.001 Solids Sampling Lot Number(s) 1 through 1

Tentatively Identified Compound	Maximum Observed Estimated Concentrations (mg/kg)	# Samples Containing TIC	% Detected
Tetrachlorobiphenyl	0.61	1	20.00%
Fluoranthene	0.84	1	20.00%
Pentachlorobiphenyl	1.52	1	20.00%
Benzo[b]fluoranthene	0.69	1	20.00%

Data Supports EPA Hazardous Waste Numbers Assigned by AK? Yes ☑ No ☐

If no, describe the basis for assigning the EPA Hazardous Waste Codes: N/A

SPM Signature _____ Date 6/4/2013

CIS008

CCP-TP-002 Rev. 25
Effective Date: 02/11/2013
CCP Reporting of DQO's and
Reporting Characterization Data

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MSG04.001 Lot #: 1

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.

a. See Batch Data Reports
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Richard Kantrowitz (Printed Name) | 6/4/2013 (Date)

CIS009

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MSG04.001 Lot # 1

Sampling Completeness

RTR:
Number of Valid Samples: 5 Number of Total Samples Analyzed: 5
Percent Complete: 100 (QAO is 100%)

NDA
Number of Valid Samples: 5 Number of Total Samples Analyzed: 5
Percent Complete: 100 (QAO is 100%)

HSG
Number of Valid Samples: NA Number of Total Samples Collected: NA
Percent Complete: NA (QAO is ≥90%)
Number of Valid Samples: NA Number of Total Samples Analyzed: NA
Percent Complete: NA (QAO is ≥90%)

Total VOC
Number of Valid Samples: 5 Number of Total Samples Collected: 5
Percent Complete: 100 (QAO is ≥90%)
Number of Valid Samples: 5 Number of Total Samples Analyzed: 5
Percent Complete: 100 (QAO is ≥90%)

Total SVOC
Number of Valid Samples: 5 Number of Total Samples Collected: 5
Percent Complete: 100 (QAO is ≥90%)
Number of Valid Samples: 5 Number of Total Samples Analyzed: 5
Percent Complete: 100 (QAO is ≥90%)

Total Metals
Number of Valid Samples: 5 Number of Total Samples Collected: 5
Percent Complete: 100 (QAO is ≥90%)
Number of Valid Samples: 5 Number of Total Samples Analyzed: 5
Percent Complete: 100 (QAO is ≥90%)

CIS010

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MSG04.001 Lot # 1

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
5	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
6	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for each VOC in the HSG of each container were calculated and compared with the program required quantitation limits, as reported in CCP-TP-003 Attachment 3, and additional U.S. Environmental Protection Agency (EPA) Hazardous Waste Numbers were assigned as required. Samples were randomly collected (when appropriate).
7a	Y	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for solids VOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 4, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7b	Y	Mean concentrations, (UCL_{90}) values for the mean concentration, standard deviations, and the number of samples collected for solids SVOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 5, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7c	Y	Mean concentrations, (UCL_{90}) values for the mean concentration, standard deviations, and the number of samples collected for total metals were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 6, and additional EPA HWNs were assigned as required. Samples were randomly collected.

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MSG04.001 Lot # 1

8	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
9	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
10	Y	Waste stream can be classified as hazardous or nonhazardous at the 90-percent confidence level.
11	NA	Appropriate packaging configuration and Drum Age Criteria (DAC) is applied and documented in the headspace gas sampling documentation, and the drum age met prior to sampling.
12	Y	TICs were appropriately identified and reported in accordance with the requirements of Section C3-1 of the QAPjP.
13	NA	The PRQLs for headspace gas VOCs were met for all analyses as evidenced by the analytical batch data reports.
14		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA
Headspace Gas Analysis	NA	NA	NA
Solids Sampling	Y	Y	Y
Solids VOCs	Y	Y	Y
Solids SVOCs	Y	Y	Y
Solids Metals	Y	Y	Y

Comments:
None.

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

6/4/2013
Date

SUMMATION OF ASPECTS OF AK SUMMARY REPORT: LA-MSG04.001

Overview

Waste stream LA-MSG04.001 is contact-handled (CH) mixed contaminated soil waste generated at the Technical Area (TA)-21, Delta Prime (DP) West Facility at Los Alamos National Laboratory (LANL). The TA-21 DP West Facility was established in 1945 as LANL's main plutonium facility. DP West provided the capability to: produce metal and alloys of plutonium and other transuranic (TRU) elements from nitrate solution feedstock, fabricate these metals and alloys into precision shapes for defense applications, measure the chemical and physical properties of plutonium metals and alloys, and recover and recycle plutonium scrap or materials used in experiments. Starting in 1978, the DP West plutonium operations were transferred to the newly constructed TA-55 Plutonium Facility, and the DP West Plutonium Facility underwent an extensive decontamination effort. The soil waste included in waste stream LA-MSG04.001 was generated during Decontamination and Decommissioning (D&D) and associated operations (e.g., sampling operations) at the TA-21 DP West Facility.

Waste stream LA-MSG04.001 was contaminated with or generated by the following defense related activities: defense nuclear waste and materials by-products management, defense research and development (R&D), and defense nuclear material production activities. Therefore, this waste stream is defense related waste.

This Summation of the AK Summary Report includes information to support Waste Stream Profile Form (WSPF) number LA-MSG04.001 for mixed contaminated soil waste. The primary source of information for this Summation is CCP-AK-LANL-010, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory TA-21 DP West Facility: Waste Streams LA-MHD04.001, LA-MSG04.001*, Rev. 6, February 14, 2013.

Waste Stream Identification Summary

Waste Stream Name:	Contaminated Soil from TA-21
Waste Stream Number:	LA-MSG04.001
Dates of Waste Generation:	February 1978 to September 2011
Waste Stream Volume – Current:	48 55-gallon drums and 40 standard waste boxes (SWBs)[1]
Waste Stream Volume – Projected:	None
Summary Category Group:	S4000 – Soils/Gravel
Waste Matrix Code Group:	Soils
Waste Matrix Code:	S4200
TRUCON Content Numbers:	LA211, SQ211

1. This includes 15 crates (38.4 m^3) that are expected to be repackaged into SWBs. These crates represent 21 of the 40 SWBs.

Annual Transuranic Waste Inventory
Report Identification Number: LA-MSG04.001

Waste Stream Description and Physical Form

Waste stream LA-MSG04.001 is comprised of dirt or soil, dust, sand, silt, rock, and gravel contaminated with TRU material. Available AK indicates the contaminated soil primarily originated from spills and/or the removal of acid wells and lines, tunnels below buildings, material disposal areas (MDAs), tank systems, and various locations immediately surrounding the DP West buildings. Acid wells and lines were part of the liquid waste treatment process. Liquid wastes that had plutonium concentrations less than the discard limit (DL), but that did not meet the waste acceptance criteria for the TA-50 Radioactive Liquid Waste Treatment Facility, were sent to the liquid waste treatment process. Contaminated soil from tunnels below DP West buildings typically originated from the cleanup of nonstandard events. However, some of the containers in this waste stream do not identify specific waste generating locations. Contaminated soil also originated from the investigation, excavation, and remediation of MDAs and tank systems. This waste could have been generated in any DP West building or surrounding area. Consequently, this soil could be contaminated with any of the materials and chemicals from the operations described in Generating Processes section. The waste stream may also include a small fraction of absorbent material used to absorb residual liquid such as vermiculite. Debris waste (mainly plastic packaging, blacktop, concrete, insulation, and piping) and secondary waste from repackaging and below-grade retrieval operations may also be present.

Waste stream LA-MSG04.001 meets the WIPP-WAP waste stream definition. The waste stream consists of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity. This waste stream was generated during the removal of contaminated soil during D&D and associated operations (e.g., sampling operations) at the TA-21 DP West Facility.

Point of Generation

Location

Waste stream LA-MSG04.001 was generated at LANL in Los Alamos, New Mexico. The waste is stored at the TA-54 Material Disposal Area G (Area G).

Area and/or Buildings of Generation

Waste stream LA-MSG04.001 was generated in the TA-21 DP West Facility.

Generating Processes

Description of Waste Generating Processes

Waste generated in TA-21 originated from materials used to produce metal and alloys of plutonium and other TRU elements from nitrate solution feedstock; fabricate the metals and alloys into precision shapes; measure the chemical and physical properties of plutonium metal and alloys; recover and recycle plutonium; and research and recover americium. Waste was also generated during D&D, waste repackaging, and retrieval operations. The operations are described in detail below and include:

- Plutonium recovery operations
- Pyrochemical operations
- Metal operations
- Pu-239 fuels programs
- Americium processing operations
- Pu-238 processing
- Miscellaneous and special processing
- D&D operations
- Waste repackaging and prohibited item disposition
- Below-grade retrieval project

Plutonium Recovery Operations

Manufacturing and research operations performed at DP West in the production of plutonium products generated plutonium-contaminated scrap and residues. These residues were processed to recover as much plutonium as was practical. The DP West Facility had extensive capabilities for the extraction and recovery of plutonium from residues and scraps generated from operations at various LANL facilities and other DOE sites. These recovery and manufacturing operations, associated maintenance operations, and plutonium research were the major sources of TRU waste generated at DP West (References D002 and D042).

The overall goal of the plutonium recovery operations was to recover plutonium from metal, metal alloys, scrap, and residues and produce a purified plutonium nitrate solution that was compatible with the operations used in the preparation of plutonium metal. The DP West plutonium recovery operations can be subdivided into pretreatment, dissolution, and purification operations. Each of these process categories is listed below (References D039 and D042).

Pretreatment

Pretreatment primarily included physical methods used to prepare scrap and residues for the next step, dissolution. Pretreatment may have included any or all of the following operations: thermal conversion to oxide, calcination, caustic leaching, chemical separation by hydroxide or oxalate precipitation, size reduction, grinding, shredding, distillation, filtering of liquids or oils, and incineration. As materials were received from various operations within DP West, they were sorted and sent to other pretreatment operations or directly to dissolution, depending on the physical nature of the scrap or residue and on the amount and type of plutonium associated with the material (References D002, D011, D042, D053, D056, and D059).

In overview, particulate solids from the pretreatment step were sent to dissolution if plutonium concentrations were above the DL and to disposal if concentrations were below the DL. Liquids were sent to purification if plutonium concentrations were above the DL or to the Building 257 wastewater treatment facility if concentrations were below the DL (Reference D059).

Pretreatment of Noncombustible Residues

Thermal pretreatment operations were frequently used to prepare plutonium-bearing materials for dissolution. Due to the pyrophoric nature of plutonium metal and certain alloys, procedures were developed for converting the metal and its alloys to the oxide, which could then be safely handled in any atmosphere. Finely divided plutonium metal, anode heels from electrorefining (ER) operations, oxides that may contain unoxidized plutonium metal, carbides, and nitrides that can be very reactive in an oxidizing acid were burned in a furnace under a controlled

atmosphere to passivate the material and moderate its reactivity. Usually the ignition was performed in magnesium oxide (MgO) or aluminum oxide crucibles. If the ignition temperature did not exceed 600 °C, the resulting oxide could be readily dissolved by refluxing with nitric and hydrofluoric acid solutions (References D043 and D059).

A caustic (hydroxide) leach process was used to pretreat residues high in chlorides. Chlorides were removed using sodium hydroxide and the treated residues were then dissolved in nitric and hydrofluoric acid. In this case, the caustic solution would be sent to liquid waste disposal at Building 257, and the filtered solids would continue through the dissolution process (Reference D059).

Plutonium oxalate cakes from the oxalate precipitation process underwent calcination by heating in air in a furnace to form pure plutonium oxide. The oxide became feed for the oxide reduction process (References D043 and D059).

Pretreatment of Combustible Residues

Development work was started in 1951 on the design of an incinerator for TA-21 combustible residues, including paper, rags, wood, emery paper, rubber gloves, graphite, and plastics. The incinerator was first used in 1952 for contaminated rags. The procedure for the operation of the incinerator allowed 12 liters of dry rags to be processed in about two hours, yielding 100 to 150 ml of ashes. The incinerator off-gas scrub and the vacuum seal solutions were filtered after every three to five runs and analyzed for plutonium content to determine if the solutions should be recycled or discarded (References D002, D043, and D059).

Several problems were encountered in the incineration operation. Certain rubber and plastic items burned incompletely and led to the buildup of combustible tar on the exhaust lines and filters. Incineration of polyvinyl chloride bags led to increased corrosion due to the release of chloride, which formed hydrochloric acid whenever it came in contact with water. Consequently, the incineration of plastic and rubber items was severely restricted to only those pieces that monitoring indicated still contained appreciable quantities of plutonium after leaching with nitric acid (References D002, D043, and D059).

The incineration of rags that had been in contact with nitric acid and then allowed to stand was also problematic. The rags would become nitrated, and small nitrocellulose explosions would result when these were burned. The problem was mitigated by requiring that all cotton rags be rinsed with water immediately after being in contact with nitric acid (References D042 and D059).

The ashes were collected after each run and reduced in a ball mill to less than 20-mesh particles. The ashes were sampled for plutonium content, and subjected to an acid leach or processed in a dissolver if the plutonium content was greater than the DL. The resulting nitrate solution was purified by anion-exchange (Reference D059).

Pretreatment of Oils

Plutonium-contaminated lubricating, machining, lapping, and cutting oils were transferred to Building 2 for recovery in glass jars. The oils were directly filtered through a sintered glass frit to remove plutonium metal or oxide particles. Trichloroethylene was used to reduce the viscosity of oils during the filtration step. The liquid portion was sent to Building 257 for treatment (References D042 and D059).

Dissolution

Dissolution was comprised of numerous operations that generated a plutonium-nitrate solution for subsequent feed to a purification process. Numerous dissolution procedures were developed during the early years of LANL. By the 1960s, these had been narrowed to only a few for production purposes. The primary mode of dissolution involved nitric acid, hydrofluoric acid leach solutions, with the addition of other chemicals for particular dissolution operations. The plutonium-bearing nitric and hydrofluoric acid solutions resulting from dissolutions proved to be excellent feed stocks for follow-up processing operations. In overview, filtered solids from the dissolution step were re-leached until plutonium concentrations were below the DL, then sent to disposal; debris items were disposed of after the plutonium contamination was removed from the surface by leaching; plutonium-bearing solutions were sent on to purification or to the metal preparation line (References D042 and D059).

Several dissolution operations involved the use of cascading dissolvers or dissolution pots. The choice of dissolution equipment was based on the concentration of plutonium present in the feed material and the physical form of the feed material. The equipment for the batch extraction system consisted of large-diameter equilibration tanks equipped with stirrers for equilibration and settling. Feed materials included ash, glovebox sweepings, ground slag or crucibles, hydroxides, metal, oxides, residues, salts, and sand. Metal dissolvers were used for the dissolution of plutonium metal by nitric and hydrofluoric acid using vessels made by adding a ground glass ball joint to a standard 5-liter round bottom flask. Hydrochloric acid solutions, chloride residues, and organics not compatible with nitric acid were often sent to the caustic dissolver. After dissolution, the solutions were filtered and then sent to purification. The filtered solids were sent to other dissolution operations if plutonium concentrations were above the DL, or disposed as debris waste if concentrations were below the DL (References D033, D043, and D059).

Surface Decontamination

Plutonium on the surface of metal and non-combustible debris waste items was recovered by leaching or dipping the waste item into a nitric acid leach solution. Items such as tantalum molds and crucibles, sintered glass frits, stainless-steel filters, and aluminum oxide crucibles were generally cleaned of plutonium by refluxing with nitric and hydrofluoric acid solutions. The acid solution was filtered, and the items were rinsed with water or dilute nitric acid. Rubber gloves were wiped with a cloth soaked in a nitric acid solution to recover surface contamination of plutonium. The cloths were dunked in water a few times and wrung out; the solutions from the cloths were collected and filtered. The solids were recycled through the dissolution process if plutonium concentrations were above the DL, or disposed as waste if concentrations were below the DL. The plutonium-bearing solutions were sent to purification. The cloths were reused if they were not falling apart; otherwise, they were discarded as solid waste or sent to incineration, depending on the nuclear material content. Plutonium-bearing solutions were sent to purification, while the leached items below the DL were discarded (References D042 and D059).

Pickling

Pickling, leaching with a strong acid (either nitric acid or hydrochloric acid), was typically a head-end operation for treatment of noncombustible items. Hydrochloric acid pickling solutions underwent nitric acid acidification. The plutonium-bearing nitrate pickling solution was then transferred to anion-exchange (References D042 and D059).

Plutonium Metal and Alloys

Many plutonium-bearing materials were dissolved in a standard leach solution of nitric and hydrofluoric acid after appropriate pretreatment or preparation. These materials included alloys, anodes, carbides, casting skulls, ER residues, and metals. After dissolution and filtration, solids were discarded if below the DL or recycled if above the DL, while solutions were sent to purification. These solutions could be expected to contain dissolved heavy metals (e.g., lead, cadmium, mercury, or chromium) that may be concentrated in the purification steps (References D042 and D059).

Dissolution methods for plutonium alloys of chromium, copper, gallium, hafnium, indium, iron, manganese, thorium, titanium, uranium, and zirconium were developed at DP West. The alloying element(s) determined the purification method that followed dissolution. Anion-exchange in nitrate media followed most dissolutions because of the high selectivity for (the sorption of) nitrate complexes of tetravalent actinides (References D042 and D059).

Plutonium-aluminum alloys containing greater than ten percent aluminum were dissolved with nitric acid using mercuric nitrate as a catalyst. In subsequent nitrate anion-exchange, the mercuric nitrate was quantitatively removed into column washes where it was then concentrated by hydroxide scavenging. Plutonium-osmium alloys were dissolved using nitric and hydrofluoric acid with helium sparging in order to drive off volatile osmium tetraoxide (References D042 and D059).

Uranium-plutonium oxide mixtures were leached using nitric acid to preferentially dissolve the uranium. Aluminum nitrate was added to the solution to complex any fluoride ion that might be present. The uranium-bearing filtrate was discarded, and the plutonium-bearing solids were sent to dissolution and then to either an anion-exchange process or the oxalate precipitation process for purification (References D042 and D059).

Plutonium oxide

The ease with which plutonium oxide can be dissolved depends on the temperature at which the oxide was formed or to which it was subsequently heated. Oxides that had been heated to less than 600 °C were generally relatively easy to dissolve in a nitric and hydrofluoric acid solution. Oxides heated to temperatures between 600 °C and 1000 °C had refractory properties that required more stringent measures. The dried oxide residue was mixed with a potassium pyrosulfate and sodium fluoride flux, which was then heated to 550 °C. The cooled melt was removed from the fusion vessel, and heated with a nitric acid and aluminum nitrate solution. The solution was filtered and sent to the appropriate purification step, depending on what types of cations were present (References D042 and D059).

Graphite

Graphite melt and mold crucibles that had been coated with calcium fluoride to reduce plutonium penetration contained only surface contamination and could be directly leached with nitric and hydrofluoric acid solution. Graphite used for filtering aqueous solutions and uncoated melt and mold crucibles were incinerated, and the ashes were subsequently leached with nitric and hydrofluoric acid solution (References D042 and D059).

Silica Solids

Silica entered the process stream from dissolution of magnesium oxide crucibles in which silicon oxide was used a binder, and due to leaching of silica from glass equipment. Acid-leached silica residues were dried and treated in hydrofluorination furnaces. Gaseous hydrogen fluoride was introduced into the reaction chamber and reacted with the silicon dioxide to form the volatile silicon tetrafluoride gas. The gaseous reaction products were swept out of the chamber through a caustic scrubber. The reaction residues were leached with a nitric acid and aluminum nitrate solution. All leach and scrub solutions that contained more than one mg/L of plutonium were transferred to the anion-exchange system. The leached residues were treated, as described, for acid insoluble residues (References D042 and D059).

Acid Insoluble Residues

Acid insoluble residues include refractory oxides and residues for which leaching was uneconomical or infeasible. Examples include incinerator ashes, aluminum oxide tubes and crucibles, and carborundum solids. These residues were treated by fusion with a mixture of potassium pyrosulfate and sodium fluoride in Hastelloy "C" fusion crucibles. The resulting melt was dissolved in a nitric acid and aluminum nitrate solution; the fluoride anion was tightly complexed by the added aluminum. The filtrate was purified by anion-exchange (References D042 and D059).

Incinerator Ashes

Incinerator ashes from burning of combustible residues were processed on a batch basis. The procedure consisted of a dilute nitric acid leach to remove the more soluble residues, a water leach to remove the nitric acid, hydrofluorination to remove the silica solids, and, finally, a fusion with potassium pyrosulfate and sodium fluoride to remove the remaining plutonium (References D042 and D059).

Electrorefining Chloride Melts

Due to their high chloride content, ER chloride melts required special handling to prevent corrosion of the stainless-steel equipment. The preferred method of dissolution was to leach the chloride melt with sodium hydroxide, thus dissolving the chloride salts of sodium, potassium, and lithium, and precipitating the plutonium as the hydroxide. The filtrate, if less than 1 mg/L in plutonium, can be discarded, thus disposing of the corrosive chloride ion (References D042 and D059).

Reduction and Casting Residues

Bomb reduction residues from plutonium metal preparation consist of the MgO packing sand, the reduction slag, and the MgO crucible serving as the liner for the reduction bomb. The residues were treated in geometrically favorable dissolvers. Slag and crucible material to be dissolved was loaded into a screened bucket and lowered to the bottom of the dissolver. Nitric acid and aluminum nitrate solution was added to dissolve the MgO sand, and then air was sparged through the solution to aid in the oxidation of iodide to free iodine (iodine was added as a booster in the bomb reduction procedure). The free iodine was carried through sodium hydroxide scrubbers. Further addition of nitric acid and heating was required to dissolve the MgO crucible material. The solution was filtered and sent to nitrate anion-exchange. The

leached residues were transferred to the hydrofluorination system for removal of silica (References D042 and D059).

Casting residues were treated in the same manner as the reduction residues, using a modified procedure because no iodine was present in these residues. The MgO-2 percent silicon dioxide casting crucibles do not contain fluoride; therefore, the addition of aluminum nitrate was not required (References D042 and D059).

Purification

Plutonium-bearing solutions generated in the dissolution step were sent to purification for plutonium recovery. Purification consisted of both ion-exchange and precipitation. After ion-exchange and/or dissolution of precipitates in nitric acid, plutonium-bearing nitrate solutions were sent to the metal fabrication line (References D042 and D059).

Plutonium Hydroxide Precipitation

The hydroxide precipitation process took plutonium in filtrate solutions from the purification steps and precipitated it with potassium or sodium hydroxide. The resulting plutonium-enriched hydroxide cakes became feed material for other operations or were returned to the dissolution step for re-processing. Heavy metals were known to concentrate in the plutonium-rich hydroxide cakes (Reference D042).

Plutonium Peroxide Precipitation

A peroxide precipitation process was used to achieve excellent separation of plutonium from the cationic impurities aluminum, bismuth, calcium, cesium, chromium, cobalt, iron, lanthanum, and magnesium, as well as americium. Peroxide was added to the dissolution filtrate feed material to convert the plutonium to valence state (+4). The resulting peroxide filter cake was dissolved in nitric acid and the solution was sent to the metal preparation line for conversion to metal (References D042 and D059).

The filtrate solution from the peroxide precipitation had to be treated immediately after filtration to destroy the excess peroxide (the "peroxide kill" process). The preferred method was to slowly add the filtrate to sodium hydroxide. The resulting solution was cooled and then acidified with nitric acid to completely dissolve the hydroxides and provide a clear solution for the anion-exchange process (References D042 and D059).

Plutonium Oxalate Precipitation

The precipitation of plutonium (+3)-oxalate has been an important step in the processing of plutonium since the earliest days of LANL. Oxalate precipitation is a quick, effective concentration step that also provides excellent decontamination from unwanted anions and from metals that form soluble oxalate complexes. The oxalate precipitation process was used to achieve separation of plutonium from iron, aluminum, uranium, or other cations that form soluble oxalates. The precipitation of the trivalent oxalate was also used as the concentration step of the nitrate anion-exchange columns. The plutonium valence state was adjusted to (+3), if necessary, and oxalic acid was added to precipitate the plutonium oxalate. The resulting oxalate was calcined to the oxide, and the oxide was dissolved in nitric and hydrofluoric acid to produce a plutonium nitrate product that was acceptable in the metal preparation line (References D042 and D059).

Anion-Exchange

After 1959, the plutonium recovery operations at LANL employed nitrate anion-exchange columns as the primary mode of scavenging, purifying, and concentrating plutonium. The general procedure for any residue was to: (a) get the plutonium into solution, (b) sorb the plutonium on nitrate anion-exchange resin, (c) elute the plutonium, and then (d) determine which, if any, additional operations should be used to remove remaining impurities. The eluate was concentrated by precipitation of the trivalent plutonium oxalate, if necessary. The purified plutonium nitrate solution was then sent to the metal preparation line (References D042 and D059).

The nitrate anion-exchange operations used resin-filled columns to sorb plutonium. The pH of incoming solutions was adjusted with nitric acid and the plutonium was stabilized by changing the plutonium valence state to (+4) using hydrogen peroxide. Other chemicals used to adjust acidity or to "condition" incoming solutions to address the presence of fluoride, silica, metal impurities, or plutonium (+6) included: aluminum nitrate, ferrous ammonium sulfate, hydrogen peroxide, sodium hydroxide, sodium nitrite, sulfuric acid, and urea (References D042 and D059).

Plutonium (+4) binds to the resin while impurities, such as americium, uranium, and other metals, flow through the column. The column was washed with 7 molar nitric acid to remove non-sorbed species. The plutonium remained on the resin in the (+4) valence state until the eluting agent, 0.3 molar hydroxylamine nitrate, was flowed through the columns. This released purified plutonium in solution for further processing (i.e., precipitation and oxidation). Ion-exchange resins were reconditioned using nitric acid (References D042 and D059).

After ion-exchange, plutonium-bearing solutions were sent on to a precipitation process to convert the plutonium solution to plutonium oxalate. This process involved the addition of oxalic acid to form plutonium oxalate precipitate. The resulting oxalate was calcined to the oxide, and the oxide was dissolved in nitric and hydrofluoric acid to produce a plutonium nitrate product that was acceptable in the metal preparation line (References D042 and D059).

Plutonium/Thorium Separation

Plutonium/thorium oxides were dissolved in a nitric and hydrofluoric acid solution to which sodium chromate and lanthanum nitrate were added. Thorium was removed from the solution by addition of potassium fluoride or hydrogen fluoride to form thorium fluoride precipitate. After filtering out this precipitate, the plutonium was reduced to the (+4) valence state and chromium was reduced to the (+3) valence state in solution using peroxide. Continued addition of peroxide and sulfate resulted in the precipitation of plutonium peroxide, which was subsequently dissolved in nitric acid to provide the nitrate feed for the metal preparation line (References D042 and D059).

Evaporator

The use of evaporators was in the development stage at the DP West Facility in the 1970s. The evaporators were put into production when plutonium recovery operations were relocated to TA-55 (References C011 and D059).

Pyrochemical Operations (Metal Production)

Pyrochemical operations at DP West included the metal preparation line (MPL), developmental direct oxide reduction (DOR), and ER. Plutonium nitrate solutions produced by the plutonium recovery operations were processed in the metal production operations. Plutonium peroxide was precipitated from the nitrate solution and converted to plutonium tetrafluoride. The plutonium tetrafluoride was in turn mixed with calcium metal and heated in a metal "bomb." The highly reactive calcium combines with the fluorine in the plutonium tetrafluoride, leaving molten metallic plutonium that forms a disc or button in the bottom of the bomb. After cooling, the plutonium button was sent on to the metal fabrication section (References D042, D043, D054, and D059).

Metal Preparation Line

The MPL produced plutonium metal using the reduction of plutonium tetrafluoride with calcium in a sealed pressure vessel. Plutonium nitrate solutions produced by the plutonium recovery operations were processed in the metal production operations. Plutonium peroxide was precipitated from the nitrate solution and converted to plutonium tetrafluoride. The plutonium tetrafluoride was combined with calcium metal in excess to that needed for the reduction and iodine, which was added as a reaction initiator. The mixture was placed in an MgO crucible that was surrounded by MgO sand, all placed inside a stainless-steel pressure vessel (a "bomb"). An induction heater elevated the temperature of the reactants and vessel until the iodine reacted with some of the calcium. The highly exothermic reaction raised the internal temperature of the bomb to over 1500 °C in just seconds. The remainder of the calcium reduced the plutonium tetrafluoride to form plutonium metal and calcium fluoride, with the reaction temperature reaching as high as 2000 °C as this second reaction proceeded (References C013 and D059).

As cooling commenced, the molten plutonium, with its high density, settled to the bottom of the crucible, displacing the less dense molten calcium fluoride and calcium iodide. As the temperature decreased to 1400 °C, the calcium fluoride and then the calcium iodide solidified. The desired product was plutonium metal, which was recovered as a button by breaking the crucible and mechanically separating the contents. After cooling, the plutonium button was sent on to the metal fabrication section (References C013 and D059).

The waste products were calcium fluoride and calcium iodide, which formed a slag, MgO sand, and MgO crucible pieces. These were discarded if the plutonium content was below the DL. If the plutonium content was above the DL, the slag and crucible pieces were sent to recovery operations. The MgO sand was reused, if possible (References D002 and D059).

Direct Oxide Reduction

In the 1970s at DP West, the development of the single pass DOR process for plutonium oxide was at the experimental stage. Operations for the conversion of 200-gram batches of Pu-238 oxide and Pu-239 oxide to metal were developed in 1975-1976 at DP West (References D025, D027, D059, and M001).

In the DOR process, plutonium oxide and calcium metal were reacted in molten calcium chloride or calcium chloride mixed with calcium fluoride, to produce plutonium metal. The reaction was conducted in an MgO crucible at 820 °C to 875 °C. Any arsenic, mercury, or selenium present in the impure plutonium oxide would be driven off due to their volatility at this high temperature.

The reaction proceeds to completion when excess calcium was present and when sufficient calcium chloride was available to dissolve the calcium oxide product (References D025, D027, D052, and D059).

After cooling, a plutonium metal button was removed by breaking the crucible. A layer of salt above the button contained unreacted oxide and metal shot, which was sometimes recovered by addition of fresh salt plus additional calcium metal. The process was then rerun. If the unreacted oxide and metal shot did not process after the second run, the material was sent to aqueous recovery. The product plutonium metal contains significant impurities, including additional metal impurities derived from the calcium metal and calcium chloride reagents. It must be further purified by ER. The salt was then either routed through aqueous chloride operations to recover the plutonium, or else discarded as waste along with the remaining calcium metal and MgO crucible pieces (References D025, D027, and D059).

The feed oxide, reagent salts, and reductant were of the highest purity available because the process was non-purifying (i.e., the purity of the product depended on the purity of the feed materials). In fact, the plutonium metal produced from this operation was always less pure than the feed material, due to impurities derived from the reductants. Plutonium metal from this process typically requires further processing to meet purity requirements (References D025, D027, and D059).

Electrorefining

The ER process was introduced in 1962 at TA-21. During the period 1964 through 1977, 1,568 kilograms of plutonium metal of >99.95 percent purity was produced in 653 runs by the ER facility at DP West. The ER process took impure plutonium metal and produced high purity plutonium metal. Impure plutonium was cast as an anode, which was then placed in an MgO crucible with a salt mixture, a metal cathode (typically tungsten), and a seeding reagent - usually magnesium chloride or plutonium chloride. After the anode and salt melted, current was applied to the system, and plutonium at the anode was oxidized. The plutonium ions traveled through the molten salt to the cathode, where reduction to the metal state occurred. Impurities in the original plutonium anode that were more easily reduced than plutonium (including cadmium, chromium, lead, and silver) remained in the anode, while impurities more easily oxidized than plutonium (including americium and barium) were left in the molten salt. After cooling, the crucible was broken and the residues were physically separated from the high purity product metal (References D003, D004, D029, D059, P001, and P009).

Metal Operations (Production and Fabrication)

The metal operations at DP West consisted of metal production and metal fabrication, which included casting and machining. Assembly and disassembly operations were also carried out, as well as experimental operations in fabrication, preparation of test specimens, and metal handling. The metal fabrication section operated a foundry and machine shop devoted exclusively to casting and machining plutonium and its alloys. The plutonium parts prepared in the metal fabrication operations were used for many basic research programs at LANL. Throughout the production and fabrication process, metal alloys and components were inspected to ensure predetermined specifications (References D002, D016, D037, and D059).

Alloy Development

This process was for the development of plutonium alloy. Plutonium metal was placed in metal cups onto which the alloying metal was coated on the cup walls. The alloys were melted in the metal cups. The melt was allowed to cool. Observations were made on the success of the alloying process. If the alloy reacted with the cup, it was sent to plutonium recovery. If not, it could be sent back to original process (e.g., casting). Bromobenzene was used for density measurements and Freon TF was used to clean parts (References D037 and D054).

Casting

The casting process received plutonium metal from pyrochemical operations or from other sources, such as the Special Recovery Line (SRL). The metal was combined with other metal from different sources to produce a product metal that meets purity and isotopic specifications. Specification metal was then cast as a pre-alloyed feed aliquot, at which time gallium metal was added, it was analyzed chemically in-line to determine the proper gallium content, and the metal was placed into in-line storage. Metal was pulled from in line storage to cast into shapes (References D009, D043, D054, and D059).

Casting was done by an induction furnace using tantalum crucibles and tantalum puller plugs. Molten plutonium was poured into the graphite mold through a tantalum funnel. Casting was done under vacuum so that the plutonium did not oxidize. The mold was allowed to cool, at which time the cast shape was unmolded and sent to heat treatment to homogenize the plutonium. After heat treatment, the parts underwent density determination using bromobenzene. Bromobenzene is volatile, hence evaporated and was removed by the ventilation system. The cast shape underwent a final heat treatment and density measurement. The finished cast parts were sent to machining, or placed in temporary in line storage (References D009 and D059).

Chemical analysis was performed on parts rejected during inspection. If the rejected parts met the chemical requirements, the parts were added to other metal in the metal blending step. Those parts that did not meet the chemical specifications were cast into ingots, which were then sent for ER (References D009 and D059).

Casting skulls, which were small amounts of plutonium left on the furnace and crucible surfaces, were oxidized to plutonium oxide. The plutonium oxide easily brushed from the metal surfaces with a paintbrush, thus allowing the tantalum crucibles and funnels to be reused many times. In addition, scrap from the cast pre-alloyed feed aliquot and the casting step was roasted to oxide. This plutonium oxide was sent to aqueous recovery (References D009 and D059).

Machining and Metal Working

Machining and metal working involved a variety of operations on cast parts obtained from casting. Machining operations included turning, milling, grinding, and boring. The objective of the machining operations was to bring the parts to their final dimensional specifications (Reference D059).

Chemicals used in the past as coolants during machining include Tap Magic (which contains 1,1,1-trichloroethane) and Freon TF. Tap Magic use was discontinued in 1992, and Freon TF use was discontinued in 1995 because it was an inferior coolant for plutonium due to the nature of machining this metal (References D037 and D059).

Cleaning solvents were used in machining operations. Methyl ethyl ketone and Metalprep 79 (a phosphoric acid-based metal cleaner) were used. Freon TF was used to remove oil from turnings (degreasing) before they were sent to recovery. For final cleaning, trichloroethylene was used (References D037 and D059).

Physical Properties

This process was performed to study the physical properties of alloys and components, including the structural, magnetic, electronic, and metallurgical properties of actinide metals, alloys, and compounds from various operations (References D035 and M001).

Pit Disassembly and Special Recovery Line

Pit disassembly involved the separation and sampling of pit assemblies using milling, turning, and grinding techniques. Pits were received and monitored for tritium. If no tritium was detected or was below a specified activity, the pit was placed in a glovebox and cut in half, and its components were separated and decontaminated of slight tritium contamination. Care was taken not to mix non-special nuclear material metals with the special nuclear material (SNM) metals. The non-SNM metals were discarded as waste. Uranium and plutonium shells were decontaminated of minor surface contamination (References D037, D059, and P007).

Tritium was recovered in the SRL if tritium was above a specified activity. Separation of pit components was done using a special abrasive cut-off wheel. The pit was cut in half, and the shells were cleaned with copper wool and Freon TF. Scrap was sent to recovery or to waste management, depending on whether the material was SNM or not. After the shells were cleaned with the copper wool and Freon TF, they were placed in an ultrasonic bath for cleaning. Tritium-contaminated water was collected and poured over zeolite for disposal (References D037, D059, and P007).

Small-scale decontamination of tritium-contaminated plutonium and other SNM was done in the SRL furnace. The SRL furnace area consisted of different sections, including metal handling, tritium removal furnace, equipment for collecting tritium liberated in the furnace, and effluent treatment system (References D037 and D059).

Welding and Welding Leak Test

The welding operations at DP West were similar to those conducted at TA-55. One metal fabrication process consisted of the preparation and encapsulation of foils of U-233, Np-237, Am-241, and assorted plutonium isotopes for use as neutron detectors. Metal oxide compounds were also used in detectors. The foils were welded or soldered into nickel, stainless-steel, or copper capsules. Containers were leak tested after welding (References D016, D018, and D059).

The welding method at DP West employed a gas tungsten arc welder. Encapsulation of radioactive isotopes involved placing the isotopic material to be sealed into a stainless-steel capsule and welding the capsule closed. The exterior of the capsule was cleaned with Freon TF. The Freon TF was allowed to evaporate; hence no wiping of the capsule surface with rags was required. Other welding operations included welding of plutonium samples on vanadium in an argon atmosphere, brazing gold to repair platinum frits, welding titanium to repair titanium boats, and welding of aluminum (References D037 and D059).

Pu-239 Fuels Programs

The plutonium fuels programs at DP West consisted of two primary operations: Liquid Metal Fast Breeder Reactor (LMFBR) fuel production and the plutonium advanced fuels development. The LMFBR fuel program investigated the suitability of plutonium-containing ceramic materials for use in breeder reactors. The preparation of purified ceramic grade Pu-239 oxide for the Fast Flux Test Facility at Hanford was carried out in DP West, Building 2, in the 1970s. At both DP West and TA-55, U-235/Pu-239 carbide fuel was prepared. In addition, Pu-239/Th-232 carbide driver fuel and U-238 carbide blanket fuel were also fabricated at DP West (References C006, D011, D037, D057, and D059).

The advanced fuels program investigated the fabrication of plutonium ceramic or cermet fuel materials for potential use in power reactors. The principal goals of the advanced fuels program were to prepare pure, well-characterized plutonium fuel materials and to determine their high temperature properties. Pu-239 advanced fuels for the program included fuels of mixed uranium-plutonium carbides and nitrides (References D008, D016, and D059).

Ceramic Grade Plutonium Oxide Production

The production of plutonium oxide Fast Flux Test Facility driver fuel was very similar to the work subsequently conducted at the TA-55 Plutonium Facility. The feed material was aged plutonium metal that had a sizable amount of ingrown americium. The impure plutonium metal was converted to an impure oxide by burning the metal in air. The impure oxide was dissolved in a nitric and hydrofluoric acid solution, and separated from the americium by precipitation of the plutonium as the peroxide. The americium remains in the filtrate, and was subsequently precipitated as the hydroxide by slowly dripping the peroxide filtrate into sodium hydroxide to "kill" the peroxide. The plutonium peroxide precipitate was redissolved in nitric acid and further purification was achieved by precipitation of the oxalate. The oxalate precipitate was calcined to the purified plutonium oxide, which was subsequently screened, blended, and canned for shipment to Hanford (References C006, D011, D057, and D059).

Advanced Fuels Fabrication

Enriched uranium oxide and plutonium oxide feeds were blended and mixed with graphite and stearic acid. Stearic acid was used to keep the material from sticking during milling. The blended oxide was then pressed into briquettes. Small pieces of briquette and powder left after pressing were sent to the vault or to recovery (Reference D059).

The prepared briquettes were then subjected to carbothermic reduction. In this process, the plutonium or uranium oxide were reduced to the carbide form, resulting in the removal of most carbon and nearly all oxygen from the material, and in the decomposition of the stearic acid. The carbide briquettes were then sent for size reduction (Reference D059).

A jaw crusher was used to reduce the size of the carbide briquettes in preparation for pulverizing. The crushed material was mixed with 0.2 weight percent stearic acid and polyethylene glycol. A vibratory mill pulverized the crushed material to 325 mesh. Nickel powder at a concentration of 2000 parts per million was added to the pulverized carbide as a sintering aid (Reference D059).

Advanced Fuels Pellet Preparation and Element Loading

The plutonium and uranium carbide powder was pressed into pellets that were then loaded into molybdenum trays. The trays were placed in a furnace at 450 °C to burn off the stearic acid and polyethylene glycol. Small amounts of MolyKote were used for hand pressing of pellets. The pellets were sintered in an argon-hydrogen atmosphere at 1600 °C. The sintered pellets were inspected to meet specification. Out-of-specification material was ground to specification with either diamond or aluminum oxide grinding wheels. A final inspection was performed on these pellets with a hand micrometer. Those pellets that met final inspection specifications were transferred to TA-35 for loading into the fuel element(s) along with the bonding material (e.g., sodium), and the elements were welded (Reference D059).

Sample pellets were collected for chemical analysis, carbon-nitrogen-oxygen (C-N-O) analysis, and/or determination of the oxygen to metal ratio by the Analytical Chemistry Group at the Chemistry and Metallurgy Research (CMR) Facility. Compatibility testing, immersion density measurements, and metallographic inspection were performed at DP West (Reference D059).

Americium Processing Operations

In addition to plutonium processing, extensive research on americium was carried out at DP Site West starting in the late 1940s. By the 1950s, DP West was the world's center of research on americium. Am-241 research operations were located in Building 3, and Am-241 recovery operations were conducted in Building 2 South. Consequently, americium and plutonium contaminated wastes were commingled (References D008 and D059).

Am-241 was processed at DP West for commercial applications, such as smoke detectors and oil-well logging instrumentation, through the Oak Ridge isotopes sales pool for distribution to industry. Am-241 was separated and subsequently purified from formerly stockpiled material, byproduct feed from the Pu-239 oxide ceramic-grade fuel production line, and from the Hanford Ash material (References D008, D057, and D059).

When solutions with high americium concentrations were "conditioned" with hydrogen peroxide, an americium hydroxide precipitate formed when the solutions were dripped into sodium hydroxide to "kill" the peroxide. Alternatively, the americium-containing hydroxide cakes from the peroxide kill process were re-dissolved in nitric acid, and the solution concentrated through distillation to precipitate a gel of silica. The silica gel was separated by filtration, air dried, and discarded as solid waste. The americium-containing filtrate was sent to purification (Reference D059).

The americium oxide production process received the hydroxide slurry from plutonium oxide production that was filtered and washed with 0.1 molar sodium hydroxide. The filter cake was dissolved in nitric acid, and the nitric acid concentration was adjusted to 7 molar and passed through an anion-exchange column. The plutonium (+4) was retained on the ion-exchange resin and the americium (+3) passed through the column, resulting in a purified americium solution. At the conclusion of the run, the plutonium was eluted off the column by washing the column with 1 molar nitric acid, and the plutonium solution collected separately. The plutonium solution was then sent to one of the plutonium ion-exchange columns for recovery of the plutonium (References D011, D057, and D059).

The seven molar nitric acid solution from the americium purification process was distilled to reduce volume, adjusted to 0.5–1.0 molar acidity, and sent to oxalate precipitation. The high

purity americium oxalate cakes underwent calcination at 800 °C, resulting in a pure americium oxide product. After filtration of the americium oxalate product, the oxalate filtrate was sent to the hydroxide precipitation process (References D011, D057, and D059).

Pu-238 Processing

The Pu-238 processing operations involved the production of Pu-238 based heat sources along with the recovery of Pu-238 from processing residues and scrap materials. These sources were manufactured for both defense and non-defense activities. Pu-238 processing and fabrication was performed in Buildings 3, 4, 5, and 150. The primary programs included the Systems for Nuclear Auxiliary Power heat source, the artificial heart program, the Solid Solution Cermet fuel form, the Plutonia Molybdenum Cermet fuel form, the Plutonia-Iridium Cermet fuel form, and the Pure Plutonium Oxide fuel form (References D008, D021, D047, D049, D050, and D065).

Systems for Nuclear Auxiliary Power

Systems for Nuclear Auxiliary Power (SNAP) devices converted thermal energy from radioisotope decay into electrical energy. The first sample of Pu-238 metal was produced by CMB-11 at DP West in 1959. The Pu-238 was then used to fabricate a SNAP power source using plutonium. The first encapsulation of a Pu-238 heat source was carried out in Building 5. The Pu-238 heat sources were used to power unmanned weather stations, navigational buoys, satellites, and spacecraft instrumentation. The SNAP power sources also support space electric power applications, including Apollo Lunar Surface Exploration Packages (Reference D008).

Artificial Heart Program

In the 1960s and 1970s, work on the development of a Pu-238 heat source for the artificial heart was conducted in Building 4 North. The U.S. Atomic Energy Commission (AEC) (later the U.S. Energy Research and Development Administration), in coordination with the National Heart and Lung Institute, started a program to develop the power supply for the artificial heart in 1967. The aim of the program was to develop a compact, completely self-contained, artificial heart powered by a nuclear source. After an extensive study, the AEC decided on Pu-238 as one of the best possible source materials (References D005, D008, D020, D044, D045, and D046).

CMB-11 was tasked to conduct R&D on the nuclear heat source, and acquired 80 percent enriched Pu-238 material produced by Savannah River Plant (SRP). The fuel forms researched and developed in this program included Pu-238 metal, Pu-238-3 atom percent gallium (performed in TA-55 only), Pu-238, N-15 nitride, and Pu-238 O-16 oxide. The plutonium metal fuel provided the lowest radiation exposure, but ultimately the O-16 oxide became the fuel of choice because of its greater chemical stability and a radiation exposure nearly as low as that of the metal fuel. The medical-grade fuel forms were prepared by dissolving the Pu-238 oxide in a nitric and hydrofluoric acid mixture, precipitating as plutonium peroxide, and isolating the cake by filtration. After filtration, the peroxide was destroyed, "killed," and the acids were neutralized by a hydroxide precipitation and filtration before the solution was transferred to the waste treatment plant at TA-21 East. Then the peroxide precipitate was converted to the tetrafluoride by heating under a flow of hydrogen fluoride and oxygen gas. Any unreacted hydrogen fluoride gas was scrubbed with potassium hydroxide solution and the solution was sent to the same treatment plant. The plutonium fluoride was reduced to metal with calcium metal in a bomb reduction. The calcium fluoride and calcium iodide slag became either recoverable scrap for SRP or waste. Eventually, the bomb-reduced metal was cast into rods, and two rods were

placed into the anode cup and electrorefined. The sodium chloride/potassium chloride salt and crucible became recoverable scrap for LANL. Finally, the electrorefined high purity metal was cast into rods and encapsulated as the heat source. The high purity of the feed materials, as demonstrated by analysis, assured that none of the waste materials would contain above regulatory limit heavy metals (References C009, D019, D020, D044, D045, and D046).

Eventually, the first four steps were replaced by the direct oxide reduction process. That step involved the reduction of plutonium oxide to plutonium metal, at 850 °C, with calcium metal in molten calcium chloride/calcium fluoride, or plain calcium chloride salt, to dissolve the resulting calcium oxide. The salt and crucible became a recoverable residue. The recovery of the residues was accomplished by oxidizing any plutonium metal to the oxide and re-introducing it as feed material (References D019, D044, D045, and D046).

The Pu-238 O-16 oxide was prepared by taking the electrorefined metal rods produced, as discussed above, and placing them in a vacuum manifold, with hydrogen gas admitted to the Pu-238 metal to form plutonium hydride. The hydride was decomposed under vacuum to reform the metal, while not melting the plutonium. These steps were repeated twice, resulting in a Pu-238 powder. The powder was reacted with O-16 water vapor under a flow of argon saturated with water vapor from 400 °C to 700 °C. The oxide powder was ball milled in an inert atmosphere, screened, and cold pressed. The pellet was crushed and re-screened again. Carbowax dissolved in trichloroethylene was added to the powder and pressed into a pellet, then sintered at 1550 °C under a flow of argon/O-16 water (References D019, D044, D045, and D046).

The Pu-238 N-15 nitride process is identical with that described in the Pu-238 O-16 oxide process above, except where N-15 gas was reacted in a controlled manner with the Pu-238 powder at 300 °C and gradually increasing to 500 °C to form plutonium nitride. The same comments apply to the preparation of the nitride fuel as those under the oxide fuel. No mixed waste was created in this fuel preparation (References D019, D044, D045, and D046).

The design of the artificial heart consisted of the artificial heart pump that would be placed in the patient's chest, and the fuel source and engine package that would be placed in the lower abdomen. Although the prototype fuel source designed and manufactured by CMB-11 incorporated safety features and used impact-resistant, high-strength materials, the possibility that Pu-238 could be released into the environment was the main reason for the cancellation of the program. Potential accident scenarios included traumatic accidents, catastrophic fires, explosions, or gun shots (Reference D008).

Solid Solution Cermet (SSC) Fuel Form

The Savannah River Laboratory prepared the SSC for the TRANSIT Project, which consisted of 90 weight percent Pu-238 oxide –10 weight percent thorium oxide solid solution coated with molybdenum metal. The plutonium oxide was sampled to determine the total plutonium content and to determine impurities spectrochemically. The plutonium oxide was then heated at 1000 °C and ball milled. The thorium oxide was also ball milled, and then both oxides were combined and ball milled again before pressing into a 250-gram pellet. The pellet was sintered at 1600 °C in an argon atmosphere with O-16 water. The sintered chunks were crushed and their density measured. Further crushing was performed, and the granules were screened to collect the 105 to 177 mesh. The fines were then recycled. The collected granules were coated with molybdenum in a heated column using chemical vapor deposition. The molybdenum source was either molybdenum hexafluoride or molybdenum pentachloride gas vaporized and

mixed with hydrogen gas. The gas cylinders were located outside the glovebox and the gas was plumbed in. At 600 °C, the molybdenum was reduced to metal and the hydrogen combined with the fluorine or chlorine to form hydrogen fluoride or hydrogen chloride gas, respectively. The halide gas was reacted with calcium oxide or calcium carbonate to form a calcium salt in a trap. A mixture of argon/hydrogen gas flowed through the column during the heating and cooling steps (References D019, D047, and D051).

A sample of the molybdenum coated fuel granules was analyzed to determine the molybdenum concentration. A 160-gram sample of the coated granules was transferred to a molybdenum boat, baked in an induction furnace at 1800 °C, and charged to a die body. The charge was pressed at 1700-1750 °C and 13,000 pounds per square inch. Molybdenum, in a rolling tube containing molybdenum springs, was applied as an overcoat to the fuel disc in the same manner as above. The final overcoated discs were machined to their final dimensions using a lathe or an ultrasonic machine tool (References D019 and D047).

This process was similar to that used at the TA-55 Plutonium Facility, with the exception that the coating and machining steps used the following (Reference D019):

- Thoria was a major constituent rather than an impurity
- Molybdenum hexafluoride, molybdenum pentachloride, and molybdenum
- Calcium fluoride and calcium chloride
- Machining was performed dry.

Plutonia Molybdenum Cermet (PMC) Fuel Form

The PMC fuel form replaced the SSC fuel form. The fabrications steps were similar, with the exception of (References D019 and D021):

- The thorium oxide ball milling and the combination ball milling steps were eliminated
- An overcoat was not applied
- Machining of the overcoated discs was eliminated, and
- The fines were recycled to the ball milling of the oxide step.

Plutonia-Iridium Cermet (PIC) Fuel Form

A third fuel form was the PIC, consisting of 87 weight percent plutonium oxide and 13 weight percent iridium. The fabrication began with a commercial sample of 325 mesh iridium powder, which was milled, ground, and mixed with several different slurry solutions, dried, and blended to generate an electrostatic charge on the metal particles. Up to this point, the operation was conducted in a non-radioactive environment; therefore, no TRU waste would be generated (References D019 and D049).

An O-16 exchange was performed on the oxide at 750 °C under a flow of argon/O-16 water. The oxide was out-gassed at 1000 °C and ball-milled in stainless-steel mills. The oxide was granulated by dry pressing in hardened-steel dies and granules were isolated of 61-295 mesh (smaller granules were recycled). The granules were then fired at 1075 °C to 1350 °C under a carbon dioxide atmosphere. The plutonium oxide was spread out over the bottom of a Petrie dish, a 325 mesh screen placed over the dish, and the iridium powder was sprinkled on to the screen. The entire assembly was oscillated to mix the combined powders. The graphite hot press die cavities and punches were painted with a five percent iridium/alcohol slurry and dried.

During this step, the iridium became part of the product piece, while the loss of oxygen from the plutonium oxide to the graphite was prevented. The iridium-plutonium oxide charge was cold pressed, and then hot pressed. Re-oxidation of any sesquioxide Pu-O16 was accomplished by reheating the product shape at 1100 °C (References D019 and D049).

The chemicals used in this process were camphor and acetone. The camphor began to volatilize as soon as it contacted the heat from Pu-238, and was completely volatilized as soon as larger quantities of oxide were brought together. The acetone was vaporized when the iridium camphor cake was dried. The first application of ethanol was removed by drying to the point that no ignitability remained. In the iridium painting, the parts were dried at 100 °C, which insured that the ethanol completely vaporized and no ignitability remained. The brushes that were used to apply the slurry would have been air-dried removing any potential for ignitability (References D019 and D049).

Pure Plutonium Oxide (PPO) Fuel Form

The use of cermet fuel form was replaced by PPO fuel form. The sintered plutonia fuel was contained by encapsulation in a high melting-point metal, such as iridium or platinum. An O-16 exchange at 775 °C under an argon/O-16 enriched water atmosphere was performed, and the powder was out-gassed at 1000 °C. The oxide powder was ball-milled with 440 stainless-steel jars and balls, then cold pressed into pellets using no binder and a Ferrotek die and punch. The pellets were then crushed, screened, and the desired size pieces were seasoned under an argon/O-16 water atmosphere. The pieces were loaded into a graphite die and punch assembly, hot pressed at 1490 °C, and sintered under an argon/O-16 water atmosphere (References D019 and D050).

These steps were incorporated into the fabrication of the 100-watt spheres that were used in the Multi-Hundred Watt program and also became the basis for fabrication of pellets of lesser wattages. These steps were identical with those employed in the General Purpose Heat Source and Light Weight Radioisotope Heater Unit fabrications performed at TA-55. No new chemicals or hazards were found in this fuel process (References D019 and D050).

Supporting Operations

Preparation of the fuel forms described above was only one portion of the Pu-238 heat source programs. In order to understand issues, such as safety, possible reentry into the earth's atmosphere from outer space, launch accidents, and radiation exposure to an artificial heart recipient, it was necessary to determine the chemical, physical, and radiation properties of those fuel forms. The following supporting operations were performed at TA-21 West (Reference D019):

1) Powder Density Determination - This process was accomplished by mechanical means involving no hazardous materials.

2) Asymmetrical Thermal Ramp of a PIC Sphere - This was an attempt to understand the stability of a PIC sphere under conditions of thermal shock involved only heating.

3) Melting Points of plutonium oxide and molybdenum - This process involved measurements and also included vapor pressures, heat of melting, and heat of sublimation for both materials. No chemicals were used in these measurements.

4) Thermal Diffusivity for PMC - No hazardous chemicals were used in these measurements.

5) Spectral Emissivity of PMC - No hazardous chemicals were used in these measurements.

6) X-ray Crystallography of the plutonium oxide - No hazardous chemicals were used in these determinations.

7) Chemical Interactions of plutonium oxide and plutonium oxide-x - Involved interactions with water, hydrogen, oxygen, carbon, nitrogen, tantalum, tungsten, molybdenum, iridium, titanium, titanium oxide, hafnium, hafnium oxide, thorium, thorium oxide, zirconium, and zirconium oxide. There was no use of hazardous materials in these studies.

8) Surface Temperature of SSC Discs - There was no use of hazardous materials.

9) Thermal Dilatometry Measurements of SSC - There was no use of hazardous materials.

10) Mass Spectrometer Study of vaporization of SSC fuel - There was no use of hazardous materials.

11) Thermal Stability of SSC Fuel in Air - There was no use of hazardous materials.

12) Thermoluminescent Dosimetry of Pu-238 heat sources - Dose rates were determined for both neutrons and gamma rays. No hazardous chemicals were used in the dosimetry.

13) Particle Size Determinations for Ball-milled Powders - This determination made use of a viscous solution, called Sedisperse that possessed no hazardous constituents.

14) Oxygen Isotopic Exchange of Heat Source Pellets on Exposure to Oxygen, Dry Air, and Moist Air - No chemicals were used in this study.

15) Calorimetry of Heat Sources to Determine Thermal Power - Small sources were measured in a copper isothermal twin calorimeter, and larger ones in a water-bath calorimeter. No hazardous chemicals were employed.

16) Helium Release Studies on Encapsulated and Bare Heat Source Pellets - No hazardous chemicals were used in these studies.

17) Radon Release Study on an Encapsulated Heat Source - Aqua Regia employed to dissolve any radon decay daughters, but this was done outside the glovebox.

Miscellaneous and Special Processing

The miscellaneous and special processing operations at DP West included the development of new recovery operations, metallography, and preparation of isotopes. The overall goal of miscellaneous and special processing involved the study and improvement of operations associated with the purification, extraction, recovery, and characterization of actinides. They were often performed on a small scale or in support of other operations (References D038, D041, and M001).

Development of New Recovery Processes

The development of new recovery processes involved a series of similar actinide extraction, separation, and characterization R&D studies. These studies included the processing of hydroxide cakes using various experimental chemical and electrochemical research solutions. These solutions were used to investigate and improve upon existing extraction and separation techniques. The development of sensors and instrumentation for chemical analysis was also conducted under this process. In addition, purification studies were performed on a non-routine basis. These studies involved small scale research and trouble shooting of various purification methods and used numerous isotopes and isotopic mixtures of plutonium, uranium, americium, and neptunium. Spent solutions, such as acids and bases, used in these operations were either sent to TA-50 or Building 257 (References D038 and M001).

Metallography

The purpose of the metallography operation was to characterize the microstructure of metallic or ceramic pieces to verify and establish the quality and effectiveness of welds. Materials examined under this operation consisted of plutonium and uranium carbides, nitrides, and oxides, as well as zirconium and tantalum alloys, and stainless-steel. Metal pieces (pellets) were cut with a diamond saw. Ceramic pieces were subjected to grinding with standard metal grinding media. Various epoxies were used for sample mounting, and the materials were cleaned, polished, and etched with several different chemical compounds (References D002, D046, D048, D050, and D065).

Preparation of Isotopes

The preparation of isotopes process involved a hydrofluorination system to convert compounds of special isotopes of plutonium and other actinides to fluorides. The compounds were treated with hydrogen fluoride or fluorine gas to produce plutonium fluoride. The plutonium fluoride was then mixed with calcium metal, which in turn was heated to form calcium fluoride and plutonium metal. Quite often, a catalyst (e.g., iodine) was added to initiate the reaction and to provide sufficient energy to ensure a complete reaction. This method of metal preparation neither purified the product metal, nor did it introduce impurities. However, a high-purity oxide feed would produce metal that met purity specifications for many applications (References D041 and M001).

Decontamination and Decommissioning (D&D)/Closure Operations

Plutonium operations in TA-21 started in the early 1940's and continued until 1978. Many of the facilities were used for other activities, including basic research, until they were declared surplus in the 1990's. Several D&D/Closure projects have been undertaken to remove contaminated portions of some facilities, to completely demolish others, and to cleanup surrounding MDAs and tank systems. These facilities and systems housed the equipment and material used to perform the above listed operations and the MDAs contained waste from the above listed operations. Therefore, the waste generated during D&D operations contains the same chemical and radiological contaminants (References D008, D035, D067, D069, P036, and P037).

Decontamination operations were used to accomplish several goals, such as reducing occupational exposures, limiting potential releases of radioactive materials, permitting the reuse of components, and reducing the amount of TRU waste generated. Decontamination operations included the use of mechanical and chemical cleaning techniques, such as brushing,

stripping, washing, and wiping to remove contamination. In addition, physical isolation and draining of equipment were performed when necessary. Based on the radiological contamination, drained liquids were either treated at the liquid waste treatment facility or solidified with cement or an absorbent material (e.g., vermiculite, zeolite). Decommissioning operations involved the physical removal of contaminated equipment, furnishings, gloveboxes, machinery, piping and acid wells, support systems, and in some cases the investigation, excavation, and remediation of MDAs and tank systems including the removal of the surrounding media (e.g., soil). This included the removal and size reduction of glovebox internals, process piping and supports, tanks and ancillary equipment, and other fixed equipment, such as building ducting, wires, conduits, electrical panels, and cabinets. Gloveboxes and equipment were size reduced, as necessary, and packaged for disposal. Soil may have become contaminated during or discovered by the removal of equipment and facilities and cleanup of MDAs and tank systems. Sampling may also be performed to determine contamination levels of equipment, materials, and surrounding media (e.g., soil). Sampling can include direct radiological measurements or smears of equipment and analytical sampling of materials or media (e.g., coring, grab sampling). The containers assigned to waste stream LA-MSG04.001 were generated during these D&D operations. Secondary waste, such as combustibles, metal, and plastic generated during D&D, is expected to be part of the waste. D&D operations also included the removal of stored radiological and hazardous materials and other related actions (References D006, D008, D035, D060, D066, D067, D069, D070, M004, M020, M021, P036, and P037).

No hazardous chemicals were added to the waste during D&D operations. Commercially available, non-hazardous cleaning products, such as Fantastik, were used to remove loose contaminants. Another method for removal of loose contamination was to use non-hazardous strippable coatings, such as ALARA 1146 and Sensor Coat. Water-based paint was often used to fix remaining contamination in place prior to demolition. The goal of the D&D was to reduce the amount of TRU waste generated as much as possible through decontamination and size reduction (References D066 and D070).

Waste Repackaging and Prohibited Item Disposition

Waste containers that fail to meet WIPP criteria are sent to the TA-50 Waste Characterization, Reduction, and Repackaging (WCRR) Project; the TA-54 Building 412 facility formerly known as the Decontamination and Volume Reduction System (DVRS) facility; the TA-54 Dome 231 Permacon; or TA-54 Dome 375 TRU Oversized Waste Processing Capability Project, also referred to as the Box Line Process, to be safely remediated. These four facilities are used to perform visual examination (VE), repackaging, and prohibited item dispositioning of TRU waste. VE is performed to provide information that is used to 1) confirm the waste stream delineation by AK, 2) ensure the absence of prohibited items, and 3) characterize retrievably stored waste with inadequate AK. Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items removed and segregated, if necessary, prior to certification and shipment. Waste items with high dose rates may be repackaged into a pipe overpack container. Current repackaging procedures ensure that waste items placed into a new container originate from a single parent container. Therefore, if repackaging is necessary, the original TA-21 characterization is retained. Some secondary waste generated during remediation/repackaging operations may be added to the waste containers, including but not limited to: absorbent (e.g., Waste Lock 770), Fantastik bottles used during decontamination, miscellaneous hand tools, paper/plastic tags and labels, plastic/metal wire ties, personal protective equipment (PPE), plastic sheeting used for contamination control,

rags and wipes (Kimwipes), and original packaging material (e.g., plastic bags, plywood sheathing, rigid liner lids cut into pieces). Although these operations are performed outside of TA-21, there is no cross contamination with waste from other LANL facilities (References C027, C034, P010, P011, P012, P021, P028, P029, P030, P032, P033, and P034).

Below-Grade Retrieval Project

Since 1970, TRU waste generated by LANL has been retrievably stored at TA-54, Area G, in anticipation of disposal at WIPP. Some of this waste, generated between 1970 and 1998, has been stored below ground. The below ground TRU storage includes a trench containing corrugated metal pipes (CMPs), Pit 9, four trenches (A–D), and remote-handled shafts. LANL has established the Legacy Waste Disposition (LWD) Project to ensure the safe retrieval of containerized TRU waste from below ground storage (References D072, D073, D074, and D078).

The primary mission of the LWD Project at TA-54, Area G, is to retrieve, characterize, repackage, as necessary, and dispose of below-grade TRU waste. Retrieval operations typically include workspace setup, removal of below ground storage material (e.g., soil, tarps, and/or cement plugs), inspection of waste containers to be removed (i.e., evaluation of container integrity), radiological survey of the containers, physical removal of the containers using various mechanical means, and workspace cleanup. Retrieved containers that are intact may be washed with water and detergent to remove soil or contamination if found. The wash water is treated separately from the containerized waste. Depending on the type and condition of the retrieved container, further repackaging or processing may be required. For instance, fiberglass-reinforced plywood boxes will be transferred to the TA-54 Building 412 facility or TA-54 Dome 375 for safe disassembly and repackaging. CMPs will be cut into sections and packaged into drums or SWBs. Drums with integrity or prohibited item (e.g., liquid) issues may be repackaged or overpacked (i.e., 30-gallon drum placed into a 55-gallon drum). Materials used during retrieval operations that may contaminate the waste include contamination fixatives (e.g., paint); concrete used for patching (e.g., Portland cement), epoxy, plastic sheeting and bags, and PPE (References C035, D072, D073, D074, D078, P013, and P014).

Waste Stream Material and Chemical Inputs

The following table identifies the Resource Conservation and Recovery Act (RCRA) toxicity characteristic and listed constituents identified in this waste stream.

Chemical Identification and Use Summary

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
1,1,1-Trichloroethane (chlorothene)	Metallographic sample cleaning (<1992) and contaminant of hydroxide solids. Degreasing solvent and component of Tap Magic.	D002, D013, D065	F001, F002
Arsenic	Contaminant of liquids, filtrates, ash, hydroxide cake, and analytical solutions. Evaporator sludge contaminant and sputter coating reagent.	D037, D039	D004
Barium	Contaminant of plutonium feed, hydroxide cake, ash, actinide separation waste, pyrochemical salts, and analytical solutions. Component of paint.	D002, D013, D039, D040, D041, D065, M010, P014	D005

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Benzene	Cement fixation contaminant and actinide chemistry R&D reagent.	C015, D038	F005
Cadmium	Contaminant of plutonium feed, hydroxide cake, anode heels, ash, actinide separation waste, and analytical solutions. Solvent metal used in electrorefining. Component of paint.	C014, D002, D007, D013, D039, D040, D041, D065, M002, M010, P014	D006
Carbon tetrachloride	Contaminant of cement fixation process and hydroxide solids. Chlorination of plutonium oxide and chloride operations reagent.	C014, D002, D036, D039, D040, D065, M002	F001
Chlorobenzene	Contaminant of cement fixation process and hydroxide solids. Analytical lab and chloride operations reagent.	C015, D036, D039, D065, M002	F002
Chloroform	Contaminant of cement fixation and miscellaneous processing. Chloride and miscellaneous operations reagent.	C015, D036, D038, D039, D065	D022
Chromium	Contaminant of plutonium feed, anode heels, hydroxide cake, ash, actinide separation waste, and analytical solutions. Potentially leached from stainless steel materials. Component of paint. Component of potassium chromate, potassium dichromate, and sodium chromate.	C014, C016, D002, D004, D007, D013, D036, D038, D039, D041, D042, D050, D065, P003, M002, M010, P007, P014	D007
Freon TF (1,1,2-trichloro, 1,2,2-trifluoroethane)	Miscellaneous processing contaminant and recovery operations reagent. Cleaning, cooling, and ultrasonic degreasing operations solvent.	D037, D038, D065, P003, P007	F001, F002
Lead	Leaded gloves, shielding, sheeting, and discs. Contaminant of actinide separation waste, analytical solutions, ash, hydroxide cake, plutonium feed, and solder. Solvent metal used in electrorefining. Component of paint. Actinide R&D reagents. Component of lead hydroxide, oxide, and nitrate.	C014, D002, D004, D007, D013, D036, D037, D038, D039, D040, D041, D050, D065, M002, M010, P014	D008
Mercury	Contaminant of plutonium feed, hydroxide cake, ash, actinide separation waste, evaporator sludge, and analytical solutions. Component of paint. Catalyst used in nitrate operations. Component of mercuric nitrate.	D002, D007, D009, D013, D036, D039, D041, D042, D065, M010, P014	D009
Methylene chloride	Paint stripper, contaminant of cement fixation, hydroxide cake, and miscellaneous processing. Chloride operations and actinide R&D reagent. Component of REZ-N-Bond.	C015, D036, D038, D039, D065, M002	F001, F002
Methyl ethyl ketone	Degreasing solvent.	D037, D065	F005
Pyridine	Uranium triiodide reagent, R&D solvent, and cement fixation process contaminant.	D038	F005
Selenium	Contaminant of liquids, filtrates, ash, hydroxide cake, and analytical solutions.	D038, D059, D063	D010

Chemical/Product	Use/Source	Document Source(s)	EPA HWN(s)
Silver	Contaminant of plutonium feed, hydroxide cake, ash, actinide separation waste, cement fixation contaminant, and laboratory reagent. Component of silver nitrate (leaching, solvent extraction, and laboratory reagent).	C014, C016, C023, D007, D036, D038, D039, D040, D041, D042, D065, P007	D011
Tetrachloroethylene	Degreasing, cleaning solvent, diluent, contaminant of cement fixation process and hydroxide solids. Chloride operations reagent.	C015, D036, D038, D039, D065, M002	F001, F002
Toluene	Actinide R&D reagent.	D038	F005
Trichloroethylene	Clean and polish machined parts. Miscellaneous process and hydroxide cake contaminant. Plutonium processing and solvent extraction reagent.	D002, D037, D038, D039, D065	F001, F002

RCRA Determinations

Historical Waste Management

Waste stream LA-MSG04.001 has historically been managed in accordance with the generator site requirements and in accordance with the requirements of the New Mexico Environment Department. Based on historical waste management, LANL managed the waste as nonhazardous. However, the LANL TRU program identified that further AK investigation was required. A review of available AK documentation has determined that this waste is hazardous for arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), silver (D011), and chloroform (D022) and F-listed solvents (F001, F002, and F005). This waste stream could have been contaminated with liquids and/or residues from any of the plutonium processing operations. The following sections further describe the characterization rationale for the assignment of Environmental Protection Agency (EPA) hazardous waste numbers (HWNs) to waste stream LA-MSG04.001. The Chemical Identification and Use Summary table summarizes the waste codes assigned to this waste stream (References D059, D060, and DR005).

Hazardous Waste Determinations

Ignitability, Corrosivity, Reactivity

The waste material in waste stream LA-MSG04.001 does not meet the definition of ignitability as defined in 40 Code of Federal (CFR) 261.21. LANL waste management practices prohibit liquids in any container of solid waste materials. In 1975, an inventory of the chemicals used in the plutonium processing areas during one calendar year was compiled, with more than 40 reagents identified. Preliminary estimates at the time indicated that only minute quantities of these reagents contaminated waste items. Many organic liquids in use had high vapor pressures. Ignitable solvents (e.g., acetone, toluene) would have been air-dried to remove any potential for ignitability, because hazardous waste treatment under RCRA was not a consideration at DP West in the 1970s. This material will not cause fire through friction, absorption of moisture, or spontaneous chemical changes. The materials are not compressed gases, nor does the waste contain compressed gases. Although oxidizers (e.g., aluminum nitrate, ferric nitrate) were identified as being used at DP West, these reagents were used in small quantities as needed, and should only be present as trace contaminants. The materials

are not liquid, and real-time radiography (RTR) is performed to ensure the absence of liquids. The materials in this waste stream are, therefore, not ignitable D001 wastes (References C001, D001, D013, D058, D059, and D060).

The waste material in waste stream LA-MSG04.001 is not liquid and does not contain unreactive corrosive chemicals; therefore, it does not meet the definition of corrosivity as defined in 40 CFR 261.22. Waste management practices required corrosive liquids (e.g., hydrochloric acid, nitric acid, sodium hydroxide) be transferred to the liquid waste treatment facility at Building 257 or solidified. A detailed study of the composition of DP West waste in 1975 verified the absence of any liquid in the solid wastes, indicating that these chemicals entered the waste stream only as contaminants absorbed onto waste items. RTR is performed to ensure the absence of liquids. The materials in this waste stream are, therefore, not corrosive D002 wastes (References D001, D002, D013, D058, D059, and D060).

The waste material in waste stream LA-MSG04.001 does not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change without detonating. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The material is not a cyanide or sulfide-bearing waste, which when exposed to pH conditions between 2 and 12.5 generates toxic gases, vapors, or fumes. The materials are not capable of detonation or explosive reaction. Reactive materials present or used during plutonium operations were excluded from waste packaging or reacted prior to disposal. The materials in this waste stream are, therefore, not reactive D003 wastes (References D001, D013, D058, D059, and D060).

In one document discussing chemicals of concern during a D&D operation, picric acid is listed as a possible concern. No usage of picric acid was listed in that document and no usage of picric acid was found in any other source document. There is no evidence to indicate that picric acid is in any of the waste containers. The caution statement specified in the D&D document is considered a generic concern for any D&D operation (Reference D068).

The containers in the waste stream will be evaluated in accordance with the WIPP-WAP using radiography prior to shipment to ensure the waste is not ignitable, reactive, or corrosive.

Toxicity Characteristic

Based on review of AK relative to chemicals used or present in the facility and operations potentially contaminating the soil waste, LA-MSG04.001 may be contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24, as summarized in the Chemical Identification and Use Summary table. Where a constituent has been identified and there is no quantitative data available to demonstrate that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is added to this waste stream.

The AK identified the potential presence of additional toxicity characteristic compounds; however, the more specific F-listed EPA HWNs have been assigned to waste stream LA-MSG04.001 for the following constituents: benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), methyl ethyl ketone (D035), pyridine (D038), tetrachloroethylene (D039), and trichloroethylene (D040). These characteristic EPA HWNs are not assigned to the waste stream. Waste stream LA-MSG04.001 is assigned characteristic HWNs D004, D005, D006, D007, D008, D009, D010, D011, and D022 (References D007, D009, D036, D037, D038, D039, D040, D041, D059, and DR005).

Listed Waste

F-Listed Waste

Based on review of AK relative to chemicals used or present in the facility and operations potentially contaminating the soil waste, LA-MSG04.001 may contain or be mixed with F-listed hazardous wastes from non-specific sources listed in 40 CFR 261.31. As shown in the Chemical Identification and Use Summary table, F001, F002, and F005-listed solvents were used in TA-21 DP West operations. F003 constituents, including acetone, n-butyl alcohol, ethyl ether, methanol, methyl isobutyl ketone, and xylene are listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is not liquid; therefore, F003 is not assigned. Waste stream LA-MSG04.001 is assigned F-listed EPA HWNs F001, F002, and F005 (References D013, D036, D037, D038, D039, D040, D059, and DR005).

K-Listed Waste

The material in this waste stream is not hazardous from specific sources since it was not generated from any of the processes listed in 40 CFR 261.32 (References D013, D059, D060, M004, and M020).

P- and U-Listed Wastes

Review of the AK record did not identify any specific source or incident where DP West soil waste was mixed with or contaminated with discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof as defined in 40 CFR 261.33. No listed chemicals were identified in the container-specific documentation. Beryllium from metal operations, in general, would be in the form of classified shapes or turnings and would, therefore, not be in this waste stream. However, it is assumed that, if present, beryllium is a minor contaminant, well below one weight percent in any given waste container. Regardless, the beryllium contamination in this waste does not meet the definition of a P-listed waste because it was used for its intended purpose. Hydrofluoric acid was used during sample dissolution; however, there is no indication that unused acid or materials from spills of the acid were disposed of in this waste stream. Additionally, as described above, liquids were evaporated, treated, or absorbed prior to disposal. Waste stream LA-MSG04.001 is, therefore, not assigned a P- or U-listed HWN (References D013, D058, D059, D060, M004, M020, P003, and P007).

Polychlorinated Biphenyls (PCBs)

Based on documentation reviewed during the AK investigation and summarized in lists of inputs, no PCBs were identified in this TRU waste stream. Oils were used in the operations, including heat-treating, hydraulic, lubricating, machining, and vacuum pump oils. None of these oils are known to contain PCBs. Therefore, this waste stream is not regulated as a Toxic Substances Control Act waste under 40 CFR 761 (References D013, D058, D059, and D060).

Prohibited Items

Based on the review of container documentation and documented waste management practices, no prohibited items are specifically identified in the waste stream. However, the presence of liquids due to dewatering is possible. In addition, procedures allowed containers

greater than four liters, sealed with tape, to be used for waste packaging until LANL WIPP-approved procedures were implemented (References D013, D058, D059, and D060).

Prohibited items are detected by RTR and reported with the characterization results. Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new drums, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items removed and segregated if necessary prior to certification and shipment (References C027, C034, D013, D058, D060, P010, P011, P012, P021, P030, and P032).

Method for Determining Waste Material Parameters (WMPs) Weights per Unit of Waste

To estimate the WMPs for waste stream LA-MSG04.001, WMP data were obtained from the Waste Data System (WDS), formerly known as the WIPP Waste Information System database. The WMP data were derived from RTR of this waste stream by the Central Characterization Program (CCP) TRU Waste Certification Program (TWCP) at LANL.
The WMPs for waste stream LA-MSG04.001 were estimated by reviewing the WDS data for five containers. The WDS data provides a weight for packaged waste materials, which were categorized into the following WMPs: iron-based metals/alloys, plastics, and soils/gravel. Although not identified in RTR data, WMPs other inorganic materials (e.g., concrete, insulation) and inorganic matrix (e.g., vermiculite) are expected to be present in this waste stream. Therefore, these WMPs are identified as being present and are listed at concentrations of less than one weight percent. Average, minimum, and maximum WMP weight percentages were calculated using this data, and the results of this analysis are presented in the Waste Material Parameter Estimates for LA-MSG04.001 table.

Waste Material Parameter Estimates for LA-MSG04.001

Waste Material Parameter	Average Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	5.15%	3.53% - 8.53%
Aluminum-based Metals/Alloys	0.00%	0.00% - 0.00%
Other Metals	0.00%	0.00% - 0.00%
Other Inorganic Materials	<1.00%	0.0% - <1.00%
Cellulosics	0.00%	0.00% - 0.00%
Rubber	0.00%	0.00% - 0.00%
Plastic (waste materials)	0.89%	0.71% - 1.42%
Organic Matrix	0.00%	0.00% - 0.00%
Inorganic Matrix	<1.00%	0.0% - <1.00%
Soils/Gravel	93.96%	90.04% - 95.77%

List of AK Sufficiency Determinations Requested for the Waste Stream

No AK Sufficiency Determinations were requested for this waste stream.

Transportation

This waste stream and its chemical constituents have been reviewed for consistency with the listed TRUCON codes and they are consistent.

Beryllium

Beryllium will not be present in amounts greater than 1% by weight of the waste in each payload container.

Radionuclide Information

The radiological distribution for this waste stream is listed in the Estimated Radionuclide Distribution for the LA-MSG04.001 Waste Stream table. The distribution represents existing generator-reported radionuclide data for each container in the waste stream. The "Total Radionuclide Weight%" values in the below table are the gram value for each radionuclide over the entire waste stream divided by the total radiological mass in the waste stream. The same calculation produced the values for the "Total Radionuclide Curie%" using the sum of activity values for each radionuclide over the entire waste stream. The columns "Radionuclide Weight% Range for Individual Containers" and "Radionuclide Curie% Range for Individual Containers" illustrate the reported ranges of radionuclides in individual containers by identifying the maximum and minimum values for each radionuclide on a container-by-container basis over the entire waste stream (References C033, C037, M004, M009, and M020).

The two predominant radionuclides by mass percent are U-238 and Pu-239, while 95 percent of the activity over the entire waste stream is from Pu-239 (References C033, C037, M004, M009, and M020).

Estimated Radionuclide Distribution for the LA-MSG04.001 Waste Stream

Radio-nuclide	Number of Containers with Reported Nuclide	Total Radio-nuclide Weight%[1,5]	Total Radio-nuclide Curie%[2,5]	Radionuclide Weight% Range for Individual Containers[3,5]	Radionuclide Curie% Range for Individual Containers[4,5]	Expected Present
WIPP Required Radionuclides						
Am-241[6]	57	Trace	0.54%	0 - 16.30%	0 - 91.50%	Yes
Pu-238	57	Trace	0.12%	0 - Trace	0 - 0.71%	Yes
Pu-239	75	8.38%	99.00%	0 - 100.00%	0 - 100.00%	Yes
Pu-240	1	Trace	0.05%	0 - 0.43%	0 - 38.07%	Yes
Pu-242	1	Trace	Trace	0 - 0.05%	0 - 0.08%	Yes
U-233	1	Trace	Trace	0 - Trace	0 - 0.01%	Yes
U-234	19	0.01%	0.01%	0 - 0.39%	0 - 0.15%	Yes
U-238	19	87.71%	0.01%	0 - 98.77%	0 - 0.12%	Yes
Sr-90	19	Trace	0.04%	0 - Trace	0 - 0.26%	Yes
Cs-137	18	Trace	0.21%	0 - Trace	0 - 1.33%	Yes
Additional Radionuclides						
H-3	19	Trace	Trace	0 - Trace	0 - Trace	Yes
I-125	1	Trace	Trace	0 - Trace	0 - 0.02%	Yes
I-129	1	Trace	Trace	0 - 0.05%	0 - Trace	Yes
Np-237	1	Trace	Trace	0 - 0.13%	0 - 0.04%	Yes
Pb-210	1	Trace	Trace	0 - Trace	0 - 0.48%	Yes
Pu-244	1	0.20%	Trace	0 - 69.36%	0 - 0.48%	Yes
Ra-226	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Th-234	1	Trace	0.01%	0 - Trace	0 - 4.62%	Yes
U-235	56	3.70%	Trace	0 - 75.93%	0 - 0.14%	Yes

1. This listing indicates the total weight percent of each radionuclide over the entire waste stream.
2. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
3. This listing is the weight percent range of each radionuclide on a container-by-container basis.
4. This listing is the curie percent range of each radionuclide on a container-by-container basis.
5. "Trace" indicates <0.01 weight or activity (curie) percent for that radionuclide.
6. Maximum weight percent and curie percent ranges based upon preliminary CCP NDA analyses, not generator reported data.

Payload management will not be utilized for this waste stream.

Source Documents

Source Document Tracking Number	Title
C001	Interview of Tom Keenan: DP Connections Arising Out of the Pu-238 Space Heat Program and J. Foxx summary "Plutonium-238 Heat Source Fabrication for Space and Artificial Heart R&D Activities at TA-21 West and CMR Building from 1970 to 1978"
C002	Record of Communication with Jim Foxx - TA-21 Operations at Buildings 2,3,4,5 and 150 and Pu-238 questions
C003	Interview of Jim Foxx: DP, Pu-238 information at TA-21 West
C005	Interview: TA-21 DP West Plutonium Processing Operations, 1970-1977, Waste Management Practices
C006	TA-21 Processing in Reactor Fuel Development, e-mail to C. Smith
C007	Interview of J. Foxx: TA-21 DP West Plutonium Processing Operations, 1970-1977, Lack of Operating Procedures
C008	WACCC Audit Finding #1 (April 27 - May 1, 1987)
C009	Interview of J. Foxx: TA-21 DP West Plutonium-238 Operations, 1970-1977, Purity of Pu-238 feed material, commingling of Pu-238 with other material types.
C011	Interview of J. Foxx: TA-21 DP West Plutonium-238 Operations, 1970-1977, Production-scale Evaporator Not in Operation
C013	[UCNI] Email to G. Miller, re: AK Record [Response from Jim Foxx regarding bomb reduction and plutonium peroxide]
C014	[UCNI] Answers to General Questions About Pyrochemical Salts, Posed by P. Rogers
C015	Review Sheet Documenting An Interview With Jim Foxx on CLS-1 Solvents
C016	Answers and Questions About Various P/S Codes
C017	Interview of J. Foxx: Sources of Cs-137 and Pa-231 in TA-55 TRU waste
C018	Interview of J. Foxx: Sources of Cs-137, Pa-231, and Cm-244 in TA-55 Waste
C019	Memo Assay of U-234
C020	Memo regarding U-234 and Sr-90 Calculations for NDA Reporting
C021	Material Type Isotopic Compositions and Am-241 Content in Solid Transuranic Waste
C022	Commingling of Defense and Nondefense TRU Waste-Memo to TWCP Records Center
C023	Interview of Jim Foxx: Answers to questions about various P/S codes
C025	Fiberboard Drum Liner use at Los Alamos National Laboratory
C026	Memo: David Barnes to John Gallimore, re: Decommissioning and De-con of Building 4 Hot Cells at TA-21 DPW
C027	Email re: Secondary Waste Discussion to be Added to AK4 and AK6
C028	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD04.001
C030	Decontamination and Volume Reduction System (DVRS) Information
C031	Change of LA Waste Stream Designation For TRU Oversize Crates at TA-54

Source Document Tracking Number	Title
C032	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD04.001
C033	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MSG04.001
C034	Secondary Waste Generated by the Remediation/ Repackaging Processes at Dome 231 and WCRRF
C035	Record of Communication: Drum Washing of Drums Retrieved from Below-Grade
C036	TA-54 Building 412 vs. DVRS Facility
C037	Evaluation of Volume and Period of Generation Waste Streams LA-MHD04.001 and LA-MSG04.001, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD04.001
D001	Guidelines for the Interim Storage of AEC-Generated Solid Transuranic Wastes [Excerpt, thru p. 14]
D002	Characterization of Transuranic Solid Wastes from a Plutonium Processing Facility
D003	Fused Salt Electrorefining of Molten Plutonium and Its Alloys
D004	A Review of Operating Experience at the Los Alamos Plutonium Electrorefining Facility, 1963-1977
D005	The Atom: Heart Power
D006	Demolition of Building 12, An Old Plutonium Filter Facility
D007	TA-55 Plutonium Facility Acceptable Knowledge Report - Process Acceptable Knowledge Report for Plutonium-238 Operations at TA-55
D008	Historic Building Assessment for the DOE Conveyance and Transfer Project
D009	Acceptable Knowledge Report for Newly generated Waste from Metal/Pyrochemical Operations at TA-55
D010	TA-21 Operable Unit RFI Work Plan for Environmental Restoration
D011	Nuclear Materials Processing At the Los Alamos National Laboratory
D013	Review Comments on Draft of TA-21 DP West Facility AK Operations Report
D014	Final Safety Analysis Report for TRANSIT RTG Volume 1, Reference Design Document - Intro and Table 1-1 only
D015	Characterization of Direct Oxide Salts (U)
D016	Plutonium Research: Historical Role of DP-West in The Atom
D017	Backlog Waste Reassessment Baseline Book
D018	The Atom, Remaking DP West
D019	Plutonium-238 Heat Source Fabrication for Space and Artificial Plutonium-238 Heat Fabrication for Space and Artificial Heart R&D Activities at TA-21 West and CMR Building from 1970 to 1978
D020	The Atom, Nuclear Power for an Artificial Heart
D021	Data Sheets for PMC Isotopic Fuel
D022	Institutional Plan FY2002-FY2007
D023	TRU Waste-Sampling Program

Source Document Tracking Number	Title
D025	Fused Salt Processing of Impure Plutonium Dioxide to High-Purity Plutonium Metal
D026	Los Alamos TRU Waste Certification Plan for Newly Generated TRU waste, Nov 1984
D027	Direct Reduction of 238-PuO2 and 239-PuO2 to Metal
D028	LANL Transuranic Waste Characterization Sampling Plan-June 1999
D029	Six-Kilogram Scale Electrorefining of Plutonium Metal
D031	Lightweight Radioisotope Heater Unit (LWRHU) Production for the Cassini Mission
D032	Bi-Monthly Progress Report - Multi-Hundred Watt Radioisotope Thermoelectric Generator Program
D033	Waste Management Site Plan
D034	Final Documentation for RadWaste ORACLE Database's List of Acceptable Radioisotopes, Specific Activities, Categories, and Regulatory Limits
D035	Los Alamos DP West Plutonium Facility Decontamination Project 1978-1981
D036	Process AK Report for Chloride Operations at TA-55, TWCP-15411
D037	Process AK Report for Metal Operations Processes at TA-55, TWCP-15412
D038	Process AK Report for Miscellaneous Operations at TA-55, TWCP-15413
D039	Process AK Report for Nitrate Operations at TA-55, TWCP-15414
D040	Process AK Report for Pyrochemical Processes at TA-55, TWCP-15415
D041	Process AK Report for Special Processing at TA-55, TWCP-15416
D042	Plutonium Processing at the Los Alamos Scientific Laboratory
D043	Waste from Plutonium Conversion and Scrap Recovery Operations
D044	Preparation and Development of Medical-Grade Plutonium-238 Fuels, July 1, 1967 - June 30, 1971
D045	Preparation and Evaluation of Medical-Grade Plutonium-238 Fuels July 1, 1971- June 30, 1973
D046	Plutonium-238 Fuel and Heat Source Development for Nuclear-Powered Artificial Heart Program July 1-September 30, 1976
D047	Plutonium-238 Space Electric Power Fuel Development Program January 1-March 31, 1970
D048	Helium Release of Pu-238-Molybdenum Cermet Fuel
D049	Initial Development and Characterization of Plutonia-Iridium Cermets
D050	Data Sheets for PPO Radioisotopic Fuel
D051	The Relationship of Fabrication Parameters to selected Properties of PuO2 Radioisotopic Fuels
D052	Waste Determination Report for Waste Stream TA-55-43 Lot No. 01
D053	Plutonium Recovery At The Los Alamos Scientific Laboratory
D054	Present Status of Plutonium Metal Production and Purification at Los Alamos - 1982
D055	Radioactive Waste Management Site Plan, 1974
D056	Plutonium Scrap Processing at the Los Alamos Scientific Laboratory
D057	Status of Am-241 Recovery and Purification at Los Alamos Scientific Laboratory

Source Document Tracking Number	Title
D058	Los Alamos National Laboratory Transuranic Waste Characterization Acceptable Knowledge Information Summary (AKIS)
D059	Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility (Draft Report)
D060	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams
D062	Los Alamos Scientific Laboratory Health, Safety, and Environment Manual, Chapter XVIII-Material Disposal
D063	Acceptable Knowledge Summary report for Combustible/Noncombustible, Metallic, and HEPA Filter Waste resulting from Pu-238 Fabrication Activities
D065	LANL Project 2010 Acceptable Knowledge Report - Acceptable Knowledge Operations Report for Plutonium-238 Processes at LANL Facilities
D066	The Decommissioning of TA-21-153, A Ac-227 Contaminated Old Filter Building
D067	Nuclear Criticality Safety in D&D Operations – A Los Alamos Experience
D068	Decontamination and Demolition of a Former Plutonium Processing Facility's Process Exhaust System, Firescreen, and Filter Plenum Buildings
D069	A History of Waste Disposal at Technical Area 21, 1943 - 1978
D070	Decontamination and Size reduction of Plutonium Contaminated Process Exhaust Ductwork and Gloveboxes
D071	Upgrade and Performance Testing for the LINC Systems at TA-54 Area G
D072	Retrieval Plan for TA-54, Area G TRU Waste Containing Corrugated Metal Pipes (CMP)
D073	Project Management Objectives for Pit 9 TRU Waste Retrieval
D074	Retrieval Plan for TA-54, Area G TRU Waste for Pit 9
D075	TA-54, Area G Pit 9 Waste Description
D076	TA-54, Area G Pit 9 Waste Description
D077	TA-54, Area G CMP Waste Description
D078	TA-54, Area G Trenches A-D Waste Description
D079	TA-54 Area G Documented Safety Analysis
D080	Attachment A (Waste Analysis Plan) of the LANL Hazardous Waste Permit
D081	LANL Waste Acceptance Criteria
DR001	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers
DR002	Discrepancy Resolution Form for Waste Stream Volume Evaluation – TA-21 Mixed Heterogeneous Combustible and Non-Combustible Debris
DR003	Acceptable Knowledge Source Document Discrepancy Resolution – TA-21 Homogeneous Solids Containing Greater Than 50% Heterogeneous Debris
DR005	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers for Waste Stream LA-MSG04.001
M001	Table 1. TA-21 Plutonium Processing Operations, TA-21-Operations Report, Crosswalk to TA-55 Operations

Source Document Tracking Number	Title
M002	An excerpt from Archive generator's databases 95 drum
M003	Waste Streams from Buildings TA-21, TA-55, TA-50, and TA-00 at LANL. Appendices B, C, D, E and F (Changes to Sampling Plan)
M004	TA-55 NMT Waste Management System (CONCERT Database)
M008	Excerpt from CONCERT Database
M009	AKIR Database Extracted DP West (TA-21) Radionuclides in Grams
M010	Miscellaneous Material Safety Data Sheets (MSDSs) for Commercial Products and other Chemicals Identified in the TA-21 Processes
M011	Radioactive Solid Waste Disposal (RSWD) Records for LA-MHD04.001
M012	Radioactive Solid Waste Disposal (RSWD) Records from TA-50 Documenting TA-21 Repackaged Waste
M013	Evaluation of Additional Containers for LANL-10 Waste Stream LA-MHD04.001 (TA-21)
M014	Vent Date Information 6/26/2007 – 4/17/2008
M015	TWSRs for Containers 80126, 80128, 80354, 80356, 80358, 80360, 80380, 80388
M016	Pu-238 Storage Facility Logbook
M017	CMPs Logbook Area T, TA-21
M018	TA-54, Area G, Pit 9 Waste Information Spreadsheet
M020	RSWD/TWSR Records for LA-MSG04.001
M021	RSWD/TWSR Records for LA-MHD04.001
P001	Plutonium Electrorefining
P002	Button Breaking Press
P003	Safe Operating Procedure for Pit Disassembly
P004	Measuring Physical Properties
P007	Pit Disassembly
P009	Operating Instructions, Procedures, and Equipment for the Los Alamos Plutonium Electrorefining Plant
P010	Prohibited Item Dispositioning in Dome 231 Permacon, and TA-54 Area G Sludge Remediation Activities
P011	Processing Waste in the Waste Characterization Glovebox
P012	Standard Waste Visual Examination and Prohibited Item Dispositioning
P013	Trenches A – D Retrieval Operations
P014	TA-54, Area G CMP Retrieval Operations
P015	General Waste Management Requirements
P016	Managing Radioactive Waste
P017	Hazardous and Mixed Waste
P018	Review and Completion of the TWSR
P019	Waste Generator Guidance for Completing the TRU Waste Storage Record (TWSR)
P020	Waste Profile Form Guidance

Source Document Tracking Number	Title
P021	Sort, Segregate, Size Reduction, and Repackaging
P028	TA-54 Area G TRU SWB/Drum Operations
P029	TA-54-231 PermaCon Upgrades
P030	Sort, Segregate, Size Reduction, and Repackaging Activity
P032	TA-54 Area G TRU Crate SSSR Activities
P033	WCRRF Waste Characterization Glovebox Operations
P034	TA-54-375 TRU Oversized Box Processing Capability Project
P035	MDA-B TRU Waste Container Packaging in SWBs
P036	Waste Management Plan for Material Disposal Area (MDA) B
P037	Waste Management Procedure for Environment Program TA-21 Closure Project Activities (U)
U001	A Brief History of C-AAC
U002	Memorandum to E.L. Albenesius, re: Description of Mound and LASL Solid Pu-238 Waste Stored at SRP

Washington
TRU Solutions LLC

CP:06:01200
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: May 11, 2006

FROM: R. R. Chavez — LOCATION: Retrieval, Characterization & Transportation

TO: CCP Records Custodian — LOCATION: Retrieval, Characterization & Transportation

SUBJECT: TRANSMITTAL OF WASTE STREAM PROFILE FORMS FOR WASTE STREAMS LA-MHD01.001, LA-MIN03-NC.001, LA-0S-00-01.001, and LA-MHD02.001

Please accept the subject waste stream profile forms to be placed in records for the Idaho National Laboratory.

RRC:jm

Enclosures (3)

cc: (without enclosures)
Rick Chavez, WRES ED

Controlled Copy

CCP Waste Stream Profile Form

(1) Waste Stream Profile Number: LA-OS-00-01.001						
(2) Generator site name: Los Alamos National Laboratory			(4)Technical contact: Sue Peterman			
(3) Generator site EPA ID: NM0890010515			(6) Technical contact phone number: 505-665-1078			
(5) Date of audit report approval by NMED: August 27, 2004, June 23, 2005						
(7) Title, version number, and date of documents used for WAP Certification: CCP-PO-001, Rev 11, CCP Transuranic Waste Characterization Quality Assurance Project Plan, March 10, 2005 CCP-PO-002, Rev 13, CCP Transuranic Waste Certification Plan, May 9, 2005 CCP-PO-012, Rev 3, CCP/Los Alamos National Laboratory (LANL) Interface Document, April 26, 2004						
(8) Did your facility generate this waste?	YES	X	NO			
(9) If no, provide the name and EPA ID of the original generator: NA						
Waste Stream Information[1]						
(10) WIPP ID: None Available (TWBIR ID # is not available for newly generated waste, therefore the WIPP ID corresponds to WSPF # LA-OS-00-01.001)			(11) Summary Category Group: S5000			
(12) Waste Matrix Code Group: Uncategorized Metal			(13) Waste Stream Name: WIPP Eligible OSR Sealed Sources			
(14) Description from the TWBIR: NA						
(15) Defense TRU Waste:	YES	X	NO			
(16) Check One:	CH	X	RH			
(17) Number of SWBs 0	(18) Number of Drums 460				(19) Number of Canisters 0	
(20) Batch Data report numbers supporting this waste stream characterization: See Characterization Information summary (CIS) Correlation of Container Identification Numbers to Batch Data Report Numbers						
(21) List applicable EPA Hazardous Waste Codes:[2] None						
(22) Applicable TRUCON Content Codes: LA120/LA220						
(23)**Acceptable Knowledge Information**[1]						
[For the following, enter the supporting documentation used (i.e., references and dates)]						
Required Program Information						
(23A) Map of site: CCP-AK-LANL-008, Rev 2, May 13, 2005, Figures 1 - 5						
(23B) Facility mission description: CCP-AK-LANL-008, Rev 2, May 13, 2005, Section 2.0 and 4.2						
(23C) Description of operations that generate waste: CCP-AK-LANL-008, Rev 2, May 13, 2005, Section 4.4						
(23D) Waste identification/categorization schemes: CCP-AK-LANL-008, Rev 2, May 13, 2005, Section 4.5						
(23E) Types and quantities of waste generated: CCP-AK-LANL-008, Rev 2, May 13, 2005, Section 4.3 and 5.2						
(23F) Correlation of waste streams generated from the same building and process, as appropriate: CCP-AK-LANL-008, Rev 2, May 13, 2005, Section 4.3.2						
(24) Waste certification procedures: CCP-TP-030, Rev. 16, CCP TRU Waste Certification and WWIS Data Entry, April 22, 2005						
(25) Required Waste Stream Information						
(25A) Area(s) and building(s) from which the waste stream was generated: CCP-AK-LANL-008, Rev 2, May 13, 2005, Section 5.1						
(25B) Waste stream volume and time period of generation: CCP-AK-LANL-008, Rev 2, May 13, 2005, Section 5.2						
(25C) Waste generating process description for each building: CCP-AK-LANL-008, Rev 2, May 13, 2005, Section 4.2, 4.4, and 5.3						

Controlled Copy

(25D) Process flow diagrams: See CCP-AK-LANL-008, Rev 2, May 13, 2005, Attachment 3			
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form: CCP-AK-LANL-008, Rev 2, May 13, 2005, Section 5.4.1			
(26) Which Defense Activity generated the waste: (check one)			
	Weapons activities including defense inertial confinement fusion		**Naval Rectors development**
	Verification and control technology	X	**Defense research and development**
	Defense nuclear waste and material by products management		**Defense nuclear material production**
	Defense nuclear waste and materials security and safeguards and security investigations		
(27)Supplemental Documentation			
(27A) Process design documents: NA			
(27B) Standard operating procedures: See S2 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27C) Safety Analysis Reports: NA			
(27D) Waste packaging logs: See S4 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27E) Test plans/research project reports: See S5 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27F) Site databases: See S6 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27G) Information from site personnel: See S7 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27H) Standard industry documents: See S8 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27I) Previous analytical data: See S9 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27J) Material safety data sheets: NA			
(27K) Sampling and analysis data from comparable/surrogate Waste: See S12 AK#s on Attachment 1 to Summation of Aspects of AK Summary Report			
(27L) Laboratory notebooks: NA			
Sampling and Analysis Information[2]			
For the following, when applicable, enter procedure title(s), number(s) and date(s)			
(28)	Radiography: NA		
(29)	Visual Examination: See list of procedures on the attached CIS, CCP-TP-002-A3		
(30)	**Headspace Gas Analysis**		
(30A)	VOCs: NA		
(30B)	Flammable: NA		
(30C)	Other gases (specify):		
(31)	**Homogeneous Solids/Soils/Gravel Sample Analysis**		
(31A)	Total metals: N/A		
(31B)	PCBs: N/A		
(31C)	Total VOCs: N/A		
(31D)	Nonhalogenated VOCs: N/A		
(31E)	Semi-VOCs: N/A		

Controlled Copy

CCP-TP-002, Rev. 14 Effective Date: 03/29/2005

CCP Reconciliation of DQOs and Reporting Characterization Data

CCP Waste Stream Profile Form

(31F)	Other (specify): NA
(32)Comments:	

Reviewed by AK Expert: YES [X] Date: June 9, 2005

Reviewed by STR (if necessary): YES [X] NA [ ] Date: June 9, 2005

Waste Stream Profile Form Certification:

I hereby certify that I have reviewed the information in this Waste Stream Profile Form, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

(33) [signature] (34) S. Pyeatman (35) 6/29/05

Signature of Site Project Manager | Printed Name | Date

NOTE: (1) Use back of sheet or continuation sheets, if required.
(2) If radiography, visual examination, headspace gas analysis, and/or homogeneous solid/soil/aggregate sample analysis were used to determine EPA Hazardous Waste Codes, attach signed Characterization Information Summary documenting this determination.

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-OS-00-01.001 , LOT 1

TABLE OF CONTENTS

CCP Characterization Information Cover Page 002

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers 003

CCP Headspace Gas UCL_{90} Evaluation Form 004

CCP Headspace Gas Summary Data 006

CCP RTR / VE Summary of Prohibited Items and AK Confirmation 007

CCP Reconciliation with Data Quality Objectives 008

CCP Characterization Information Summary Cover Page

WSP: #: LA-OS-00-01.001 Lot #: 1

SPQAO Review: [signature] Date: 6/23/05

SPM Review: [signature] Date: 6/23/05

SPQAO signature indicates that the information presented in this package is consistent with analytical batch reports.

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE)

NA

Non Destructive Assay (NDA):

CCP-TP-101 CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization Rev 0 3/17/2005

Drum Preparation, Headspace Gas Sampling and Analysis (HSG):

Headspace Gas Sampling and Analysis Evaluation for LANL Sealed Sources, LAUR-03-0917, AK Source Document D001.

Visual Examination (VE):

CCP-TP-069 CCP Sealed Source Visual Examination and Packaging 03/03/2005 Rev 0
CCP-TP-069 CCP Sealed Source Visual Examination and Packaging 04/05/2005 Rev 1
CCP-TP-069 CCP Sealed Source Visual Examination and Packaging 05/11/2005 Rev 2

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001 CCP Project Level Data Validation and Verification 8/28/04 Rev 10
CCP-TP-001 CCP Project Level Data Validation and Verification 3/23/05 Rev 11

CCP-TP-002 CCP Reconciliation of DQOs and Reporting Characterization Data 6/27/03 Rev 13
CCP-TP-002 CCP Reconciliation of DQOs and Reporting Characterization Data 3/29/05 Rev 14

CCP-TP-003 CCP Sampling Design and Data Analysis for RCRA Characterization 9/3/03 Rev 14

CCP-TP-005 CCP Acceptable Knowledge Documentation 3/31/05 Rev 15

CCP-TP-030 CCP TRU Waste Certification and WWIS Data Entry 3/14/05 Rev 15

WAP Certification:

CCP-PO-001 CCP-TRU Waste Characterization Quality Assurance Project Plan 3/10/05 Rev 11

CCP-PO-002 CCP Transuranic Waste Certification Plan 02/24/05 Rev 11
CCP-PO-002 CCP Transuranic Waste Certification Plan 03/10/05 Rev 12
CCP-PO-002 CCP Transuranic Waste Certification Plan 05/09/05 Rev 13

CCP-PO-012 CCP/Los Alamos National Laboratory (LANL) Interface Document 12/18/03 Rev 1
CCP-PO-012 CCP/Los Alamos National Laboratory (LANL) Interface Document 4/20/04 Rev 2
CCP-PO-012 CCP/Los Alamos National Laboratory (LANL) Interface Document 4/26/04 Rev 3

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

WSP: # LA-OS-00-01.001 Lot # 1

Container ID Number	Headspace Gas BDR		Rad Characterization BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes
	Sample	Analysis						
*DB4345	PRF02L006	LA-02-HGAS/IA-006	NA	NA	NA	NA	NA	
*DB4340	PRF02L006	LA-02-HGAS/IA-006	NA	NA	NA	NA	NA	
*DB3721	PRF02L006	LA-02-HGAS/IA-006	NA	NA	NA	NA	NA	
*DB4339	PRF02L006	LA-02-HGAS/IA-006	NA	NA	NA	NA	NA	
*DB3726	PRF02L006	LA-02-HGAS/IA-006	NA	NA	NA	NA	NA	
*DB3723	PRF02L006	LA-02-HGAS/IA-006	NA	NA	NA	NA	NA	
*DB3724	PRF02L006	LA-02-HGAS/IA-006	NA	NA	NA	NA	NA	
*DB3725	PRF02L006	LA-02-HGAS/IA-006	NA	NA	NA	NA	NA	
*DB3720	PRF02L006	LA-02-HGAS/IA-006	NA	NA	NA	NA	NA	
*DB4342	PRF02L006	LA-02-HGAS/IA-006	NA	NA	NA	NA	NA	
LA00000061540	NA	NA	LA05-OSR-CH-001	NA	LA05-OSR-VE-001	NA	NA	
LA00000061515	NA	NA	LA05-OSR-CH-002	NA	LA05-OSR-VE-002	NA	NA	
LA00000061542	NA	NA	LA05-OSR-CH-003	NA	LA05-OSR-VE-003	NA	NA	

*containers analyzed to establish packaging source term VOC Concentrations.

Mark Pearcy
Signature of Site Project Manager

Mark Pearcy
Printed Name

6/23/05
Date

CCP Headspace Gas UCL90 Evaluation Form
(VOC Data associated with the packaging materials for 12 inch pipe overpack with poly sheilding)

WSPF #: LA-OS-00-01.001 **Waste Stream Lot Number** 1 through 1

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
Benzene	Log	0	10	-3.54	-3.58	0.02	-3.57	10	2.30		
Bromoform	No	0	10	0.01	0.01	0.00	0.01	10	N/A		
Carbon tetrachloride	SQRT	0	10	0.13	0.13	0.00	0.13	10	3.16		
Chlorobenzene	SQRT	0	10	0.13	0.13	0.00	0.13	10	3.16		
Chloroform	SQRT	0	10	0.13	0.12	0.00	0.12	10	3.16		
Cyclohexane	No	10	10	2.60	1.98	0.44	2.17	10	N/A		
1,1-Dichloroethane	Log	0	10	-3.69	-3.73	0.02	-3.72	10	2.30		
1,2-Dichloroethane	Log	0	10	-3.61	-3.64	0.02	-3.63	10	2.30		
1,1-Dichloroethylene	Log	0	10	-3.24	-3.28	0.02	-3.27	10	2.30		
cis-1,2-Dichloroethylene	SQRT	0	10	0.14	0.14	0.00	0.14	10	3.16		
trans-1,2-Dichloroethylene	Log	0	10	-3.59	-3.64	0.02	-3.63	10	2.30		
Ethyl benzene	Log	0	10	-3.73	-3.77	0.02	-3.76	10	2.30		
Ethyl ether	Log	0	10	-3.18	-3.22	0.02	-3.21	10	2.30		
Methylene chloride	Log	0	10	-3.13	-3.18	0.02	-3.17	10	2.30		
1,1,2,2-Tetrachloroethane	SQRT	0	10	0.13	0.12	0.00	0.12	10	3.16		
Tetrachloroethylene	Log	0	10	-4.20	-4.25	0.02	-4.24	10	2.30		
Toluene	Log	10	10	-2.39	-2.83	0.24	-2.72	10	2.30		
1,1,1-Trichloroethane	Log	0	10	-4.07	-4.11	0.03	-4.10	10	2.30		
Trichloroethylene	SQRT	0	10	0.12	0.12	0.00	0.12	10	3.16		
1,1,2-Trichloro-1,2,2-trifluoroethane	No	0	10	0.01	0.01	0.00	0.01	10	N/A		
1,2,4-Trimethylbenzene[a]	Log	0	10	-3.96	-4.01	0.02	-4.00	10	2.30		
1,3,5-Trimethylbenzene[a]	No	0	10	0.02	0.02	0.00	0.02	10	N/A		
m-Xylene[b]	Log	0	10	-3.73	-3.77	0.02	-3.76	10	2.30		
p-Xylene[b]	Log	0	10	-3.73	-3.77	0.02	-3.76	10	2.30		

CCP Headspace Gas UCL90 Evaluation Form
(VOC Data associated with the packaging materials for 12 inch pipe overpack with poly sheilding)

WSPF #: LA-OS-00-01.001 **Waste Stream Lot Number** 1 through 1

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Code
o-Xylene	SQRT	0	10	0.13	0.13	0.00	0.13	10	3.16		
Acetone	No	10	10	1.70	1.32	0.33	1.46	100	N/A		
1-Butanol	Log	0	10	-3.47	-3.51	0.02	-3.50	100	4.61		
Methanol	No	0	10	1.40	1.33	0.04	1.35	100	N/A		
Methyl ethyl ketone	No	0	10	0.05	0.05	0.00	0.05	100	N/A		
Methyl isobutyl ketone	Log	0	10	-3.86	-3.90	0.02	-3.89	100	4.61		
Chloromethane	No	5	10	0.28	0.12	0.09	0.16	10	N/A		
Formaldehyde[c]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydrazine[d]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[a] These compounds are from the TRAMPAC and are flammable VOCs that do not appear in the QAPjP or the WIPP WAP. These are not part of the target analyte list, but samples may be analyzed for these compounds.

[b] These zylene isomers cannot be resolved by the analytical methods employed in the program. m-Xylene and p-Xylene will be reported as "Total m-p-Xylene."

[c] Required only for homogenous solids and soill/gravel waste from Savannah River Site.

[d] Required only for homogenous solids and soill/gravel wast from Oak Ridge National Laboratory and Savannah River Site.

Comments:

Table 4 of CCP-AK-LANL-008 Rev 2, LANL Sealed Source Packaging Container Headspace Gas VOC Concentrations for Standard 12" Pipe Overpack Component, shows the required packaging VOC Source term resulting from Headspace Gas Sampling and Analysis Evaluation for LANL Sealed Sources, LAUR-03-0917 (AK Source Document D001). VOC Concentrations documented in the AK Summary will be used as the VOC source terms entered into WWIS for additional specific packaging configurations. Additional packaging configurations for LANL Sealed Sources will be documented and evaluated within the CCP Certified program at LANL and will become part of AK prior to certification and shipping of drums with these additional packaging configurations.

CCP Headspace Gas Summary Data

WSPF Number: LA-OS-00-01.001 Lot Number (s) 1

Tentatively Identified Compound	Maximum Observed Estimated Concentrations (ppmv)	# Samples Containing TIC	% Detected
None	0.00	0	0.00%
NA	0.00	0	0.00%
NA	0.00	0	0.00%
NA	0.00	0	0.00%

Data Confirms Acceptable Knowledge? Yes ☑ No ☐

If no, describe the basis for assigning the EPA Hazardous Waste Codes:

***- Not listed in 40CFR261 AppVIII

SPM Signature Mark Pearcy Date 6/23/03

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

WSP#: LA-OS-00-01.001 Lot(s)#: 1

Container Number	RTR Prohibited Items [a]	Visual Examination Prohibited Items [a]	AK Confirmation [b c]
NA	None of the containers in this Lot underwent the RTR process.	None of the containers in this Lot had any prohibited items detected in Visual Examination	Consistent with CCP-TP-005 AK Confirmation checklist

a. See Batch Data Reports
b. Attachment 13 of CCP-TP-005, *CCP Acceptable Knowledge Documentation*
c. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Mark Pearcy — Site Project Manager Signature
Mark Pearcy — Printed Name
6/23/05 — Date

CIS 007

CCP Reconcilliation with Data Quality Objectives

WSF# LA-OS-00-01.001 Lot # 1

SPQAO Sampling Completeness

VE:
Number of Valid Samples: [redacted] Number of Total Samples Analyzed:
Percent Complete: [redacted] (QAO is 100%)

NDA (Radiologocal Characterization)
Number of Valid Samples: [redacted] Number of Total Samples Analyzed:
Percent Complete: [redacted] (QAO is 100%)

HSG
Number of Valid Samples: [redacted] Number of Total Samples collected:
Percent Complete: [redacted] (QAO is ≥90%)
Number of Valid Samples: [redacted] Number of Total Samples analyzed:
Percent Complete: [redacted] (QAO is ≥90%)

Total VOC
Number of Valid Samples: [redacted] Number of Total Samples collected:
Percent Complete: [redacted] (QAO is ≥90%)
Number of Valid Samples: [redacted] Number of Total Samples analyzed:
Percent Complete: [redacted] (QAO is ≥90%)

Total SVOC
Number of Valid Samples: [redacted] Number of Total Samples collected:
Percent Complete: [redacted] (QAO is ≥90%)
Number of Valid Samples: [redacted] Number of Total Samples analyzed:
Percent Complete: [redacted] (QAO is ≥90%)

Total Metals
Number of Valid Samples: [redacted] Number of Total Samples collected:
Percent Complete: [redacted] (QAO is ≥90%)
Number of Valid Samples: [redacted] Number of Total Samples analyzed:
Percent Complete: [redacted] (QAO is ≥90%)

SPQAO Signature and Date: [redacted] 6/23/05

I certify that sufficient data have been collected to determine the following Program-required waste parameters:

	Y/N/NA	Reconcilliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.

CCP Reconcilliation with Data Quality Objectives

WSF#	LA-OS-00-01.001	Lot # 1
5	Y	Potential Flammability. Is there sufficient AK or analytical data to demonstrate that the waste meets the potential flammability limits (Headspace Gas, BDR and Summary Sheet)?
6	Y	Mean concentrations, UCL90 values for the mean concentration, standard deviations, and the number of samples collected for each VOC in the headspace gas of each container were calculated and compared with the program required quantitation limits, as reported in CCP-TP-003-A3, and additional EPA Hazardous Waste codes were assigned as required. Samples were randomly collected (when appropriate).
7a	NA	Mean concentrations, UCL90 values for the mean concentration, standard deviations, and the number of samples collected for total VOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003-A4, and additional EPA Hazardous Waste codes were assigned as required. Samples were randomly collected.
7b	NA	Mean concentrations, UCL90 values for the mean concentration, standard deviations, and the number of samples collected for total SVOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP TP 003 A5, and additional EPA Hazardous Waste Codes were assigned as required. Samples were randomly collected.
7c	NA	Mean concentrations, (UCL90) values for the mean concentration, standard deviations, and the number of samples collected for total metals were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP TP 003 A6, and additional EPA Hazardous Waste codes were assigned as required. Samples were randomly collected.
8	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under 40 CFR 261, Subpart C.
9	Y	Waste stream can be classified as hazardous or nonhazardous at the 90-percent confidence level.
10	Y all containers undergo VE technique.	Sufficient number of waste containers have been visually examined to determine the UCL90 for the miscertification rate is less than 14%.

CIS 009

CCP Reconcilliation with Data Quality Objectives

WSF# LA-OS-00-01.001 Lot # 1

11	Y	Appropriate packaging configuration and Drum Age Criteria (DAC) is applied and documented in the headspace gas sampling documentation, and the drum age met prior to sampling.
12	Y	TICs were appropriately identified and reported in accordance with the requirements of Section B3-1 of the QAPjP.
13	Y	The PRQLs for headspace gas VOCs were met for all analyses as evidenced by the analytical batch data reports.
14		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections B3-2 through B3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
VE Technique used Instead of Radiography	NA	NA	NA
Headspace Gas Sampling and Analysis	Y	Y	Y
Headspace Gas Analysis	NA	NA	NA
Solids Sampling	NA	NA	NA
Total VOCs	NA	NA	NA
Total SVOCs	NA	NA	NA
Total Metals	NA	NA	NA

Mark Pearcy
Signature of Site Project Manager

Mark Pearcy
Printed Name

6/23/05
Date

CIS 010

SUMMATION OF ASPECTS OF AK SUMMARY REPORT: LA-OS-00-01.001

Overview:

The Los Alamos National Laboratory (LANL) Off-site Source Recovery (OSR) Project has been tasked to dispose of sealed sources for which recycling or reuse is not viable and that the Department of Energy (DOE) has declared to be waste. The majority of TRU waste stream LA-OS-00-01 is comprised of Pu-239 sealed sources, which have been determined by DOE to meet the definition of defense waste as defined in the Nuclear Waste Policy Act. For non-Pu-239 sources, source-specific documentation is collected in accordance with procedures documenting use of the source in defense-related activities. Sources including Am-Be neutron test sources and Pu-238/Be sources are known to be defense-related because they were used in the U.S. Naval Reactors Program, Naval Nuclear Propulsion Program, U.S. Air Force, Lawrence Livermore National Laboratory defense research, or other defense activities. Drums in this waste stream are generated by consolidating defense related sealed sources into metal or plastic containers that are then placed into metal pipe overpack components (POC) in 55-gallon drums.

This summation of the AK Summary Report includes information to support Waste Stream Profile Form (WSPF) number LA-OS-00-01.001 for WIPP Eligible OSR Sealed Sources. The primary source of information for this summation was CCP-AK-LANL-008, *Central Characterization Project Acceptable Knowledge Summary Report for Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Source, Waste Stream: LA-OS-00-01.001, Revision 2*, dated May 13, 2005. CCP-AK-LANL-8 includes information obtained from numerous sources, including source manufacturer sales catalogues, purchase records, fabrication documents, TRU batch material analytical data, national source-tracking database, Nuclear Regulatory Commission (NRC) material transfer forms, Special Form documentation, and waste generation and management information.

Waste Stream Identification Summary:

Site Where TRU Waste Was Generated:	Los Alamos National Laboratory
Waste Stream Name:	WIPP Eligible OSR Sealed Sources
Waste Stream Number:	LA-OS-00-01.001
Dates of Waste Generation:	2001 to present
Facility Where TRU Waste Was Generated:	Technical Area (TA) TA-3, TA-18, TA-54, and TA-55
Summary Category Group:	S5000 – Debris Waste
Waste Matrix Code Group:	Uncategorized Metal
Waste Matrix Code:	S5100
Waste Stream TWBIR Identification:	NA[1]
Waste Stream Volume:	101 55-gallon drums (current) 359 55-gallon drums (projected)
RCRA EPA Hazardous Waste Numbers:	None
TRUPACT-II Content Code (TRUCON):	LA120/LA220

[1] Identification Number is not specifically listed in the TWBIR

Waste Stream Description and Physical Form:

Waste Stream LA-OS-00-01.001 is non-mixed inorganic debris waste comprised of defense-related sealed sources recovered from off-site locations and packaged by the OSR project. The sealed sources consist of radionuclide (actinide) solids (e.g., Am, Pu, AmBe, PuBe) that are encapsulated in metal (non-VOC bearing) jackets or casings. The waste container contents meet the definition of sealed sources per 10 CFR §30.4 and 10 CFR §835.2 (effective January 1, 2004), evidence of which is assembled as part of the AK documentation on an ongoing basis. The sealed sources are U.S. Department of Transportation Special Form Class 7 (Radioactive) Material per 49 CFR §173.403 (effective October 1, 2003), the certification of which is assembled as part of the AK documentation. Only sources that meet these definitions are included in this waste stream.

The majority of OSR TRU waste stream LA-OS-00-01 is comprised of Pu-239 sealed sources, which have been determined by DOE to meet the definition of defense waste as defined in the Nuclear Waste Policy Act (Reference C004). For non-Pu-239 sources, source-specific documentation is collected in accordance with OSR procedures (Reference P004) documenting use of the source in defense-related activities. Sources including Am-Be neutron test sources and Pu-238/Be sources are known to be defense-related because they were used in the U.S. Naval Reactors Program, Naval Nuclear Propulsion Program, U.S. Air Force, Lawrence Livermore National Laboratory defense research, or other defense activities (References C002, C005, C006, and D011).

Sealed sources generated by the LANL OSR project are similar in material, physical form and chemical constituents. Small differences from one defense-related source to another are insufficient to require delineation as separate waste streams. All sealed sources currently identified for WIPP disposal contain plutonium (Pu) or americium (Am), may or may not contain beryllium (Be) to create neutron emission, and have similar physical construction.

This waste stream is assigned Waste Matrix Code S5100.

Point of Generation - Area and Building of Generation

This waste stream is generated by the LANL OSR Project at the following facilities used for the receipt, nondestructive assay (NDA), storage, or packaging of OSR Project sealed sources: Technical Areas (TA) TA-3, TA-18, TA-54, and TA-55. Sealed sources are collected and packaged at various off-site locations.

Generating Process

Project personnel identify sealed sources for collection, obtain documentation for them, and arrange for their recovery from off-site locations. The DOE may declare a sealed source to be waste if it is not suitable for recycling or reuse. In this case, sealed sources that are designated as defense related and potentially meeting the criteria for WIPP disposal enter the process for WIPP certification.

Project personnel perform characterization and packaging activities, including assembling AK documentation and conducting visual examination (VE) during packaging of the sealed sources. All sealed sources in this waste stream are characterized as newly generated waste. Records of the design history/specifications and radiological content are assembled and compiled as part of the AK documentation for each TRU sealed source. Detailed, source-specific information for each individual source is compiled into the AK record, including documentation on the content and design/construction from the NRC Source and Device Registry and the manufacturer or owner, the original shipping papers and specification sheets, data from the NRC/DOE Nuclear

Materials Management and Safeguards System database and other physical information about the source.

Source-specific AK information is compiled once a source is identified for recovery. This information is included in the batch data reports prepared during packaging and radiological characterization of the source. During VE at the time of packaging, the VE of the source verifies that the source represented by the documentation is the actual source that is packaged.

Sealed sources are the only non-packaging items in the waste container. Therefore mixing with other waste does not occur. This is verified using the VE technique at the time of packaging. Sealed sources that are special form may be placed in a metal or Lexan (plastic polymer) container to consolidate the sources. The source containers are then placed into the metal POCs that are centered within cane fiberboard dunnage or neutron-shielding material (depending upon packaging configuration) and placed into 55-gallon drums. The packaging configurations that may be used include a standard pipe overpack with 12-inch pipe component, S100, S200, or S300 overpacks. OSR Project sealed source information is well documented by the source manufacturers and verified during VE. No additional waste is added to the waste container during packaging. No radioactive waste is generated during the packaging process.

Sealed source waste drums are shipped to LANL and received at Technical Area (TA) 3 by the Materials Management organization (BUS-4) and dispositioned for interim storage. The waste containers are stored pending CCP characterization activities and shipment to WIPP.

RCRA Determinations - Hazardous Waste Determinations

Ignitability, Corrosivity, Reactivity

Waste generated in this waste stream does not qualify for any of the exclusions outlined in 40 CFR 260 or 261. VE is used to verify that the waste stream is not a liquid waste and does not contain explosives, non radioactive pyrophoric materials, compressed gasses or reactive waste. OSR Project sealed sources constitute closed systems (manufactured, solid isotopic sources sealed in a metal jackets or casings) (References M005) that preclude the introduction of extraneous materials that would be ignitable, reactive, or corrosive. The waste itself is not ignitable, reactive, or corrosive. VE performed during packaging of the sealed sources into drums is used to verify the absence of ignitable, reactive, or corrosive wastes (References P001, M031), including liquids. Therefore, this waste stream does not exhibit the characteristic for ignitability (D001), corrosivity (D002), or reactivity (D003) (References C001, D002).

Ignitability

Ignitable materials are not present in this waste stream. The waste does not exhibit the characteristic of ignitability as identified in 40 CFR 261.21. Visual examination of the waste during the Central Characterization Project confirmation activities ensures the absence of liquids in the waste stream. There are no oxidizers present as defined in 49 CFR 173.151. The hazardous waste number for ignitability (D001) does not apply to this waste stream.

Corrosivity

Corrosive materials are not present in this waste stream. The waste does not exhibit the characteristic of corrosivity as identified in 40 CFR 261.22. This waste is not liquid. Therefore the characteristic of corrosivity (D002) does not apply to this waste stream.

Reactivity

Reactive wastes are not included in this waste stream. Although some sealed sources contain lithium, no lithium is present in the sealed sources waste stream LA-OS-00-01.001 (Reference M035). Therefore, the EPA hazardous waste number for reactivity (D003) is not assigned to this waste stream.

Toxicity Characteristic

The wastes in this waste stream do not exhibit the characteristic of toxicity per 40 CFR 261.24. OSR Project sealed sources do not contain solvents or any other constituents that qualify as toxicity characteristic hazardous waste. Analytical data on typical source jacket material (stainless steel and silver solder) do not exceed the toxicity characteristic leaching procedure (TCLP) regulatory limits (Reference D002).

Lead may be present in POC package assemblies as shielding. Lead as packaging is not considered waste (Reference M039).

Listed Waste

The materials in this waste stream were not mixed with or derived from waste listed in 40 CFR 261, Subpart D as a hazardous waste from non-specific sources.

U, K, and P-Listed Chemicals

This waste stream was not mixed with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof (40 CFR 261.33). Therefore no U, K or P-listed hazardous waste numbers have been applied to this waste stream (Reference C001, D002, M003, M033).

There is no indication that pure product or unused waste chemicals were placed into the TRU waste stream. Therefore, this waste stream is not a U- or P-listed waste.

Beryllium

Beryllium is present in many sealed sources at greater than one percent weight concentration (nominally 30%), and the physical form is typically powder or sintered solid. However, EPA has concurred that Be-containing sealed sources are not P-listed because the Be is not a sole active ingredient (Reference C001 and D002). This form of beryllium does not meet the definition of the commercial chemical product beryllium powder (40 CFR 261.33) and P015 is not applied.

Conclusion

No EPA hazardous waste numbers apply to this waste stream.

Polychlorinated Biphenyls

This waste stream is not regulated under the Toxic Substances Control Act (TSCA) as defined in 40 CFR 761. No PCBs were introduced into this TRU waste stream, based on documentation in procedures reviewed during the AK investigation and summarized in lists of inputs documented in the TA-55 process reports. Therefore PCB waste not authorized under an EPA PCB waste disposal authorization is not in this TRU waste stream. The absence of un-authorized PCBs in this waste stream is verified during the generation and packaging of radioactive waste.

Prohibited Items

The absence of prohibited items is determined and documented through acceptable knowledge and confirmation activities. Visual examination is performed on each container in this waste stream as a confirmation activity. The following were not identified in the waste:

- Liquids
- Non-radioactive pyrophoric materials
- Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, or other wastes
- Explosives or compressed gases
- Waste with PCBs not authorized under an EPA PCB waste disposal authorization
- Waste exhibiting the characteristics of ignitability, corrosivity, or reactivity
- Non-mixed hazardous wastes

Each container of waste is certified and shipped only after VE either:

- Did not identify any prohibited items in the waste container, or
- All prohibited items found in a waste container by VE are identified and corrected (i.e., eliminated or removed) through the site non-conformance reporting system.

Headspace Gas/Volatile Organic Compound Information

On March 15, 2004 the NMED approved a permit modification request removing the requirement for headspace gas sampling for LANL sealed source meeting specific criteria in the WIPP Waste Analysis Plan. Headspace gas sampling and analysis of waste containers containing pipe overpack components belonging to this LANL sealed sources waste stream is not required because compliance with the following criteria from the WAP Section B-3a(1)(iii) has been determined and documented using CCP procedures;

- All LANL sealed sources will be characterized as newly generated waste.
- The waste container contents meet the definition of sealed sources per 10 CFR §30.4 and 10 CFR §835.2 (effective January 1, 2004), evidence of which must be assembled as part of the AK documentation.
- Sealed sources must be the only non-packaging items in the waste container, which must be verified using the VE technique at the time of packaging.
- The sealed sources must be U.S. Department of Transportation Special Form Class 7 (Radioactive) Material per 49 CFR §173.403 (effective October 1, 2003), the certification of which must be assembled as part of the AK documentation.
- The integrity of each sealed source must be validated by documented contamination survey results to meet the requirements of 10 CFR §34.27 (effective January 1, 2004), which must be assembled as part of the AK documentation.
- Each sealed source must be, or be contained in, a rigid sealed container less than or equal to 4 liters in size, which must be verified using the VE technique at the time of packaging.
- AK documentation does not indicate the use of VOCs or VOC-bearing materials as constituents of the sealed sources.
- The outer casing of each sealed source must be of a non-VOC bearing material, which must be verified using the VE technique at the time of packaging.

A packaging VOC source term for this waste stream has been established for each headspace target analyte listed in Table B-3 as required by the WAP Section B-3a(1)(iii). This information was included in the WIPP Hazardous Waste Facility Perm Modification Request dated November 13, 2003 and approved on March 15, 2004. No UCL_{90} values exceeded respective analyte PRQLs. The specifics of this information are included in the attached Characterization

Information Summary report. This waste stream VOC source term will be re-evaluated per the WIPP HWFP Section B-3a(1)(iii) if any significant change (e.g., change in material or change in manufacturer) is made to the packaging materials used in the sealed sources waste stream. If needed, changes to respective source term data will be made in the WWIS.

Transportation

This waste stream and its chemical constituents have been reviewed for consistency with the listed TRUCON codes and they are consistent.

The waste stream contains less than 1 weight percent depleted uranium.

Beryllium is present in many sealed sources at greater than one percent weight concentration (nominally 30%), and the physical form is typically powder or sintered solid (Reference D011). Total beryllium will not exceed 5 kilograms since the total of all sealed sources within a 55-gallon drum does not exceed five kilograms (References M005, and P001).

Radionuclide Information

Radiological Characterization

The waste stream is contaminated primarily (by weight) with Pu-239 and Pu-238 (Reference M036). Previous data were evaluated to determine the radionuclide distribution in the waste stream. The evaluation identified the isotopes listed in the table below.

Table 1 – Radionuclides in Waste Stream

WIPP Tracked Radionuclides	Other Radionuclides
Am-241	U-235
Cs-137	Pu-241
Pu-238	
Pu-239	
Pu-240	
Pu-242	
Sr-90	
U-233 NA	
U-234	
U-238	

Payload management is not planned for this waste stream.

Attachment 1 – AK Source Documents – Supplemental Documentation

Source Document Number	Supplemental AK Number	Document Title	Date
C001	O4	Lowrance,1992, EPA Determination on RCRA Status of Americium / Beryllium Sealed Sources	06/16/92
C002	NA	Letter from R.E. Glass (DOE/AL) to J.C. Browne (LANL)	02/10/2000
C005	NA	Memo to Ken Hargis, LANL, re: Transfer Planning Letter for Shipment of Special Nuclear Material UCNI	06/10/99
C006	NA	Memos to S. Leonard or others re: Release of Sources to DOE UCNI	03/01/00
C004	NA	Letter from J. Roberson to Dr. I. Triay re: Plutonium-239 Sealed Sources	09/08/03
C007	O1	Memo to L. Leonard re: Special Form Character of MRC-N-SS-W-AmBe Sealed Sources	11/03/99
C008	S16	Memo to J. McAlpin re: Drum Weights w/ RTR Scale	10/20/04
C009	S7	E-mail to J. Whitworth re: Major TRU Sealed Source Manufacturers	02/09/05
D002	O4, O9, S5	Kimer., RCRA Designation of Discarded Americium / Beryllium Sealed Sources. Report DOE/LLW-195	09/94
D004	S16	Leonard et al., The Off-Site Source Recovery Project at Los Alamos. Report LAUR-99-6218	01/01/99
D005	O1, O2, O9, O16	*OSR Summary of Sealed Source Types, OSR Project*	04/11/00
D006	O12, S5	LAUR 99-6553, report entitled Encapsulation and Source Activities of Alpha-N Neutron Sources	01/07/00
D008	O1, O2, O6, O8, O9, O12, O15, O17	WSMS-LOS-03-0064; Transmittal of QA records for the sealed source peer review	12/12/03
D010	O2, O6, O9	AEA Technology (Amersham) Source Catalogue, Applications Section	08/09/02
D011	O2, O9	"Special Form Documentation for AmBe and PuBe Neutron Test Sources"	03/01/91

Attachment 1 – AK Source Documents – Supplemental Documentation

Source Document Number	Supplemental AK Number	Document Title	Date
D012	O2, O17	"Engineering Evaluation of New England Nuclear Model NER-478C Sealed Source as Special Form Radioactive Material"	05/24/01
D014	O4	"Inspection and Recanning Program of PuBe Neutron Sources," M. Hertz	01/07/64
D015	S16	"Characterization of Actinide–Bearing Sealed Sources by Acceptable Knowledge – Justification and Methods"	05/22/03
D022	O2	Test Report for LANL on 3" Special Form Radioactive Material Capsules	08/23/01
M001	S16	J. McAlpin, Summary of Waste Stream Containers	07/24/04 & 01/18/05
M002	S12, O5	Batch Data Report excerpts showing headspace gas data	11/22/02
M003	S7, S16	LANL, ESH-19 database. ESH ID #99-0026.	03/04/99
M004	NA	LANLWaste Profile Form (WPF) #31353 for Transuranic Beryllium Waste	09/05/00
M005	S8, O4, O8, O9, O12, O15, O18, O16	Nuclear Regulatory Commission, Registry of Radioactive Sealed Sources and Devices, Safety Evaluation of Sealed Source, http://www.hsrd.ornl.gov/nrc/sources/index.cfm	Various
M006	S6, O15	Nuclear Materials Management and Safeguards System, NMMSS Report SS-2	12/31/85
M007	O7, O8, O11, O12, O13	Monsanto manufacturing document for defense source	09/27/01
M012	O9, O18	Drawings, Monsanto Research Corporation	11/15/02
M013	O12	Monsanto Chemical Company Shipping Data for Pu Alpha Sources	03/14/61
M014	O13	Monsanto Welding Test Records	07/18/02
M015	O12, O14	Monsanto Shipping Records for Pu-238 Batch Material	Various 1975 - 1978
M016	O12, O14	Monsanto Shipping Records for Am-241 Batch Material	Various

Attachment 1 – AK Source Documents – Supplemental Documentation

Source Document Number	Supplemental AK Number	Document Title	Date
M017	S6, O12, O14	Gamma Industries Am-241 Sealed Source Data	Various
M018	O12	Arco Form 741s	11/27/00
M019	S16	Special Form Container Traveler Sheets	06/06/02
M020	O16	Nuclear Material Information System Listing of Sealed Sources by RIS	09/30/75
M021	S8, O1, O14	Am-241 Analysis on Product Batches in DOE Sales Pool	06/20/01
M022	O1, O2, O3, O16, O17	Northrop Grumman Manufacturer's Data	10/20/03
M023	O1, O2, O17	Manufacturer's Data Package for Kentucky Sources	10/20/03
M024	S8, O1, O3, O7, O12	NUMEC and Comell Manufacturer's Data Package	06/04/63
M025	S8, S12, S13, O1, O3, O7, O8, O9, O10, O12	Characterization Data Package for LLNL Sources	Various 1963 – 2002
M026	O8, O9, O12, O14	Characterization Data for Pu-239/Be Sources Manufactured at Monsanto (MRC)	Various
M027	O3, O9, O12	Monsanto Manufacturing Data for Knolls Sources	1967 – 1978
M028	S8, S9, O14	Analytical Chemistry Reports	01/01/84
M031	S4, S16, O1, O4	Container Packaging and VE Data Records	Various
M032	O3	Contamination Survey Forms	Various
M033	O4	LANL storage waste profile forms (WPFs) from LANL FWO-SWO	08/15/00
M034	O2, O9	Special Form Certificates	Various
M035	NA	Waste Stream Profile Form for LA-OS-00-01, Change Notice No. 1	05/15/03
M036	NA	Calculation of Prevalent Radionuclides	10/26/04

Attachment 1 – AK Source Documents – Supplemental Documentation

Source Document Number	Supplemental AK Number	Document Title	Date
M039	NA	EPA Position on Lead as Shielding in Waste Containers	1987 – 2004
M038	S5, O7, O8, O9, O12	Mound site Purchase Orders and Shipping Data, P2010 #1072	Various
M041	O6, O9	NUMEC Plutonium Beryllium Neutron Sources Catalog	1962
M042	O6, O9	Monsanto Radioactive Source Catalog	03/15/68
M043	O12	Oak Ridge Data Sheets for Pu-238 Shipments	1977-1978
M044	O10	General Atomic Battery Data	06/10/71
M045	O2	Documentation of Sources in Special Form Capsules	Various
M046	S8, O6, O9, O11	ARCO Nuclear Technical Document 039274	04/15/74
M047	O10	General Atomic QA Data on PuN Capsules	09/21/72
M048	O10	General Atomic QA Data on Battery 3b89	02/07/72
M049	O10	General Atomic QA Data on Battery 3b73	12/14/71
M052	O12	Shipping Documents from Donald Douglas to Gulf Atomic	1973-1974
M053	S2, S7, O1, O16	Information on U.S. Army TACOM Sealed Sources	06/10/02
M054	O7, O9	Monsanto Data for Pu-238/Be Neutron Sources Shipped to Gulf Energy	February 1973
P001	S2, S16, O1	CCP Sealed Source Visual Examination and Packaging, CCP-TP-069	01/11/01 - Present
P002	S2	CCP OSR Sealed Source Radiological Characterization, CCP-TP-101 (Draft)	3/2005
P003	S2	Off-Site Source Recovery Transuranic Waste Interface Document, OSR-MISC-002.	02/08/01
P004	S2, O16	"Recovery, Transport, and Storage of Off-Site Source Recovery Project Material," OSR-OP-100	09/30/04

Attachment 1 – AK Source Documents – Supplemental Documentation

Source Document Number	Supplemental AK Number	Document Title	Date
P005	S2, O5	OSR Project – VOC Evolutions from Packaging Materials	06/02/04

Alphanumeric Designations

C Correspondence
D Documents (e.g. published reports)
M Miscellaneous (e.g. unpublished data)
P Procedures
U Unpublished Documents

AK Numbers For Supplemental Documentation

S1 Process Design Documents
S2 Standard Operating Procedure
S3 Safety Analysis Reports
S4 Waste Packaging Logs
S5 Test plans/research project reports
S6 Site databases
S7 Information from site personnel
S8 Standard industry documents
S9 Previous analytical data
S10 Material safety data sheets
S11 Laboratory Notebooks
S12 Comparable or surrogate sampling and analysis data
S13 Other
S14 Safeguards and Security and other related information
S15 NMMA logs or inventory records or other related information
S16 Packaging

O1 Evidence that the waste meets the definition of a sealed source
O2 Documentation that sources are Special Form, such as certificates
O3 Contamination survey results for each source reference requirements of 10CFR34.27.
O4 Documentation that the sources contain no VOC-bearing materials
O5 Headspace gas data supporting a packaging VOC source term
O6 Source manufacturer's sales catalogues
O7 Source purchase records
O8 Manufacturer fabrication documents
O9 Manufacturer drawings
O10 Fuel capsule assembly reports
O11 Manufacturer's operational procedures for meeting cleanliness requirements
O12 Manufacturer's shipping documents or records
O13 Manufacturer welding records
O14 TRU batch material records

O15 National database radiological information (e.g., NMMSS, NRC Device Registry)
O16 NRC or state regulatory licensing information
O17 Documentation of physical markings on the outer source casing or labels attached to devices housing sources
O18 Unique physical description attributed to specific source models

DIVIDER PAGE

URS

CP:10:01412
UFC: 5900.00

Washington TRU Solutions LLC

INTER-OFFICE CORRESPONDENCE

DATE: June 28, 2010

FROM: S. M. Peterman LOCATION: Certification

TO: CCP Records Custodian GSA-212 LOCATION: Retrieval, Characterization and Transportation

SUBJECT: TRANSMITTAL OF APPROVED CHANGE NOTICE #2 FOR LOS ALAMOS NATIONAL LABORATORY ELIGIBLE OFF-SITE SOURCE RECOVERY SEALED SOURCES (OSR-00-01.001)

Please accept this approved Change Notice for the Los Alamos National Laboratory Eligible Off-Site Source Recovery Sealed Sources (OSR-00-01.001).

If you have any questions regarding this submission, please contact me at (505) 606-2344.

SMP:yhs

Attachment

cc: (without attachment)
W. Cameron
M. Pearcy
C. A. Stepzinski
J. I. Tenorio

ORIGINAL

WIPP Eligible OSR Sealed Sources
(LA-OS-00-01.001)
Change Notice #2
Update for WIPP Operating Record

Please add the following information to the WIPP Operating Record for Waste Stream Profile Form (WSPF) LA-OS-00-01.001. This waste stream is WIPP Eligible OSR Sealed Sources and was approved by DOE/CBFO on July 26, 2005. Change Notice 1 was approved on December 6, 2006.

This WSPF is being revised. The WSPF components are bolded. The updates are:

1. **WSPF, Date of audit report approval by New Mexico Environment Department (NMED)**

   Update the NMED audit approval dates to include: June 2, 2008, September 2, 2008, and July 24, 2009.

2. **WSPF, Waste Stream Information, Generator Site EPA ID**

   Revise the Generator Site EPA ID as follows: NM0890010515.

3. **WSPF, Title, version, number, and date of documents used for WAP Certification**

   Update the following procedure revision numbers and approval dates:

   CCP-PO-001, CCP Transuranic Waste Characterization Quality Assurance Project Plan, Revision 17, June 23, 2009

   CCP-PO-002, CCP Transuranic Waste Certification Plan, Revision 23, April 7, 2010

   CCP-PO-012, CCP/Los Alamos National Laboratory (LANL) Interface Document, Revision 7, May 8, 2008

4. **WSPF, WIPP ID**

   Replace the WIPP ID with the following: LA-OS-00-01.001[3]

   Add footnote 3 to page 3 and state the following: TWBIR numbers LA-OS-00-01-S and LA-OS-00-01.001-S also apply.

5. **WSPF, Description from the TWBIR**

   Revise the description from the TWBIR as follows:

Off-Site Source Recovery (OSR) sealed sources are radionuclide (actinide) solids (e.g., Am, Pu, AmBe, or PuBe) that are encapsulated in metal jackets. The actinides are either metal or metal oxides.

6. **WSPF, Waste Stream Information, Waste Stream Information, Number of Drums**

   Update the Number of Drums from 681 to 2,194.

7. **WSPF, Required Waste Stream Information, Which Defense Activity generated this waste**

   Add a footnote to this section as follows:

   Defense activities entitled: defense nuclear material production, naval reactors development, defense nuclear waste and materials security and safeguard and security investigations, and defense nuclear waste and material by product management also apply to this waste stream.

8. **WSPF, Required Program Information, Required Waste Stream Information, and Supplemental Documentation**

   Update reference CCP-AK-LANL-008, Revision 4, July 18, 2006 to Revision 8, February 22, 2010.

9. **Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Overview**

   Update reference CCP-AK-LANL-008, Revision 4, July 18, 2006 to Revision 8, February 22, 2010.

   Update the reference title to: CCP-AK-LANL-008, *Central Characterization Project Acceptable Knowledge Summary Report For LOS ALAMOS NATIONAL LABORATORY OFF-SITE SOURCE RECOVERY PROJECT SEALED SOURCES: WASTE STREAMS LA-OS-00-01.001, LA-OS-00-03, AND LA-OS-00-04.*

10. **Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Waste Stream TWBIR Identification & footnote 1**

    Replace NA[1] with LA-OS-00-01.001[1]

    Replace footnote 1 with the following: TWBIR numbers LA-OS-00-01-S and LA-OS-00-01.001-S also apply.

11. **Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Waste Stream Identification Summary, Waste Stream Volume**

    Revise the waste stream volume as follows:

    1,066 55-gallon drums (current)
    1,128 55-gallon drums (projected)

12. Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Waste Stream Description and Physical Form

Delete the second sentence in paragraph one and insert the following information.

The sealed sources contain varying amounts and combinations of plutonium (Pu), americium (Am), or other TRU nuclides, and may contain beryllium (Be), lithium (Li), or other light elements (such as boron, carbon and fluorine) to create neutron emission. There are also combination sources containing Cs-137 in this waste stream. Primarily, these combination sources consist of Am-241/Be, Pu-238/Li, or Am-241/Li coupled with a Cs-137 gamma emitter.

Delete paragraph 2.

13. Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Ignitability, Corrosivity, Reactivity

Delete the existing references at the end of the paragraph and replace them with the following references.

(References C001, C032, C035, D002, D003, D031 and M133).

14. Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Reactivity

Delete the following sentence from paragraph 1: "Although some sealed sources contain lithium, no lithium is present in the sealed sources in waste stream LA-OS-00-01.001."

Include the following information in place of the deleted information.

Lithium is present in some of the sources in this waste stream. All lithium sources are doubly encapsulated, with the nuclide/lithium mixture contained in a welded stainless steel cylinder additionally encapsulated in an outer welded stainless-steel capsule thereby rendering these sealed, special form sources non-reactive. (Reference D031)

15. Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Toxicity Characteristic

Delete the existing references at the end of the first paragraph and replace them with the following references.

(References C001, C002, C032, C035, D002, D003, D031, M003, M004, M033 and M133).

16. Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Listed Waste

Add the following references to the end of the first paragraph.

(References C001, C032, C035, D002, D003 and D031).

Update the following references at the end of the first paragraph entitled U, K, and P-Listed Chemicals.

(References C001, D002, M003, M005, M007, M033 and P001).

17. Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Prohibited Items

Add the following information to the listing of prohibited items:

- Waste that has ever been managed as high-level waste and waste from tanks specified in Table B-8 of the WIPP HWFP, unless specifically approved through a Class 3 permit modification.
- Any waste container from a waste stream (or waste stream lot) which has not undergone either radiography or visual examination of a statistically representative subpopulation of the waste stream in each shipment, as described in WIPP HWFP Attachment B7.

18. Summation of Aspects of AK Summary Report: LA-OS-00-01.001, table entitled Waste Stream LA-OS-00-01.001 Waste Material Parameters

Revise the table entitled Waste Stream LA-OS-00-01.001 Waste Material Parameters as follows:

Waste Material Parameter	Average Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	85%	0.0 - 100 %
Other Metals	15 %	0.0 – 30.0 %

19. Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Radiological Information, Radiological Characterization

Revise to two most prevalent isotopes by weight to Pu-239 and Am-241.

20. Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Attachment 1, AK Source Documents, Supplemental Documentation

Add the following source documents to Attachment 1:

C032, OSRP Correspondence on Lithium Sources are nonreactive and confirmation to be added into Waste Stream LA-OS-00-01.001, 03/20/08 through 07/10/08

C035, Waste Stream # LA-OS-00-01.001 Characterization of Sources Containing "Other Light Metals", 01/21/09

D003, Hazardous Waste Determination for Actinide-Bearing Sealed Sources to be Received at LANL, 02/25/05

D031, Waste Determination of Encapsulated Radioactive Sources Containing Small Quantities of Lithium, 04/00/08

M133, Characterization of Am-241/Be/Cs-137 Combination Sources, 05/31/07

Reason/Justification for the Change

The NMED audit approval dates have been updated to reflect the most recent audits.

The EPA ID has been revised to correct a typographical error.

Documents used for WAP certification and the AK Summary Report have been updated to reflect the most current revisions and titles.

The WIPP ID and Description from the TWBIR have been updated to include 2009 ATWIR numbers and the predominant ATWIR description.

The waste stream volume has been revised to reflect the current volume generated and projected for this waste stream, as well as the addition of lithium sealed sources.

The response to waste stream profile question "Which Defense Activity generated this waste?" has been revised to reflect all of the defense activities that generated this waste.

The waste stream description and physical form has been updated to reflect revision to CCP-AK-LANL-008.

References have been added for completeness and to reflect the addition of lithium sealed sources to the waste stream. References have been added to the Ignitability, Corrosivity, Reactivity, Toxicity Characteristic, and Listed Waste sections of the Summation to ensure consistency with other CCP waste stream profiles. Attachment 1 of the Summation of Aspects has also been updated to reflect the addition of five new references. AK element numbers S1-S12 do not apply to these references.

The Reactivity Section has been revised to include a discussion about lithium sealed sources. In a 2003 NMED correspondence regarding *NMED Comments on Waste Stream Profile Form LA-OS-00-01.001 (WIPP Eligible OSR Sealed Sources)*, a more detailed description of "light elements" such as lithium, and a hazardous waste determination which addressed the reactivity of lithium-bearing sealed sources was requested. At that time, the Department of Energy Carlsbad Field Office (CBFO) responded that lithium-bearing sources were not part of waste stream LA-OS-00-01.001. Subsequent evaluation of the lithium-bearing sealed sources has shown that these sources are eligible for inclusion into waste stream LA-OS-00-01.001 because they are not reactive. The basis for this determination is as follows: the lithium-bearing sources are clad in multiple welded protective layers which precludes the lithium from being exposed to the elements thereby also precluding the lithium sources from being reactive. The lithium sealed sources that are added to this waste stream are similar in material, physical form and hazardous constituents to waste currently in this waste stream.

Therefore, there is no impact to the EPA HWNs assigned to waste stream LA-OS-00-01.001.

Added information to the Prohibited Items section to reflect changes to Attachment B of the permit since the WSPF was approved.

The table entitled Waste Stream LA-OS-00-01.001 Waste Material Parameters has been updated to reflect current waste stream information.

Revised the two most prevalent isotopes to reflect current analytical information.

Update for the WIPP Operating Record (LA-OS-00-01.001) certification:
I hereby certify that I have reviewed this Update for WIPP Operating Record, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature of Site Project Manager	Sue Peterman, SPM Printed Name and Title	6/15/10 Date

CP:10:01412
Attachment 2

URS

Washington TRU Solutions LLC

COPY

WRES:10:180
UFC:5822.00

June 16, 2010

Mr. C. G. Fesmire, TRU Waste Integration Manager
Carlsbad Field Office
U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88221-3090

Subject: REVIEW OF UPDATE FOR THE WIPP OPERATING RECORD (CHANGE NOTICE #2) WIPP OSR ELIGIBLE SEALED SOURCES (LA-OS-00-01.001)

Dear Mr. Fesmire:

Washington Regulatory and Environmental Services (WRES) has reviewed the subject Change Notice #2 for waste stream number LA-OS-00-01.001 in accordance with the provisions of WP 08-NT.03, Waste Stream Profile Form Review and Approval Program. WRES recommends that this change notice be approved.

The complete Change Notice #2 and comments and resolutions from the review team are enclosed. For your convenience, also enclosed are the draft transmittal letters.

If you have any questions, please contact me at Extension 7545.

Sincerely,

Steve Kahn

for R. R. Chavez
Regulatory Compliance

KG:dg

Enclosures (3)

cc: C. Gadbury, CBFO ED
M. Navarrete, CBFO ED
K. W. Watson, CBFO ED
P. F. Gilbert, LANL ED
G. Lyshik, LANL ED
CBFO M&RC

UNIQUE #	DOE UFC	DATE REC'VD	ADDRESSEES
1001617	5822.00	JUN 16 2010	C. Fesmire C. Gadbury M. Navarrete K. Watson

P.O. Box 2078 • Carlsbad, New Mexico USA 88221-2078
Phone: (575) 234-7200 • Fax: (575) 234-7083

DIVIDER PAGE

Washington
TRU Solutions LLC

CP:08:00250
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: April 16, 2008

FROM: R. P. Kantrowitz R.P. Kantrowitz LOCATION: Project Certification

TO: CCP Records Custodian GSA-103 LOCATION: Retrieval, Characterization and Transportation

SUBJECT: SUBMISSION OF CHANGE NOTICE #1 FOR WASTE STREAM PROFILE FORM LA-OS-00-01.001

Attached is Change Notice #1 for the Waste Stream Profile Form (WSPF) LA-OS-00-01.001 for Off-Site Source Recovery Project Sealed Sources generated at Los Alamos National Laboratory.

The WSPF was approved by DOE/CBFO on July 26, 2005.

RPK:jmc

Attachment

cc: (without attachment)

R. R. Chavez, WRES ED
M. L. Sensibaugh, WTS ED

Washington
TRU Solutions LLC

WRES:06:175
UFC:5822.00

December 6, 2006

Mr. D. H. Haar, Assistant General Manager
Retrieval, Characterization and Transportation
Washington TRU Solutions LLC
P.O. Box 2078
Carlsbad, NM 88221-2078

Subject: UPDATE FOR WIPP OPERATING RECORD WIPP ELIGIBLE OSR SEALED SOURCES (LA-OS-00-01.001) CHANGE NOTICE #1

Dear Mr. Haar:

Washington TRU Solutions LLC, on behalf of the Permittees, has evaluated Change Notice Number 1 for CCP-Los Alamos Waste Stream Profile Form (WSPF) LA-OS-00-01.001. We have concluded that the WSPF is complete and that the waste stream determination was made in accordance with applicable procedures and guidance.

We therefore approve the Change Notice as submitted. Using the methods approved at Los Alamos, Los Alamos may enter the data into the certification and shipping modules of the WIPP Waste Information System.

If you have any questions on this matter, please contact me at (505) 234-7545.

Sincerely,

D. T. Bignell, Manager
Regulatory Compliance

DTB:rlj

Enclosure

cc: A. Holland, CBFO ED
C. Fesmire, CBFO ED
K. Watson, CBFO ED
V. Waldram, LANL ED
P. Gilbert, LANL ED
CBFO M&RC

Washington
TRU Solutions LLC

WRES:06:176
UFC:5822.00

December 6, 2006

Mr. James Bearzi, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 E. Rodeo Park Drive, Bldg. 1
Santa Fe, NM 87505

Subject: UPDATE FOR WIPP OPERATING RECORD WIPP ELIGIBLE OSR SEALED SOURCES (LA-OS-00-01.001) CHANGE NOTICE #1

Dear Mr. Bearzi:

Washington TRU Solutions LLC, on behalf of the Permittees, has approved the Change Notice Number 1 for CCP-Los Alamos Waste Stream Profile Form LA-OS-00-01.001.

Enclosed is a copy of the approved form as required by Section B-5a of the WIPP Hazardous Waste Facility Permit, No. NM4890139088-TSDF.

If you have any questions on this matter, please contact me at (505) 234-7545.

Sincerely,

D. T. Bignell, Manager
Regulatory Compliance

DTB:rlj

Enclosure

cc: (without enclosure)

J. Kieling, NMED	ED
S. Zappe, NMED	ED
C. Fesmire, CBFO	ED
K. Watson, CBFO	ED
W. Ledford, CTAC	ED
P. Gilbert, LANL	ED
V. Waldram, LANL	ED
C. Walker, TechLaw	ED
CBFO M&RC	
WIPP Operating Record	486-06

WIPP Eligible OSR Sealed Sources
(LA-OS-00-01.001)
Change Notice #1
Update for WIPP Operating Record

Please add the following information to the WIPP Operating Record for Waste Stream Profile Form (WSPF) LA-OS-00-01.001. This waste stream is WIPP Eligible OSR Sealed Sources and was approved by DOE/CBFO on July 26, 2005.

This WSPF is being revised. The WSPF components are bolded. The updates are:

1. **WSPF, Date of audit report approval by NMED**

   Update the audit approval date to include August 31, 2006.

2. **WSPF, Waste Stream Information, Generator Site EPA ID**

   Revise the Generator Site EPA ID as follows: NM08900150515

3. **WSPF, Title, version, number, and date of documents used for WAP Certification**

   Update the following procedures:

   CCP-PO-001, CCP Transuranic Waste Characterization Quality Assurance Project Plan, rev. 13, November 16, 2006.

   CCP-PO-002, CCP Transuranic Waste Certification Plan, rev. 18, November 16, 2006

   CCP-PO-012, CCP/LANL Interface Document, rev. 5, November 16, 2006

4. **WSPF, Waste Stream Information, Waste Stream Information, Number of Drums**

   Update the Number of Drums from 460 to 681.

5. **WSPF, new item entitled Waste Material Parameter Weight Estimates Per Unit Waste**

   Add the following new item. See Table entitled Waste Stream LA-OS-00-01.001 Waste Material Parameters as described in Item 9.

6. **WSPF, Required Program Information, Required Waste Stream Information, and Supplemental Documentation**

Update reference CCP-AK-LANL-008, Revision 2, May 13, 2005 to CCP-AK-LANL-008, Revision 4, July18, 2006.

7. **Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Overview**

Update reference CCP-AK-LANL-008, Revision 2, May 13, 2005 to CCP-AK-LANL-008, Revision 4, July18, 2006.

8. **Summation of Aspects of AK Summary Report: LA-OS-00-01.001, Waste Stream Identification Summary, Waste Stream Volume**

Revise the waste stream volume as follows:

681 55-gallon drums (current)
0 55-gallon drums (projected)

9. **Summation of Aspects of AK Summary Report: LA-OS-00-01.001, new section entitled Waste Material Parameter Weight Estimates**

Add a new section entitled Waste Material Parameter Weight Estimates that includes the following information.

Waste material parameters for waste stream LA-OS-00-01.001were derived from VE data from WIPP Eligible OSR Sealed Sources by the CCP TRU Waste Certification Program at LANL. VE of the available inventory to date and acceptable knowledge information indicate the waste material parameters of the special form sealed sources is 100% other metal.

The waste material parameter, average weight percent and weight percent range are presented in the following table.

Waste Stream LA-OS-00-01.001Waste Material Parameters

Waste Material Parameter	Average Weight Percent	Weight Percent Range
Other Metals/Alloy	100 %	0 - 100 %
Total Inorganic Waste Avg.	100	
Total Organic Waste Ave.	0	

Reason/Justification for the Change

The Generator Site EPA ID has been revised to correct a typographical error.

The audit report approval date(s) have been revised to reflect the most recent approval dates.

Documents used for WAP certification have been revised to reflect the most recent revisions.

The waste stream volume has been revised to reflect the current volume generated for this waste stream.

Reference to CCP-AK-LANL-008, Revision 2, May 13, 2005 is being updated to reflect the most recent revision, CCP-AK-LANL-008, Revision 4, July18, 2006.

Waste material parameter weight estimates per unit waste and the method for determining those estimates have been incorporated to meet revised WIPP Hazardous Waste Facility Permit requirements as described in CCP-PO-001, Section B3-12.

Update for the WIPP Operating Record (LA-OS-00-01.001) certification:
I hereby certify that I have reviewed this Update for WIPP Operating Record, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature of Site Project Manager	Printed Name and Title	Date
	SM Peterman/SPM	12/5/06

Attachment 1 - Acceptable Knowledge Documentation Checklist

Site(s): Los Alamos National Laboratory

Waste Stream Description: Sealed Source Non-Hazardous Defense Debris Waste

Waste Stream Number(s): LA-OS-00-01.001

Acceptable Knowledge Information	(1) AK#	Compiled? (Y/N)	Source Document Tracking Number
Mandatory generator site TRU waste program (PR) information:			
Map of the generator site that identifies TRU waste generation, treatment, and storage areas.	PR1	Y	M029, M030, P003
Generator site mission descriptions related to TRU waste generation and management identifying defense and non-defense operations.	PR2	Y	C002, C004, C005, C006, C011, C019, C059, D001, D003, D004, D007, D008, D011, D013, D015, D025, D030, M001, M004, M053, M077, P003
Overview of the generator site and generator site TRU waste management operations in the context of the facility's mission.	PR3	Y	C006, D003, D004, D005, D008, D023, M033
Descriptions of historical and current TRU waste generating operations, including how waste is tracked and managed and/or how operations relative to isotopic composition were tracked.	PR4	Y	C002, C004, C007, C009, C014, C016, D002, D003, D004, D007, D010, D011, D013, D016, D023, D024, D028, DR009, M004, M005, M041, M056, M236, P003, P004
Waste identification and/or categorization schemes and terminology used at the generator site, including codes correlating to specific isotopic distributions.	PR5	Y	C023, D016, D020, M018, M034, M042, M046, M063, M066, M071, M236, P003, P004
Types and quantities of TRU waste generated, including historical generation through future projections.	PR6	Y	C020, C021, M006, M031, M055, M116, M173
Correlation of waste streams and description of time of generation, waste generating processes, and area and building/facility where each waste stream was generated.	PR7	Y	C002, C006, C023, M003, M056
Certification procedures for waste to be sent to the WIPP facility (i.e., procedures to ensure that prohibited items are documented and managed in accordance with site-specific certification plans).	PR8	Y	C061, C062, P001, P002, P003, P004, P005
Mandatory generator site TRU waste stream (WS)-specific information:			
Waste stream designation	WS1	Y	C029, C037, C039, C043, C065, P003
Area(s) and building(s) from which the waste stream was or is generated.	WS2	Y	C014, C018, D007, D023, M003, M006, M013, M015, M017, M018, M020, M025, M026, M038, M045, M046, M053, M063, M065, M121
Waste stream volume and time period of generation	WS3	Y	C002, C004, C011, C020, C021, C023, C028, C030, C039, C043, C065, D003, D004, D006, D023, D024, DR003, DR004, DR008, DR009, DR010, DR011, M001, M017, M025, M026, M043, M047, M048, M049, M055, M057, M063, M071, M119, M120, M121, M122, M135, P003

NTPC RECORDS ORIGINAL
DATE REC'D 7/28/2014

Attachment 1 - Acceptable Knowledge Documentation Checklist (continued)

Waste Stream Number(s): LA-OS-00-01.001

Acceptable Knowledge Information	(1) AK#	Compiled? (Y/N)	Source Document Tracking Number
Waste generating process (describe for each building) including processes associated with U134 waste generation, if applicable.	WS4	Y	C002, C004, C012, C039, C043, C065, C066, D007, D023, D028, M004, M053, M119, P003
Process flow diagrams. For research/development, analytical laboratory waste, or other similar processes where process flow diagrams cannot be created, a description of the waste generating processes, rather than a formal process flow diagram, may be included, if justified.	WS5	Y	D007
Summary of basis and rationale for delineating each waste stream including justification for combining waste historically managed separately as TRU mixed and TRU non-mixed waste streams into a single waste stream, that is traceable to referenced documents.	WS6	Y	C002, C032, C035, M026
Generator site mission descriptions related to TRU waste generation and management identifying defense and non-defense operations.	WS7	Y	C002, C004, C005, C006, C011, C018, C019, C039, C043, C059, C065, D001, D003, D004, D005, D008, D011, D013, D015, D025, D030, M004, M053, P003
Material inputs or other information that identified the chemical contents of the waste and the stream. Includes events or processes that may have modified the chemical properties of the waste stream after generation.	WS8	Y	C001, C006, C039, C043, C065, C066, D001, D003, D005, D006, D008, D010, D011, D014, D023, D031, M004, M007, M016, M021, M028, M031, M033, M035, M040, M043, M054, M060, M061, M064, M074, M077, M085, M093, M117, M118, M119, M201, M210, M222, P001, P003, P005
Physical waste form (e.g., glovebox materials and chemicals handled during glovebox operations, if applicable), assigned summary category group, waste matrix code and materials inputs including waste materials parameters present in the waste stream. Includes events or processes that may have modified the chemical properties of the waste stream after generation.	WS9	Y	C002, C006, C016, C039, C043, C065, C066, D002, D005, D006, D008, D010, D011, D012, D014, D015, D024, D028, M001, M005, M012, M014, M019, M025, M026, M027, M031, M033, M034, M040, M041, M042, M046, M047, M048, M049, M054, M056, M063, M066, M085, M091, M098, M099, M111, M119, M121, M122, M145, M200, M201, M210, M222, M226, M236, P003
Waste identifiers assigned by the generator site (e.g., item description code, packaging identification numbers).	WS10	Y	C007, C030, D030, M001, M026, M027, M120, M135, M197, M236

Attachment 1 - Acceptable Knowledge Documentation Checklist (continued)

Waste Stream Number(s): LA-OS-00-01.001

Acceptable Knowledge Information	(1) AK#	Compiled? (Y/N)	Source Document Tracking Number
Specification of the isotopic ratios for the ten WIPP-tracked radionuclides and all radionuclides other than the ten WIPP-tracked radionuclides that contribute to 95 percent of the radioactive hazard for a payload container. Chemical and physical information that could affect the waste isotopic distribution, as well as calculations used to derive the isotopic distribution.	**WS11**	Y	C003, C006, C007, C010, C012, C013, C014, C016, C017, C019, C020, C022, C023, C026, C027, C028, C029, C030, C031, C037, C038, C039, C040, C043, C045, C059, C060, C061, C065, D002, D005, D006, D007, D008, D009, D010, D011, D012, D013, D015, D016, D017, D018, D019, D020, D021, D023, D024, D025, D028, D029, D031, DR001, DR002, DR003, DR004, DR005, DR006, DR007, DR008, DR009, DR010, DR011, M001, M003, M005, M006, M007, M008, M009, M010, M011, M013, M015, M016, M017, M018, M019, M020, M021, M022, M023, M024, M025, M026, M027, M028, M033, M034, M035, M036, M037, M038, M040, M041, M042, M043, M044, M045, M046, M047, M048, M049, M050, M051, M052, M053, M054, M056, M057, M059, M063, M064, M065, M066, M070, M071, M074, M075, M076, M077, M078, M079, M080, M081, M082, M083, M084, M085, M086, M087, M088, M089, M090, M091, M092, M093, M094, M095, M096, M097, M098, M099, M100, M101, M102, M103, M104, M105, M107, M108, M109, M110, M111, M112, M113, M115, M116, M117, M118, M119, M120, M121, M122, M123, M124, M125, M126, M127, M128, M129, M130, M131, M132, M133, M134, M136, M137, M138, M139, M140, M141, M142, M143, M144, M145, M146, M147, M148, M149, M150, M151, M152, M153, M154, M155, M156, M157, M158, M159, M160, M161, M162, M163, M164, M165, M166, M167, M169, M170, M171, M174, M175, M176, M177, M178, M179, M180, m183, M184, M185, M186, M187, M188, M189, M190, M191, M192, M193, M194, M195, M196, M197, M198, M199, M200, M201, M202, M210, M222, M224, M226, M229, M234, M235, M236, P003

Attachment 1 - Acceptable Knowledge Documentation Checklist (continued)

Waste Stream Number(s): LA-OS-00-01.001

Acceptable Knowledge Information	(1) AK#	Compiled? (Y/N)	Source Document Tracking Number
State and EPA hazardous waste constituents in the waste stream and state and EPA Hazardous Waste Numbers assigned, including documentation regarding how the site has historically managed the waste, including the historical regulatory status of the waste (i.e., TRU mixed versus TRU non-mixed waste).	WS12	Y	C001, C002, D002, D031, M003, M004, M031, M033, M035, M039, M061, M145
Additional acceptable knowledge documentation (briefly describe):			
Process design documents (e.g., Title II Design)	S1	Y	D028, M124
Standard operating procedures that may include a list of raw materials or reagents, a description of the process or experiment generating the waste, and a description of the waste generated and how the wastes are managed at the point of generation	S2	Y	M053, P001, P002, P003, P004, P005
Preliminary and Final Safety Analysis Reports and technical safety requirements	S3	Y	M129, M130
Waste Packaging records	S4	Y	C029, C030, C037, C039, C043, C065, M031, P001
Test plans or research project reports that describe the reagents, radionuclides, and other raw materials used in experiments	S5	Y	D006, D022, M038
Site databases (e.g., chemical inventory database for SARA Title III requirements, SNM or nuclear databases)	S6	Y	C021, M006, M017, M135
Information from site personnel (e.g., documented interviews)	S7	Y	C009, C012, C013, C016, C018, C045, C064, D031, M003, M053, M234
Standard industry documents (e.g., industry specification sheets, handbooks, reference materials, or other vendor information)	S8	Y	C040, D028, DR010, M002, M005, M021, M024, M046, M066, M069, M129, M169, M210, M222
Analytical data relevant to the waste stream, including results from fingerprint analyses, spot checks, routine verification sampling or other processes that collected information pertinent to the waste stream. This may include new information (or previously collected data) which augments required information (e.g., visual examination not performed in compliance with CCP-PO-001, radiography screening for prohibited items)	S9	Y	C012, C040, DR010, M028, M197
Material Safety Data Sheets, product labels, or other product information	S10	Y	M236
Laboratory notebooks that detail the research processes and raw materials used in an experiment	S11	Y	M071
Comparable or surrogate sampling and analysis data	S12	Y	M002, M025
Other (describe)	S13	Y	C027, C028, C032, C035, M025, M133
Safeguards and security, Materials Control and Accountability, and other nuclear material control system data Reports of nuclear safety or criticality accidents involving special nuclear materials (SNM)	S14	Y	M172, M173
NMMA logs or inventory records or waste disposal logs providing SNM or nuclear material information	S15	Y	M116

Attachment 1 - Acceptable Knowledge Documentation Checklist (continued)

Waste Stream Number(s): LA-OS-00-01.001

Acceptable Knowledge Information	(1) AK#	Compiled? (Y/N)	Source Document Tracking Number
Packaging	S16	Y	C008, C015, C016, C028, C031, C032, C039, C043, C065, C066, D004, D015, D031, M001, M003, M019, M031, M069, M197, M210, M226
OSR-Specific Information (Applies only to sealed sources)			
Evidence that the waste meets the definition of a sealed source reference 10CFR30.4 and 10CFR835.2	O1	Y	C029, C037, C060, D005, D008, D031, M021, M022, M023, M024, M025, M031, M053, M115, M125, M126, M127, M128, M134, M139, M141, M142, M143, M144, M146, M148, M150, M151, M152, M153, M158, M161, M210, P001
Documentation that sources are Special Form, such as certificates DOT Special Form Class 7 per 49CFR173.403	O2	Y	C007, C029, C037, C060, D005, D008, D010, D011, D012, D022, M022, M034, M045, M069, M074, M075, M081, M082, M089, M090, M092, M096, M097, M102, M103, M104, M105, M107, M108, M109, M111, M114, M115, M116, M123, M125, M126, M129, M132, M138, M139, M141, M142, M143, M144, M145, M146, M148, M150, M151, M152, M153, M155, M156, M157, M158, M159, M160, M163, M164, M167, M170, M177, M179, M180, M184, M185, M186, M187, M188, M189, M190, M191, M193, M194, M195, M196, M198, M201, M202, M210, M224, M234, M235, M236, P001
Contamination survey results for each source reference requirements of 10CFR34.27	O3	Y	C029, C037, M022, M024, M025, M027, M032, M087, M097, M098, M104, M116, M117, M134, M136, M137, M141, M143, M148, M161, M167, M171, M174, M175, M176, M179, M180, m183, M184, M185, M186, M187, M188, M193, M194, M200, M201, M202, M224, M234, M235
Source manufacturer's sales catalogues	O4	Y	C001, C017, D002, D014, D028, M005, M031, M033, M133, P001
Source purchase records	O5	Y	C015, M002, M061, P005
Manufacturer fabrication documents	O6	Y	D008, D010, D031, M041, M042, M046, M100, M106, M109, M111, M114, M143, M144, M152, M154, M159, M161, M162, M164, M171, M174, M176, M177, m183, M194, M197, M198, M202, M210, M226, M236

Attachment 1 - Acceptable Knowledge Documentation Checklist (continued)

Waste Stream Number(s): LA-OS-00-01.001

Acceptable Knowledge Information	(1) AK#	Compiled? (Y/N)	Source Document Tracking Number
Manufacturer drawings	O7	Y	D023, D031, M007, M024, M025, M038, M054, M076, M078, M079, M080, M082, M086, M088, M089, M091, M094, M095, M110, M123, M124, M125, M127, M129, M143, M150, M151, M152, M154, M155, M156, M157, M158, M159, M161, M163, M175, M176, M177, M179, M180, M188, M192, M193, M197, M198, M236
Fuel capsule assembly reports	O8	Y	C023, D008, D028, D029, D031, M005, M007, M025, M026, M038, M069, M070, M071, M074, M075, M076, M077, M078, M079, M080, M089, M090, M092, M094, M098, M107, M110, M117, M118, M122, M123, M124, M125, M126, M127, M128, M131, M132, M133, M134, M135, M136, M137, M138, M139, M141, M142, M143, M146, M147, M155, M156, M159, M160, M161, M164, M165, M167, M169, M171, M175, M176, M177, M178, M179, M180, M183, M184, M185, M186, M187, M188, M189, M190, M191, M193, M194, M195, M196, M198, M201, M202, M224, M234, M235, M236
Manufacturer's operational procedures for meeting cleanliness requirements	O9	Y	C038, C040, C041, C060, D002, D005, D008, D010, D011, D024, M005, M012, M025, M026, M027, M034, M038, M041, M042, M046, M054, M069, M075, M076, M077, M078, M079, M080, M083, M088, M089, M090, M092, M094, M098, M101, M106, M107, M110, M111, M112, M113, M114, M117, M118, M122, M123, M125, M126, M127, M130, M131, M132, M133, M139, M140, M142, M143, M144, M145, M150, M151, M152, M153, M155, M157, M161, M162, M169, M171, M174, M175, M176, M177, m183, M187, M188, M194, M195, M200, M202, M210, M236
Manufacturer's shipping documents or records	O10	Y	M025, M044, M047, M048, M049, M070, M076, M077, M095, M126, M127, M128, M130, M133, M143, M145, M150, M153
Manufacturer welding records	O11	Y	M007, M046, M077, M123, M127, M128, M130, M142, M152, M197

Attachment 1 - Acceptable Knowledge Documentation Checklist (continued)

Waste Stream Number(s): LA-OS-00-01.001

Acceptable Knowledge Information	(1) AK#	Compiled? (Y/N)	Source Document Tracking Number
TRU batch material records	O12	Y	D006, D008, D023, DR002, DR003, DR006, DR008, DR009, M005, M007, M013, M015, M016, M017, M018, M024, M025, M026, M027, M038, M043, M052, M056, M057, M063, M064, M065, M066, M074, M091, M093, M121, M125, M126, M127, M129, M132, M136, M143, M150, M152, M154, M159, M163, M170, M174, M175, M176, M177, M178, M179, M180, M184, M185, M186, M187, M188, M191, M192, M193, M194, M195, M197, M199, M201, M202, M222, M224, M234
National database radiological information (e.g., NMMSS, NRC Device Registry)	O13	Y	D031, M007, M014, M075, M113, M117, M123, M125, M126, M128, M133, M138
NRC or agreement state regulatory licensing information	O14	Y	M015, M016, M017, M021, M026, M028, M081, M124
Documentation of physical markings on the outer source casing or labels attached to devices housing sources	O15	Y	C017, C038, C041, D008, D031, DR002, DR003, DR004, DR006, DR009, M005, M006, M020, M066, M083, M084, M085, M087, M098, M099, M101, M107, M112, M127, M132, M139, M142, M143, M144, M146, M147, M151, M153, M154, M155, M156, M157, M158, M159, M160, M161, M162, M163, M164, M165, M166, M170, M171, M174, M175, M177, M178, m183, M188, M192, M193, M195, M197, M198, M200, M201, M202, M234
Unique physical description attributed to specific source models	O16	Y	C014, D005, M005, M020, M022, M053, M082, M123, M127, M133, M143, M147, M152, M159, M161, M169, m183, M198, M224, M236, P004

Attachment 1 - Acceptable Knowledge Documentation Checklist (continued)

Acceptable knowledge information regarding waste generated off-site or from similar process:
(1) AK#s are used as identifieres for program, waste stream-specific and supporting elements. The identifiers are to be used in the Acceptable Knowledge Source Document Summary and Acceptable Knowledge Source Document Information list to aid in the page location of program and waste stream-specific elements within a given document. N/A means that item is not applicable.

Additional Comments:

7/24/2014

All required AK information has been compiled and source document tracking numbers assigned.

Acceptable Knowledge Expert Sherry Auckland
Print/Sign

Date: 7/24/2014

DIVIDER PAGE

Attachment 1 – Acceptable Knowledge Documentation Checklist

Site(s): Los Alamos National laboratory

Waste Stream Description: TA-50 Mixed Transuranic Waste

Waste Stream Number(s): LA-MHD09.001

Acceptable Knowledge Information	[1]AK#	Compiled? (Y/N)	Source Document Tracking Number
Mandatory generator site TRU waste program (PR) information[a]:			
Map of the generator site that identifies TRU waste generation, treatment, and storage areas.	PR1	Y	D005, D019, D024, D068, D078, D103, M007
Generator site mission descriptions related to TRU waste generation and management identifying defense and non-defense operations.	PR2	Y	C056, D048, D049, D050, D077, D100, D101, D103, D114, M002
Overview of the generator site and generator site TRU waste management operations in the context of the facility's mission.	PR3	Y	D004, D005, D017, D021, D022, D023, D026, D027, D048, D049, D100, D101, D102, D103, D107, D111, D114
Descriptions of historical and current TRU waste generating operations, including how waste is tracked and managed and/or how operations relative to isotopic composition were tracked.	PR4	Y	C007, C008, C017, C022, C064, C092, C093, C106, D001, D002, D003, D004, D005, D006, D009, D010, D013, D017, D020, D021, D024, D025, D027, D029, D030, D046, D049, D062, D063, D070, D073, D074, D079, D103, D108, D109, D110, D112, D113, D114, M004, M006, M044, M080, M198, P001, P003, P013
Waste identification and/or categorization schemes and terminology used at the generator site, including codes correlating to specific isotopic distributions.	PR5	Y	C013, C029, C064, D074, D076, D106, D110, D111, D113, D114, D116, D118, M219, M220, M226, M227, M228, P001
Types and quantities of TRU waste generated, including historical generation through future projections.	PR6	Y	C086, C094, C096, C097, C098, C101, C106, D005, D103, D114, D119, D120, D121, D122, M219, M226, M227, M228, P013, P021, P025, P026
Correlation of waste streams and description of time of generation, waste generating processes, and area and building/facility where each waste stream was generated.	PR7	Y	C086, C094, C096, C098, C099, C100, C106, D005, D077, D103, D106, D119, D120, D121, D122, DR010, M219, M227, P019, P021, P022, P024, P025, P026, P027
Certification procedures for waste to be sent to the WIPP facility (i.e., procedures to ensure that prohibited items are documented and managed in accordance with site-specific certification plans).	PR8	Y	D062, D073, D103, D108, D114, D115, D117, M227, P003, P008, P013, P018, P020, P022, P025
Waste stream designation.	WS1	Y	C098, C102, D008, D106, D114, M227

Waste Stream Number(s): LA-MHD09.001

Acceptable Knowledge Information	[1]AK#	Compiled? (Y/N)	Source Document Tracking Number
Mandatory generator site TRU waste program (PR) information[a]:			
Area(s) and building(s) from which the waste stream was or is generated.	WS2	Y	C017, C019, C020, C025, C029, C054, C086, C093, C098, C099, C100, C106, D002, D004, D005, D006, D007, D010, D018, D020, D021, D026, D028, D030, D034, D035, D036, D037, D038, D039, D040, D041, D043, D044, D045, D047, D049, D050, D051, D054, D055, D074, D082, D100, D101, D102, D106, D113, D114, D119, D120, D121, D122, DR010, M010, M033, M037, M039, M040, M121, M219, M227, P010, P019, P021, P022, P024, P025, P026, P027
Waste stream volume and time period of generation	WS3	Y	C028, C086, C094, C096, C097, C098, C101, C106, D007, D074, D103, D106, D119, D120, D121, D122, M079, M219, M226, M227, M228, P021, P026
Waste generating process (describe for each building) including processes associated with U134 waste generation, if applicable.	WS4	Y	C004, C005, C012, C014, C016, C017, C019, C020, C025, C026, C029, C031, C033, C035, C037, C054, C065, C086, C093, C106, D001, D002, D003, D004, D005, D007, D009, D010, D013, D015, D017, D018, D020, D021, D025, D026, D027, D031, D033, D034, D035, D036, D037, D038, D039, D040, D041, D043, D044, D045, D046, D049, D051, D055, D056, D064, D067, D072, D075, D081, D091, D100, D101, D102, D103, D113, M006, M010, M031, M032, M033, M034, M036, M037, M038, M040, M041, M042, M043, M045, M049, M052, M053, M055, M056, M068, M069, M073, M075, M076, M079, M080, M085, M089, M091, M110, M112, M121, M122, M145, M148, M149, M150, M177, M201, M202, M203, M204, P002, P004, P005, P009, P010
Process flow diagrams. For research/development, analytical laboratory waste, or other similar processes where process flow diagrams cannot be created, a description of the waste generating processes, rather than a formal process flow diagram, may be included, if justified.	WS5	Y	C092, D005, D089, D103, D106, M044, M045, M049, M052, M053, M054, M055, M056, M058, M062, M085, M086, M090, M092, M093, M094, M095, M096, M097, M098, M099, M100, M101, M102, M103, M104, M105, M107, M111, M112, M113, M114, M115, M116, M122, M153, M154, M155, M156, M157, M158, M164, M165, M166, M169, M172, M185, M187, M197, M199, M208, M216, P012, P021, P025, P026

Waste Stream Number(s): LA-MHD09.001

Acceptable Knowledge Information	[1]AK#	Compiled? (Y/N)	Source Document Tracking Number
Mandatory generator site TRU waste program (PR) information[a]:			
Summary of basis and rationale for delineating each waste stream including justification for combining waste historically managed separately as TRU mixed and TRU non-mixed waste streams into a single waste stream, that is traceable to referenced documents.	WS6	Y	D106, M227, P018
Generator site mission descriptions related to TRU waste generation and management identifying defense and non-defense operations.	WS7	Y	C056, D004, D048, D050, D077, D100, D101, D114
Material inputs or other information that identified the chemical contents of the waste and the stream. Includes events or processes that may have modified the chemical properties of the waste stream after generation.	WS8	Y	C008, C009, C012, C014, C016, C017, C020, C023, C028, C031, C032, C033, C034, C035, C036, C037, C041, C057, C061, C063, C065, C066, C068, C078, C081, C091, C094, C095, C096, C106, C109, D005, D008, D025, D029, D033, D059, D060, D067, D072, D075, D089, D114, D119, D121, D122, M006, M011, M030, M036, M041, M042, M043, M044, M045, M046, M047, M048, M049, M051, M052, M053, M054, M057, M058, M059, M060, M061, M062, M063, M068, M069, M073, M075, M076, M078, M079, M080, M081, M085, M088, M090, M091, M092, M093, M094, M095, M096, M097, M098, M099, M100, M101, M102, M103, M104, M105, M111, M112, M113, M114, M115, M116, M117, M122, M145, M148, M149, M150, M151, M153, M154, M155, M156, M157, M158, M164, M165, M166, M169, M171, M172, M173, M178, M185, M187, M190, M193, M196, M197, M198, M199, M201, M202, M203, M204, M205, M208, M210, M214, M216, M219, M226, M227, P002, P004, P005, P009, P010, P012, P016, P022, P023
Physical waste form (e.g., glovebox materials and chemicals handled during glovebox operations, if applicable), assigned summary category group, waste matrix code and materials inputs, including waste material parameters present in the waste stream. Includes events or processes that may have modified the physical properties of the waste stream after generation.	WS9	Y	C017, C032, C086, C090, C091, C094, C096, C098, C099, C106, C109, D005, D072, D074, D113, D119, D121, D122, DR010, M030, M035, M041, M122, M219, M227, M228, P015, P016, P025

Waste Stream Number(s): LA-MHD09.001

Acceptable Knowledge Information	[1]AK#	Compiled? (Y/N)	Source Document Tracking Number
Mandatory generator site TRU waste program (PR) information[a]:			
Waste identifiers assigned by the generator site (e.g., item description code, packaging identification numbers).	WS10	Y	C054, D076, M219, M220, M226, M227, P013
Specification of the isotopic ratios for the ten WIPP-tracked radionuclides and all radionuclides other than the ten WIPP-tracked radionuclides that contribute to 95 percent of the radioactive hazard for a payload container. Chemical and physical information that could affect the waste isotopic distribution, as well as calculations used to derive the isotopic distribution.	WS11	Y	C004, C005, C007, C016, C019, C021, C023, C024, C025, C026, C027, C030, C031, C054, C094, C096, C098, C101, C106, C109, D002, D005, D009, D010, D020, D023 D026, D031, D033, D037, D047, D050, D056, D058, D059, D060, D064, D074, D080, D081, D082, D083, D104, D111, D114, D119, D121, D122, M002, M018, M025, M029, M030, M045, M049, M050, M052, M053, M068, M073, M080, M085, M110, M117, M148, M149, M151, M177, M202, M204, M219, M220, M226, M227, P005, P010, P011
State and EPA hazardous waste constituents in the waste stream and state and EPA Hazardous Waste Numbers assigned, including documentation regarding how the site has historically managed the waste, including the historical regulatory status of the waste (i.e., TRU mixed versus TRU non-mixed waste).	WS12	Y	C013, C018, C028, C032, C040, C041, C063, C068, C078, C089, C109, D005, D008, D085, D089, D103, D106, D111, D113, D114, DR010, M010, M011, M044, M047, M054, M059, M060, M094, M098, M104, M154, M169, M196, M198, M211, M214, M219, M227, P012
Additional acceptable knowledge documentation (briefly describe):			
Process design documents (e.g., Title II Design)	S1	Y	D071, D072
Standard operating procedures that may include a list of raw materials or reagents, a description of the process or experiment generating the waste, and a description of the waste generated and how the wastes are managed at the point of generation	S2	Y	D108, D113, D115, D116, M041, M087, M089, M090, M122, M178, M190, M202, P008, P013, P014, P015, P016
Preliminary and Final Safety Analysis Reports and technical safety requirements	S3	Y	D005
Waste Packaging records	S4	Y	D074, D113, D115, D117, M227
Test plans or research project reports that describe the reagents, radionuclides, and other raw materials used in experiments	S5	N	NA
Site databases (e.g., chemical inventory database for SARA Title III requirements, SNM or nuclear material databases)	S6	Y	M018, M219, M220
Information from site personnel (e.g., documented interviews)	S7	Y	C014, C017, C026, C029, C035, C037, C054, C056, C061, C064, M228
Standard industry documents (e.g., industry specification sheets, handbooks, reference materials, or other vendor information)	S8	N	NA

Waste Stream Number(s): LA-MHD09.001

Acceptable Knowledge Information	(1)AK#	Compiled? (Y/N)	Source Document Tracking Number
Mandatory generator site TRU waste program (PR) information[a]:			
Analytical data relevant to the waste stream, including results from fingerprint analyses, spot checks, routine verification sampling or other processes that collected information pertinent to the waste stream. This may include new information (or previously collected data) which augments required information (e.g., visual examination not performed in compliance with CCP-PO-001, radiography screening for prohibited items).	S9	Y	DR010
Material Safety Data Sheets, product labels, or other product information	S10	Y	M214
Laboratory notebooks that detail the research processes and raw materials used in an experiment	S11	N	NA
Comparable or surrogate sampling and analysis data	S12	N	NA
Other (describe)	S13	N	NA
Safeguards and security, Materials Control and Accountability, and other nuclear material control system data Reports of nuclear safety or criticality accidents involving special nuclear materials (SNM)	S14	N	NA
NMMA logs or inventory records or waste disposal logs providing SNM or nuclear material information	S15	Y	D074, M227
Packaging	S16	Y	C081, C086, C091, C099, D005, D074, D105, D114, M227, P001, P002, P015, P018, P019, P020, P021, P022, P023, P024, P026, P027, P028
Acceptable knowledge information regarding waste generated off-site or from similar process: NA			

(1) AK#s are used as identifiers for program, waste stream-specific and supporting elements. The identifiers are to be used in the Acceptable Knowledge Source Document Summary and Acceptable Knowledge Information List to aid in the page location of program and waste stream-specific elements within a given document. N/A means that item is not applicable.

Additional comments: NA

All required AK information has been compiled and source document tracking numbers assigned.

Acceptable Knowledge Expert: Amy Johns (Print) Amy Johns (Sign) Date: 6/19/2014

DIVIDER PAGE

Attachment 1 – Acceptable Knowledge Documentation Checklist

Page 1 of 5

Site(s): Los Alamos National laboratory

Waste Stream Description: Mixed Contaminated Soil Generated at TA-21

Waste Stream Number(s): LA-MSG04.001

Acceptable Knowledge Information	(1)AK#	Compiled? (Y/N)	Source Document Tracking Number
Mandatory generator site TRU waste program (PR) information:			
Map of the generator site that identifies TRU waste generation, treatment, and storage areas.	PR1	Y	D008, D010, D035, D077, D083, P036
Generator site mission descriptions related to TRU waste generation and management identifying defense and non-defense operations.	PR2	Y	C022, D022, D033, D054, D055, D059, D063, D065, D066, D068, D070, D081, P036, P037
Overview of the generator site and generator site TRU waste management operations in the context of the facility's mission.	PR3	Y	D036, D037, D038, D039, D040, D041, D059, D065, D066, D081, P017, P036, P037
Descriptions of historical and current TRU waste generating operations, including how waste is tracked and managed and/or how operations relative to isotopic composition were tracked.	PR4	Y	C001, C002, C005, C006, C009, C021, C026, C030, C031, D001, D002, D004, D006, D008, D010, D011, D014, D016, D018, D019, D025, D027, D029, D031, D035, D036, D037, D038, D039, D040, D041, D042, D043, D044, D045, D046, D052, D053, D054, DF055, D056, D057, D058, D065, D066, D068, D069, D070, D080, D081, P009, P015, P016
Waste identification and/or categorization schemes and terminology used at the generator site, including codes correlating to specific isotopic distributions.	PR5	Y	C006, C021, D007, D009, D023, D028, D034, D077, D078, D079, D080, D081, D083, M003, M008, M009, M012, M016, M017, M018, M229, P017, P018
Types and quantities of TRU waste generated, including historical generation through future projections.	PR6	Y	C033, C037, C038, C040, C042, D010, D070, D072, D073, D074, D075, D076, D077, D078, D079, D081, D083, D086, DR002, DR005, M003, M012, M016, M017, M018, M229, P014, P029, P033, P034, P036

NTPC RECORDS ORIGINAL
DATE REC'D 6-19-14

Attachment 1 – Acceptable Knowledge Documentation Checklist (Continued)
Page 2 of 5

Waste Stream Number(s): LA-MSG04.001

Acceptable Knowledge Information	[1]AK#	Compiled? (Y/N)	Source Document Tracking Number
Correlation of waste streams and description of time of generation, waste generating processes, and area and building/facility where each waste stream was generated.	PR7	Y	C001, C003, C005, C009, C034, C036, C038, D003, D004, D005, D028, D036, D037, D038, D039, D040, D041, D060, D065, D066, D068, D069, D070, D072, D073, D074, D075, D076, D077, D078, D079, D083, D086, DR001, DR002, DR005, M001, M003, M008, M012, M016, M017, P013, P014, P029, P030, P032, P033, P034, P035, P036, P039, U001
Certification procedures for waste to be sent to the WIPP facility (i.e., procedures to ensure that prohibited items are documented and managed in accordance with site-specific certification plans).	PR8	Y	C023, D026, D062, D081, M012, P015, P016, P019, P020, P021, P028, P030, P033
Mandatory generator site TRU waste stream (WS)-specific information:			
Waste stream designation	WS1	Y	D060, D065, D081, M003, M012, P036
Area(s) and building(s) from which the waste stream was or is generated.	WS2	Y	C002, C003, C030, C033, C034, C036, C037, C038, D006, D008, D010, D016, D018, D026, D035, D055, D057, D065, D066, D068, D069, D070, D072, D073, D074, D075, D076, D077, D078, D079, D080, D081, D086, DR001, DR002, DR005, M008, M012, M015, M016, M017, M020, P003, P004, P007, P013, P014, P029, P030, P032, P033, P034, P035, P036, P039, U001
Waste stream volume and time period of generation	WS3	Y	C003, C026, C033, C037, C038, C040, C042, D028, D035, D036, D037, D038, D039, D040, D041, D065, D070, D072, D073, D074, D075, D076, D077, D078, D079, D083, DR002, DR005, M003, M012, M015, M016, M017, M018, M020, M229, P014, P029, P034, P036, U001
Waste generating process (describe for each building) including processes associated with U134 waste generation, if applicable.	WS4	Y	C001, C030, C038, D004, D005, D007, D009, D016, D018, D032, D036, D037, D038, D039, D040, D041, D055, D065, D066, D068, D069, D070, D080, DR002, M001, M008, M015, M020, P036

Attachment 1 – Acceptable Knowledge Documentation Checklist (Continued)
Page 3 of 5

Waste Stream Number(s): LA-MSG04.001

Acceptable Knowledge Information	[1]AK#	Compiled? (Y/N)	Source Document Tracking Number
Process flow diagrams. For research/development, analytical laboratory waste, or other similar processes where process flow diagrams cannot be created, a description of the waste generating processes, rather than a formal process flow diagram, may be included, if justified.	WS5	Y	C031, D010, D011, D028, D072, D074, D083, P029, P033, P034, P037
Summary of basis and rationale for delineating each waste stream including justification for combining waste historically managed separately as TRU mixed and TRU non-mixed waste streams into a single waste stream, that is traceable to referenced documents.	WS6	Y	D065, M012, P021
Generator site mission descriptions related to TRU waste generation and management identifying defense and non-defense operations.	WS7	Y	C022, D022, D033, D065, D066, D068, D070, D081, P036, P037
Material inputs or other information that identified the chemical contents of the waste and the stream. Includes events or processes that may have modified the chemical properties of the waste stream after generation.	WS8	Y	C008, C023, C027, C035, C038, C042, D004, D011, D015, D017, D025, D027, D029, D036, D037, D038, D039, D040, D041, D043, D050, D054, D056, D062, D065, D072, D073, D075, D076, D077, D078, D079, D081, D083, D085, D086, DR001, DR005, M010, M012, M015, M017, M018, M019, M020, P009, P012, P030
Physical waste form (e.g., glovebox materials and chemicals handled during glovebox operations, if applicable), assigned summary category group, waste matrix code and materials inputs, including waste material parameters present in the waste stream. Includes events or processes that may have modified the physical properties of the waste stream after generation.	WS9	Y	C008, C023, C027, C033, C034, C037, C038, C042, D011, D016, D019, D020, D029, D036, D037, D038, D039, D040, D041, D047, D048, D049, D051, D055, D056, D060, D065, D070, D080, D083, D086, DR005, M008, M012, M015, M019, M020, M229, P011, P012, P031, P033, P036, U002
Waste identifiers assigned by the generator site (e.g., item description code, packaging identification numbers).	WS10	Y	D018, D065, D077, D078, D079, D083, M012, M015, M016, M017, M018, M020

Attachment 1 – Acceptable Knowledge Documentation Checklist (Continued)
Page 4 of 5

Waste Stream Number(s): LA-MSG04.001

Acceptable Knowledge Information	[1]AK#	Compiled? (Y/N)	Source Document Tracking Number
Specification of the isotopic ratios for the ten WIPP-tracked radionuclides and all radionuclides other than the ten WIPP-tracked radionuclides that contribute to 95 percent of the radioactive hazard for a payload container. Chemical and physical information that could affect the waste isotopic distribution, as well as calculations used to derive the isotopic distribution.	WS11	Y	C002, C033, C037,C038, C040, C042, D010, D020, D021, D034, D036, D037, D038, D039, D040, D041, D043, D048, D050, D055, D060, D065, D070, D071, D072, D073, D075, D076, D077, D078, D079, D081, D083, D085, D086, M009, M015, M017, M018, M019, M020, P017
State and EPA hazardous waste constituents in the waste stream and state and EPA Hazardous Waste Numbers assigned, including documentation regarding how the site has historically managed the waste, including the historical regulatory status of the waste (i.e., TRU mixed versus TRU non-mixed waste).	WS12	Y	C023, C040, C042, D015, D017, D060, D065, D080, D081, D083, D085, D086, DR001, DR005, M008, M012, M015, M020, P017
Additional acceptable knowledge documentation (briefly describe):			
Process design documents (e.g., Title II Design)	S1	N	NA
Standard operating procedures that may include a list of raw materials or reagents, a description of the process or experiment generating the waste, and a description of the waste generated and how the wastes are managed at the point of generation	S2	Y	D029, D080, P001, P002, P003, P004, P007, P009, P010, P011, P012, P015, P018, P020
Preliminary and Final Safety Analysis Reports and technical safety requirements	S3	Y	D014, D079
Waste Packaging records	S4	Y	D080, DR001, DR005, P019, P020
Test plans or research project reports that describe the reagents, radionuclides, and other raw materials used in experiments	S5	Y	C008, D047, D048, D050, D051
Site databases (e.g., chemical inventory database for SARA Title III requirements, SNM or nuclear material databases)	S6	Y	M002, M004, M008, M009
Information from site personnel (e.g., documented interviews)	S7	Y	C004, C006, C007, C011, C013, C014, C015, C016, C017, C018, C019, C020, D013, M229
Standard industry documents (e.g., industry specification sheets, handbooks, reference materials, or other vendor information)	S8	Y	D017, P035
Analytical data relevant to the waste stream, including results from fingerprint analyses, spot checks, routine verification sampling or other processes that collected information pertinent to the waste stream. This may include new information (or previously collected data) which augments required information (e.g., visual examination not performed in compliance with CCP-PO-001, radiography screening for prohibited items).	S9	Y	C040, D023
Material Safety Data Sheets, product labels, or other product information	S10	Y	M010

Attachment 1 – Acceptable Knowledge Documentation Checklist (Continued)
Page 5 of 5

Waste Stream Number(s): LA-MSG04.001

Acceptable Knowledge Information	(1)AK#	Compiled? (Y/N)	Source Document Tracking Number
Laboratory notebooks that detail the research processes and raw materials used in an experiment	S11	Y	M016, M017
Comparable or surrogate sampling and analysis data	S12	Y	D017
Other (describe)	S13	Y	C007, DR002
Safeguards and security, Materials Control and Accountability, and other nuclear material control system data Reports of nuclear safety or criticality accidents involving special nuclear materials (SNM)	S14	N	NA
NMMA logs or inventory records or waste disposal logs providing SNM or nuclear material information	S15	Y	M012
Packaging	S16	Y	C002, C025, C034, D001, D026, D062, D073, D074, D079, D081, M003, M008, M012, M014, M016, M018, P011, P021, P028, P029, P030, P031, P032, P034, P035, P036, P039, U002
Acceptable knowledge information regarding waste generated off-site or from similar process:			

(1) AK#s are used as identifiers for program, waste stream-specific and supporting elements. The identifiers are to be used in the Acceptable Knowledge Source Document Summary and Acceptable Knowledge Information List to aid in the page location of program and waste stream-specific elements within a given document. N/A means that item is not applicable.

Additional comments: NA

All required AK information has been compiled and source document tracking numbers assigned.

Acceptable Knowledge Expert: Amy Johns / Amy Johns Date: 06/19/2014
Print Sign

Attachment 4 - Acceptable Knowledge Information List

Site(s): Los Alamos National Laboratory

Waste Stream Number: LA-OS-00-01.001

Waste Stream Description: Sealed Source Non-Hazardous Defense Debris Waste

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
C001	Letter to R. Scott re: "RCRA Status of AmBe Sealed Sources"	Sylvia Lowrance, EPA	TWCP-03407	NA, 06/16/1992
C002	Letter to J. Browne (LANL) re: Approval to Generate OSRP Waste with No Disposal Path	R. Glass, DOE	TWCP-03760	NA, 02/10/2000
C003	Memo to LANL TWCP Records Management re: Estimation of U-234 Resulting from Pu-238 Decay	G. Miller	TWCP-10446	NA, 11/05/2002
C004	Memos and Other Documentation Supporting Pu-239 Defense Relationship	Various	TWCP-17036	NA, 07/08/2003
C005	Memo to K. Hargis re: Transfer Planning Letter for Shipment of Special Nuclear Material (UCNI)	J. Brooks, U.S. Navy	NA	NA, 06/10/1999
C006	Memos to S. Leonard and other re: Release of Sources to DOE (UCNI)	J. Wrzeski, U.S. Navy	TWCP-05615	NA, 03/01/2000
C007	Memo and Supporting Documentation to L. Leonard re: Special Form Character of MRC-N-SS-W-AmBe Sealed Sources	J. Tompkins	TWCP-05633	NA, 11/03/1999
C008	Memo to J. Whitworth re: Drum Weights with RTR Scale	C. Abeyta	TWCP-23863	NA, 10/20/2004
C009	Email to J. Whitworth re: Major TRU Sealed Source Manufacturers	S. Leonard	TWCP-24435	NA, 02/09/2005
C010	Memo re: Evaluating the Radionuclide Characterization of the OSRP Waste Stream LA-OS-00-01	A. Feldman, J. Whitworth	TWCP-24764	NA, 04/07/2005
C011	Defense Documentation for Eight SRS-Owned Sealed Sources	T. Feske	TWCP-10113	NA, 09/12/2002
C012	Memo to J. Whitworth re: MRC Pu8Be-47A and 47B	A. Feldman	May-61	NA, 06/20/2005
C013	Memo to OSR Project File re: SRS Source SN: MRPU8BE47 A & B, Two Capsules Recovered	J. A. Tompkins	N2:05-79	NA, 07/11/2005
C014	Memo to R. Williams, Department of Army, re: Interagency Agreement for Plutonium Number 3004 License SNM 318	Author: R. Larson, DOE	NA	NA, 06/14/1982
C015	Memo to OSR Project File, L. Porter, and M. Pearcy re: Packaging VOC Source Term for OSR Drums	J. Whitworth	N-2-05:84	NA, 07/12/2005

NTPC RECORDS ORIGINAL
DATE REC'D 7/23/2014

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
C016	Memos re: POC Packaging Practices for Sealed Source Waste	M. Caviness, L. Leonard	NA	NA, Various
C017	Memo to S. Schafer and OSR Project File re: Radiological Characterization of Source N800I25	J. Whitworth	N-2-06:025	Revision: NA, 01/10/2006
C018	Memo to T. Taulbee re: Radioactive Sources at the Portsmouth Gaseous Diffusion Plant (PORTS)	R. Litten	NA	NA, 04/05/2006
C019	Memo to R. Erickson (LASO) re: Expanded Scope for the Off-Site Source Recovery Program	P. Longsworth, Deputy Administrator, Defense Nuclear Nonproliferation	NA	NA, 03/02/2004
C020	Memo to J. Whitworth re: Projected Recovery Numbers	J. McAlpin	NA	NA, 06/13/2006
C021	Memo to OSR Project File re: Number of Containers in OSR Waste Stream	J. Whitworth	NA	NA, NA
C022	Memo to J. Whitworth re: Data Input for Pu-238 Source Characterization	A. Feldman	N-2: 06-184	NA, 06/22/2006
C023	Memo to A. Feldman re: Selection Criteria for Manufacture Dates for sources in BDR LA06-OSR-Ch-017	J. McAlpin	TA54-00711	NA, 08/03/2006
C026	SOURCE RECOVERY AT CPN April 4,2007	Christy L. Abeyta/ Doug Carter	NA	NA, 08/23/2007
C027	Memorandum: EXPLANATION OF TABLE REVISIONS TO CCP-AK-LANL-008 FOR INCORPORATION OF 241-Am / Be / 137 Cs COMBINATION SOURCES	Alex Feldman	N3-07-001 OSRP Files	NA, 10/31/2007
C028	Attachment 8: OSRP Email Requests for VE BDR Drums approved and entered by CCP into the AKTSS . LA07-OSR-VE-009, 011, 012, 014 and LA08-OSR-VE-001, 002, 003, 004, 007.	B.Gutierrez	NA	NA, Various
C029	OSRP email requests for drums characterized between May2007 to April 2008 to be added to the LANL AK tracking spreadsheet,	Ben Gutierrez, Jerry McAlpin	NA	NA, 04/03/2008
C030	TEXAS DEPARTMENT OF HEALTH Records Request: GULF NUCLEAR (L02995) SEALED SOURCE LOG BOOK	GULF NUCLEAR	L02995	NA, 06/29/2001
C031	Recommendations for Determination of Default Manufacture Date for Americium 241 Sources With No Documented Date of Manufacture	Alex Feldman	N2: 06-232	NA, 09/25/2006
C032	OSRP Correspondance on Lithium Sources are non reactive and confirmation to be added into Waste Stream LA-OS-00-01.001	Julia Whitworth (OSRP)	NA	NA, Various
C035	Waste Stream # LA-OS-00-01.001 Characterization of Sources Containing "Other Light Metals"	LANL (ORSP)	NA	NA, 01/21/2009

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
C037	OSRP email requests for drums characterized betwee April 2008 to March 2009 to be added to the LANL AK tracking spreadsheet	Ben S. Gutierrez	NA	NA, Various
C038	Universal application of the Registry of Radioactive Sealed Sources and Devices for NSR-F model sources	A Feldman	NA	NA, 03/08/2010
C039	OSRP email requests for drums characterized between April 2009 to February 2010 to be added to the LANL AK tracking spreadsheet.	Ben Guiterrez, Cristy Abeyta	NA	NA, Various
C040	FIELD DIFFERENTIATION BETWEEN NSR-D AND NSR-F SOURCES	Los Alamos National Labboratory (Alex Feldman)	N3-10-0185	NA, 08/05/2010
C041	USE OF THE NRC REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES FOR CHARACTREIZATION OF NSR-D MODEL SOURCES	Los Alamos National Laboratory (Alex Feldman)	N3-10-0184 C041	NA, 08/02/2010
C043	OSRP email requests for drums to be characterized between March 2010 to April 2011 to be added to the LANL AK tracking spreadsheet.	Ben Gutierrez, Julia Whitworth, James R. Fitzgerald	NA	NA, Various
C045	Interview of Patrick Goff by Christopher Chancellor regarding UC Berkeley Am-241 foil generation dates	Christopher Chancellor	C045	NA, 06/27/2011
C047	Letter from Joseph A. Lenhard to Dr. Herman Postma regarding Californium-252 sales and distribution	Joseph A. Lenhard	NA	NA, 08/01/1986
C048	Internal Correspondence from J. B. Knauer to J. T. Mihalczo regarding TPP Shipment No. 1385: Cf-252 Fission Source CF-30 (MC-11424)	J. B. Knauer	NA	NA, 02/01/1988
C049	Correspondence from J. E. Bigelow to M. M. Abraham regarding Packaging of a Sample of Cm-244 for TRU Shipment No. 1091 (MC-01783)	J. E. Bigelow	NA	NA, 04/22/1980
C050	Correspondence from T. A. Butler to E. Lamb regarding Specifications and Delivery Schedule for 40-gram 244CmO2 Product from Chemical Technology Division (includes Curium Process Development)	T. A. Butler	NA	NA, 09/05/1967
C051	Letter from Herman M. Roth to Dr. A. M. Weinberg regarding Cm-244 from SRP	Herman M. Roth	NA	NA, 08/16/1968
C052	Correspondence from R. E. McHenry to T. A. Butler regarding SRL Production Schedule for Cm-244	R. E. McHenry	NA	NA, 12/06/1966
C055	Correspondence from C. L. Ottinger to R. W. Schaich regarding Cm-244 inventory	C. L. Ottinger	NA	NA, 09/21/1965
C056	Correspondence from J. E. Bigelow to H. L. Adair regarding Analysis of Californium in Mother Source TRU Shipment No. 889	J. E. Bigelow	NA	NA, 04/14/1978

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
C057	Communication from J. B. Knauer to Rocky Cline regarding Typical Analytical Data for Cm-244 (Batch No. 3P21Cm-PROD) and Cf-252 Cf-252 (Batch No. 9H247Cf-PROD) Produced at the REDC	J. B. Knauer	NA	NA, 04/02/1997
C059	Memorandum from Julia Whitworth regarding Use of Foreign-Origin Radioactive Material in Sealed Sources	Julia Whitworth	N3-2011-080	NA, 08/05/2011
C060	Engineering Evaluation of Nuclear Powered Pacemakers as Special Form Radioactive Material	J. Andrew Tompkins	NA	NA, 11/01/2000
C061	Memorandum from Alex Feldman to Julia Whitworth regarding HISTORY OF NON-US ORIGIN TRANSURANICS IN SOURCES OF US MANUFACTURE	Alex Feldman	N2: 06-199	NA, 07/25/2006
C062	Memorandum from Alex Feldman to Ben Gutierrez regarding Acceptable Methods for Establishing a Default Manufacturer Date of Birth for Sealed Sources with No Documented Date of Manufacture	Alex Feldman	N3-2011-086	NA, 09/26/2011
C064	Gammatron approximate last date of manufacture for NSR-GB sealed sources	Corban Gallagher	C064	NA, 12/01/2011
C065	OSRP email requests for drums to be characterized between July 2011 to December 2011 to be added to the LANL AK Tracking Spreadsheet	Christopher Chancellor, et al	C065	NA, Various
C066	Interview of Jim Matzkev and Jerry McAlpin by AKE Lisa Watson regarding Method for Handling Leaking Sealed Sources	Lisa Watson	C066	NA, 01/25/2012
C067	OSRP email requests for drums to be characterized between February 2012 to April 2012 to be added to the LANL AK Tracking Spreadsheet	Christopher Chancellor, et al	C067	NA, Various
C068	Memorandum to Cristy Abeyta Re: Methodology for Identifying NSR-D and NSR-F Sealed Sources	Jim Matzke, Ioana Witkowski	Document Number and Revision: NA	3/28/2012
C069	OSRP email requests for drums to be characterized between May 2012 to June 2012 to be added to the LANL AK Tracking Spreadsheet	Christopher Chancellor, Sherry Auckland	C069	NA, Various
C070	OSRP email requests for drums to be characterized between July 2012 to August 2012 to be added to the LANL AK Tracking Spreadsheet	Christopher Chancellor, Sherry Auckland	Document Number & Revision: NA	Various Dates
C071	Memo to Cristy Abeyta Re: Characterization of CEA (French Atomic Energy Agency) Sources	Author: Mike Fanning	Document Number and Revision: NA	08/29/2012
C072	OSRP email requests for drums to be characterized between September 2012 to November 2012 to be added to the LANL AK Tracking Spreadsheet	Christopher Chancellor, Sherry Auckland	Document Number & Revision: NA	Various Dates

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
C073	OSRP email requests for drums to be characterized between December 2012 to March 2013 to be added to the LANL AK Tracking Spreadsheet	Christopher Chancellor; Sherry Auckland	Document Number and Revision: N/A	Various Dates
C074	OSRP email requests for drums to be characterized between March 2013 through May 2013 to be added to the LANL AK Tracking Spreadsheet	Christopher Chancellor; Sherry Auckland	Document Number and Revision: N/A	Various Dates
C075	OSRP email request for drum to be characterized, sent on June 20, 2013, to be added to the LANL AK Tracking Spreadsheet	Sherry Auckland	NA	Revision: NA, 06/20/2013
C076	Email requests for drums to be added to the LANL AK Tracking Spreadsheet	Sherry Auckland and Christina Poulos	Document Number: NA	Revision: NA, Date: Various
D001	Headspace Gas Sampling and Analysis Evaluation for LANL Sealed Sources	B. Humphreys	LAUR-03-0917	NA, NA
D002	RCRA Designation of Discarded Americium/Beryllium Sealed Sources	N. Kirner	TWCP-03408, DOE/LLW-195	NA, 09/01/1994
D003	Hazardous Waste Determination for Actinide-Bearing Sealed Sources to be Received at LANL	L. Leonard	TWCP-03409	NA, 02/25/2005
D004	The Off-Site Source Recovery Project at Los Alamos	L. Leonard, J. Tompkins, S. Leonard, M. Pearson, J. McAlpin, C. Grigsby	TWCP-03756, LA-UR-99-6218	NA, 01/01/1999
D005	Summary of Sealed Source Types, OSR Project	S. Leonard	TWCP-03759	NA, 04/11/2000
D006	Encapsulation and Source Activities of Alpha-n Neutron Sources	R. T. Perry	LA-UR 99-6553, ERID-139574, ESH-12:99-00-03	NA, 01/07/2000
D007	Radiological Characterization of Actinide Sealed Source Waste for Disposal at WIPP	J. Vance, M. Pearson	P2010-1251	NA, 03/01/2005
D008	Sealed Sources Peer Review Report	H. Evans, J. Harvill, T. Sowdon, and J. Booth	TWCP-18562	NA, 12/05/2003
D009	Acceptable Knowledge Report for Debris Waste Streams Containing Pu-239	B. Humphrey	TWCP-17152, TWCP-AK-2.1-015	3, 04/10/2003
D010	Amersham Source Catalogue, Manufacturer Data	Amersham	TWCP-09462	NA, 08/09/2002

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D011	Special Form Documentation for AmBe and PuBe Neutron Test Sources (UCNI)	J. Foster	TWCP-05634	NA, 03/01/1991
D012	Engineering Evaluation of New England Nuclear Model NER-478C Sealed Sources as Special Form Radioactive Material	J. Tompkins	TWCP-05635	NA, 05/21/2001
D013	Development of Representative Radionuclide Distributions for Use in Radiological Characterization of Sealed Sources Based on Acceptable Knowledge Information	J. Vance, M. Pearson, A. Feldman, and J. Tompkins	P2010-1188	NA, NA
D014	Inspection and Recanning Program of PuBe Neutron Sources	M. Hertz, Monsanto	TWCP-07664, MLM-1188	NA, 01/07/1964
D015	Characterization of Actinide-Bearing Sealed Sources by Acceptable Knowledge - Justification and Methods	M. Pearson, J. Whitworth, L. Leonard, A. Feldman, J. McAlpin	TWCP-24600, LA-UR-03-3557	NA, 05/22/2003
D016	Manual for Nuclear Materials Management and Safeguards System Reporting and Data Submission	DOE	TWCP-24596, DOE M 474.1-2A	NA, 08/19/2003
D017	An Evaluation of the Use of Calorimetry for Shipper-Receiver Measurements of Plutonium	W. Rodenburg	TWCP-24661, NUREG/CR-0014	NA, 06/01/1978
D018	American National Standard Calibration Techniques for the Calorimetric Assay of Plutonium-Bearing Solids Applied to Nuclear Materials Control	Secretariat of the Institute of Nuclear Materials Management	TWCP-24657, ANSI N15.22-1975	NA, 06/05/1975
D019	Standard Test Methods for Nondestructive Assay of Plutonium, Tritium, and Am-241 by Calorimetric Assay	ASTM	TWCP-24646, C1458-00	NA, 03/01/2000
D020	Acceptable Knowledge Report for Legacy Debris TA-55 Waste Streams Containing Pu-239, LA-UR-02-6665	B. Humphrey	TWCP-12768, TWCP-AK-2.1-015	2, 10/09/2002
D021	Handbook of Nuclear Safeguards Measurement Methods	D. Rogers	TWCP-24655, NUREG/CR-2078	NA, 09/01/1983
D022	Test Report for Los Alamos National Laboratory on 3" Special Form Radioactive Material Capsules	Pacific Testing Laboratories, Inc.	TWCP-22779	NA, 08/23/2001
D023	WIPP Eligibility Determination of U.S. Army Research Laboratory Pu-239 Fission Foils	S. Leonard	TWCP-25636	NA, 06/01/1999
D024	Statement of Work, Mitigate Radioactive Sources at Savannah River Site, 777-10A	T.J. Feske	FDD-ENG-2001-00153	0, 01/17/2002

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D025	Transuranic Waste Defense Determination Approval Forms	Joel Grimm, NNSA	NA	NA, 02/17/2006
D028	Summary of Nuclear Atomcell Characteristics and Testing	Telectronics Pacing System	TWCP-05625	NA, 11/27/1989
D029	NEUTRON SOIL DENSITY and MOISTURE GAUGES MC-1, MCM-2 and MC-3 (CPN INTERNATIONAL) REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES SAFETY EVALUATION	CPN INTERNATIONAL	CA0208D102S, CA0208D108S	NA, 01/04/07
D030	Transuranic Waste Defense Determination Approval Forms, Waste Stream LA-OS-NS-04	Julia Whitworth	P2010-2296	NA, Various
D031	Waste Determination of Encapsulated Radioactive Sources Containing Small Quantities of Lithium	M.W Pearson, Julia Whitworth, Timothy Burns, John U. Moon	LA-UR-08-03351	NA, 04/01/2008
D036	Memorandum from J. Andrew Tompkins to Ioana Whitowski regarding Cm-244 / Cf-252 Historical Characterization for OSR Project	J. Andrew Tompkins	N3-2011-241	N/A, N/A
D037	Memorandum from Alex Feldman to J. Zarling and C. Abeyta regarding Californium-252 and Curium-244 Source Material Eligibility for WIPP disposal	Author: Alex Feldman	N4-2011-245	Revision: NA, 12/1/2011
D039	Curium Data Sheets	S. J. Rimshaw, E. E. Ketchen	ORNL-4187	NA, 12/1967
D049	Transuranic Waste Defense Determination Approval Form for Waste Stream LA-OS-NA-06	Abeyta, C.	Document Number: NA	Revision: NA, 8/2/2013
D050	Radiological Characterization Technical Report for Curium-244 Sealed Source Transuranic Debris Waste for the Off-Site Source Recovery Project at Los Alamos National Laboratory	Author: Jene Vance	Document Number: LA-UR-13-27699; OSR-TD-030	Revision: 0, Date: 06/04/2013
DR001	Discrepancy Resolution re: Difference Between NMMSS and Shipping Data for Seven LLNL Sealed Sources	J. Whitworth	TWCP-24765	NA, 04/07/2005
DR002	Discrepancy Resolution re: Source MRC-PuBe-8-8	J. Whitworth	TWCP-25265	NA, 06/15/2005
DR003	Discrepancy Resolution re: Manufacture Dates on Recanned Monsanto Sources	J. Whitworth	TWCP-24925	NA, 06/13/2005
DR004	Discrepancy Resolution re: Source Pu8Be47-A&B from SRS	J. Whitworth	TWCP-25633	NA, 07/27/2005
DR005	Discrepancy Resolution re: Pu Value on Source M-1228	J. Whitworth	TWCP-24926	NA, 05/03/2005
DR006	Discrepancy Resolution re: Pu Value on Source M561	J. Whitworth	TWCP-25266	NA, 06/15/2005
DR007	Discrepancy Resolution re: Sources MRPUBE346-348	J. Whitworth	TWCP-25264	NA, 06/20/2005

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
DR008	Discrepancy Resolution re: Sources in Container 60384	J. Whitworth	TWCP-25634	NA, 07/21/2005
DR009	Discrepancy Resolution re: Sources MRPU228-252	J. Whitworth	TWCP-25635	NA, 07/19/2005
DR010	Discrepancy Resolution re: Certain Dates in NMMSS Database	J. Whitworth	DR010	NA, 08/08/2005
DR011	Discrepancy Resolution of manufacturing orders for AmBe neutron sources made by Monsanto Research Corp. for Schlumberger Well Services.	Monsanto Research Corp (MRC)	M189-M190 190	N/A, Various
DR012	Discrepancy Resolution of attempt to add the already emplaced container No. 58651 to the Tracking Spreadsheet based on a VE-BDR that included it among four other containers that were to be added to the AK.	Christopher Chancellor	DR012	NA, 04/24/2012
M001	Summary of Waste Stream Containers / Spreadsheet of OSR Defense Related Drums	J. McAlpin / J. Whitworth	P2010-0919	NA, Various
M002	Batch Data Report Number LA02-HGAS/IA-006 for Headspace Gas Analysis to Determine OSR Packaging Source Term	Laura Ortega et al	LA02-HGAS/IA-006	NA, 11/21/2002
M003	FACILITIES REVIEW, NEUTRON SOURCE STORAGE AT TA-55 AREA G	LANL ESH-19 DATABASE	TWCP-03755 / P2010-0935	NA, 03/04/1999
M004	LANL WASTE PROFILE FORM # 31353	M. PEARSON / LANL	TWCP-03757/ P2010-0934	NA, 09/05/2000
M005	Query of "Registry of Radioactive Sealed Sources and Devices," MAY 21, 1982	J. Whitworth / S. Leonard (LANL)	TWCP-03758 / P2010-0925	NA, Various
M006	NMMSS Report SS-2 From "Nuclear Material Management and Safeguards System" (Listing of Sealed Sources by RIS as of 12/31/85)	NA	NA	NA, 12/31/1985
M007	Manufacturer Data from Mound Monsanto and GE Schenectady-Navy	Monsanto, GE	TWCP-05659	NA, Various
M008	Calculation: Verification Check Calculation of ACCESS Characterization Calculations Performed in the OSR Characterization Database	J. Vance	TWCP-, OSR-TD-015	NA, 03/15/2005
M009	Calculation: Development of Radionuclide Distribution and Uncertainties in Pu-238 Sealed Source Material	J. Vance	TWCP-20710, ERID-154644, OSR-TD-010	0, 03/16/2005
M010	Calculation: Development of Radionuclide Distribution and Uncertainties in Pu-239 Sealed Source Material	J. Vance	TWCP-20711, OSR-TD-011	1, 03/18/2005
M011	Calculation: Development of Radionuclide Distribution and Uncertainties in Am-241 Sealed Source Material	J. Vance	OSR-TD-012	0, 03/16/2005

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M012	Sealed Source Drawings	Monsanto	TWCP-10565	NA, 11/15/2002
M013	Shipping Data Sheets from Monsanto Chemical Company (Mound) to Westinghouse	Monsanto Chemical Company	TWCP-05760	NA, 03/14/1961
M014	Welding Test Records	Monsanto	TWCP-09293	NA, 07/18/2002
M015	Purchase Orders for Pu-238 Batch Material	Monsanto	TWCP-09269, P2010-0929	NA, Various
M016	Purchase Orders for Am-241 Batch Material	Monsanto	TWCP-09270, P2010-0930	NA, Various
M017	Purchase Records for Am-241 Batch Material	Gamma Industries	TWCP-09356, P2010-0962	NA, Various
M018	Memo to S. Leonard re: Examples of NRC Form 741 for the ARCO Nuclear Pacemakers	M. McAnulty, ARCO	TWCP-05662, P2010-0960	NA, 11/27/2000
M019	Special Form Traveler Sheets	J. McAlpin and J. Matzke, OSR	TWCP-09005	NA, 06/06/2002
M020	NMMSS Listing of Sealed Sources by RIS	Union Carbide Corporation	TWCP-06410	NA, 09/30/1975
M021	Am-241 Analysis on Product Batches in the DOE Sales Pool	J. McAlpin	TWCP-05656/ P-2010-0955	NA, NA
M022	Manufacturer's Data for Sources MRPUBE-315, 1501-NK, AND C-589	J. McAlpin	TWCP-23530/ P2010-0957	NA, Various
M023	Manufacturer's Data for Kentucky Sources	J. McAlpin	TWCP-19489 / P2010-0958	NA, 10/08/2003
M024	Manufacturer's Data for NUMEC Sources at Cornell College, 320C23	Nuclear Materials and Equipment Corporation	TWCP-18917/P2010-0956	NA, 04/19/1963
M025	Manufacturer's Data for LLNL Sources (LLNL - MRC-Pu-Be-8-1, MRC - PuBe-8-7, MRC - PuBe-8-15, MRC-PuBe-8-9, MRC-Pu8Be-26, MRC-PuBe-28)	Various	TWCP-10115 / P2010-0931	NA, Various
M026	Pu-239/Be Sealed Source Supporting Documentation	J. McAlpin	TWCP-05657	NA, 12/02/1999
M027	Manufacturer Data for Monsanto Sources at Knolls Atomic Power Lab	KAPL	TWCP-08997	NA, Various
M028	Analytical Chemistry Reports for Am Oxide Batches	ORNL	TWCP-05646	NA, Various
M029	Visitor's Guide, Los Alamos National Laboratory	LANL	TWCP-23883	NA, 08/01/1998

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M030	Maps from the LANL Website	LANL	TWCP-23882	NA, Various
M031	Container Packaging and VE Data Records	Various	NA	NA, Various
M032	Contamination Survey Forms	LANL	NA	NA, Various
M033	LANL Waste Profile Form #32779	M. Pearson	TWCP-05642	NA, 08/15/2000
M034	Special Form Certificates	Various	TWCP-10656	NA, Various
M035	Waste Stream Profile Form for LA-OS-00-01, Change Notice #1	S. Wander	TWCP-13538 / P2010-0964	NA, 05/15/2003
M036	Calculation of Prevalent Radionuclides for the OSR Waste Stream	J. Whitworth	TWCP-23881 / P2010-0963	NA, 10/26/2004
M037	OSR Plutonium Weight Percent Calculation	J. Whitworth	TWCP-24253	NA, 01/10/2005
M038	Mound Site Purchase Orders and Shipping Data	U.S. Atomic Energy Commission	TWCP-05632 (P2010-1072)	NA, Various
M039	Regulatory Information on the Status of Lead used as Shielding in Waste Containers	EPA	TWCP-24535	NA, Various
M040	Specification for Plutonium-238-Beryllium Annular Pellets (OUO)	Monsanto Research Corporation	TWCP-24599, NPD-STD-051	1, 09/01/1980
M041	NUMEC Plutonium-Beryllium Neutron Sources Catalog	NUMEC	TWCP-24598	NA, NA
M042	Monsanto Radioactive Source Catalog	Monsanto	TWCP-24597	NA, 03/15/1968
M043	Oak Ridge Data Sheets for Pu-238 Shipments	ORNL	TWCP-24459	NA, Various
M044	General Atomic Battery Data	General Atomic	TWCP-05715	NA, 06/10/1971
M045	Documentation of Sources in Special Form Capsules	OSR Project	TWCP-24660	NA, Various
M046	ARCO Nuclear Technical Document, 039274	ARCO Nuclear Company	TWCP-05661, 032974	NA, 4/15/1974
M047	General Atomic QA Data on PuN Capsules	General Atomic	TWCP-05708	NA, 09/21/1972
M048	General Atomic QA Data on Battery 3b89	General Atomic	TWCP-05723	NA, 02/07/1972
M049	General Atomic QA Data on Battery 3b73	General Atomic	TWCP-05720	NA, 12/14/1971

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M050	Calculation re: Estimation of the Sr-90/Cs-137 Ratio in Sealed Source Materials	J. Vance	TWCP-24666	NA, 04/04/2005
M051	Isotopic Composition of U and Th Mixtures	Benchmark	TWCP-05648	NA, 08/06/1999
M052	Shipping Documents from Donald Douglas to Gulf Atomic	Donald W. Douglas Laboratories	TWCP-24460	NA, Various
M053	Information on U.S. Army TACOM Sealed Sources	Various	TWCP-09024	NA, 06/10/2002
M054	Monsanto Data for Pu-238/Be Neutron Sources Shipped to Gulf Energy	MRC	TWCP-08335	NA, 02/01/1973
M055	Current Projection of OSR Waste Stream Volume LA-OS-00-01	J. McAlpin, OSR	TWCP-24742	NA, 04/13/2005
M056	Shipping Data for Recanned Sealed Sources	Monsanto	TWCP-24932	NA, 11/25/1963
M057	Shipping Data Form for Source MRC-PuBe-8-8	Monsanto Research Corp	TWCP-25186	NA, 04/11/1963
M059	Evaluation of Isotopic Activity as a Function of Source Date of Birth	A. Feldman	NA	NA, Various
M060	Analysis for Beryllium Weight Percent for Waste Stream LA-OS-00-01	NA	NA	NA, 08/15/2005
M061	Analytical Batch Data Report for LA05-HGAS/LA-046, Standard POC with Cane Fiberboard Insert	LANL	NA	NA, 7/15/2005
M063	Shipping Data Sheet for Source "Q" at Brookhaven NL	LASL	NA	NA, 01/06/1956
M064	Shipping Data Form for U-Nebraska Sources	Monsanto	P2010-1505	NA, 10/02/1962
M065	Shipping Data Form for Source MRC-PuBe-230	J. Richmond	NA	NA, 07/23/1963
M066	Form 741 Nuclear Material Transaction Report to Arco	Gail Russell	TWCP-09007	NA, 02/25/1981
M069	Amersham International Transport Containers MNEMONICS	NA	TA54-04098	N/A, Various
M070	Amersham Corp Product Specifications Report	Mark G. Shelton	None	NA, 03/01/1985
M071	Logbook : Amersham, Source number. Serial number and Model number	None	None	NA, Various
M074	Nuclear Sources and Services Inc. Sealed Source Certificates NSR-GB 2104 to 4471-Schlumberger Well Services (Owner)	Jerry McAlpin (Originator)	TWCP-12391	NA, 03/26/2003
M075	OSR - Manufacturer's Data -Pkg-002, Monsanto - Texas Nuclear Division; Pu8Be-497	Jerry McAlpin (Originator)	TWCP-07548	NA, 01/22/2002

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M076	OSR - Manufacturer's Data -Pkg-002, Monsanto - Schlumberger Well Services; AmBe-2155 thru 2176	Jerry McAlpin (Originator)	TWCP-07331	NA, 01/07/2002
M077	OSR - Manufacturer's Data - Pkg-002 Medtronic - Battery Data Technical Report on the Medtronic TM Model 9000 Isotopic Pulse Generator	Jerry McAlpin (Originator)	TWCP-05747	NA, 06/01/1974
M078	OSR -Manufacturer's Data - Pkg-002 Monsanto - Schlumberger; AmBe-3353 thru 3507	Jerry McAlpin (Originator)	TWCP-07345	NA, 01/07/2002
M079	OSR - Manufacturer's Data - Pkg-002 TWCP - 05659 Mound/Monsanto Source Design Data Monsanto - Schlumberger; AmBe-3016 thru 3080	Jerry McAlpin (Originator)	TWCP-07288	NA, 12/17/2001
M080	OSR - Manufacturer's Data - Pkg-002 Mound/Monsanto Source Design Data Monsanto - Schlumberger; SWS-3548 thru 3587	Jerry McAlpin	TWCP-07088	NA, 11/5/2001
M081	Radioactive Source Test Report	M. Lafferty et. al, Amersham International plc, Buckinghamshire England	TA54-03268	NA, 01/28/1992
M082	Material Transfer Form - Leased Material (Monsanto Research Corporation to University of Nebraska)	A. J. Cassell (Shipper)	TA54-03267	NA, 10/02/1962
M083	Registry of Radioactive Sealed Sources and Devices	NA	CA0208S101S, TA54-03266	NA, 07/29/1999
M084	Registry of Radioactive Sealed Sources and Devices	NA	NR-874-D-801-S, TWCP-05610	NA, 05/23/1995
M085	Registry of Radioactive Sealed Sources and Devices (No: IL-604-D-801-S)	Jerry McAlpin (Originator)	IL-604-D-801-S	NA, 05/21/1999
M086	RDECOM Edgewood; C5279	NA	TWCP-25524	NA, 08/22/1974
M087	Manufacturer's Data- Pkg-002 VA Medical Center; Siemens Anatomical Markers Registry of Radioactive Sealed Sources and Devices	NA	TWCP-19979	NA, Various
M088	OSR-Manufacturer's Data - Pkg-002 Commonwealth Virginia; AmBe-1557; Model 2725	NA	TWCP-08538	NA, Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M089	OSR-Manufacturer's Data - Pkg-002 TWCP- 05659 Mound/Monsanto Monsanto -J.L.Shepherd, Inc.; Serial Numbers Pu8Be-436 and 437; Model #2725B	Jerry McAlpin (Originator)	TWCP-07272	NA, 12/20/1977
M090	OSR-Manufacturer's Data - Pkg-002 Gulf Nuclear - Test Data Test Results on Model 71-1	NA	TWCP-06277	NA, NA
M091	Brookhaven; Foils #1,2,3,4, 9649, 6286LA; S1828; Shipping record and NMMIS record	NA	TWCP-26045	NA, Various
M092	OSR-Manufacturer's Data - Pkg-002 Monsanto -Seismograph Service Corp; Pu8Be 273 thru 292	NA	TWCP-08304	NA, Various
M093	Shipping Data Plutonium Neutron Source	NA	TA54-03265 / P2010-2038	NA, 08/28/1959
M094	OSR-Manufacturer's Data - Pkg-002 Monsanto -J. L. Shepherd & Associates; MRC- Pu8Be-496 and 437; Model #2725-B	NA	TWCP-07493 / P2010-2055	NA, Various
M095	U.S. Department of Energy Nuclear Material Transaction Report	NA	TA54-03264	NA, 02/10/1981
M096	Sealed Radioactive Source Test Report	NA	TA54-03263	NA, 03/03/1995
M097	Sealed Radioactive Source Test Report	NA	TA54-03262	NA, 07/21/1980
M098	Registry of Radioactive Sealed Sources and Devices	NA	TA54-03261	NA, 07/23/1998
M099	Registry of Radioactive Sealed Sources and Devices Safety Evaluation of Device (Amended in its Entirety)	NA	TA54-03260	NA, 01/04/2007
M100	Neutron Sources	NA	TA54-03259	NA, Various
M101	Registry of Radioactive Sealed Sources and Devices	NA	TA54-03258	NA, 05/27/1992
M102	Radioactive Source Test Report	NA	TA54-03257	NA, 07/15/1992
M103	Radioactive Source Test Report	NA	TA54-03256	NA, 05/18/1998
M104	Radioactive Source Test Report	NA	TA54-03255	NA, 06/01/1988
M105	Sealed Radioactive Source Test Report	NA	TA54-03254	NA, 03/14/1986
M106	Amersham Catalog Information (partial)	NA	TA54-03253	NA, NA

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M107	IAEA Certificate of Competent Authority Special Form Radioactive Material Certificate Number USA/0357/S, Revision 6	NA	TA54-03252; USA/0357/S	Rev.6, Various
M108	Qal-Tek Associates Instrumentation and Professional Services	Thomas Banneck, Radioactive Source Disposal Specialist	TA54-03251	NA, 02/19/2004
M109	Sources Catalog from AEA Technology	AEA Technology	TWCP-04962; 2004-1112	NA, NA
M110	OSR-Manufacturer's Data - Pkg-002 Monsanto-Defense Personnel Support Center; Am-1506 thru 1525; Model 2704	NA	TWCP-08113	NA, Various
M111	Amersham Catalog (portion)	NA	TA54-03250	NA, NA
M112	Registry of Radioactive Sealed Sources and Devices (Amended in its Entirety)	NA	TA54-03249	NA, 01/15/1997
M113	OSR-Manufacturer's Data - Pkg-002 Monsanto-Ohmart Corp; Am--241; Model 2438	NA	TWCP-08543	NA, NA
M114	Amersham Catalog	NA	TA54-03248	NA, NA
M115	OSR-Manufacturer's Data - Pkg-002 Schlumberger - Sealed Source Certificates NSR-F A-1111 A2325	NA	TWCP-12392	NA, Various
M116	OSR-Manufacturer's Data - Pkg-002 Halliburton - Source Certificates	NA	TWCP-10572	NA, Various
M117	OSR - Manufacturer's Data - Pkg-002 TWCP-05659 Mound/Monsanto Source Design Data Monsanto- Schlumberger; AmBe-3016 thru 3080	NA	TWCP-07288	NA, Various
M118	OSR - Manufacturer's Data - Pkg-002 Monsanto- Portland Gas and Electric; Pu8Be-359; Model 2722-B	NA	TWCP-08299	NA, Various
M119	CH AK8 Evaluation to Add Containers to CCP-AK-LANL-8; 5/15/06 - 4/11/07	Wesley G. Estill	None	NA, 05/14/2007
M120	Table of Excess Sealed Sources of Isotopic Material	Biocontrol Technology	TWCP-05611	NA, 02/01/2007
M121	Shipping Data Forms for Monsanto Sources at Brookhaven	Monsanto	TWCP-24982	NA, Various
M122	Monsanto Manufacturing Orders for Pu-238/Be Sources for Brookhaven	Monsanto Research Corporation	TWCP-07275	NA, Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M123	Manufacturing Specifications for Sources for Schlumberger Well Services	Schlumberger	TWCP-07461	NA, Various
M124	Manufacturing Specifications for Sources for Seismograph Service Corp	NA	TWCP-07183	NA, Various
M125	Manufacturer Data (NSSI), Gammatron to Birdwell, Sealed Source Certificates for Serial Number BP-01 T0-28 AND BP-100 TO -105	NUCLEAR SOURCES & SERVICES INC. (NSSI)	TWCP-14924	NA, Various
M126	Engineering Specifications for Sources for Seismograph/Birdwell.	NA	TWCP-07409	NA, Various
M127	Accufix Correspondence to LANL Radioactive Materials License, Reports on Nuclear Ommni-Stanicor Pacer Model 184A, 184B,	Accufix Reaserch Institute/Jerry McAlpin	TWCP-05829	N/A, 03/15/2000
M128	Registry of Radioactive Sealed Sources and Devices, Safety Evaluation of Devices for Nuclear Powered Cardiac Pacemakers (NR-975-D-801-S, NR-8042-D-801-S) and Miniature Nuclear Batteries (CA309D102S, CA309D101S)	American Optical Corporation, General Atomics and Telectronics Pacing Systems previously Cordis Corporation.	NA	NA, Various
M129	Mound/Monsanto Source design Data, Monsanto to Kennedy Space Center, NASA, Pu8Be Model 2723, TWCP-07185.	E.F Jemzow, Monsanto Engineered Products Department	TWCP-07185	N/A, Various
M130	Gulf General Atomic Radiological Safety of Miniature Nuclear Batteries	NA	TWCP-05668; GULF-CA-C10926	NA, 01/01/1972
M131	Gulf General Atomic, Alcatel, Hitman, Miniature Nuclear Battery Design Specifications, TWCP- 05666	Gulf General Atomic Corporation	TWCP-05666	N/A, NA
M132	NMMSS Report extracts as of 12-31-85 on Sealed Sources # SS-1 and # SS-2, MRC Shipping Data to Seismograph and to JF Kennedy Space Center-NASA, Gulf General Atomic Data on Miniature Nuclear Batteries.	NMMSS, Monsanto Research, Seismograph, Gulf General Atomic	TA54-04092	NA, Various
M133	Characterization of Am-241/Be/Cs-137 Combination Sources	Alex Feldman	N2: 07-142(R1) / TA54-04090 / P2010-2175	N/A, 06/28/2007

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M134	Amersham source test reports for Am241/Be sources in drum LA00000062310	Amersham	NA	NA, Various
M135	Troxler Source Data from Monsanto Research Corporation Engineered Products Department	Monsanto Research Corporation Engineered Products Department	ERID-501351	NA, Various
M136	Amersham and Monsanto Source Activity Information for Am241/Be Sources in drum LA00000062753	Amersham 1979-1995, Monsanto Research Corporation 1983	NA	NA, Various
M137	Amersham Radioactive Sealed Source Test Reports for Am241/Be Sources "NJ series" in drum LA00000062753	Amersham International 1989-1995, Nycomed Amersham 1998	NA	NA, Various
M138	Registry of Radioactive Sealed Sources and Devices Safety Evaluation of Sealed Source (Amended in its Entirety) AMN.V997, AMN.V340	AEA Technology QSA Incorporated	NA	NA, 03/08/2004
M139	Registry of Radioactive Sealed Sources and Devices, Safety Evaluation of Device, Troxler Depth Moisture Probe model 1255 and 1257	Troxler Electronic Laboratories, Inc.	NA	NA, 07/15/1999
M140	Shipping File Documentation Listing Location: Florida State University	NA	NA	NA, Various
M141	Amersham International and Monsanto Corp. Source Activity Information on Am241/Be Sources Present in drum LA00000062305	Amersham Corporation 1978-2000, Monsanto Research Corp. 1983-1984	TA54-03850	NA, Various
M142	OSR-Registry of Radioactive Sealed Sources and Devices, Safety Evaluation of Device, Troxler Asphalt Content Gauge containing Amersham Sources Model No. AMNV.340, AMNV.339	Troxler Electronic Laboratories, Inc.	TA54-03859	NA, 04/04/2007
M143	AK Documentation for Characterization BDR LA07-OSR-CH-013, drums LA00000061600, LA00000061661, LA00000061566, LA00000061596, LA00000062761	US NRC, Amersham Corporation, NSSI, Monsanto Research Corp.	ERID-500443	NA, Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M144	AK Documentation for Characterization BDR LA08-OSR-CH-001, drums 64000, 64001, 64003, 64004, 64005, 64006, 64007, 64008, 64009, 64010, 64012	NRC-Registry of Radioactive Sources and Devices, Troxler Electronic Laboratories Inc, NMMSS Report, US DOT, OSRP	NA	NA, Various
M145	IAEA Certificates of Competent Authority Special Form Radioactive Materials Certificate Numbers USA/0696/S-96 and USA/0695/S-96	Author NA	USA/0696/S-96; USA/0695/S-96	Revisions 3 and 6, Date(s): Various
M146	AK Documentation for Characterization BDR LA08-OSR-CH-002, drums LA00000061459, LA00000061460, LA00000061461, LA00000061570, LA00000061659, LA00000064014	Amersham International, Monsanto Research Corp, US NRC, IPL	ERID-500596	NA, Various
M147	AK Documentation for Characterization BDR LA07-OSR-CH-010, drums: LA00000062775, 62774, 62773, 62772, 62771, 61591, 62762	EG&G Mound, Amersham Corp, US NRC	ERID-503794	NA, Various
M148	AK Documentation for Characterization BDR LA08-OSR-CH-003, drum LA00000061567	Isotope Products Laboratory (IPL), Amersham Corporation, AEA Technology	ERID-500796	NA, Various
M149	Registry of Radioactive Sealed Sources and Devices Safety Evaluation of Device (LA08-OSR-VE-004)	Biocontrol Technology/Monsanto	ERID-500796	NA, Various
M150	Manufacturing order for MRC AmBe neutron source model 2726-B, serial number AmBe 2951 for IAEA project in Ecuador	Monsanto Research Corp.	TWCP-07079	NA, 04/10/2008
M151	AK Documentation for Characterization BDR LA08-OSR-CH-006, drums: LA00000058701, LA00000058727, LA00000058798, LA00000061509, LA00000062720, LA00000062721	US NRC, Monsanto Research Corp., Amersham Corporation	ERID-501774	NA, Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M152	AK Documentation for Characterization BDR LA08-OSR-CH-005, drum: LA00000060281	Amersham Corporation, Monsanto Research Corp., New England Nuclear, Mississippi State Board of Health	TWCP-09462	NA, Various
M153	AK Documentation for Characterization BDR LA08-OSR-CH-008, drums:LA00000064002, LA00000064011, LA00000062763, LA00000062764, LA00000059909, LA00000059918, LA00000059919	Amersham Corporation, Troxler Labs, NRC	ERID-502207	NA, Various
M154	AK Documentation for Characterization BDR LA08-OSR-CH-010, drums: LA00000062708, LA00000062712, LA00000062713	NRC, Monsanto Chemical Company, NUMEC	ERID-502194	NA, Various
M155	AK Documentation for Characterization BDR LA08-OSR-CH-009, drums: LA00000058684, LA00000059901, LA00000060090, LA00000060207	NRC, Monsanto Research Corp, Amersham	ERID-502425	NA, Various
M156	AK Documentation for Characterization BDR LA08-OSR-CH-012 drum: LA00000060302	Amersham Corp., NRC, CPN International, Troxler, MRC	ERID-502446	NA, Various
M157	AK Documentation for Characterization BDR LA08-OSR-CH-014 drums: LA00000060216, LA00000060364, LA00000060341, LA00000060358, LA00000060327, LA00000060344, LA00000060380, LA00000060343, LA00000060368	US NRC, Monsanto Research Corp., Union Carbide Corp.	TWCP-12390	NA, Various
M158	AK documentation for Characterization BDR LA08-OSR-CH-015 drums: LA00000060346, LA00000060348, LA00000060351, LA00000060352, LA00000060354, LA00000061403, LA00000061404, LA00000061405	Troxler electronic Labs, Martin Marietta Energy Systems Energy Systems, Monsanto Research Corp.	P2010-2422	NA, Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M159	AK documentation for Characterization BDR LA08-OSR-CH-016 drums: LA00000060374, LA00000060375, LA00000060388, LA00000060394, LA00000061687	Amersham International, Monsanto Research Corp., Mississippi State Dept of Health, US NRC, NMMSS, Well Reconnaissance Inc, Georgia Dept of Natural Resources	P2010-2436	NA, Various
M160	AK documentation for Characterization BDR LA08-OSR-CH-017 drums: LA00000058638, LA00000060223, LA00000060389, LA00000060391, LA00000062388, LA00000064038	Amersham International, NRC, Mound Laboratory-MRC	P2010-2432	NA, Various
M161	AK documentation for Characterization BDR LA08-OSR-CH-018 drums: LA00000058794, 60224, 60230, 60360, 61409, 61505, 62309	Gulf Nuclear Inc., NUMEC, US NRC, , Eastern Well Surveys Inc., Amersham, MRC	P2010-2470	NA, Various
M162	AK documentation for Characterization BDR LA08-OSR-CH-019 drums: LA00000059900, LA00000061635, LA00000061662 ,LA00000062767, LA00000064069, LA00000064074, LA00000064075, LA00000064076	US NRC, NMMSS	P2010-2482	NA, Various
M163	AK Documentation for Characterization BDR LA09-OSR-CH-001 DRUMS: LA00000059961, LA00000061594, LA00000061695, LA00000064047, LA00000064049, LA00000064066	SIEMANS GAMMASONICS, NRC, NASA LEWIS RECORDS CENTER, GENERAL NUCLEAR INC, GULF NUCLEAR INC, GAMMATRON INC, TROXLER ELECTRONICS	P2010-2485	NA, Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M164	AK Documentation for Characterization BDR LA09-OSR-CH-002 drums: LA00000064060, LA00000064061, LA00000064062, LA00000064063, LA00000064065	Amersham International, US NRC, QSA Global	P2010-2497	NA, Various
M165	AK Documentation for Characterization BDR LA09-OSR-CH-003 drum: LA00000064046	NRC, Monsanto Research Corp	P2010-2518	NA, Various
M166	AK Documentation for Characterization BDR LA09-OSR-CH-004 drums: LA00000064040	NRC	CA0471D103B; P2010-2519	NA, 04/29/1998
M167	AK Documentation for Characterization BDR LAO9-OSR-CH-006 drums: LA00000061674, 61679, 61680, 61681, 61682, 61683, 61684, 61685, 61686, 61689, 61690, 61692, 62766, 64048, and 64073.	NMMSS, Monsanto Engineering, and National Nuclear Corporation	NA	NA, Various
M168	AK documentation for Characterization BDR LA09-OSR-CH-007 drums: LA00000061493, 61664, 61666, 61667, 61669, 61670, 61671, 61675, 61676,61677, 61678, 61691, 64039, 64071	MONSANTO and NMMSS	TWCP-06629	NA, Various
M169	AK Documentation for Characterization BDR LAO9-OSR-CH-005 drums: LA00000061641, 61642, 62300, 62312, 62717, 64036, and 64070.	Amersham, US NRC, Troxler	ERID-504412	NA, Various
M170	AK Documentation for Characterization BDR LAO9-OSR-CH-015 drums: LA00000062746, 62747, 62748, 62750, 62751, 64050, 64507, 64508, 64515, 64521, 64522, 64524.	NMMSS, Battelle, MRC, NUMEC	ERID-05463	NA, Various
M171	AK Documentation for Characterization BDR LA09-OSR-CH-009 drums: LA00000060381, 64517, 64518, and 64520.	NRD, et al	ERID-506286	N/A, Various
M172	OUO - REDUCING NUCLEAR AND RADIOLOGICAL THREATS WORLDWIDE OFFICE OF GLOBAL THREAT REDUCTION Internal ControL Procedures to Verify and Certify Performance Results REV2. November 2008	National Nuclear Security Administration (NNSA)	ERID-205626	Rev.2, 11/01/2008
M173	OSRP Documentation and Calculations for Current and Projected Recoveries	NA	P2010-1347	NA, NA
M174	AK Documentation for Characterization BDR LA09-OSR-CH-017 drums: LA00000062776, LA00000064523, LA00000064526, LA00000064528, LA00000064529, LA00000064530.	Monsanto Research Corp., NMMSS, US NRC, Amersham	ERID-506761	NA, Various
M175	AK Documentation for Characterization BDR LA10-OSR-CH-003 drums: LA00000058730, 58749, 58762, 59944, 59945, 59966, 59967, 59969, 59977, 59978, 59979, 59980, 59992, 59998, 60001, 60057, 60257, 60306, 60307, 60313.	NEEI, MRC, NSSI, US NRC	NA	NA, Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M176	AK Documentation for Characterization BDR LA10-OSR-CH-005 drums: LA00000059985, 59988, 59994, 59991, 59999, 60003, 60009, 60017, 60018, 60020, 60021, 60027, 60028, 60029, 60031, 60032, 60035, 60037, 60046, and 60050.	NEEI, MRC, NSSI, US NRC	NA	NA, Various
M177	AK Documentation for Characterization BDR LA10-OSR-CH-006 drums: LA00000058728, 58729, 58731, 58732, 58733, 58734, 58735, 58736, 58737, 58738, 58739, 58740, 58741	Amersham, NRC, Gulf Nuclear, NSSI, Monsanto, Gammatron	NA	NA, Various
M178	AK Documentation for Characterization BDR LA10-OSR-CH-004 drums: LA00000064041, LA00000064042, LA00000064043, LA00000064044, LA00000064549	IAEC, NMSS, Amersham QSA	NA	NA, Various
M179	AK Documentation for Characterization BDR LA10-OSR-CH-008 drums: LA00000059952, 59953, 59955, 59957, 59958, 59984, 59986, 59987, 59989, 59990, 59991, 59993, 59996, 60013, 60015, 60033, 60034, 60036, 60038, 60043	Monsanto Research Corp., NSSI	NA	NA, Various
M180	AK Documentation for Characterization BDR LA10-OSR-CH-009 drums: LA00000059933, 59935, 59937, 59939, 59946, 59947, 59951, 59964, 59965, 59970, 59974, 59975, 59976, 60041, 60055, 60058, 60060, 60068, 60069, 60071	Monsanto Research Corp., NSSI	NA	NA, Various
M181	Classification of Small Arms Ammunition With Respect to Reactivity	John H. Skinner	PPC 9443.1984(10)	NA, 11/30/1984
M183	AK Documentation for Characterization BDR LA10-OSR-CH-007 drums: LA00000058742,58743,58744,58745,58746,58747,58769,58770,58776,58787,58788,58789,58790,58791	Amersham, Texas Dept of Health, Gulf Nuclear Inc., Gammatron Inc., NSSI, Gamma Industries	NA	NA, Various
M184	AK Documentation for Characterization BDR LA10-OSR-CH-010 drums: LA00000059962,59963,59968,59981,60004,60006,60008,60010,60016,60019,60022,60023,60024,60025,60026,60030,60039,60053,60309,60310	NSSI, Monsanto Research Corp.	NA	NA, Various
M185	AK documentation for Characterization BDR LA10-OSR-CH-011 drums: LA00000060040, 60042, 60044, 60045, 60047, 60049, 60052, 60054, 60059, 60062, 60063, 60064, 60066, 60067, 60070, 60074, 60075, 60200, 60308, 60311	Monsanto Research Corp., NSSI	NA	NA, Various
M186	AK Documentation for Characterization BDR LA10-OSR-CH-012 drums: LA00000060077, 60237, 60238, 60241, 60242, 60246, 60248, 60250, 60253, 60254, 60255, 60274, 60275, 60312, 60325, 60328, 60330, 60333, 60339, 60340	NSSI, Monsanto Research Corp.	NA	NA, Various
M187	AK Documentation for Characterization BDR LA10-OSR-CH-013 drums: LA00000059923, 59943, 60073, 60244, 60247, 60258, 60260, 60273, 60283, 60285, 60286, 60289, 60292, 60298, 60299, 60319, 60323, 60335, 60336, 60337	Monsanto Research Corp., NSSI	NA	NA, Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M188	AK Documentation for Characterization BDR LA10-OSR-CH-014 drums: LA00000058706, 58748, 58750,58764,58765,58771,58772,58773,58774,58775,58777,58780,58781,58782,58783,58784,58785,58786,60355, 61518	MRC, AEA, Gamma Ind, Gammatron, TX Health, GNI	NA	NA, Various
M189	Manufacturing Order for Sources A2675-A2699; A3001-A3115 - for Schlumberger	MRC	TWCP-06750	NA, 04/3/1981
M190	Manufacturing Orders from Monsanto for Sources A3001-A3014; A3015-A3026; A3027-A3041; A3042 - A3069; A3070-A3089; and A3090-A3117	MRC	TWCP-07045, 07063	NA, Various
M191	AK Documentation for Characterization BDR LA10-OSR-CH-017 drums LA00000060098,60314,60316,60320,60321,60322,60324,60326,60329,60331,60332,60334,60338,60345,60347,60356,61519,61524,61527, & 61624.	Monsanto, Gulf Nuclear, Texas Dept Health	NA	NA, Various
M192	AK Documentation for Characterization BDR LA10-OSR-CH-016 drums: LA00000064051, 64052, 64577, 64578, 64583.	Mound-MRC, Martin Marietta Energy Systems Inc.	NA	NA, Various
M193	AK Documentation for Characterization BDR LA10-OSR-CH-018: LA00000059954, 60218, 60233, 60243, 60245, 60249, 60251, 60256, 60262, 60263, 60264, 60268, 60269, 60282, 60284, 60287, 60291, 60296, 60317, 60318	MRC, Numec Apollo, NRC, Gammatron	NA	NA, Various
M194	AK Documentation for Characterization BDR LA10-OSR-CH-019 drums: LA00000059931, 59938, 59940, 59941, 59942, 59956, 59959, 60007, 60076, 60201, 60259, 60261, 60265, 60267, 60270, 60271, 60272, 60288, 60305, 60366	Monsanto Research Corp., NSSI, Gammatron Inc.	NA	NA, Various
M195	AK Documentation for Characterization BDR LA10-OSR-CH-021 drums: LA00000058751, 58779, 59982, 59983, 59995, 60000, 60002, 60005, 60011, 60012, 60014, 60061, 60065, 60072, 60221, 60239, 61539	Monsanto Research Corp, NSSI, US NRC, NUMEC, JL Shepherd & Associates	NA	NA, Various
M196	AK Documentation for Characterization BDR LA10-OSR-CH-002 drum LA00000064550.	Amersham International, Isotope Products Labs.	NA	NA, Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M197	BDR LA10-OSR-CH-001 DRUMS LA00000064020, 64033, 64034 and 64536.	Numerous (LANL, Troxler, Amersham, Industrial Dynamics, NMMSS, and Monsanto)	NA	NA, Various
M198	AK Documentation for Characterization BDR LA10-OSR-CH-022 drums: LA00000058686, 59902, 59903, 59910, 60217, 60219, 60220, 60232, 60349, 60357, 60359, 61410, 61604	TX Dept of Health, MRC, Washington St Univ., Gulf Nuclear, QSA, NUMEC, NRC	NA	NA, Various
M199	AK Documentation for Characterization BDR LA11-OSR-CH-001 drums: LA00000064018, 64019, 64511, 64534, 64580, 64581, 64597	NUMEC, Mound	NA	NA, Various
M200	AK Documentation for Characterization BDR LA11-OSR-CH-002 drums: LA00000058797, LA00000061411, LA00000062709, LA00000064553, LA00000064592	Monsanto Research Corp., US NRC, Gulf Nuclear Inc.	NA	NA, Various
M201	AK Documentation for Characterization of the LA11-OSR-CH-003 drums: LA00000062710, 64554, 64582, 65404, and 65409	Monsanto Research Corp., et al	N/A	N/A, Various
M202	AK Documentation for Characterization BDR LA11-OSR-CH-005 drums: LA00000065405, 65406, 65407, 65408, 65410, 65411.	US NRC, Amersham, CPN, MRC	NA	NA, Various
M205	PACKAGING AND TRANSPORTATION OF ADDITIONAL NEPTUNIUM OXIDE	Robert W. Watkins, Stephen J. Hensel, and Jeffrey M. Jordan	SRNL-STI-2010-00150	NA, NA
M209	Letter from J. B. Knauer to R. L. Cline regarding REDC Shipment No. 1966: 12.2 mCi (150 micrograms) of Cm-244	J. B. Knauer	NA	NA, 06/11/2002
M210	Catalog and Price List Alpha, Heat, and Neutron Sources from Plutonium-239 & Threshold Detectors from Plutonium-239, Neptunium-237, Uranium-238	MOUND LABORATORY	NA	NA, Various
M216	Information sheet Cf-252 neutron source special form radioactive materials	NA	NA	NA, 1994-2008
M217	Frontier Technology Corporation Californium-252 Neutron Sources	NA	NA	NA, NA

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M218	Registry of radioactive sealed sources and devices - safety evaluation of sealed source - Cf-252 sources	NA	NA	NA, NA
M222	Neutron Sources	NA	NA	NA, NA
M224	AK Documentation for Characterization BDR LA11-OSR-CH-004 drums: LA00000058754, 58757, 58763, 58767, 58768, 60208, 60210, 60211, 60212	Gulf Nuclear, NSSI, NRC, Amersham, Gammatron Inc	NA	NA, Various
M226	SOURCES OF ALPHA-, BETA-, GAMMA- AND NEUTRON RADIATION CATALOG	V.I.Guskov, V.D.Dementyev, V.M. Kaloshin, A.V. Lyakhov, A.S. Malykh, A.F. Popov, R.A.Pilipenko, L.S.Sevchenko, and G.M. Titova	NA	THIRD EDITION, 01/01/1980
M227	Californium Transactions	M. L. Toole	04887	NA, 07/16/1986
M228	ORNL Distribution of Californium-252 (From Transuranium Processing Plant)	J. N. Maddox	NA	NA, 03/04/1970
M229	AEC/DOE Isotope Sales 1964-1987	P.S. Baker, et. al.	NA	NA, Various
M234	AK Documentation for Characterization BDR LA11-OSR-CH-008, drums: LA00000064081, LA00000064545, LA00000064546, LA00000064547, LA00000064556, LA00000064559, LA00000064560, LA00000064561, LA00000064562, LA00000064585, LA00000065413, LA00000065460	MRC, NSSI, Amersham, Gammatron, NUMEC, NRC, I. Witkowski, C. Gallagher	NA	NA, 9/25/1965
M235	AK Documentation for Characterization BDR LA11-OSR-CH-009 drums: LA0000005443, LA00000065417	Amersham, AEA Technology	NA	NA, Various
M236	AK Documentation for Characterization BDR LA11-OSR-CH-006, drums: LA00000064540 and LA00000064595	Author: NA	Document Number and Revision: NA	NA, Various
M238	AK Documentation for Characterization for BDR LA12-OSR-VE-002 Drum: LA00000064551	Amersham (Troxler), Ben Gutierrez	N/A	N/A, Numerous

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M239	AK Documentation for Characterization for BDR LA12-OSR-CH-001 Drums:LA00000060096, LA00000060097, LA00000060099, LA00000060213, LA00000060215, LA00000060225, LA00000060377, LA00000061522, LA00000061526	NRC, Monsanto Research Corporation, Numec	M239	NA, 2/8/88
M240	AK Documentation for Characterization for BDR LA12-OSR-CH-005 Drums: LA00000058514, LA00000058538, LA00000058588, LA00000058611, LA00000058616	Gulf General Atomic, NRC	M240	0, 08/1972
M241	AK Documentation for Characterization for BDR LA11-OSR-CH-011 Drums: LA00000065466, LA00000065467, LA00000065468.	Industrial Dynamics, Amersham, Gammatron, NRC	M241	0, 2/11/97
M242	AK Documentation for Characterization BDR LA12-OSR-CH-004 drums: LA00000059911, LA00000059912,LA00000059913, LA00000059914, LA00000059915, LA00000060342, LA00000060204	NUMEC, NRC, Monsanto	M242	0, Various
M243	AK Documentation for Characterization BDR LA12-OSR-CH-003 drums: LA00000058778, LA00000060276, LA00000061517, LA00000061521, LA00000061523, LA00000061529, LA00000061533, LA00000061536	Gulf Nuclear Inc, MRC, Gammatron, Amersham	M243	NA, Various
M244	AK Documentation for Characterization BDR LA12-OSR-CH-007 drums: LA00000058755, LA00000058759, LA00000058760, LA00000058761, LA00000058766, LA00000058795	Amersham, MRC, General Nuclear, Gulf Nuclear, NRC, NSSI	NA	NA, Various
M245	AK Documentation for Characterization BDR LA12-OSR-CH-006 drums: LA00000058515, LA00000058543, LA00000060094	ORNL, NSSI, MRC, NRC, J McAlpin	NA	NA, Various
M246	AK Documentation for Characterization BDR LA12-OSR-CH-008 drums: LA00000060373, LA00000061520, LA00000061534, LA00000062378	Gulf Nuclear, Amersham, NRC	NA	NA, Various
M247	AK Doc. For BDR LA12-OSR-CH-022: LA00000058640, LA00000058756, LA00000059908, LA00000060240, LA00000060370, LA00000060376, LA00000060392, LA00000060399, LA00000061541, LA00000061652, LA00000062732	Amersham, NRC, NUMEC, Gammatron, NSSI, Gulf Nuclear, MRC	M247	NA, Various
M248	AK Documentation for Characterization BDR LA12-OSR-CH-015 drums: LA00000060398.	Amersham	M248	NA, Various
M249	AK Documentation for Characterization BDR LA12-OSR-CH-011 drums: LA00000058635, LA00000058792, LA00000060206, LA00000060378, LA00000062308	NA	M249	NA, Various
M250	AK Documentation for Characterization BDR LA-12-OSR-CH-020 drums: LA00000060214, LA00000062385	NA	Document Number and Revision: NA	Date: Various
M251	AK Documentation for Characterization BDR LA12-OSR-CH-16 drums: LA00000060390, LA00000061592	NA	Document Number and Revision: NA	Date: Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M252	AK Documentation for Characterization BDR LA12-OSR-CH-014 drums: LA00000059934, LA00000059949, LA00000060205	NRC, Monsanto Research	M252	NA, 8/16/12
M254	AK Documentation for Characterization BDR LA12-OSR-CH-027 drums: LA00000058641.	Amersham, NRC, Monsanto	M254	NA, Various
M255	AK Documentation for Characterization BDR LA12-OSR-CH-025 drums: LA00000058644.	Amersham, Monsanto	M255	NA, Various
M256	AK Documentation for Characterization BDR LA12-OSR-CH-024 drums: LA00000058637, LA00000061632	Gammatron, NRC, Amersham, CPN, OSRP	M256	NA, Various
M258	AK Documentation for Characterization BDR LA12-OSR-CH-012 drums: LA00000064557, LA00000064599, LA00000065415, LA00000065442, LA00000065473	US NRC, Canberra, LANL, Monsanto	M258	NA, Various
M259	AK Documentation for Characterization BDR LA12-OSR-CH-017 drums: LA00000058793, LA00000058796, LA00000060222, LA00000061558, LA00000061595.	Amersham, NSSI, NRC, MRC	M259	NA, Various
M260	AK Documentation for Characterization BDR LA12-OSR-CH-009 drums: LA00000058799, LA00000060315, LA00000061491, LA00000061528, LA00000062375	Author: Various	Document Number and Revision: NA	Date: Various
M261	AK Documentation for Characterization BDR LA12-OSR-CH-013 drums: LA00000058693, LA00000058758, LA00000059936, LA00000059948, LA00000059971, LA00000059972, LA00000059973, LA00000060202, LA00000060203	Author: Various	Document Number and Revision: NA	Date: Various
M262	AK Documentation for Characterization BDR LA12-OSR-CH-019 drums: LA00000059950, LA00000059960, LA00000060252, LA00000060266, LA00000060293, LA00000060295, LA00000060371, LA00000060372	Author: Various	Document Number and Revision: NA	Date(s): Various
M263	AK Documentation for Characterization BDR LA12-OSR-CH-023 drums: LA00000058650, LA00000060395	Author: Various	Document Number and Revision: NA	Date(s): Various
M264	AK Documentation for Characterization BDR LA12-OSR-CH-028 drums: LA00000058649, LA00000064539	Author: Various	Document Number and Revision: NA	Date(s): Various
M265	AK Documentation for Characterization BDR LA12-OSR-CH-021 drums: LA00000058753, LA00000060231, LA00000060382, LA00000060387, LA00000061406, LA00000061507	Amersham, NSSI, Gulf Nuclear, MRC, LANL, NRC	M265	NA, Various
M266	AK Documentation for Characterization BDR LA12-OSR-CH-026 drums: LA00000058639, LA00000058643, LA00000060297, LA00000061609, LA00000061610, LA00000061611, LA00000061612.	Author: Various	Document Number and Revision: NA	Date(s): Various
M267	AK Documentation for Characterization BDR LA12-OSR-CH-031 drum: LA00000058692	Author: Various	Document Number and Revision: NA	Date: Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M268	AK Documentation for Characterization BDR LA12-OSR-CH-010 drums: LA00000060290, LA00000060365, LA00000060379, LA00000061535, LA00000064016.	Author: Various	Document Number and Revision: NA	Date(s): Various
M269	AK Documentation for Characterization BDR LA12-OSR-CH-038 drum: LA00000058690	Author: Various	Document Number and Revision: NA	Date: Various
M270	AK Documentation for Characterization BDR LA12-OSR-CH-029 drums: LA00000058636, LA00000062711, LA00000064045	Author: Various	Document Number and Revision: NA	Date: Various
M271	AK Documentation for Characterization BDR LA12-OSR-CH-035 drum: LA00000061565	Author: Various	Document Number and Revision: NA	Date(s): Various
M272	AK Documentation for Characterization BDR LA12-OSR-CH-034 drums: LA00000060383; LA00000061605	Author: Various	Document Number and Revision: NA	Date(s): Various
M273	AK Documentation for Characterization BDR LA12-OSR-CH-033 drums: LA00000058685, LA00000061633, LA00000061634.	Author: various, Document Number and Revision: NA, Date(s): various	NA	NA
M274	AK Documentation for Characterization BDR LA12-OSR-CH-030 drums: LA00000060367; LA00000064510	Author: Various	Document Number and Revision: NA	Date: Various
M275	AK Documentation for Characterization BDR LA12-OSR-CH-037 drums: LA00000061530; LA00000062765; LA00000064015; LA00000064542; LA00000064544	Author: Various	Document Number and Revision: NA	Date: Various
M276	AK Documentation for Characterization BDR LA12-OSR-CH-049 drums: LA00000061469; LA00000061470; LA00000065475; LA00000065478	Author: Various	Document Number and Revision: NA	Date: Various
M277	AK Documentation for Characterization BDR LA12-OSR-CH-044 drums: LA00000061455, LA00000061463, LA00000061466, LA00000061467, LA00000065412, LA00000065444, LA00000066752	Author: Various	Document Number and Revision: NA	Date: Various
M278	AK Documentation for Characterization BDR LA12-OSR-CH-043 drums: LA00000061407, LA00000061408, LA00000061444, LA00000061508, LA00000062386	Author: Various	Document Number and Revision: NA	Date: Various
M279	AK Documentation for Characterization BDR LA12-OSR-CH-047 drum: LA00000061464	Author: Various	Document Number and Revision: NA	Date: Various
M280	AK Documentation for Characterization BDR LA12-OSR-CH-046 drum: LA00000061473	Amersham International, AEA Technology, IPL, NRC	M280	0, Various
M281	AK Documentation for Characterization BDR LA12-OSR-CH-048 drums: LA00000065461 and LA00000065462	Various Authors	Document Number and Revision: N/A	Various Dates

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M282	AK Documentation for Characterization BDR LA12-OSR-CH-045 drums: LA00000058691; LA00000060277; LA00000061443; LA00000062744; LA00000064509	Author: NA	Document Number NA	Revision NA, Date: Various
M283	AK Documentation for Characterization BDR LA12-OSR-CH-051 drum: LA00000061474, LA00000061475, LA00000064598	Amersham, NRC, Campbell Pacific Nuclear, MRC	M283	NA, Various
M284	AK Documentation for Characterization BDR LA12-OSR-CH-040 drum: LA00000058688	Author: Various	Document Number: NA	Revision: NA, Date: Various
M285	AK Documentation for Characterization BDR LA12-OSR-CH-036 drums: LA00000060303 & LA00000065469	Various	Document # & Revision: N/A	Date: Various
M286	AK documentation for Characterization BDR LA12-OSR-CH-041 drum: LA000000061506.	Amersham, Monsanto, NRC Registry, LANL	Document Number and Revision: N/A	Various Dates
M287	AK Documentation for Characterization BDR LA12-OSR-CH-050 drums: LA00000058689, LA00000060393, LA00000061601, LA00000061655.	Various Authors	Document # and Revision: N/A	Various Dates
M288	AK Documentation for Characterization BDR LA12-OSR-CH-055 drum: LA00000061447	Author: NA	Document Number and Revision: NA	Date: Various
M289	AK Documentation for Characterization BDR LA12-OSR-CH-053 drums: LA00000061485, LA00000064543, LA00000064555, LA00000066706, LA00000066727, LA00000066728.	N/A	Document Number and Revision: NA	Various Dates
M290	AK Documentation for Characterization BDR LA12-OSR-CH-032 drums: LA00000058752, LA00000061572, LA00000061593, LA00000061597, LA00000061636.	Various Authors	Document Number and Revision: NA	Various Dates
M291	AK Documentation for Characterization BDR LA12-OSR-CH-054 drums: LA00000061486, LA00000064513, LA00000064514, LA00000066729	Author: Various	Document Number and Revision: NA	Date: Various
M292	AK Documentation for Characterization BDR LA13-OSR-CH-002 Drums: LA00000062769, LA00000064501, LA00000064502, LA00000064503	Author(s): Various	Document Number and Revision: NA	Date(s): Various
M293	AK Documentation for Characterization BDR LA13-OSR-CH-001 Drum: LA00000064541	Author(s): Various	Document Number and Revision: NA	Date(s): Various
M294	AK Documentation for Characterization BDR LA12-OSR-CH-042 Drum: LA00000061698	Various Authors	Document Number and Revision: NA	Date: Various
M295	AK Documentation for Characterization BDR LA13-OSR-CH-003 Drums: LA00000066730, LA00000066731, LA00000066733, LA00000066734	Author(s): Various	Document Number and Revision: NA	Date: Various
M296	AK Documentation for Characterization BDR LA13-OSR-CH-004 Drums: LA00000066704, LA00000066705, LA00000066720, LA00000066721, LA00000066726, LA00000066732	Various	Document Number and Revision: NA	Date: Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M297	AK Documentation for Characterization BDR LA13-OSR-CH-008 Drums: LA00000065481, LA00000065483, LA00000065484, LA00000065485	Various	Document Number and Revision:	NA, Various
M298	AK Documentation for Characterization BDR LA13-OSR-CH-010 Drum: LA00000065482	Various	Document Number and Revision:	NA, Various Dates
M299	AK Documentation for Characterization BDR LA13-OSR-CH-005 Drums: LA00000061468, LA00000061471, LA00000065471, LA00000065479, LA00000066722	Various Authors	Document Number and Revision:	NA, Various Dates
M300	AK Documentation for Characterization BDR LA13-OSR-CH-009 Drums: LA00000067501 and LA00000067502	Various Authors	Document Number and Revision:	NA, Various Dates
M301	AK Documentation for Characterization BDR LA13-OSR-CH-011 Drums: LA00000067503 and LA00000067504	Various Authors	Document Number and Revision:	NA, Various Dates
M302	AK Documentation for Characterization BDR LA13-OSR-CH-006 Drums: LA00000061479, LA00000066707 - LA00000066716	Various Authors	Document Number and Revision:	NA, Various Dates
M303	AK Documentation for Characterization BDR LA13-OSR-CH-012 Drums: LA00000064082, LA00000064584, LA00000065487, LA00000065488.	Various Authors	Document Number and Revision:	NA, Various Dates
M304	AK Documentation for Characterization BDR LA13-OSR-CH-013 Drums: LA00000065486.	Various Authors	Document Number and Revision:	NA, Various Dates
M305	AK Documentation for VE BDR LA13-OSR-VE-016 and Characterization BDR LA13-OSR-CH-016 Drums: LA00000065490 and LA00000066724	Author(s): Various	Document Number: NA	Revision: NA, Date(s): Various
M306	AK Documentation for VE BDR LS13-OSR-VE-018 and Characterization BDR LA13-OSR-CH-18 Drums: LA00000066719 and LA00000067500	Author: Various	Document Number: N/A	Revision: N/A, Date: Various
M307	AK Documentation for VE BDR LA13-OSR-VE-019 and Characterization BDR LA13-OSR-CH-019 Drums: LA00000061472, LA00000065492 and LA00000065493	Author: Various	Document Number: NA	Revision: NA, Date: Various
M308	AK Documentation for VE BDR LA13-OSR-VE-020 and Characterization BDR LA13-OSR-CH-020 Drum: LA00000062756	Author: Various	Document Number: NA	Revision: NA, Date: Various
M310	Cm-244 Characterization Documents including Calculation Nos.: VA-OSR-05, VA-OSR-06, VA-OSR-07, VA-OSR-08, and VA-OSR-09	Author(s): Various	Document Number: LA-UR-13-26929	Revision: NA, Date(s): Various
M311	AK Documentation for VE BDR LA13-OSR-VE-022 and Characterization BDR LA13-OSR-CH-022 Drums: LA00000067512; LA00000067513; LA00000067514	Author: Various	Document Number: NA	Revision: NA, Date: Various
M313	AK Documentation for VE BDR LA13-OSR-VE-021 Drums: LA00000065491 and LA00000067511	Author: Various	Document Number: NA	Revision: NA, Date: Various
M314	AK Documentation for VE BDR LA13-OSR-VE-023 and Characterization BDR LA13-OSR-CH-023 Drums: LA00000067515; LA00000067517; LA00000067518; LA00000067519	Author: Various	Document Number: NA	Revision: NA, Date: Various

Attachment 4 - Acceptable Knowledge Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M315	AK Documentation for VE BDR LA14-OSR-VE-001 and Characterization BDR LA14-OSR-CH-001 Drum LA00000061574.	Author: Various	Document Number: NA	Revision: NA, Date: Various
M316	AK Documentation for VE BDR LA14-OSR-VE-002 and Characterization BDR LA14-OSR-CH-002 Drums LA00000067523; LA00000067524.	Author: Various	Document Number: NA	Revision: NA, Date: Various
M317	AK Documentation for VE BDR LA14-OSR-VE-003 and Characterization BDR LA14-OSR-CH-003 Drum LA00000065463	Author: Various	Document #: N/A	Revision: N/A, Date: Various
M318	AK Documentation for VE BDR LA14-OSR-VE-004 and Characterization BDR LA14-OSR-CH-004 Drums LA00000067506, LA00000067507,LA00000067508, LA00000067509,LA00000067510	Author: Various	Document #: N/A	Revision: N/A, Date: Various
M319	AK Documentation for VE BDR LA14-OSR-VE-005 and Characterization BDR LA14-OSR-CH-005 Drums LA00000067538, 67539, 67540	Author: Various	Document Number: NA	Revision: NA, Date: Various
M320	AK Documentation for VE BDR LA14-OSR-VE-006 and Characterization BDR LA14-OSR-CH-006 Drums LA00000067528, LA00000067529, LA00000067530	Author: Various	Document #: N/A	Revision; N/A, Date: Various
P001	CCP-TP-069 CCP Sealed Source Visual Examination and Packaging	Central Characterization Program (CCP)	CCP-TP-69	Rev.5, 11/09/2010
P002	CCP-TP-101, CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization	CCP	CCP-TP-101	Rev.4, 11/02/2007
P003	Off-Site Source Recovery Transuranic Waste Interface Document (TWID)	S. Kosiewicz	OSR-MISC-002 / P2010-0953	0, 02/08/2001
P004	Recovery, Transport, and Storage of Off-Site Source Recovery Project Material	Jim Matzke	OSR-OP-100 (TWCP-24436) (P2010-0951)	9, 02/12/2010
P005	OSR Project - VOC Evolutions from Packaging Materials	J. McAlpin	OSR-TP-002	1, 06/02/2004

[a] From Acceptable Knowledge Souce Document Summaries (Attachments 3)

[b] Or publisher's document number if available

[c] In the case where a AK Summary Report has been revised based on information in Attachment 11- Acceptable Knowledge Source Document Discrepancy Resolution form, identify the tracking number.

Acceptable Knowledge Expert: Sherry Auckland
Print/Sign

Date: 7/24/2014

DIVIDER PAGE

Attachment 4 - Acceptable Knowledge Source Document Information List

Site(s): Los Alamos National Laboratory

Waste Stream Number: LA-MSG04.001

Waste Stream Description: Mixed contaminated soil generated at TA-21

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
C001	Interview of Tom Keenan: DP Connections Arising Out of the Pu-238 Space Heat Program and J. Foxx summary "Plutonium-238 Heat Souce Fabrication for Space and Artificial Heart R&D Activities at TA-21 West and CMR Building from 1970 to 1978"	Jim Foxx	TWCP-19811/P2010-0778	01/08/04 and 01/20/2004
C002	Record of Communication with Jim Foxx - TA-21 Operations at Buildings 2,3,4,5 and 150 and Pu-238 questions.	Cathy Smith	TWCP-19433/P2010-0695	n/a, 01/08/04
C003	Interview of Jim Foxx: DP, Pu-238 information at TA-21 West	Catherine Smith	NA	01/08/04
C004	Interview: TA-21 DP West Plutonium-238 Operations, 1970-1977, Production-scale Evaporator Not in operation	Catherine Smith	TWCP-19899	02/17/04
C005	Interview: TA-21 DP West Plutonium Processing Operations, 1970-1977, Waste Management Practices	Catherine H. Smith	TWCP-19901/P2010-0774	02/17/04
C006	TA-21 Processing in Reactor Fuel Development, e-mail to C. Smith	Charles Foxx	TWCP-22444/P2010-0899	2-27-2004
C007	Interview of J. Foxx: TA-21 DP West Plutonium Processing Operations, 1970-1977, Lack of Operating Procedures	Catherine Smith	TWCP-19902/P2010-0773	02/17/04
C008	WACCC Audit Finding #1 (April 27 - May 1, 1987)	C. L. Foxx	MST-12-ARO-88-077	April 7, 1988
C009	Interview of J. Foxx: TA-21 DP West Plutonium-238 Operations, 1970-1977, Purity of Pu-238 feed material, commingling of Pu-238 with other material types.	Catherine Smith	TWCP-19900/P2010-0561	02/17/04
C011	Interview of J. Foxx: TA-21 DP West Plutonium-238 Operations, 1970-1977, Production-scale Evaporator Not in Operation	Catherine Smith	TWCP-19899/P2010-0775	02/17/04
C013	[UCNI] Email to G. Miller, Re: AK Record [Response from Jim Foxx regarding bomb reduction and plutonium peroxide]	Jim Foxx	TWCP-19430/P2010-0889	01/21/04
C014	[UCNI] Answers to General Questions About Pyrochemical Salts, Posed by P. Rogers	Jim Foxx	TWCP-02502/P2010-0068	06/08/99
C015	Review Sheet Documenting An Interview With Jim Foxx on CLS-1 Solvents	Rosemarie Glenn	TWCP-03547/P2010-0891	09/23/99

NTPC RECORDS ORIGINAL
DATE REC'D 6-19-14

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
C016	Answers and Questions About Various P/S Codes	John Musgrave	TWCP-4166/LA-UR-03-7374	10/17/00
C017	Interview of J. Foxx: Sources of Cs-137 and Pa-231 in TA-55 TRU waste	J. Foxx	LA-UR-01-6170, TWCP-05164	04/02/01
C018	Interview of J. Foxx: Sources of Cs-137, Pa-231, and Cm-244 in TA-55 Waste	J-F Martin	LA-UR-01-6170, TWCP-05165	04/11/01
C019	Memo Assay of U-234	Michael Baker	TWCP-09810/P2010-0115	09/12/02
C020	Memo regarding U-234 and Sr-90 Calculations for NDA Reporting	John M. Veilleux	TWCP-12684/LA-UR-03-7054	04/07/03
C021	Material Type Isotopic Compositions and Am-241 Content in Solid Transuranic Waste	Benchmark Environ. Corp. and W. Schueler	AL-7193/LA-UR-01-6170, TWCP-0698	05/02/97 and 3/6/96
C022	Commingling of Defense and Nondefense TRU Waste-Memo to TWCP Records Center	Charles (Jim) L. Foxx	LA-UR-02-6087, TWCP-0887	08/21/97
C023	Interview of Jim Foxx: Answers to questions about various P/S codes	John Musgrave	TWCP-4164/P2010-0109	10/16/00
C024	Recovery of Pu-238 Scrap from Burial Ground [SRS]	K.W. French	720000327	N/A, 6/28/72
C025	Fiberboard Drum Liner use at Los Alamos National Laboratory	Dave French	NA	NA, NA
C026	Memo: David Barnes to John Gallimore re: Decommissioning and De-Con of Building 4 Hot Cells at TA-21 DPW	David Barnes	C336/7-5788	October 20, 1986
C027	Email RE: Secondary Waste Discussions to be Added to AK4 and AK6	E-mail from R. Fitzgerald to MJ Papp, S Schafter, and J. Schoen	NA	NA, 8/2/07
C030	Decontamination and Volume Reduction System (DVRS) Information	JR Fitzgerald	NA	NA, 11/30/07
C031	Change of LA Waste Stream Designation for TRU Oversize Crates at TA-54	Darrik Stafford	NA	NA, 4/6/01
C033	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MSG04.001	J. Schoen	NA	Rev. NA, 09/30/2009
C034	Secondary Waste Generated by the Remediation/Repackaging Processes at Dome 231 and WCRRF	Randy Fitzgerald	NA	Rev. NA, 08/26/2009

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
C035	Record of Communication - Drum Washing of Drums Retrieved from Below-Grade	James R. Fitzgerald	NA	Rev. NA, 02/25/2009
C036	TA-54 Building 412 vs. DVRS Facility	Davis Christensen	NA	Rev. NA, 06/14/2010
C037	Evaluation of Volume and Period of Generation for Waste Streams LA-MHD04.001 and LA-MSG04.001, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD04.001	James M. Schoen	NA	Rev. NA, 04/04/2012
C038	Evaluation of Additional Containers for Waste Stream LA-MSG04.001	James M. Schoen	NA	Rev. NA, Various
C040	Email RE: AK/NDA Memo for AK-10 Waste Stream LA-MSG04.001	Curt Baumann	NA	Rev. NA, 1/6/2013
C042	Email RE: Beryllium/Beryllium Powder Discovered in TA-21 MDA B W: Be Labeling-MDAB Waste Containers that must be labeled as Be Contaminated through 5-4-2011	Don Allen	NA	Rev. NA, 03/03/2014
D001	Guidelines for the Interim Storage of AEC-Generated Solid Transuranic Wastes [Excerpt, thru p. 14]	LASL, H-Division	LA-5645/TWCP-19772	June 1974
D002	Characterization of Transuranic Solid Wastes from a Plutonium Processsing Facility	Ray Mulkin	LA-5993-MS, TWCP-18938	n/a, June 1975
D003	Fused Salt Electrorefining of Molten Plutonium and Its Alloys	L.J. Mullens and J. A. Leary	LA-3118/TWCP-19773/P2010-0450	11/06/64
D004	A Review of Operating Experience at the Los Alamos Plutonium Electrorefining Facility, 1963-1977	L.J. Mullins, A.N. Morgan	LA-8943, TWCP-18948	n/a, December 1981
D005	The Atom: Heart Power	Los Alamos Scientific Laboratory	TWCP-19771, P2010-0555	Volume 12, No. 4, pp.21-23, July-August 1975
D006	Demolition of Building 12, An Old Plutonium Filter Facility	E.L. Christensen, R. Garde, A.M. Valentine	LA-5755, TWCP-18949	n/a, Jan 1975
D007	TA-55 Plutonium Facility Acceptable Knowledge Report - Process Acceptable Knowledge Report for Plutonium-238 Operations at TA-55	John Musgrave, Originator, Document Preparer	TWCP-15417, LA-UR-01-4200, LA-UR-02-1709	Rev. 0, 8-7-01
D008	Historic Building Assessment for the DOE Conveyance and Transfer Project	Ellen D. McGehee, Kari L.M. Garcia	LA-UR-00-1003, TWCP-18951	Volume 1, Report No. 178, 12/23/1999
D009	Acceptable Knowledge Report for Newly generated Waste from Metal/Pyrochemical Operations at TA-55	Wayne A. Punjak, Document Preparer	TWCP-15421, LA-UR-02-6906	10-22-02

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D010	TA-21 Operable Unit RFI Work Plan for Environmental Restoration	Los Alamos National Laboratory	LA-UR-91-0962, TWCP-19101	n/a, May 1991
D011	Nuclear Materials Processing At the Los Alamos National Laboratory	Milton Haas, Eldon L. Christensen, William J. Maraman	TWCP-19809, LA-UR-83-323	Rev. NA, NA
D013	Review Comments on Draft of TA-21 DP West Facility AK Operations Report	Jim Foxx	TWCP-22446	3-23-04
D014	Final Safety Analysis Report for TRANSIT RTG Volume 1, Reference Design Document - Intro and Table 1-1 only	TRW Systems Group	TRW(A)-11464-0491, TWCP-19438	n/a, 3/1/1971
D015	Characterization of Direct Oxide Salts (U)	C. L. Foxx (Originator)	TWCP-03730, LA-CP-95-0098	7/1995
D016	Plutonium Research: Historical Role of DP-West in The Atom	Virginia S. Lees, editor	TWCP-19768, Vol 4, Number 12, pp. 1-8	N/A, December, 1967
D017	Backlog Waste Reassessment Baseline Book	Rocky Mountain Remediation Services	TWCP-02501, P2010-0670	January 4, 1995
D018	The Atom, Remaking DP West	Jeffery L. Peterson, editor	TWCP-19769, Vol 16, No 6	n/a, July/Aug 1979
D019	Plutonium-238 Heat Source Fabrication for Space and Artificial Plutonium-238 Heat Fabrication for Space and Artificial Heart R&D Activities at TA-21 West and CMR Building from 1970 to 1978	C. L. Foxx	TWCP-19439	Jan. 20, 2004
D020	The Atom, Nuclear Power for an Artificial Heart	Ken Johnson	TWCP-19770, Volume 7, No 6	n/a, June 1970
D021	Data Sheets for PMC Isotopic Fuel	T.K. Keenan et. al.	TWCP-18421, LA-4976-MS	6/1972
D022	Institutional Plan FY2002-FY2007	Editor-Charmian Schaller, IM-1	TWCP-18955, LALP-01-151	n/a, 12/2001
D023	TRU Waste-Sampling Program	John L. Warren, Al Zerwekh (Consultant at Los Alamos)	TWCP-19467, LA-10479-MS	August 1985
D024	SWEIS Yearbook - 2001, Sections 2,3	Terry Rudell, Ken Rea	TWCP-14450, LA-UR-02-3143	n/a, 9/1/2002

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D025	Fused Salt Processing of Impure Plutonium Dioxide to High-Purity Plutonium Metal	L. J. Mullins, D.C. Christensen, B.R. Babcock	TWCP-22580, LA-9154-MS	January 1982
D026	Los Alamos TRU Waste Certification Plan for Newly Generated TRU waste, Nov 1984	Los Alamos National Laboratory	LA-UR-02-6085/TWCP-00697, WCP-HSE7-CPL-01	2, 11/1984
D027	Direct Reduction of 238-PuO2 and 239-PuO2 to Metal	L.J. Mullins, C.L. Foxx	TWCP-22581, LA-9073	02/1982
D028	LANL Transuranic Waste Characterization Sampling Plan-June 1999	Pam Rogers	TWCP-04138, TWCP-PLAN-0.2.7-001	2, June 1999
D029	Six-Kilogram Scale Electrorefining of Plutonium Metal	L.J.Mullins, A.N. Morgan, S.A. Apgar,III, D.C. Christensen	TWCP-22582, LA-9469-MS	September 1982
D030	Plutonium Scrap Processing at the Los Alamos Scientific Laboratory	A.E. Nixon, B.J. McKerley, and E.L. Christensen	LA-UR-80-835, CONF-800303--12	0, 3/24/80
D031	Lightweight Radioisotope Heater Unit (LWRHU) Production for the Cassini Mission	G.H. Rinehart	LA-13143-MS, TWCP-1030	May 1996
D032	Bi-Monthly Progress Report - Multi-Hundred Watt Radioisotope Thermoelectric Generator Program	C. W. Whitmore	TWCP-22029	n/a, 6/30/1975
D033	Waste Management Site Plan	LASL	LA-UR-74-2604, TWCP-02767	Sept. 1979
D034	Final Documentation for RadWaste ORACLE Database's List of Acceptable Radioisotopes, Specific Activities, Categories, and Regulatory Limits	Daniel P. Taggart	TWCP-8003	01/31/92
D035	Los Alamos DP West Plutonium Facility Decontamination Project 1978-1981	Raymond Garde, E.J. Cox, Allen M. Valentine	LA-9513-MS, TWCP-14396	Sept. 1982
D036	Process AK Report for Chloride Operations at TA-55, TWCP-15411	John Musgrave	TWCP-AK-2.1-002, LA-UR-02-1710, LA-UR-01-2557	R.2 & R.2/IC1, 05/17/01 (R.2) & 03/31/02 (R.2/IC1)

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D037	Process AK Report for Metal Operations Processes at TA-55, TWCP-15412	John Musgrave	TWCP-AK-2.1-003, LA-UR-01-2556, LA-UR-02-1716	R.2 & R.2/IC1, 05/17/01 (R.2) & 03/21/02 (R.2/IC1)
D038	Process AK Report for Miscellaneous Operations at TA-55, TWCP-15413	John Musgrave	TWCP-AK-2.1-004, LA-UR-01-2559, LA-UR-02-1714	R.2 & R.2/IC1/IC2, 05/17/01(R.2), 06/18/01 (IC1), 03/21/02 (IC2)
D039	Process AK Report for Nitrate Operations at TA-55, TWCP-15414	John Musgrave	TWCP-AK-2.1-005, LA-UR-01-2555, LA-UR-02-1715	R. 2 & R.2/IC1, 05/17/01 (R.2) & 03/21/02 (R.2/IC1)
D040	Process AK Report for Pyrochemical Processes at TA-55, TWCP-15415	John Musgrave	TWCP-AK-2.1-006, LA-UR-01-2558, LA-UR-02-1713	R.2 & R.2/IC1, 05/18/01 (R.2) & 03/21/02 (R.2/IC1)
D041	Process AK Report for Special Processing at TA-55, TWCP-15416	John Musgrave	TWCP-AK-2.1-007, LA-UR-01-2560, LA-UR-02-1712	R.2 & R.2/IC1, 05/18/01 (R.2), 03/21/03, (R.2/IC1)
D042	Plutonium Processing at the Los Alamos Scientific Laboratory	Eldon L. Christensen and William J. Maraman	LA-3542, TWCP-18950	April 1969
D043	Waste from Plutonium Conversion and Scrap Recovery Operations	D.C. Christensen, D.F. Bowersox, B.J. McKerley, R.L. Nance	LA-11069-MS/LA-UR-00-4835, TWCP-352	March 1988
D044	Preparation and Development of Medical-Grade Plutonium-238 Fuels, July 1, 1967 - June 30, 1971	L. J. Mullins	LA-4940/TWCP-21983	Oct. 1972
D045	Preparation and Evaluation of Medical-Grade Plutonium-238 Fuels - July 1, 1971-June 30, 1973	L.J. Mullins	LA-5506-PR/TWCP-21984	May 1974
D046	Plutonium-238 Fuel and Heat Source Development for Nuclear-Powered Artificial Heart Program - July 1-September 30, 1976	C.L. Foxx and L.J. Mullins	LA-6669-PR/TWCP-21985	Feb. 1977
D047	Plutonium-238 Space Electric Power Fuel Development Program - January 1-March 31, 1970	R.D. Baker	TWCP-21981, LA-4476	3/31/1970
D048	Helium Release of Pu-238-Molybdenum Cermet Fuel	Barbara Mueller	TWCP-21980, LA-5820	March 1975

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D049	Initial Development and Characterization of Plutonia-Iridium Cermets	M. Tokar	TWCP-21979, LA-5255-MS	Rev. NA, NA
D050	Data Sheets for PPO Radioisotopic Fuel	T.K. Keenan, R.A. Kent, R.N.R. Mulford, M.W. Shupe	TWCP-21978, LA-5160-MS	02/1973
D051	The Relationship of Fabrication Parameters to selected Properties of PuO2 Radioisotopic Fuels	T.K. Keenan, R.A. Kent, R.W. Zocher	TWCP-21982, LA-5622-MS	5/1974
D052	Waste Determination Report for Waste Stream TA-55-43 Lot No. 01	LANL	TWCP-01258	07/14/98
D053	Plutonium Recovery At The Los Alamos Scientific Laboratory	Eldon L. Christensen	TWCP-22584, LA-UR-80-1168	April 1980
D054	Present Status of Plutonium Metal Production and Purification at Los Alamos - 1982	D.C. Christensen, L.J. Mullins	TWCP-22585, LA-9674-MS	June 1983
D055	Radioactive Waste Management Site Plan, 1974	NA	TWCP-22813, LA-UR-75-5016	Rev. NA, 06/1974
D056	Plutonium Scrap Processing at the Los Alamos Scientific Laboratory	Archie E. Nixon, Billy J. McKerley, and Eldon L. Christensen	TWCP-22583, LA-UR-80-835	03/24/1980
D057	Status of Am-241 Recovery and Purification at Los Alamos Scientific Laboratory	H.D. Ramsey, D.G. Clifton, S.W. Hayter, R.A. Penneman, E.L. Christensen	TWCP-22579, LA-UR-80-2414	1980
D058	Los Alamos National Laboratory Transuranic Waste Characterization Acceptable Knowledge Information Summary (AKIS)	NA	TWCP-PLAN-0.2.7-001	7, February 28, 2003
D059	Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility (Draft Report)	C. Smith	P2010-0608; TWCP 23596; AK-00--23,	Revision 0, 7/8/04
D060	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams	C. Smith	AK-00-019	1, 9/22/03
D061	Transit RTG Final Safety Analysis Report (Vol. 1)	TRW	P2010-1074, TRW (A)-11464-0491, TWCP-24021	3/1/71

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D062	Los Alamos Scientific Laboratory Health, Safety, and Environment Manual, Chapter XVIII-Material Disposal	LASL	P2010-1328	3/11/1981
D063	Acceptable Knowledge Summary report for Combustable/Noncombustable, Metallic, and HEPA Filter Waste resulting from PU-238 Fabrication Activities	P.S.Z. Rogers and C.L. Foxx	TWCP-1042, LA-UR-98-2016	0, 2/19/1998
D064	Pyrochemical Recovery of Plutonium Fluoride Reduction Slag	D.C Christensen and J.A. Rayburn	LA-9655-MS	NA, 7/1983
D065	LANL Project 2010 Acceptable Knowledge Report - Acceptable Knowledge Operations Report for Plutonium-238 Porcesses at LANL Facilities	Unknown	Project 2010	Revew Draft, NA
D066	The Decommissioning of TA-21-153, Aac-227 Contaminated Old Filter Building	Johnny Harper and Raymond Garde	LA-9047-MS UC-70	November 1981
D067	Nuclear Criticality Safety in D&D Operations - A Los Alamos Experience	Jihn Schlesser	LA-UR-96-3623	December 26, 1996
D068	Decontamination and Demolition of a Former Plutonium Processing Facility's Process Exhaust System, Firescreen, and Filter Plenum Buildings	Patrick LaFrate, Jr., Daniel Stout, Jouh Elliot	CONF-960212-68 LA-UR-96-0421	April 1, 1996
D069	A History of Waste Disposal at Technical Area 21 1943-1978	Ethan Merrill	NA	NA, March 1990
D070	Decontamination and Size Reduction of Plutonium Contaminated Process Exhaust Ductwork and Glove Boxes	Patrick LaFrate, Jr., John Elliott, David Siddoway, Miguel Valasquez	CONF-970335-39 LA-UR-97-254	11/15/96
D071	Upgrade and Performance Testing for the Linc System at TA-54 Area G	CD Rael and HO Menlove	LA-UR-02-2019	NA, Unknown
D072	Retrieval Plan for TA-54, Area G TRU Waste Containing Corrugated Metal Pipes (CMP)	Henry Nunes	TRU-PLAN-1302	Rev. 0, 12/19/2005
D073	Project Management Objectives for Pit 9 TRU Waste Retrieval	Avril Millenstead	TRU-PLAN-1201	Rev. 0, 05/12/2005
D074	Retrieval Plan for TA-54, Area G TRU Waste for Pit 9	William Gonzales	TRU-PLAN-1202	Rev. 0, 12/15/2005
D075	TA-54, Area G Pit 9 Waste Description	William Gonzales	TRU-TD-1202	Rev. 0, 01/09/2006
D076	TA-54, Area G Pit 9 Waste Description	William Gonzales	TD-SWO-008	Rev. 0, 03/25/2004
D077	TA-54, Area G CMP Waste Description	William Gonzales	TRU-TD-1301	Rev. 0, 01/09/2006
D078	TA-54, Area G Tenches A-D Waste Description	William Gonzales	TRU-TD-1401	Rev. 0, 01/09/2006

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D079	TA-54 Area G Documented Safety Analysis	Dennis McLain	ABD-WFM-001	Rev. 0, 04/09/2003
D080	Attachment A (Waste Analysis Plan) of the LANL Hazardous Waste Permit	NA	TWCP-14341	Rev. NA, 01/30/1995
D081	LANL Waste Acceptance Criteria	NA	PLAN-WASTEMGT-002	Rev. 3.8, 02/05/2003
D082	Basis for Interim Operations for Technical Area G	J. Apperson	ABD-WFM-001	Rev. 1.0, DRAFT, 10/21/2010
D083	Corrugated Metal Pipes Category of Transuranic Waste Stored Below Ground within Area G	Kenneth M. Hargis	EP2013-5171	Rev. NA, August 2013
D085	Receptor Height: 1.5 m in Dispersion Modeling	J.C. Laul	LA-UR-12-01402	Rev. NA, 2012
D086	Final Report of the Los Alamos Historical Document Retrieval and Assessment (LAHDRA) Project	Thomas Widner	NA	Rev. NA, November 2010
DR001	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers	Michael Papp	NA	NA, 4/4/07
DR002	Discrepancy Resolution Form for Waste Stream Volume Evaluation - TA-21 Mixed Heterogeneous Combustible and Non-Combustible Debris	MJ Papp	DR002	NA, 6/26/07
DR004	Acceptable Knowledge Source Document Discrepancy Resolution for LA-MHD04.001 regarding Removal of Drum Greater Than 50% Solids	Randy Fitzgerald	NA	Rev. NA, 04/29/2009
DR005	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers for Waste Stream LA-MSG04.001	Michael J. Papp	NA	Rev. NA, 06/17/2014
DR007	Removal of One (1) Debris Container from Soil Waste Stream LA-MSG04.001	Randy Fitzgerald	NA	Rev. NA, 06/07/2012
M001	Table 1. TA-21 Plutonium Processing Operations, TA-21-Operations Report, Crosswalk to TA-55 Operations	Jim Foxx	TWCP-19810	NA
M002	An excerpt from Archive generator's databases 95drum	LANL	TWCP-06988	n/a, 10/25/01
M003	Waste Streams from Buildings TA-21, TA-55, TA-50, and TA-00 at LANL. Appendices B, C, D, E and F (Changes to Sampling Plan)	NA	TWCP-04138, TWCP Plan-0.2.7-001	Rev. 2, 6/4/99
M004	TA-55 NMT Waste Management System (CONCERT Database)	LANL - NMT division	n/a	n/a, n/a
M006	FWO TRU Waste Management Database (AKIR Database)	LANL- FWO division	n/a	n/a, n/a

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M007	Data Dictionary for the Facility and Waste Operations (FWO) TRU Waste Management ORACLE Database	NA	TWCP-15206	12/22/99
M008	Exerpt from CONCERT Database	LANL	NA	Rev. NA, 08/17/2006
M009	AKIR Database Extracted DP West (TA-21) Radionuclides in Grams	LANL	AK-00-020	Rev. 0, 08/22/2006
M010	Miscellaneous Material Safety Data Sheets (MSDSs) for Commercial Products and other Chemicals Identified in the TA-21 Processes	Various	N/A	N/A, Various
M014	Vent Date Information - 6/26/2007 - 4/7/2008	Randy Fitzgerald	NA	Rev. NA, 04/09/2008
M015	TWSRs for Containers 80126, 80128, 80354, 80356, 80358, 30360, 80380, 80388	NA	NA	Rev. NA, Various
M016	Pu-238 Storage Facility Logbook	Joshua E	NA	Rev. NA, 03/04/1974-12/3/1985
M017	CMP's Logbook - Area T, TA-21	Michael Martinez	NA	Rev. NA, 04/28/1986-12/08/1986
M018	TA-54, Area G, Pit 9 Waste Information Spreadsheet	NA	NA	Rev. NA, 1/21/2009
M019	TWSRs for Containers 80000 Series	NA	NA	Rev. NA
M020	RSWD/TWSR Records for LA-MSG04.001	NA	NA	Rev. NA
M229	Record of Communication - Secondary Waste Added During Remediation and Repackaging Operations	Michael Papp	NA	Rev. NA, 08/06/2013
P001	Plutonium Electrorefining	Sammi Owens	432-MMP/TWCP-2505	Rev. 8, 08/25/97
P002	Button Breaking Press	David Olivas	317-CAS, TWCP-3541/MET-45	Rev. 5, (no date present)
P003	Safe Operating Procedure for Pit Disassembly	C.E. Klatt	397-SEC, TWCP-3541/MET-42	Rev. 3, 03/25/92
P004	Measuring Physical Properties	(no author listed)	116-MRD, TWCP-3541/MET-41	Rev. 2, (no date listed)

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
P005	Pit Disassembly	Calvin Klatt	ATP/SRL-104, TWCP-3541/MET-51	Rev. 0, 08/08/95
P006	Processing Material in the SRL Furnace	John Berg	ATP/SRL-105, TWCP-3541/MET-52	Rev. 0, 08/08/95
P007	Pit Disassembly	M. Blau	397-SRL, TWCP-3541/MET-53	Rev. 4, 07/22/94
P008	Encapsulation of Radioactive Isotopes	Clete Land	353-WEL, TWCP-3541/MET-39	Rev. 3, 06/28/91
P009	Operating Instructions, Procedures, and Equipment for the Los Alamos Plutonium Electrorefining Plant	L. J. Mullins. J.A. Leary, A.N. Morgan	TWCP-22445, LA-2981, LA-3118	Dec. 18, 1963 and July20, 1964
P010	Prohibited Item Dispositioning in Dome 231 Permaco, and TA-54 Area G Sludge Remediation Activities	M. Romero and . Monk	TRU-DOP-0334, EP-DOP-2108, EP-AREAG-WO-DOP-0219	Rev. 0-2,10, 2, 9/11/06-11/28/06, 09/17/2009, 05/06/10
P011	Processing Waste in the Waste Characterization Glovebox	T. Monk	EP-WCRR-WO-DOP-0233	5, 7/16/07
P012	Standard Waste Visual Examination and Prohibited Item Dispositioning	Mike Romero	TRU-DOP-1709	2, 9/28/06
P013	Trenches A-D Retrieval Operations	Henry Nunes	TRU-DOP-1401	Rev. 0, 02/2006
P014	TA-54, Area G CMP Retrieval Operations	Henry Nunes	TRU-DOP-1301	Rev. 0, 08/2006
P015	General Waste Management Requirements	NA	LIR 404-00-02.3	Rev. NA, 11/01/1998
P016	Managing Radioactive Waste	NA	LIR404-00-05.2	Rev. NA, 01/05/1999
P017	Hazardous and Mixed Waste	NA	AR 10-3	Rev. NA, 04/26/1993
P018	Review and Completion of the TWSR	NA	AP-SWO-006	Rev. 3.2, July 2003
P019	Waste Generator Guidance for Completing the TRU Waste Storage Record (TWSR)	NA	LIG404-00-01.2	Rev. NA, 11/26/1997
P020	Waste Profile Form Guidance	NA	LIG 404-00-03.1	Rev. NA, 09/18/1997

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
P021	TA-54 Area G TRU Waste Drum SSSR Activities	Louis Jalbert	EP-AREAG-WO-DOP-1084	Rev. 3, 02/28/2014
P027	TA-54 Area G TRU Crate SSSR Activities	Mike Romero	EP-AREAG-WO-DOP-0227	Rev. 0, 06/15/2011
P028	TA-54 Area G TRU SWB/Drum Operations	Stephanie Jacquez	EP-AREAG-WO-DOP-0211	Rev. 12, 09/26/2011
P029	TA-54-231 PermaCon Upgrades	H. Gammage, et al.	TA-54-231-FRD-00094	Rev. 0, 02/23/2012
P030	Sort, Segregate, Size Reduction, and Repackaging Activity	Scott A. Miller	EP-AREAG-WO-DOP-0216	Rev. 15, 05/23/2011
P031	TA-54 Area G Sludge Remediation SSSR Activities	Louis Jalbert	EP-AREAG-WO-DOP-1085	Rev. 5, 03/04/2014
P032	TA-54 Area G TRU Oversized Container SSSR Activities	Paul N. Newberry	EP-AREAG-WO-DOP-1091	Rev. 7, 05/08/2014
P033	WCRRF Waste Characterization Glovebox Operations	Lou Jalbert	EP-WCRR-WO-DOP-0233, EP-WCRR-WO-DOP-1198	Rev. 32, Rev. 1, 01/31/2012, 03/03/2014
P034	TA-54-375 TRU Oversized Box Processing Capability Project	Joe Kanzleiter, et al.	FRD-11-TA54-AREAG-001	Rev. 1, 03/07/2011
P035	MDA-B TRU Waste Container Packaging in SWBs	Don Allen	TA21-MDAB-00017	Rev. 0, 04/21/2011
P036	Waste Management Plan for Material Disposal Area (MDA) B	Don Allen	TA21-MDAB-PLAN-00014	Rev. 1, 12/15/2010
P037	Waste Management Procedure for Environmental Program TA-21 Closure Project Activities (U)	Don Allen	TA21-AP-00002	Rev. 0, 03/16/20120
P038	Transuranic (TRU) Solid Waste	NA	ES&H Manual, AR 10-5	Rev. NA, August 15, 1993
P039	TA-54 Area G TRU Corrugated Metal Box SSSR Activities	Paul N. Newberry	EP-AREAG-WO-DOP-1155	Rev. 1, 05/17/2013
U001	A Brief History of C-AAC	NA	TWCP-19898	01/20/04
U002	Memorandum to E.L. Albenesius, Re: Description of Mound and LASL Solid Pu-238 Waste Stored at SRP	O.A. Towler	DPST-81-647	N/A, 9/18/79

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

[a] From Acceptable Knowledge Souce Document Summaries (Attachments 3)

[b] Or publisher's document number if available

[c] In the case where a AK Summary Report has been revised based on information in Attachment 11- Acceptable Knowledge Source Document Discrepancy Resolution form, identify the tracking number.

Acceptable Knowledge Expert: Amy Johns, Amy Johns Date: 6-19-2014
Print/Sign

DIVIDER PAGE

Attachment 4 - Acceptable Knowledge Source Document Information List

Site(s): Los Alamos National Laboratory

Waste Stream Number: LA-MSG04.001

Waste Stream Description: Mixed contaminated soil generated at TA-21

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
C001	Interview of Tom Keenan: DP Connections Arising Out of the Pu-238 Space Heat Program and J. Foxx summary "Plutonium-238 Heat Souce Fabrication for Space and Artificial Heart R&D Activities at TA-21 West and CMR Building from 1970 to 1978"	Jim Foxx	TWCP-19811/P2010-0778	01/08/04 and 01/20/2004
C002	Record of Communication with Jim Foxx - TA-21 Operations at Buildings 2,3,4,5 and 150 and Pu-238 questions.	Cathy Smith	TWCP-19433/P2010-0695	n/a, 01/08/04
C003	Interview of Jim Foxx: DP, Pu-238 information at TA-21 West	Catherine Smith	NA	01/08/04
C004	Interview: TA-21 DP West Plutonium-238 Operations, 1970-1977, Production-scale Evaporator Not in operation	Catherine Smith	TWCP-19899	02/17/04
C005	Interview: TA-21 DP West Plutonium Processing Operations, 1970-1977, Waste Management Practices	Catherine H. Smith	TWCP-19901/P2010-0774	02/17/04
C006	TA-21 Processing in Reactor Fuel Development, e-mail to C. Smith	Charles Foxx	TWCP-22444/P2010-0899	2-27-2004
C007	Interview of J. Foxx: TA-21 DP West Plutonium Processing Operations, 1970-1977, Lack of Operating Procedures	Catherine Smith	TWCP-19902/P2010-0773	02/17/04
C008	WACCC Audit Finding #1 (April 27 - May 1, 1987)	C. L. Foxx	MST-12-ARO-88-077	April 7, 1988
C009	Interview of J. Foxx: TA-21 DP West Plutonium-238 Operations, 1970-1977, Purity of Pu-238 feed material, commingling of Pu-238 with other material types.	Catherine Smith	TWCP-19900/P2010-0561	02/17/04
C011	Interview of J. Foxx: TA-21 DP West Plutonium-238 Operations, 1970-1977, Production-scale Evaporator Not in Operation	Catherine Smith	TWCP-19899/P2010-0775	02/17/04
C013	[UCNI] Email to G. Miller, Re: AK Record [Response from Jim Foxx regarding bomb reduction and plutonium peroxide]	Jim Foxx	TWCP-19430/P2010-0889	01/21/04
C014	[UCNI] Answers to General Questions About Pyrochemical Salts, Posed by P. Rogers	Jim Foxx	TWCP-02502/P2010-0068	06/08/99
C015	Review Sheet Documenting An Interview With Jim Foxx on CLS-1 Solvents	Rosemarie Glenn	TWCP-03547/P2010-0891	09/23/99

NTPC RECORDS ORIGINAL
DATE REC'D 6-19-14

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
C016	Answers and Questions About Various P/S Codes	John Musgrave	TWCP-4166/LA-UR-03-7374	10/17/00
C017	Interview of J. Foxx: Sources of Cs-137 and Pa-231 in TA-55 TRU waste	J. Foxx	LA-UR-01-6170, TWCP-05164	04/02/01
C018	Interview of J. Foxx: Sources of Cs-137, Pa-231, and Cm-244 in TA-55 Waste	J-F Martin	LA-UR-01-6170, TWCP-05165	04/11/01
C019	Memo Assay of U-234	Michael Baker	TWCP-09810/P2010-0115	09/12/02
C020	Memo regarding U-234 and Sr-90 Calculations for NDA Reporting	John M. Veilleux	TWCP-12684/LA-UR-03-7054	04/07/03
C021	Material Type Isotopic Compositions and Am-241 Content in Solid Transuranic Waste	Benchmark Environ. Corp. and W. Schueler	AL-7193/LA-UR-01-6170, TWCP-0698	05/02/97 and 3/6/96
C022	Commingling of Defense and Nondefense TRU Waste-Memo to TWCP Records Center	Charles (Jim) L. Foxx	LA-UR-02-6087, TWCP-0887	08/21/97
C023	Interview of Jim Foxx: Answers to questions about various P/S codes	John Musgrave	TWCP-4164/P2010-0109	10/16/00
C024	Recovery of Pu-238 Scrap from Burial Ground [SRS]	K.W. French	720000327	N/A, 6/28/72
C025	Fiberboard Drum Liner use at Los Alamos National Laboratory	Dave French	NA	NA, NA
C026	Memo: David Barnes to John Gallimore re: Decommissioning and De-Con of Building 4 Hot Cells at TA-21 DPW	David Barnes	C336/7-5788	October 20, 1986
C027	Email RE: Secondary Waste Discussions to be Added to AK4 and AK6	E-mail from R. Fitzgerald to MJ Papp, S Schafter, and J. Schoen	NA	NA, 8/2/07
C030	Decontamination and Volume Reduction System (DVRS) Information	JR Fitzgerald	NA	NA, 11/30/07
C031	Change of LA Waste Stream Designation for TRU Oversize Crates at TA-54	Darrik Stafford	NA	NA, 4/6/01
C033	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MSG04.001	J. Schoen	NA	Rev. NA, 09/30/2009
C034	Secondary Waste Generated by the Remediation/Repackaging Processes at Dome 231 and WCRRF	Randy Fitzgerald	NA	Rev. NA, 08/26/2009

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
C035	Record of Communication - Drum Washing of Drums Retrieved from Below-Grade	James R. Fitzgerald	NA	Rev. NA, 02/25/2009
C036	TA-54 Building 412 vs. DVRS Facility	Davis Christensen	NA	Rev. NA, 06/14/2010
C037	Evaluation of Volume and Period of Generation for Waste Streams LA-MHD04.001 and LA-MSG04.001, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD04.001	James M. Schoen	NA	Rev. NA, 04/04/2012
C038	Evaluation of Additional Containers for Waste Stream LA-MSG04.001	James M. Schoen	NA	Rev. NA, Various
C040	Email RE: AK/NDA Memo for AK-10 Waste Stream LA-MSG04.001	Curt Baumann	NA	Rev. NA, 1/6/2013
C042	Email RE: Beryllium/Beryllium Powder Discovered in TA-21 MDA B W: Be Labeling-MDAB Waste Containers that must be labeled as Be Contaminated through 5-4-2011	Don Allen	NA	Rev. NA, 03/03/2014
D001	Guidelines for the Interim Storage of AEC-Generated Solid Transuranic Wastes [Excerpt, thru p. 14]	LASL, H-Division	LA-5645/TWCP-19772	June 1974
D002	Characterization of Transuranic Solid Wastes from a Plutonium Processsing Facility	Ray Mulkin	LA-5993-MS, TWCP-18938	n/a, June 1975
D003	Fused Salt Electrorefining of Molten Plutonium and Its Alloys	L.J. Mullens and J. A. Leary	LA-3118/TWCP-19773/P2010-0450	11/06/64
D004	A Review of Operating Experience at the Los Alamos Plutonium Electrorefining Facility, 1963-1977	L.J. Mullins, A.N. Morgan	LA-8943, TWCP-18948	n/a, December 1981
D005	The Atom: Heart Power	Los Alamos Scientific Laboratory	TWCP-19771, P2010-0555	Volume 12, No. 4, pp.21-23, July-August 1975
D006	Demolition of Building 12, An Old Plutonium Filter Facility	E.L. Christensen, R. Garde, A.M. Valentine	LA-5755, TWCP-18949	n/a, Jan 1975
D007	TA-55 Plutonium Facility Acceptable Knowledge Report - Process Acceptable Knowledge Report for Plutonium-238 Operations at TA-55	John Musgrave, Originator, Document Preparer	TWCP-15417, LA-UR-01-4200, LA-UR-02-1709	Rev. 0, 8-7-01
D008	Historic Building Assessment for the DOE Conveyance and Transfer Project	Ellen D. McGehee, Kari L.M. Garcia	LA-UR-00-1003, TWCP-18951	Volume 1, Report No. 178, 12/23/1999
D009	Acceptable Knowledge Report for Newly generated Waste from Metal/Pyrochemical Operations at TA-55	Wayne A. Punjak, Document Preparer	TWCP-15421, LA-UR-02-6906	10-22-02

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D010	TA-21 Operable Unit RFI Work Plan for Environmental Restoration	Los Alamos National Laboratory	LA-UR-91-0962, TWCP-19101	n/a, May 1991
D011	Nuclear Materials Processing At the Los Alamos National Laboratory	Milton Haas, Eldon L. Christensen, William J. Maraman	TWCP-19809, LA-UR-83-323	Rev. NA, NA
D013	Review Comments on Draft of TA-21 DP West Facility AK Operations Report	Jim Foxx	TWCP-22446	3-23-04
D014	Final Safety Analysis Report for TRANSIT RTG Volume 1, Reference Design Document - Intro and Table 1-1 only	TRW Systems Group	TRW(A)-11464-0491, TWCP-19438	n/a, 3/1/1971
D015	Characterization of Direct Oxide Salts (U)	C. L. Foxx (Originator)	TWCP-03730, LA-CP-95-0098	7/1995
D016	Plutonium Research: Historical Role of DP-West in The Atom	Virginia S. Lees, editor	TWCP-19768, Vol 4, Number 12, pp. 1-8	N/A, December, 1967
D017	Backlog Waste Reassessment Baseline Book	Rocky Mountain Remediation Services	TWCP-02501, P2010-0670	January 4, 1995
D018	The Atom, Remaking DP West	Jeffery L. Peterson, editor	TWCP-19769, Vol 16, No 6	n/a, July/Aug 1979
D019	Plutonium-238 Heat Source Fabrication for Space and Artificial Plutonium-238 Heat Fabrication for Space and Artificial Heart R&D Activities at TA-21 West and CMR Building from 1970 to 1978	C. L. Foxx	TWCP-19439	Jan. 20, 2004
D020	The Atom, Nuclear Power for an Artificial Heart	Ken Johnson	TWCP-19770, Volume 7, No 6	n/a, June 1970
D021	Data Sheets for PMC Isotopic Fuel	T.K. Keenan et. al.	TWCP-18421, LA-4976-MS	6/1972
D022	Institutional Plan FY2002-FY2007	Editor-Charmian Schaller, IM-1	TWCP-18955, LALP-01-151	n/a, 12/2001
D023	TRU Waste-Sampling Program	John L. Warren, Al Zerwekh (Consultant at Los Alamos)	TWCP-19467, LA-10479-MS	August 1985
D024	SWEIS Yearbook - 2001, Sections 2,3	Terry Rudell, Ken Rea	TWCP-14450, LA-UR-02-3143	n/a, 9/1/2002

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D025	Fused Salt Processing of Impure Plutonium Dioxide to High-Purity Plutonium Metal	L. J. Mullins, D.C. Christensen, B.R. Babcock	TWCP-22580, LA-9154-MS	January 1982
D026	Los Alamos TRU Waste Certification Plan for Newly Generated TRU waste, Nov 1984	Los Alamos National Laboratory	LA-UR-02-6085/TWCP-00697, WCP-HSE7-CPL-01	2, 11/1984
D027	Direct Reduction of 238-PuO2 and 239-PuO2 to Metal	L.J. Mullins, C.L. Foxx	TWCP-22581, LA-9073	02/1982
D028	LANL Transuranic Waste Characterization Sampling Plan-June 1999	Pam Rogers	TWCP-04138, TWCP-PLAN-0.2.7-001	2, June 1999
D029	Six-Kilogram Scale Electrorefining of Plutonium Metal	L.J.Mullins, A.N. Morgan, S.A. Apgar,III, D.C. Christensen	TWCP-22582, LA-9469-MS	September 1982
D030	Plutonium Scrap Processing at the Los Alamos Scientific Laboratory	A.E. Nixon, B.J. McKerley, and E.L. Christensen	LA-UR-80-835, CONF-800303--12	0, 3/24/80
D031	Lightweight Radioisotope Heater Unit (LWRHU) Production for the Cassini Mission	G.H. Rinehart	LA-13143-MS, TWCP-1030	May 1996
D032	Bi-Monthly Progress Report - Multi-Hundred Watt Radioisotope Thermoelectric Generator Program	C. W. Whitmore	TWCP-22029	n/a, 6/30/1975
D033	Waste Management Site Plan	LASL	LA-UR-74-2604, TWCP-02767	Sept. 1979
D034	Final Documentation for RadWaste ORACLE Database's List of Acceptable Radioisotopes, Specific Activities, Categories, and Regulatory Limits	Daniel P. Taggart	TWCP-8003	01/31/92
D035	Los Alamos DP West Plutonium Facility Decontamination Project 1978-1981	Raymond Garde, E.J. Cox, Allen M. Valentine	LA-9513-MS, TWCP-14396	Sept. 1982
D036	Process AK Report for Chloride Operations at TA-55, TWCP-15411	John Musgrave	TWCP-AK-2.1-002, LA-UR-02-1710, LA-UR-01-2557	R.2 & R.2/IC1, 05/17/01 (R.2) & 03/31/02 (R.2/IC1)

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D037	Process AK Report for Metal Operations Processes at TA-55, TWCP-15412	John Musgrave	TWCP-AK-2.1-003, LA-UR-01-2556, LA-UR-02-1716	R.2 & R.2/IC1, 05/17/01 (R.2) & 03/21/02 (R.2/IC1)
D038	Process AK Report for Miscellaneous Operations at TA-55, TWCP-15413	John Musgrave	TWCP-AK-2.1-004, LA-UR-01-2559, LA-UR-02-1714	R.2 & R.2/IC1/IC2, 05/17/01(R.2), 06/18/01 (IC1), 03/21/02 (IC2)
D039	Process AK Report for Nitrate Operations at TA-55, TWCP-15414	John Musgrave	TWCP-AK-2.1-005, LA-UR-01-2555, LA-UR-02-1715	R. 2 & R.2/IC1, 05/17/01 (R.2) & 03/21/02 (R.2/IC1)
D040	Process AK Report for Pyrochemical Processes at TA-55, TWCP-15415	John Musgrave	TWCP-AK-2.1-006, LA-UR-01-2558, LA-UR-02-1713	R.2 & R.2/IC1, 05/18/01 (R.2) & 03/21/02 (R.2/IC1)
D041	Process AK Report for Special Processing at TA-55, TWCP-15416	John Musgrave	TWCP-AK-2.1-007, LA-UR-01-2560, LA-UR-02-1712	R.2 & R.2/IC1, 05/18/01 (R.2), 03/21/03, (R.2/IC1)
D042	Plutonium Processing at the Los Alamos Scientific Laboratory	Eldon L. Christensen and William J. Maraman	LA-3542, TWCP-18950	April 1969
D043	Waste from Plutonium Conversion and Scrap Recovery Operations	D.C. Christensen, D.F. Bowersox, B.J. McKerley, R.L. Nance	LA-11069-MS/LA-UR-00-4835, TWCP-352	March 1988
D044	Preparation and Development of Medical-Grade Plutonium-238 Fuels, July 1, 1967 - June 30, 1971	L. J. Mullins	LA-4940/TWCP-21983	Oct. 1972
D045	Preparation and Evaluation of Medical-Grade Plutonium-238 Fuels - July 1, 1971-June 30, 1973	L.J. Mullins	LA-5506-PR/TWCP-21984	May 1974
D046	Plutonium-238 Fuel and Heat Source Development for Nuclear-Powered Artificial Heart Program - July 1-September 30, 1976	C.L. Foxx and L.J. Mullins	LA-6669-PR/TWCP-21985	Feb. 1977
D047	Plutonium-238 Space Electric Power Fuel Development Program - January 1-March 31, 1970	R.D. Baker	TWCP-21981, LA-4476	3/31/1970
D048	Helium Release of Pu-238-Molybdenum Cermet Fuel	Barbara Mueller	TWCP-21980, LA-5820	March 1975

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D049	Initial Development and Characterization of Plutonia-Iridium Cermets	M. Tokar	TWCP-21979, LA-5255-MS	Rev. NA, NA
D050	Data Sheets for PPO Radioisotopic Fuel	T.K. Keenan, R.A. Kent, R.N.R. Mulford, M.W. Shupe	TWCP-21978, LA-5160-MS	02/1973
D051	The Relationship of Fabrication Parameters to selected Properties of PuO2 Radioisotopic Fuels	T.K. Keenan, R.A. Kent, R.W. Zocher	TWCP-21982, LA-5622-MS	5/1974
D052	Waste Determination Report for Waste Stream TA-55-43 Lot No. 01	LANL	TWCP-01258	07/14/98
D053	Plutonium Recovery At The Los Alamos Scientific Laboratory	Eldon L. Christensen	TWCP-22584, LA-UR-80-1168	April 1980
D054	Present Status of Plutonium Metal Production and Purification at Los Alamos - 1982	D.C. Christensen, L.J. Mullins	TWCP-22585, LA-9674-MS	June 1983
D055	Radioactive Waste Management Site Plan, 1974	NA	TWCP-22813, LA-UR-75-5016	Rev. NA, 06/1974
D056	Plutonium Scrap Processing at the Los Alamos Scientific Laboratory	Archie E. Nixon, Billy J. McKerley, and Eldon L. Christensen	TWCP-22583, LA-UR-80-835	03/24/1980
D057	Status of Am-241 Recovery and Purification at Los Alamos Scientific Laboratory	H.D. Ramsey, D.G. Clifton, S.W. Hayter, R.A. Penneman, E.L. Christensen	TWCP-22579, LA-UR-80-2414	1980
D058	Los Alamos National Laboratory Transuranic Waste Characterization Acceptable Knowledge Information Summary (AKIS)	NA	TWCP-PLAN-0.2.7-001	7, February 28, 2003
D059	Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility (Draft Report)	C. Smith	P2010-0608; TWCP 23596; AK-00--23,	Revision 0, 7/8/04
D060	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams	C. Smith	AK-00-019	1, 9/22/03
D061	Transit RTG Final Safety Analysis Report (Vol. 1)	TRW	P2010-1074, TRW (A)-11464-0491, TWCP-24021	3/1/71

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D062	Los Alamos Scientific Laboratory Health, Safety, and Environment Manual, Chapter XVIII-Material Disposal	LASL	P2010-1328	3/11/1981
D063	Acceptable Knowledge Summary report for Combustable/Noncombustable, Metallic, and HEPA Filter Waste resulting from PU-238 Fabrication Activities	P.S.Z. Rogers and C.L. Foxx	TWCP-1042, LA-UR-98-2016	0, 2/19/1998
D064	Pyrochemical Recovery of Plutonium Fluoride Reduction Slag	D.C Christensen and J.A. Rayburn	LA-9655-MS	NA, 7/1983
D065	LANL Project 2010 Acceptable Knowledge Report - Acceptable Knowledge Operations Report for Plutonium-238 Porcesses at LANL Facilities	Unknown	Project 2010	Revew Draft, NA
D066	The Decommissioning of TA-21-153, Aac-227 Contaminated Old Filter Building	Johnny Harper and Raymond Garde	LA-9047-MS UC-70	November 1981
D067	Nuclear Criticality Safety in D&D Operations - A Los Alamos Experience	Jihn Schlesser	LA-UR-96-3623	December 26, 1996
D068	Decontamination and Demolition of a Former Plutonium Processing Facility's Process Exhaust System, Firescreen, and Filter Plenum Buildings	Patrick LaFrate, Jr., Daniel Stout, Jouh Elliot	CONF-960212-68 LA-UR-96-0421	April 1, 1996
D069	A History of Waste Disposal at Technical Area 21 1943-1978	Ethan Merrill	NA	NA, March 1990
D070	Decontamination and Size Reduction of Plutonium Contaminated Process Exhaust Ductwork and Glove Boxes	Patrick LaFrate, Jr., John Elliott, David Siddoway, Miguel Valasquez	CONF-970335-39 LA-UR-97-254	11/15/96
D071	Upgrade and Performance Testing for the Linc System at TA-54 Area G	CD Rael and HO Menlove	LA-UR-02-2019	NA, Unknown
D072	Retrieval Plan for TA-54, Area G TRU Waste Containing Corrugated Metal Pipes (CMP)	Henry Nunes	TRU-PLAN-1302	Rev. 0, 12/19/2005
D073	Project Management Objectives for Pit 9 TRU Waste Retrieval	Avril Millenstead	TRU-PLAN-1201	Rev. 0, 05/12/2005
D074	Retrieval Plan for TA-54, Area G TRU Waste for Pit 9	William Gonzales	TRU-PLAN-1202	Rev. 0, 12/15/2005
D075	TA-54, Area G Pit 9 Waste Description	William Gonzales	TRU-TD-1202	Rev. 0, 01/09/2006
D076	TA-54, Area G Pit 9 Waste Description	William Gonzales	TD-SWO-008	Rev. 0, 03/25/2004
D077	TA-54, Area G CMP Waste Description	William Gonzales	TRU-TD-1301	Rev. 0, 01/09/2006
D078	TA-54, Area G Tenches A-D Waste Description	William Gonzales	TRU-TD-1401	Rev. 0, 01/09/2006

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
D079	TA-54 Area G Documented Safety Analysis	Dennis McLain	ABD-WFM-001	Rev. 0, 04/09/2003
D080	Attachment A (Waste Analysis Plan) of the LANL Hazardous Waste Permit	NA	TWCP-14341	Rev. NA, 01/30/1995
D081	LANL Waste Acceptance Criteria	NA	PLAN-WASTEMGT-002	Rev. 3.8, 02/05/2003
D082	Basis for Interim Operations for Technical Area G	J. Apperson	ABD-WFM-001	Rev. 1.0, DRAFT, 10/21/2010
D083	Corrugated Metal Pipes Category of Transuranic Waste Stored Below Ground within Area G	Kenneth M. Hargis	EP2013-5171	Rev. NA, August 2013
D085	Receptor Height: 1.5 m in Dispersion Modeling	J.C. Laul	LA-UR-12-01402	Rev. NA, 2012
D086	Final Report of the Los Alamos Historical Document Retrieval and Assessment (LAHDRA) Project	Thomas Widner	NA	Rev. NA, November 2010
DR001	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers	Michael Papp	NA	NA, 4/4/07
DR002	Discrepancy Resolution Form for Waste Stream Volume Evaluation - TA-21 Mixed Heterogeneous Combustible and Non-Combustible Debris	MJ Papp	DR002	NA, 6/26/07
DR004	Acceptable Knowledge Source Document Discrepancy Resolution for LA-MHD04.001 regarding Removal of Drum Greater Than 50% Solids	Randy Fitzgerald	NA	Rev. NA, 04/29/2009
DR005	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers for Waste Stream LA-MSG04.001	Michael J. Papp	NA	Rev. NA, 06/17/2014
DR007	Removal of One (1) Debris Container from Soil Waste Stream LA-MSG04.001	Randy Fitzgerald	NA	Rev. NA, 06/07/2012
M001	Table 1. TA-21 Plutonium Processing Operations, TA-21-Operations Report, Crosswalk to TA-55 Operations	Jim Foxx	TWCP-19810	NA
M002	An excerpt from Archive generator's databases 95drum	LANL	TWCP-06988	n/a, 10/25/01
M003	Waste Streams from Buildings TA-21, TA-55, TA-50, and TA-00 at LANL. Appendices B, C, D, E and F (Changes to Sampling Plan)	NA	TWCP-04138, TWCP Plan-0.2.7-001	Rev. 2, 6/4/99
M004	TA-55 NMT Waste Management System (CONCERT Database)	LANL - NMT division	n/a	n/a, n/a
M006	FWO TRU Waste Management Database (AKIR Database)	LANL- FWO division	n/a	n/a, n/a

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
M007	Data Dictionary for the Facility and Waste Operations (FWO) TRU Waste Management ORACLE Database	NA	TWCP-15206	12/22/99
M008	Exerpt from CONCERT Database	LANL	NA	Rev. NA, 08/17/2006
M009	AKIR Database Extracted DP West (TA-21) Radionuclides in Grams	LANL	AK-00-020	Rev. 0, 08/22/2006
M010	Miscellaneous Material Safety Data Sheets (MSDSs) for Commercial Products and other Chemicals Identified in the TA-21 Processes	Various	N/A	N/A, Various
M014	Vent Date Information - 6/26/2007 - 4/7/2008	Randy Fitzgerald	NA	Rev. NA, 04/09/2008
M015	TWSRs for Containers 80126, 80128, 80354, 80356, 80358, 30360, 80380, 80388	NA	NA	Rev. NA, Various
M016	Pu-238 Storage Facility Logbook	Joshua E	NA	Rev. NA, 03/04/1974-12/3/1985
M017	CMP's Logbook - Area T, TA-21	Michael Martinez	NA	Rev. NA, 04/28/1986-12/08/1986
M018	TA-54, Area G, Pit 9 Waste Information Spreadsheet	NA	NA	Rev. NA, 1/21/2009
M019	TWSRs for Containers 80000 Series	NA	NA	Rev. NA
M020	RSWD/TWSR Records for LA-MSG04.001	NA	NA	Rev. NA
M229	Record of Communication - Secondary Waste Added During Remediation and Repackaging Operations	Michael Papp	NA	Rev. NA, 08/06/2013
P001	Plutonium Electrorefining	Sammi Owens	432-MMP/TWCP-2505	Rev. 8, 08/25/97
P002	Button Breaking Press	David Olivas	317-CAS, TWCP-3541/MET-45	Rev. 5, (no date present)
P003	Safe Operating Procedure for Pit Disassembly	C.E. Klatt	397-SEC, TWCP-3541/MET-42	Rev. 3, 03/25/92
P004	Measuring Physical Properties	(no author listed)	116-MRD, TWCP-3541/MET-41	Rev. 2, (no date listed)

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
P005	Pit Disassembly	Calvin Klatt	ATP/SRL-104, TWCP-3541/MET-51	Rev. 0, 08/08/95
P006	Processing Material in the SRL Furnace	John Berg	ATP/SRL-105, TWCP-3541/MET-52	Rev. 0, 08/08/95
P007	Pit Disassembly	M. Blau	397-SRL, TWCP-3541/MET-53	Rev. 4, 07/22/94
P008	Encapsulation of Radioactive Isotopes	Clete Land	353-WEL, TWCP-3541/MET-39	Rev. 3, 06/28/91
P009	Operating Instructions, Procedures, and Equipment for the Los Alamos Plutonium Electrorefining Plant	L. J. Mullins. J.A. Leary, A.N. Morgan	TWCP-22445, LA-2981, LA-3118	Dec. 18, 1963 and July20, 1964
P010	Prohibited Item Dispositioning in Dome 231 Permaco, and TA-54 Area G Sludge Remediation Activities	M. Romero and . Monk	TRU-DOP-0334, EP-DOP-2108, EP-AREAG-WO-DOP-0219	Rev. 0-2,10, 2, 9/11/06-11/28/06, 09/17/2009, 05/06/10
P011	Processing Waste in the Waste Characterization Glovebox	T. Monk	EP-WCRR-WO-DOP-0233	5, 7/16/07
P012	Standard Waste Visual Examination and Prohibited Item Dispositioning	Mike Romero	TRU-DOP-1709	2, 9/28/06
P013	Trenches A-D Retrieval Operations	Henry Nunes	TRU-DOP-1401	Rev. 0, 02/2006
P014	TA-54, Area G CMP Retrieval Operations	Henry Nunes	TRU-DOP-1301	Rev. 0, 08/2006
P015	General Waste Management Requirements	NA	LIR 404-00-02.3	Rev. NA, 11/01/1998
P016	Managing Radioactive Waste	NA	LIR404-00-05.2	Rev. NA, 01/05/1999
P017	Hazardous and Mixed Waste	NA	AR 10-3	Rev. NA, 04/26/1993
P018	Review and Completion of the TWSR	NA	AP-SWO-006	Rev. 3.2, July 2003
P019	Waste Generator Guidance for Completing the TRU Waste Storage Record (TWSR)	NA	LIG404-00-01.2	Rev. NA, 11/26/1997
P020	Waste Profile Form Guidance	NA	LIG 404-00-03.1	Rev. NA, 09/18/1997

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

Source Document Tracking Number [a/c]	Title or Description [a]	Author	Document # [b]	Document Revision # and Date
P021	TA-54 Area G TRU Waste Drum SSSR Activities	Louis Jalbert	EP-AREAG-WO-DOP-1084	Rev. 3, 02/28/2014
P027	TA-54 Area G TRU Crate SSSR Activities	Mike Romero	EP-AREAG-WO-DOP-0227	Rev. 0, 06/15/2011
P028	TA-54 Area G TRU SWB/Drum Operations	Stephanie Jacquez	EP-AREAG-WO-DOP-0211	Rev. 12, 09/26/2011
P029	TA-54-231 PermaCon Upgrades	H. Gammage, et al.	TA-54-231-FRD-00094	Rev. 0, 02/23/2012
P030	Sort, Segregate, Size Reduction, and Repackaging Activity	Scott A. Miller	EP-AREAG-WO-DOP-0216	Rev. 15, 05/23/2011
P031	TA-54 Area G Sludge Remediation SSSR Activities	Louis Jalbert	EP-AREAG-WO-DOP-1085	Rev. 5, 03/04/2014
P032	TA-54 Area G TRU Oversized Container SSSR Activities	Paul N. Newberry	EP-AREAG-WO-DOP-1091	Rev. 7, 05/08/2014
P033	WCRRF Waste Characterization Glovebox Operations	Lou Jalbert	EP-WCRR-WO-DOP-0233, EP-WCRR-WO-DOP-1198	Rev. 32, Rev. 1, 01/31/2012, 03/03/2014
P034	TA-54-375 TRU Oversized Box Processing Capability Project	Joe Kanzleiter, et al.	FRD-11-TA54-AREAG-001	Rev. 1, 03/07/2011
P035	MDA-B TRU Waste Container Packaging in SWBs	Don Allen	TA21-MDAB-00017	Rev. 0, 04/21/2011
P036	Waste Management Plan for Material Disposal Area (MDA) B	Don Allen	TA21-MDAB-PLAN-00014	Rev. 1, 12/15/2010
P037	Waste Management Procedure for Environmental Program TA-21 Closure Project Activities (U)	Don Allen	TA21-AP-00002	Rev. 0, 03/16/20120
P038	Transuranic (TRU) Solid Waste	NA	ES&H Manual, AR 10-5	Rev. NA, August 15, 1993
P039	TA-54 Area G TRU Corrugated Metal Box SSSR Activities	Paul N. Newberry	EP-AREAG-WO-DOP-1155	Rev. 1, 05/17/2013
U001	A Brief History of C-AAC	NA	TWCP-19898	01/20/04
U002	Memorandum to E.L. Albenesius, Re: Description of Mound and LASL Solid Pu-238 Waste Stored at SRP	O.A. Towler	DPST-81-647	N/A, 9/18/79

Attachment 4 - Acceptable Knowledge Source Document Information List (continued)

[a] From Acceptable Knowledge Souce Document Summaries (Attachments 3)

[b] Or publisher's document number if available

[c] In the case where a AK Summary Report has been revised based on information in Attachment 11- Acceptable Knowledge Source Document Discrepancy Resolution form, identify the tracking number.

Acceptable Knowledge Expert: Amy Johns , Amy Johns Date: 6-19-2014
Print/Sign

Attachment 5 – Hazardous Constituents

Site(s): Los Alamos National Laboratory

Waste Stream Description: Heterogeneous Debris Generated in TA-50 Facilities

Waste Stream Number: LA-MHD09.001

Compound	Suspected Present? (Y/N)	Suspected Concentration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Metal Compounds (CCP-PO-001 Table B3-8 & 40 CFR Part 261)										
Arsenic	Y	Unknown	N/A	N/A	N	D004	N/A	N/A	D004	N/A
Barium	Y	Unknown	N/A	N/A	N	D005	N/A	N/A	D005	N/A
Beryllium	Y	<1 wt%	N/A	N/A	N/A	N/A	N/A	P015	N	N/A
Cadmium	Y	Unknown	N/A	N/A	N	D006	N/A	N/A	D006	N/A
Chromium	Y	Unknown	N/A	N/A	N	D007	N/A	N/A	D007	N/A
Lead	Y	Unknown	N/A	N/A	N	D008	N/A	N/A	D008	N/A
Mercury	Y	Unknown	N/A	N/A	N	D009	N/A	U151	D009	N/A
Selenium	Y	Unknown	N/A	N/A	N	D010	N/A	N/A	D010	N/A
Silver	Y	Unknown	N/A	N/A	N	D011	N/A	N/A	D011	N/A
Volatile Organic Compounds (CCP-PO-001 Tables B3-2 and B3-4 & 40 CFR Part 261)										
1,1,1-Trichloroethane	Y	Unknown	Y	N	N/A	N/A	F001/F002	U226	F001/F002	N/A
1,1,2,2-Tetrachloroethane	N	N/A	N/A	N/A	N/A	N/A	N/A	U209	N	N/A
1,1,2-Trichloro-1,2,2-trifluoroethane	Y	Unknown	Y	N	N/A	N/A	F001/F002	N/A	F001/F002	N/A
1,1,2-Trichloroethane	Y	Unknown	Y	N	N/A	N/A	F002	U227 [c]	F002	N/A
1,1-Dichloroethane	Y	Unknown	N/A	N	N/A	N/A	N/A	U076 [c]	N	N/A
1,1-Dichloroethylene	Y	Unknown	N/A	N	N	D029	N/A	U078	D029	N/A
1,2-Dichlorobenzene [c]	Y	Unknown	Y	N	N/A	N/A	F002	U070	F002	N/A
1,2-Dichloroethane	Y	Unknown	N/A	N	N	D028	N/A	U077 [c]	D028	N/A
1,4-Dichlorobenzene [c]	Y	Unknown	N/A	N	N	D027	N/A	U072	D027	N/A
2-Ethoxyethanol	Y	Unknown	Y	N	N/A	N/A	F005	U359 [c]	F005	N/A
2-Nitropropane	Y	Unknown	Y	N	N/A	N/A	F005	U171 [c]	F005	N/A
Acetone	Y	Unknown	Y	N	N/A	N/A	F003	U002	N	N/A
Benzene	Y	Unknown	Y	N	N/A	D018	F005	U019	F005	N/A

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-MHD09.001

Compound	Suspected Present? (Y/N)	Suspected Concentration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [b] (Y/N/NA)	TC Hazardous Waste Number [c]	F-Listed Hazardous Waste Number [c]	U- or P-Listed Hazardous Waste Number [c]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [c]
Volatile Organic Compounds (continued)										
Bromoform	Y	Unknown	N/A	N	N/A	N/A	N/A	U225 *	N	N/A
Butanol (n-Butyl alcohol)	Y	Unknown	Y	N	N/A	N/A	F003	U031 *	N	N/A
Carbon disulfide	Y	Unknown	Y	N	N/A	N/A	F005	P022 *	F005	N/A
Carbon tetrachloride	Y	Unknown	Y	N	N/A	D019	F001	U211 *	F001	N/A
Chlorobenzene	Y	Unknown	Y	N	N/A	D021	F002	U037	F002	N/A
Chloroform	Y	Unknown	N/A	N	N	D022	N/A	U044	D022	N/A
cis-1,2-Dichloroethylene	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyclohexanone	Y	Unknown	Y	N	N/A	N/A	F003	U057 *	N	N/A
Ethyl acetate	N	N/A	N/A	N/A	N/A	N/A	F003	U112 *	N	N/A
Ethyl benzene	Y	Unknown	Y	N	N/A	N/A	F003	N/A	N	N/A
Ethyl ether	Y	Unknown	Y	N	N/A	N/A	F003	U117 *	N	N/A
Formaldehyde [d]	N	N/A	N/A	N/A	N/A	N/A	N/A	U122	N	N/A
Hydrazine [b]	Y	Unknown	N/A	N/A	N/A	N/A	N/A	U133	N	N/A
Isobutanol	Y	Unknown	Y	N	N/A	N/A	F005	U140 *	F005	N/A
Methanol	Y	Unknown	Y	N	N/A	N/A	F003	U154	N	N/A
Methyl ethyl ketone	Y	Unknown	Y	N	N/A	D035	F005	U159	F005	N/A
Methyl isobutyl ketone	Y	Unknown	Y	N	N/A	N/A	F003	U161 *	N	N/A
Methylene chloride	Y	Unknown	Y	N	N/A	N/A	F001/F002	U080 *	F001/F002	N/A
Pyridine [d]	Y	Unknown	Y	N	N/A	D038	F005	U196	F005	N/A
Tetrachloroethylene	Y	Unknown	Y	N	N/A	D039	F001/F002	U210	F001/F002	N/A
Toluene	Y	Unknown	Y	N	N/A	N/A	F005	U220	F005	N/A
trans-1,2-Dichloroethylene	N	N/A	N/A	N/A	N/A	N/A	N/A	U079	N	N/A
Trichloroethylene	Y	Unknown	Y	N	N/A	D040	F001/F002	U228	F001/F002	N/A
Trichlorofluoromethane	Y	Unknown	Y	N	N/A	N/A	F001/F002	U121 *	F001/F002	N/A
Vinyl Chloride	Y	Unknown	N/A	N	N	D043	N/A	U043	D043	N/A
Xylenes	Y	Unknown	Y	N	N/A	N/A	F003	U239	N	N/A

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-MHD09.001

Compound	Suspected Present? (Y/N)	Suspected Concentration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [b] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [c]
Semivolatile Organic Compounds (CCP-PO-001 Table B3-6 & 40 CFR Part 261)										
2,4,5-Trichlorophenol	N	N/A	N/A	N/A	N/A	D041 *	F027 *	N/A	N	N/A
2,4,6-Trichlorophenol	N	N/A	N/A	N/A	N/A	D042 *	F027 *	N/A	N	N/A
2,4-Dinitrophenol	N	N/A	N/A	N/A	N/A	N/A	N/A	P048 *	N	N/A
2,4-Dinitrotoluene	Y	Unknown	N/A	N	N	D030	N/A	U105	D030	N/A
Cresols	Y	Unknown	Y	N	N/A	D026	F004	U052	F004	N/A
Cresols (m)	N	N/A	N/A	N/A	N/A	D024 *	N/A	N/A	N	N/A
Cresols (o)	N	N/A	N/A	N/A	N/A	D023 *	N/A	N/A	N	N/A
Cresols (p)	N	N/A	N/A	N/A	N/A	D025 *	N/A	N/A	N	N/A
Hexachlorobenzene	N	N/A	N/A	N/A	N/A	D032	N/A	U127 *	N	N/A
Hexachlorobutadiene	N	N/A	N/A	N/A	N/A	D033	N/A	U128 *	N	N/A
Hexachloroethane	N	N/A	N/A	N/A	N/A	D034	N/A	U131 *	N	N/A
Nitrobenzene	Y	Unknown	Y	N	N/A	D036	F004	U169 *	F004	N/A
Pentachlorophenol	Y	Unknown	N/A	N	N	D037	F027 *	N/A	D037	N/A
Pesticides and Herbicides (40 CFR Part 261)										
2,4,5-TP (Silvex)	N	N/A	N/A	N/A	N/A	D017 *	F027 *	N/A	N	N/A
2,4-D	N	N/A	N/A	N/A	N/A	D016 *	N/A	U240 *	N	N/A
Chlordane	N	N/A	N/A	N/A	N/A	D020 *	N/A	U036 *	N	N/A
Endrin	N	N/A	N/A	N/A	N/A	D012 *	N/A	P051 *	N	N/A
Heptachlor (and its epoxide)	N	N/A	N/A	N/A	N/A	D031 *	N/A	P059 *	N	N/A
Lindane	N	N/A	N/A	N/A	N/A	D013 *	N/A	U129 *	N	N/A
Methoxychlor	N	N/A	N/A	N/A	N/A	D014 *	N/A	U247 *	N	N/A
Toxaphene	N	N/A	N/A	N/A	N/A	D015 *	N/A	P123 *	N	N/A

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-MHD09.001

Compound	Suspected Present? (Y/N)	Suspected Concentration (ppm)	Used as a solvent? [b] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [b] (Y/N/NA)	TC Hazardous Waste Number [c]	F-Listed Hazardous Waste Number [d]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [e]
Other Constituents										
Wastewater treatment sludges from electroplating	Y	Unknown	N/A	N	N/A	N/A	F006	N/A	F006	N/A
Spent cyanide plating bath solutions from electroplating operations	Y	Unknown	N/A	N	N/A	N/A	F007	N/A	F007	N/A
Spent cyanides stripping and cleaning bath solutions from electroplating	Y	Unknown	N/A	N	N/A	N/A	F009	N/A	F009	N/A
Total PCB Concentration	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Additional EPA Hazardous Constituents (List)										
Hydrofluoric acid	Y	Unknown	N/A	N	N/A	N/A	N/A	U134	N	N/A
Selenious acid	Y	Unknown	N/A	N	N/A	D010	N/A	U204 [f]	D010	N/A
Note: If sampling homogeneous waste, identify all chemical constituents listed in tables B3-4, B3-6 and B3-8 of the WAP										
Additional State Hazardous Constituents [e] (List) [g]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Potentially Flammable VOCs (List) [f]	Y	Unknown	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acetone										
Benzene										
n-Butyl alcohol										
Chlorobenzene										
1,1-Dichloroethane										
1,2-Dichloroethane										
1,1-Dichloroethylene										
Ethyl Benzene										
Ethyl ether										
Methanol										
Methyl ethyl ketone										
Methyl isobutyl ketone										
Toluene										
Xylenes										

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-MHD09.001

Compound	Suspected Present? (Y/N)	Suspected Concentration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Other Constituents (cont.)										
Tentatively Identified Compounds (List) [c]	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

a Source: Title 40 Code of Federal Regulations Part 261, Identification and Listing of Hazardous Waste
b Source: Cite applicable state regulation
c Source: CCP-PO-001 CCP Transuranic Waste Characterization Quality Assurance Project Plan
d Can also be analyzed as a semivolatile organic compound
e Add rows or attach additional sheets as necessary
f Flammable VOCs included in the CH-TRAMPAC
g Required only for homogeneous solids and soil/gravel from LANL and SRS
h Required only for homogeneous solids and soil/gravel from ORNL and SRS
i Antimony, nickel, thallium, vanadium, and zinc are included in Table B3-8 of CCP-PO-001 but are not regulated under 40 CFR Part 261, and therefore, are not subject to AK evaluation per the WIPP-WAP Section B4
j Source: Title 40 Code of Federal Regulations Part 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.
k This EPA hazardous waste Number is not permitted for WIPP disposal.

NOTE: If any of the information requested on this form is not available or not applicable, enter N/A in the appropriate box.

Acceptable Knowledge Expert: Amy Johns _____ **Date:** 06/18/2009
Print Sign

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS GSA 203, Carlsbad, New Mexico 88220
Telephone Number 505-234-7523
Fax Number 505-234-7014

X Original Record
Fax Record
Electronic Record

Attn	Sheila Pearcy	From	Amy Johns
Ship to	CCP Central Records/CCP Records	Site	Los Alamos National Laboratory CCP-AK-LANL-4
	Custodian	Company	Technical Specialists
	4021 National Parks Highway - MS	Telephone Number	575-302-8669
	GSA 203, Carlsbad NM 88220	Date Sent	~~06/18/2009~~ 6/23/09
Telephone Number	505-234-7523		6/23/09

Document Number	Title / Description	Record Date	Total Pages
NA	Attachment 5 – Hazardous Constituents for LA MIL930 061	06/18/2009	5

Comments

None

Acceptance/Rejection Signature and Date

Records Accepted ✓ Sonia Gonzalez — SONIA GONZALEZ — 06-24-09
Signature — Printed Name — Date

Records Rejected _____
Signature — Printed Name — Date

Reason for Rejection

N/A

Re-submittal _____
Signature — Printed Name — Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	2134
CONNECTION TEL	92347056
SUBADDRESS	
CONNECTION ID	
ST. TIME	06/24 07:34
USAGE T	00'19
PGS. SENT	1
RESULT	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220
Telephone Number 505-234-7523
Fax Number 505-234-7014

[X] Original Record
[ ] Fax Record
[ ] Electronic Record

Attn	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/CCP Records	Site:	Los Alamos National Laboratory / CCP-AK-LANL-4
	Custodian	Company:	Technical Specialists
	4021 National Parks Highway – MS	Telephone Number:	575-392-8669
	GSA 203, Carlsbad, NM 88220	Date Sent	~~06/18/2009~~ CT 6/23/09
Telephone Number:	505-234-7523		6/23/09

Document Number	Title / Description	Record Date	Total Pages
NA	Attachment 5 – Hazardous Constituents for LA MIDD09 001	06/18/2009	5

Comments

None

Acceptance/Rejection Signature and Date

Records Accepted	✓ Sonia Gonzalez (Signature)	SONIA GONZALEZ (Printed Name)	06 24 09 (Date)
Records Rejected	(Signature)	(Printed Name)	(Date)

Reason for Rejection:

N/A

Re-submittal:

(Signature)	(Printed Name)	(Date)

DIVIDER

PAGE

Attachment 5 – Hazardous Constituents

Site(s): Los Alamos National Laboratory

Waste Stream Description: Mixed Contaminated Soil from TA-21 DP West

Waste Stream Number: LA-MSG04.001

Compound	Suspected Present? (Y/N)	Suspected Concen-tration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Metal Compounds (CCP-PO-001 Table B3-8 & 40 CFR Part 261) [i]										
Arsenic	Y	Unknown	N/A	N/A	N	D004	N/A	N/A	D004	N/A
Barium	Y	Unknown	N/A	N/A	N	D005	N/A	N/A	D005	N/A
Beryllium	Y	<1 wt%	N/A	N/A	N/A	N/A	N/A	P015	N	N/A
Cadmium	Y	Unknown	N/A	N/A	N	D006	N/A	N/A	D006	N/A
Chromium	Y	Unknown	N/A	N/A	N	D007	N/A	N/A	D007	N/A
Lead	Y	Unknown	N/A	N/A	N	D008	N/A	N/A	D008	N/A
Mercury	Y	Unknown	N/A	N/A	N	D009	N/A	U151	D009	N/A
Selenium	Y	Unknown	N/A	N/A	N	D010	N/A	N/A	D010	N/A
Silver	Y	Unknown	N/A	N/A	N	D011	N/A	N/A	D011	N/A
Volatile Organic Compounds (CCP-PO-001 Tables B3-2 and B3-4 & 40 CFR Part 261)										
1,1,1-Trichloroethane	Y	Unknown	Y	N	N/A	N/A	F001/F002	U226	F001/F002	N/A
1,1,2,2-Tetrachloroethane	N	N/A	N/A	N/A	N/A	N/A	N/A	U209	N	N/A
1,1,2-Trichloro-1,2,2-trifluoroethane	Y	Unknown	Y	N	N/A	N/A	F001/F002	N/A	F001/F002	N/A
1,1,2-Trichloroethane	N	N/A	N/A	N/A	N/A	N/A	F002	U227 [k]	N	N/A
1,1-Dichloroethane	N	N/A	N/A	N/A	N/A	N/A	N/A	U076 [k]	N	N/A
1,1-Dichloroethylene	N	N/A	N/A	N/A	N/A	D029	N/A	U078	N	N/A
1,2-Dichlorobenzene [d]	N	N/A	N/A	N/A	N/A	N/A	F002	U070	N	N/A
1,2-Dichloroethane	N	N/A	N/A	N/A	N/A	D028	N/A	U077 [k]	N	N/A
1,4-Dichlorobenzene [d]	N	N/A	N/A	N/A	N/A	D027	N/A	U072	N	N/A
2-Ethoxyethanol	N	N/A	N/A	N/A	N/A	N/A	F005	U359 [k]	N	N/A
2-Nitropropane	N	N/A	N/A	N/A	N/A	N/A	F005	U171 [k]	N	N/A
Acetone	Y	Unknown	Y	N	N/A	N/A	F003	U002	N	N/A
Benzene	Y	Unknown	Y	N	N/A	D018	F005	U019	F005	N/A

ORIGINAL

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-MSG04.001

Compound	Suspected Present? (Y/N)	Suspected Concen-tration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Volatile Organic Compounds (continued)										
Bromoform	N	N/A	N/A	N/A	N/A	N/A	N/A	U225 [k]	N	N/A
Butanol (n-Butyl alcohol)	Y	Unknown	Y	N	N/A	N/A	F003	U031 [k]	N	N/A
Carbon disulfide	N	N/A	N/A	N/A	N/A	N/A	F005	P022 [k]	N	N/A
Carbon tetrachloride	Y	Unknown	Y	N	N/A	D019	F001	U211 [k]	F001	N/A
Chlorobenzene	Y	Unknown	Y	N	N/A	D021	F002	U037	F002	N/A
Chloroform	Y	Unknown	N/A	N	N	D022	N/A	U044	D022	N/A
cis-1,2-Dichloroethylene [c]	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyclohexanone	N	N/A	N/A	N/A	N/A	N/A	F003	U057 [k]	N	N/A
Ethyl acetate	N	N/A	N/A	N/A	N/A	N/A	F003	U112 [k]	N	N/A
Ethyl benzene	N	N/A	N/A	N/A	N/A	N/A	F003	N/A	N	N/A
Ethyl ether	Y	Unknown	Y	N	N/A	N/A	F003	U117 [k]	N	N/A
Formaldehyde [g]	N	N/A	N/A	N/A	N/A	N/A	N/A	U122	N	N/A
Hydrazine [h]	N	N/A	N/A	N/A	N/A	N/A	N/A	U133	N	N/A
Isobutanol	N	N/A	N/A	N/A	N/A	N/A	F005	U140 [k]	N	N/A
Methanol	Y	Unknown	Y	N	N/A	N/A	F003	U154	N	N/A
Methyl ethyl ketone	Y	Unknown	Y	N	N/A	D035	F005	U159	F005	N/A
Methyl isobutyl ketone	Y	Unknown	Y	N	N/A	N/A	F003	U161 [k]	N	N/A
Methylene chloride	Y	Unknown	Y	N	N/A	N/A	F001/F002	U080 [k]	F001/F002	N/A
Pyridine [q]	Y	Unknown	Y	N	N/A	D038	F005	U196	F005	N/A
Tetrachloroethylene	Y	Unknown	Y	N	N/A	D039	F001/F002	U210	F001/F002	N/A
Toluene	Y	Unknown	Y	N	N/A	N/A	F005	U220	F005	N/A
trans-1,2-Dichloroethylene	N	N/A	N/A	N/A	N/A	N/A	N/A	U079	N	N/A
Trichloroethylene	Y	Unknown	Y	N	N/A	D040	F001/F002	U228	F001/F002	N/A
Trichlorofluoromethane	N	N/A	N/A	N/A	N/A	N/A	F001/F002	U121 [k]	N	N/A
Vinyl Chloride	N	N/A	N/A	N/A	N/A	D043	N/A	U043	N	N/A
Xylenes	Y	Unknown	Y	N	N/A	N/A	F003	U239	N	N/A

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-MSG04.001

Compound	Suspected Present? (Y/N)	Suspected Concen-tration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Semivolatile Organic Compounds (CCP-PO-001 Table B3-6 & 40 CFR Part 261)										
2,4,5-Trichlorophenol	N	N/A	N/A	N/A	N/A	D041 [k]	F027 [k]	N/A	N	N/A
2,4,6-Trichlorophenol	N	N/A	N/A	N/A	N/A	D042 [k]	F027 [k]	N/A	N	N/A
2,4-Dinitrophenol	N	N/A	N/A	N/A	N/A	N/A	N/A	P048 [k]	N	N/A
2,4-Dinitrotoluene	N	N/A	N/A	N/A	N/A	D030	N/A	U105	N	N/A
Cresols	N	N/A	N/A	N/A	N/A	D026	F004	U052	N	N/A
Cresols (m)	N	N/A	N/A	N/A	N/A	D024 [k]	N/A	N/A	N	N/A
Cresols (o)	N	N/A	N/A	N/A	N/A	D023 [k]	N/A	N/A	N	N/A
Cresols (p)	N	N/A	N/A	N/A	N/A	D025 [k]	N/A	N/A	N	N/A
Hexachlorobenzene	N	N/A	N/A	N/A	N/A	D032	N/A	U127 [k]	N	N/A
Hexachlorobutadiene	N	N/A	N/A	N/A	N/A	D033	N/A	U128 [k]	N	N/A
Hexachloroethane	N	N/A	N/A	N/A	N/A	D034	N/A	U131 [k]	N	N/A
Nitrobenzene	N	N/A	N/A	N/A	N/A	D036	F004	U169 [k]	N	N/A
Pentachlorophenol	N	N/A	N/A	N/A	N/A	D037	F027 [k]	N/A	N	N/A
Pesticides and Herbicides (40 CFR Part 261)										
2,4,5-TP (Silvex)	N	N/A	N/A	N/A	N/A	D017 [k]	F027 [k]	N/A	N	N/A
2,4-D	N	N/A	N/A	N/A	N/A	D016 [k]	N/A	U240 [k]	N	N/A
Chlordane	N	N/A	N/A	N/A	N/A	D020 [k]	N/A	U036 [k]	N	N/A
Endrin	N	N/A	N/A	N/A	N/A	D012 [k]	N/A	P051 [k]	N	N/A
Heptachlor (and its epoxide)	N	N/A	N/A	N/A	N/A	D031 [k]	N/A	P059 [k]	N	N/A
Lindane	N	N/A	N/A	N/A	N/A	D013 [k]	N/A	U129 [k]	N	N/A
Methoxychlor	N	N/A	N/A	N/A	N/A	D014 [k]	N/A	U247 [k]	N	N/A
Toxaphene	N	N/A	N/A	N/A	N/A	D015 [k]	N/A	P123 [k]	N	N/A

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-MSG04.001

Compound	Suspected Present? (Y/N)	Suspected Concen-tration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Other Constituents										
Wastewater treatment sludges from electroplating operations	N	N/A	N/A	N/A	N/A	N/A	F006	N/A	N	N/A
Spent cyanide plating bath solutions from electroplating operations	N	N/A	N/A	N/A	N/A	N/A	F007	N/A	N	N/A
Spent cyanides stripping and cleaning bath solutions from electroplating operations	N	N/A	N/A	N/A	N/A	N/A	F009	N/A	N	N/A
Total PCB Concentration [j]	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Additional EPA Hazardous Constituents (List) Hydrofluoric acid	Y	Unknown	N/A	N	N/A	N/A	N/A	U134	N	N/A
Note: If sampling homogeneous waste, identify all chemical constituents listed in tables B3-4, B3-6 and B3-8 of the WAP										
Additional State Hazardous Constituents [b] (List) [e]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Potentially Flammable VOCs (List) [e,f] Acetone Benzene Chlorobenzene Ethyl ether Methanol Methyl ethyl ketone Methyl isobutyl ketone Toluene Xylenes	Y	Unknown	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-MSG04.001

Compound	Suspected Present? (Y/N)	Suspected Concen-tration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Other Constituents (cont.)										
Tentatively Identified Compounds (List) [e]	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

a Source: Title 40 Code of Federal Regulations Part 261, Identification and Listing of Hazardous Waste
b. Source: Cite applicable state regulation
c. Source: CCP-PO-001 CCP Transuranic Waste Characterization Quality Assurance Project Plan
d. Can also be analyzed as a semivolatile organic compound
e. Add rows or attach additional sheets as necessary
f. Flammable VOCs included in the CH-TRAMPAC
g. Required only for homogeneous solids and soil/gravel from LANL and SRS
h. Required only for homogeneous solids and soil/gravel from ORNL and SRS
i. Antimony, nickel, thallium, vanadium, and zinc are included in Table B3-8 of CCP-PO-001 but are not regulated under 40 CFR Part 261, and therefore, are not subject to AK evaluation per the WIPP-WAP Section B4.
j. Source: Title 40 Code of Federal Regulations Part 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.
k. This EPA hazardous waste Number is not permitted for WIPP disposal.

NOTE: If any of the information requested on this form is not available or not applicable, enter N/A in the appropriate box.

Acceptable Knowledge Expert: Michael J. Papp (Print) _____ PPP (Sign) **Date:** 10-23-09

DIVIDER

PAGE

DIVIDER

PAGE

Attachment 5 – Hazardous Constituents

Site(s): Los Alamos National Laboratory

Waste Stream Description: Defense Sealed Sources

Waste Stream Number: LA-OS-00-01.001

Compound	Suspected Present? (Y/N)	Suspected Concentration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Metal Compounds (CCP-PO-001 – Table C3-8 & 40 CFR Part 261) [i]										
Arsenic	N	N/A	N/A	N/A	N/A	D004	N/A	N/A	N/A	N/A
Barium	N	N/A	N/A	N/A	N/A	D005	N/A	N/A	N/A	N/A
Beryllium	Y	Unknown	N/A	N	N/A	N/A	N/A	P015	N	N/A
Cadmium	N	N/A	N/A	N/A	N/A	D006	N/A	N/A	N/A	N/A
Chromium	N	N/A	N/A	N/A	N/A	D007	N/A	N/A	N/A	N/A
Lead	N	N/A	N/A	N/A	N/A	D008	N/A	N/A	N/A	N/A
Mercury	N	N/A	N/A	N/A	N/A	D009	N/A	U151	N/A	N/A
Selenium	N	N/A	N/A	N/A	N/A	D010	N/A	N/A	N/A	N/A
Silver	Y	Unknown	N/A	N	Y	D011	N/A	N/A	N	N/A
Volatile Organic Compounds (CCP-PO-001 – Tables C3-2 and C3-4 & 40 CFR Part 261)										
1,1,1-Trichloroethane	N	N/A	N/A	N/A	N/A	N/A	F001/F002	U226	N/A	N/A
1,1,2,2-Tetrachloroethane	N	N/A	N/A	N/A	N/A	N/A	N/A	U209	N/A	N/A
1,1,2-Trichloro-1,2,2-trifluoroethane	N	N/A	N/A	N/A	N/A	N/A	F001/F002	N/A	N/A	N/A
1,1,2-Trichloroethane	N	N/A	N/A	N/A	N/A	N/A	F002	U227 [k]	N/A	N/A
1,1-Dichloroethane	N	N/A	N/A	N/A	N/A	N/A	N/A	U076 [k]	N/A	N/A
1,1-Dichloroethylene	N	N/A	N/A	N/A	N/A	D029	N/A	U078	N/A	N/A
1,2-Dichlorobenzene [d]	N	N/A	N/A	N/A	N/A	N/A	F002	U070	N/A	N/A
1,2-Dichloroethane	N	N/A	N/A	N/A	N/A	D028	N/A	U077 [k]	N/A	N/A
1,4-Dichlorobenzene [d]	N	N/A	N/A	N/A	N/A	D027	N/A	U072	N/A	N/A
2-Ethoxyethanol	N	N/A	N/A	N/A	N/A	N/A	F005	U359 [k]	N/A	N/A
2-Nitropropane	N	N/A	N/A	N/A	N/A	N/A	F005	U171 [k]	N/A	N/A
Acetone	N	N/A	N/A	N/A	N/A	N/A	F003	U002	N/A	N/A
Benzene	N	N/A	N/A	N/A	N/A	D018	F005	U019	N/A	N/A

CCP RECORDS ORIGINAL
DATE REC'D 7/9/12

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-OS-00-01.001

Compound	Suspected Present? (Y/N)	Suspected Concentration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Volatile Organic Compounds (continued)										
Bromoform	N	N/A	N/A	N/A	N/A	N/A	N/A	U225 [k]	N/A	N/A
Butanol (n-Butyl alcohol)	N	N/A	N/A	N/A	N/A	N/A	F003	U031 [k]	N/A	N/A
Carbon disulfide	N	N/A	N/A	N/A	N/A	N/A	F005	P022 [k]	N/A	N/A
Carbon tetrachloride	N	N/A	N/A	N/A	N/A	D019	F001	U211 [k]	N/A	N/A
Chlorobenzene	N	N/A	N/A	N/A	N/A	D021	F002	U037	N/A	N/A
Chloroform	N	N/A	N/A	N/A	N/A	D022	N/A	U044	N/A	N/A
Cyclohexanone	N	N/A	N/A	N/A	N/A	N/A	F003	U057 [k]	N/A	N/A
Ethyl acetate	N	N/A	N/A	N/A	N/A	N/A	F003	U112 [k]	N/A	N/A
Ethyl benzene	N	N/A	N/A	N/A	N/A	N/A	F003	N/A	N/A	N/A
Ethyl ether	N	N/A	N/A	N/A	N/A	N/A	F003	U117 [k]	N/A	N/A
Formaldehyde [g]	N	N/A	N/A	N/A	N/A	N/A	N/A	U122	N/A	N/A
Hydrazine [h]	N	N/A	N/A	N/A	N/A	N/A	N/A	U133	N/A	N/A
Isobutanol	N	N/A	N/A	N/A	N/A	N/A	F005	U140 [k]	N/A	N/A
Methanol	N	N/A	N/A	N/A	N/A	N/A	F003	U154	N/A	N/A
Methyl ethyl ketone	N	N/A	N/A	N/A	N/A	D035	F005	U159	N/A	N/A
Methyl isobutyl ketone	N	N/A	N/A	N/A	N/A	N/A	F003	U161 [k]	N/A	N/A
Methylene chloride	N	N/A	N/A	N/A	N/A	N/A	F001/F002	U080 [k]	N/A	N/A
Pyridine [d]	N	N/A	N/A	N/A	N/A	D038	F005	U196	N/A	N/A
Tetrachloroethylene	N	N/A	N/A	N/A	N/A	D039	F001/F002	U210	N/A	N/A
Toluene	N	N/A	N/A	N/A	N/A	N/A	F005	U220	N/A	N/A
trans-1,2-Dichloroethylene	N	N/A	N/A	N/A	N/A	N/A	N/A	U079	N/A	N/A
Trichloroethylene	N	N/A	N/A	N/A	N/A	D040	F001/F002	U228	N/A	N/A
Trichlorofluoromethane	N	N/A	N/A	N/A	N/A	N/A	F001/F002	U121 [k]	N/A	N/A
Vinyl Chloride	N	N/A	N/A	N/A	N/A	D043	N/A	U043	N/A	N/A
Xylenes	N	N/A	N/A	N/A	N/A	N/A	F003	U239	N/A	N/A

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-OS-00-01.001

Compound	Suspected Present? (Y/N)	Suspected Concen-tration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Semivolatile Organic Compounds (CCP-PO-001 – Table C3-6 & 40 CFR Part 261)										
2,4,5-Trichlorophenol	N	N/A	N/A	N/A	N/A	D041 [k]	F027 [k]	N/A	N/A	N/A
2,4,6-Trichlorophenol	N	N/A	N/A	N/A	N/A	D042 [k]	F027 [k]	N/A	N/A	N/A
2,4-Dinitrophenol	N	N/A	N/A	N/A	N/A	N/A	N/A	P048 [k]	N/A	N/A
2,4-Dinitrotoluene	N	N/A	N/A	N/A	N/A	D030	N/A	U105	N/A	N/A
Cresols	N	N/A	N/A	N/A	N/A	D026	F004	U052	N/A	N/A
Cresols (m)	N	N/A	N/A	N/A	N/A	D024 [k]	N/A	N/A	N/A	N/A
Cresols (o)	N	N/A	N/A	N/A	N/A	D023 [k]	N/A	N/A	N/A	N/A
Cresols (p)	N	N/A	N/A	N/A	N/A	D025 [k]	N/A	N/A	N/A	N/A
Hexachlorobenzene	N	N/A	N/A	N/A	N/A	D032	N/A	U127 [k]	N/A	N/A
Hexachlorobutadiene	N	N/A	N/A	N/A	N/A	D033	N/A	U128 [k]	N/A	N/A
Hexachloroethane	N	N/A	N/A	N/A	N/A	D034	N/A	U131 [k]	N/A	N/A
Nitrobenzene	N	N/A	N/A	N/A	N/A	D036	F004	U169 [k]	N/A	N/A
Pentachlorophenol	N	N/A	N/A	N/A	N/A	D037	F027 [k]	N/A	N/A	N/A
Pesticides and Herbicides (40 CFR Part 261)										
2,4,5-TP (Silvex)	N	N/A	N/A	N/A	N/A	D017 [k]	F027 [k]	N/A	N/A	N/A
2,4-D	N	N/A	N/A	N/A	N/A	D016 [k]	N/A	U240 [k]	N/A	N/A
Chlordane	N	N/A	N/A	N/A	N/A	D020 [k]	N/A	U036 [k]	N/A	N/A
Endrin	N	N/A	N/A	N/A	N/A	D012 [k]	N/A	P051 [k]	N/A	N/A
Heptachlor (and its epoxide)	N	N/A	N/A	N/A	N/A	D031 [k]	N/A	P059 [k]	N/A	N/A
Lindane	N	N/A	N/A	N/A	N/A	D013 [k]	N/A	U129 [k]	N/A	N/A
Methoxychlor	N	N/A	N/A	N/A	N/A	D014 [k]	N/A	U247 [k]	N/A	N/A
Toxaphene	N	N/A	N/A	N/A	N/A	D015 [k]	N/A	P123 [k]	N/A	N/A

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-OS-00-01.001

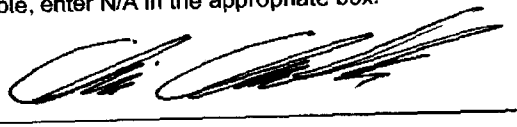
Compound	Suspected Present? (Y/N)	Suspected Concen-tration (ppm)	Used as a solvent? [a] (Y/N/NA)	Associated with packaging? (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Other Constituents										
Wastewater treatment sludges from electroplating operations	N	N/A	N/A	N/A	N/A	N/A	F006	N/A	N/A	N/A
Spent cyanide plating bath solutions from electroplating operations	N	N/A	N/A	N/A	N/A	N/A	F007	N/A	N/A	N/A
Spent cyanides stripping and cleaning bath solutions from electroplating operations	N	N/A	N/A	N/A	N/A	N/A	F009	N/A	N/A	N/A
Total PCB Concentration [j]	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Additional EPA Hazardous Constituents (List)	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Additional State Hazardous Constituents [b] (List) [e]	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Potentially Flammable VOCs (List) [e,f]	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tentatively Identified Compounds (List) [e]	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Attachment 5 – Hazardous Constituents (continued)

Waste Stream Number: LA-OS-00-01.001

a Source: Title 40 Code of Federal Regulations Part 261, Identification and Listing of Hazardous Waste
b. Source: Cite applicable state regulation
c. Superscript not used
d. Can also be analyzed as a semivolatile organic compound
e. Add rows or attach additional sheets as necessary
f. Flammable VOCs included in the CH-TRAMPAC
g. Required only for homogeneous solids and soil/gravel from LANL and SRS
h. Required only for homogeneous solids and soil/gravel from ORNL and SRS
i. Antimony, nickel, thallium, vanadium, and zinc are included in Table C3-8 of CCP-PO-001 but are not regulated under 40 CFR Part 261, and therefore, are not subject to AK evaluation per CCP-PO-001.
j. Source: Title 40 Code of Federal Regulations Part 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.
k. This EPA hazardous waste Number is not permitted for WIPP disposal.

NOTE: If any of the information requested on this form is not available or not applicable, enter N/A in the appropriate box.

Acceptable Knowledge Expert: Christopher Chancellor /  Date: 07/18/2012
Print Sign

Attachment 6 – Waste Form, Waste Material Parameters, Prohibited Items, and Packaging

Site(s): Los Alamos National Laboratory

Waste Stream Description: Heterogeneous Debris Generated in TA-50 Facilities

Container ID Numbers: See CCP-TP-005, Attachment 8 for containers in this waste stream

Waste Stream Number: LA-MHD09.001	
Physical Waste Form (e.g., debris, solidified waste)	Debris
Summary Category Group [a]	S5000
Waste Matrix Code Group [a]	Heterogeneous Debris Waste
Waste Matrix Code [b]	S5400
Waste Material Parameter Weights [c]	Estimated Waste Stream Weight Percent Average (attach evaluation justifying percentages)
Iron-based metals/alloys	49.75%
Aluminum-based metals/alloys	18.11%
Other metals	18.38%
Other inorganic materials	2.02%
Cellulosics	3.72%
Rubber	3.43%
Plastics (waste materials)	3.76%
Organic matrix	0.00%
Inorganic matrix	0.83%
Soils/Gravels	0.00%
Packaging Materials	Present (Y/N)?
Steel	Y
Plastics	Y
Prohibited Wastes [d,e,f,g]	Present (Y/N)?
Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of RTR or VE. Observable liquid shall be no more than 60 milliliters or 3 percent by volume, whichever is greater, in an internal container. Observable liquid shall not be present in a container with EPA HWN U134 assigned.	Y
Non-radionuclide pyrophoric materials	N
Sealed containers > 4 liters	Y
Hazardous waste not occurring as co-contaminants with TRU mixed waste (non-mixed hazardous waste)	N

NTPC RECORDS ORIGINAL
DATE REC'D 6/18/2014
EPF

Attachment 6 – Waste Form, Waste Material Parameters, Prohibited Items, and Packaging (continued)

Waste Stream Number: LA-MHD09.001	
Explosives	N
Compressed gases	Y (unpunctured aerosol cans)
Residual hydrofluoric acid (if U134 assigned to stream)	N
Residual PCB liquids [i]	N
Ignitables (EPA Hazardous Waste Number D001)	N
Corrosives (EPA Hazardous Waste Number D002)	N
Reactives (EPA Hazardous Waste Number D003)	N
Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes [h]	N
Spent Nuclear fuel or high-level waste [i]	N
Any un-vented plastic bags > 4 liters that have been heat-sealed	N
Additional Information (if available)	Some containers may have up to two 5-mil to 12-mil plastic liner bags closed with tape. After 1995, two bags could still be present, but were typically closed by folding, not by twisting and taping. Since 1997, plastic bags with filters are typically used. Remediated/repackaged waste may be packaged with or without a single plastic liner bag with one of the following drum liner configurations depending on the remediation facility: no liner, a fiberboard liner, a POC, or a 90-/125-mil rigid polyethylene liner without lid.
Packaging	
Waste container type?	DOT 7A, Type A 55-gallon drum (may include a POC) and SWB. Additional containers include 85-gallon drum, and others (e.g., crate, steel box, TDOP).
Liner type?	Some containers may have a 90-/125-mil rigid polyethylene liner with lid
Is liner punctured?	N (some liners may not be punctured)
Is filter vent installed?	N (some containers may not include filters)
Maximum number of confinement layers	6

a. Source: *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (CCP-PO-001) Introduction.
b. Source: *Transuranic Waste Baseline Inventory Report* (DOE/CAO-95-1121) or DOE Waste Treatability Group Guidance (DOE/LLW-217). Note: the waste matrix code should not be assigned at the summary category group level.
c. Source: CCP-PO-001 – Table C3-1. Attach the Waste Material Parameter Evaluation Memorandum used to estimate values include in this Table (see Section 4.4.27).
d. Source: CCP-PO-001 – Section C-1c
e. Source: *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC)(DOE/WIPP-02-3122), Section 3
f. Source: *TRUPACT-II Content Codes* (TRUCON) (DOE/WIPP 89-004)
g. Source: *TRUPACT-II Authorized Methods for Payload Control (TRAMPAC), Nuclear Waste Partnership*, LLC
h. This waste has been approved for disposal at the WIPP by the Permittee as documented by Appendix C1 of the WIPP RCRA Part B Permit Application and the Permittee's approval and assignment of the applicable TRUCON Codes for this waste stream.
i. Source: *Nuclear Waste Policy Act of 1982* (42 U.S.C. 10101)
j. Source: Polychlorinated Biphenyls (PCBs) manufacturing, Processing, Distribution and Commerce, and Use Prohibitions (40 CFR 761)

Acceptable Knowledge Expert: Michael Papp / Michael Papp Date: 6/13/14
Print Sign

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

P2010-2657

Memorandum

To: CCP Records

From: Jim Schoen, CCP AKE 12/13/2011

Date: August 26, 2009

RE: Waste Material Parameter Analysis for Waste Stream LA-MHD09.001, TA-50 Mixed Heterogeneous Debris

In accordance to *CCP Acceptable Knowledge Documentation*, CCP-TP-005, Revision 18, Section 4.4.24, Waste Material Parameters (WMP) shall be estimated on a weight percent basis for the waste stream, documenting the assumptions and justification for deriving the estimated WMPs.

The WMPs for waste stream LA-MHD09.001 were estimated by reviewing container inventory records for 53 containers which had net weights listed in the CONCERT database. To estimate the WMPs, generator comments describing the container contents, when available, were extracted from the CONCERT database. When generator comments were not available, the RSWD, IDC, or TRUCON code for each container was obtained from the CONCERT database as of January 4, 2005. The WMP data were derived by assigning WMPs to each RSWD, IDC, or TRUCON code based upon the description of the respective code. Twenty-three containers had good descriptions of the contents in the generator comments field, the remainder did not.

The net weight of each container was categorized into one or more of the following WMPs: iron based metals/alloys, aluminum based metals/alloys, other metals/alloys, other inorganic materials, cellulosics, rubber, plastics, and inorganic matrix; based on the RSWD, IDC or TRUCON code assigned to the container. The 53 containers included in the evaluation represent over 90% of the current waste stream. Average, minimum, and maximum WMP weight percentages were calculated using the CONCERT database data, and the results of this analysis are presented in the attached table, Waste Material Parameter Estimates for LA-MHD09.001

Attachment 1 provides the calculations used to arrive at the average, minimum and maximum WMP weight percentages.

Waste Material Parameter Estimates for LA-MHD09.001

WMP Description	Average Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	49.75%	0 - 57.77%
Aluminum-based Metals/Alloys	18.11%	0 - 33.33%
Other Metals/Alloys	18.38%	0 - 100.00%
Other Inorganic Materials	2.02%	0 - 100.00%
Cellulosics	3.72%	0 - 100.00%
Rubber	3.43%	0 - 33.33%
Plastic (waste materials)	3.76%	0 - 100.00%
Inorganic Matrix	0.83%	0 - 92.93%
Total Organic Waste Avg.	**10.91%**	
Total Inorganic Waste Avg.	**89.09%**	

NTPC RECORDS ORIGINAL
DATE REC'D 6/18/2014
EPF

Attachment 1
LA-MHD09_001 WMP Calculations.xlsx

SHORT_ID	IDC/RSWD/TRUCON	NET_WEIGHT (Kg)	AVE NET_WEIGHT (Kg)	Iron	Aluminum	Other Metals	Other Inorganics
52315	001	1054.60226	958.667474	287.600242	287.600242	287.6002422	
50003	001		958.667474	862.800727	287.600242	287.6002422	
50010	001		958.667474	862.800727	287.600242	287.6002422	
52308	001		958.667474	862.800727	287.600242	287.6002422	
52309	001	518.0024865	958.667474	862.800727	287.600242	287.6002422	
52311	001	1121.280339	958.667474	862.800727	287.600242	287.6002422	
52312	001	1140.784811	958.667474	862.800727	287.600242	287.6002422	
53877	001		958.667474	862.800727	287.600242	287.6002422	
53878	001		958.667474	862.800727	287.600242	287.6002422	
53879	001		958.667474	862.800727	287.600242	287.6002422	
53889	001		958.667474	862.800727	287.600242	287.6002422	
53899	001		958.667474	862.800727	287.600242	287.6002422	
54205	001		958.667474	862.800727	287.600242	287.6002422	
54207	001		958.667474	862.800727	287.600242	287.6002422	
S851153	A-14	8.790620131					
S902264	A-16	15.88283394					
S810650	A-18	-15.87360107					
S816609	A-18	-9.068436385					
S804563	A-18	0.004116351					
S843974	A-19	38.56671621				12.85557207	
S823963	A-19	18.15122217					18.15122217
S823962	A-19	18.15122217					18.15122217
S810637	A-30	18.19622987		3.63924597	3.63924597	3.639245974	
S820648	A-31	-18.14218933					
S804112	A-31						
S820647	A-31	0.004116351		0.00082327	0.00082327	0.00082327	
S852300	A-51	22.79301659				22.79301659	
S810689	A-51	9.077669258					9.077669258
S804516	A-55	154.2155091					38.55387727
S804517	A-55	154.2155091					38.55387727
025270	A-55	120.2697243					
024559	A-55	88.51298928					
S870728	A-95	13.84148457					6.920742284

Attachment 1
LA-MHD09_001 WMP Calculations.xlsx

SHORT_ID	Cellulosics	Plastic	Rubber	Inorganic Matrix	Totals		Iron%	Aluminum%	Other Metals%
52315	31.6360266	31.6360266	31.6360266		957.708807		30.03%	30.03%	30.03%
50003	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
50010	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
52308	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
52309	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
52311	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
52312	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
53877	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
53878	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
53879	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
53889	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
53899	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
54205	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
54207	31.6360266	31.6360266	31.6360266		1532.90929		56.29%	18.76%	18.76%
S851153	8.79062013				8.79062013		0.00%	0.00%	0.00%
S902264		15.8828339			15.8828339		0.00%	0.00%	0.00%
S810650					0				
S816609					0				
S804563					0				
S843974	12.8555721	12.8555721			38.5667162		0.00%	0.00%	33.33%
S823963					18.1512222		0.00%	0.00%	0.00%
S823962					18.1512222		0.00%	0.00%	0.00%
S810637		3.63924597	3.63924597		18.1962299		20.00%	20.00%	20.00%
S820648					0				
S804112					0				
S820647		0.00082327	0.00082327		0.00411635		20.00%	20.00%	20.00%
S852300					22.7930166		0.00%	0.00%	100.00%
S810689					9.07766926		0.00%	0.00%	0.00%
S804516	38.5538773	38.5538773	38.5538773		154.215509		0.00%	0.00%	0.00%
S804517	38.5538773	38.5538773	38.5538773		154.215509		0.00%	0.00%	0.00%
025270	40.0899081	40.0899081	40.0899081		120.269724		0.00%	0.00%	0.00%
024559	29.5043298	29.5043298	29.5043298		88.5129893		0.00%	0.00%	0.00%
S870728	3.46037114	3.46037114			13.8414846		0.00%	0.00%	0.00%

Attachment 1
LA-MHD09_001 WMP Calculations.xlsx

SHORT_ID	Other Inorganics%	Cellulosics%	Plastic%	Rubber%	Inorganic Matrix%
52315	0.00%	3.30%	3.30%	3.30%	0.00%
50003	0.00%	2.06%	2.06%	2.06%	0.00%
50010	0.00%	2.06%	2.06%	2.06%	0.00%
52308	0.00%	2.06%	2.06%	2.06%	0.00%
52309	0.00%	2.06%	2.06%	2.06%	0.00%
52311	0.00%	2.06%	2.06%	2.06%	0.00%
52312	0.00%	2.06%	2.06%	2.06%	0.00%
53877	0.00%	2.06%	2.06%	2.06%	0.00%
53878	0.00%	2.06%	2.06%	2.06%	0.00%
53879	0.00%	2.06%	2.06%	2.06%	0.00%
53889	0.00%	2.06%	2.06%	2.06%	0.00%
53899	0.00%	2.06%	2.06%	2.06%	0.00%
54205	0.00%	2.06%	2.06%	2.06%	0.00%
54207	0.00%	2.06%	2.06%	2.06%	0.00%
S851153	0.00%	100.00%	0.00%	0.00%	0.00%
S902264	0.00%	0.00%	100.00%	0.00%	0.00%
S810650					
S816609					
S804563					
S843974	0.00%	33.33%	33.33%	0.00%	0.00%
S823963	100.00%	0.00%	0.00%	0.00%	0.00%
S823962	100.00%	0.00%	0.00%	0.00%	0.00%
S810637	0.00%	0.00%	20.00%	20.00%	0.00%
S820648					
S804112					
S820647	0.00%	0.00%	20.00%	20.00%	0.00%
S852300	0.00%	0.00%	0.00%	0.00%	0.00%
S810689	100.00%	0.00%	0.00%	0.00%	0.00%
S804516	25.00%	25.00%	25.00%	25.00%	0.00%
S804517	25.00%	25.00%	25.00%	25.00%	0.00%
025270	0.00%	33.33%	33.33%	33.33%	0.00%
024559	0.00%	33.33%	33.33%	33.33%	0.00%
S870728	50.00%	25.00%	25.00%	0.00%	0.00%

Attachment 1
LA-MHD09_001 WMP Calculations.xlsx

SHORT_ID	GENERATOR_COMMENTS
52315	SEAL# N/A
50003	RSWD FORMS: S822953, 792010, 811880
50010	CWSR = 792012, S833058, S822953
52308	NO SEAL#
52309	NO SEAL #
52311	NO SEAL#
52312	NC FILTER #06-07
53877	SEE NCR 25
53878	ASSAY REQUIRED BEFORE SHIPMENT
53879	20% OF 3475 AND 100% OF 3465
53889	NCR# 54, HOLDTAG# 0003
53899	
54205	
54207	
S851153	ONE 55 GALLON DRUM WITH DECON RAGS
S902264	PLASTIC WRAPPING MATERIAL - NDA/E ASSAY ASSAY REQUIRED - 286 NCI/G TRU
S810650	ONE 55 GAL DRUM WITH MIXED TRASH FROM DRY BOX DECONTAMINATION
S816609	RUBBER GLOVES, PLASTIC, GASKETS
S804563	PAPER,CHEESECLOTH,PLASTIC, PLASTIC BAG,BARREL LINER
S843974	CHEESE CLOTH&LEAD GLOVES FROM DECONNED SRF GLOVEBOX 30 GAL IN A 55 GAL
S823963	BROKEN CONTAINER FROM AREA C WITH VERMICULITE
S823962	BROKEN CONTAINER FROM AREA C WITH VERMICULITE
S810637	1 DRUM CONTAINING 1 BALANCE PN 071852 REF C&D 10900
S820648	NON PN PUMP
S804112	FILTER MEDIA FE 3 PACKAGED INSIDE A 4"X4"X7" FIBERGLASSED CRATE
S820647	NON PN PUMP
S852300	PLATINUM FIVE THOUSAND NINE HUNDRED TWENTY & ONE-TENTH GRAMS C&D 11704
S810689	PLATINUM METAL-SALTS 80-8GRAMS PT C&D 11973
S804516	FILTER MEDIA 90 ML LINED STEEL DRUM
S804517	FILTER MEDIA 90 ML LINED STEEL DRUM
025270	10 EACH WOODEN PREFILTERS 24"X24"X6", 2 EACH HEPA FILTERS 24"X24"X12"
024559	4 EA. WOODEN PREFILTERS SIZE 24"X24"X6", 3 EA. HEPA STAINLESS STEEL FILTERS
S870728	EMPTY COUNTING VIALS IN PLASTIC BAGS WITH RAGS AND VERMICULITE

Attachment 1
LA-MHD09_001 WMP Calculations.xlsx

SHORT_ID	IDC/RSWD/TRUCON	NET_WEIGHT (Kg)	AVE NET_WEIGHT (Kg)	Iron	Aluminum	Other Metals	Other Inorganics
58454	LA116C	38.55535145					19.27767573
58453	LA116C	41.73049804					
57563	LA116E	90.718474					
59203	LA117F	40.18828398		13.3960947	13.3960947	13.39609466	
59204	LA117F	25.85476509		8.61825503	8.61825503	8.61825503	
52316	LA125A	481.7150969		120.428774	120.428774	120.4287742	120.4287742
52026	LA125A	478.5399504		68.3628501	68.3628501	68.36285005	68.36285005
57842	LA125A	508.0234544		72.5747792	72.5747792	72.5747792	72.5747792
58457	LA125B	24.49398798		3.49914114	3.49914114	3.49914114	3.49914114
59616	LA125B	117.9340162		16.8477166	16.8477166	16.8477166	16.8477166
56511	LA125C	37.64816671		5.37830953	5.37830953	5.37830953	5.37830953
56517	LA125C	24.94758035		3.56394005	3.56394005	3.56394005	3.56394005
56518	LA125C	22.6796185		3.2399455	3.2399455	3.2399455	3.2399455
56516	LA125C	54.88467677		7.84066811	7.84066811	7.84066811	7.84066811
56515	LA125C	13.6077711		1.9439673	1.9439673	1.9439673	1.9439673
56514	LA125C	15.42214058		2.20316294	2.20316294	2.20316294	2.20316294
56513	LA125C	14.96854821		2.13836403	2.13836403	2.13836403	2.13836403
56512	LA125C	38.55535145		5.50790735	5.50790735	5.50790735	5.50790735
S810087	A-75	50.2		29			3
S817006	A-75	174.3189497		20		28	7
S825085	A-75	175.0190696		64.7			
S823846	A-75	182.8204047		27.8			5
S841419	A-75	205.5242904		10			
S821627	A-75	179.3198056		0.5			5
S893128	A-18	26.04502895		3.72071842	3.72071842	3.720718421	3.720718421
Totals				**11998.9144**	**4369.30805**	**4432.956643**	**485.9365306**
Percent				**49.75%**	**18.11%**	**18.38%**	**2.01%**

Attachment 1
LA-MHD09_001 WMP Calculations.xlsx

SHORT_ID	Cellulosics	Plastic	Rubber	Inorganic Matrix	Totals		Iron%	Aluminum%	Other Metals%
58454	9.63883786	9.63883786			38.5553515		0.00%	0.00%	0.00%
58453	20.865249	10.4326245	10.4326245		41.730498		0.00%	0.00%	0.00%
57563	45.359237	22.6796185	22.6796185		90.718474		0.00%	0.00%	0.00%
59203					40.188284		33.33%	33.33%	33.33%
59204					25.8547651		33.33%	33.33%	33.33%
52316					481.715097		25.00%	25.00%	25.00%
52026	68.3628501	68.3628501	68.3628501		478.53995		14.29%	14.29%	14.29%
57842	72.5747792	72.5747792	72.5747792		508.023454		14.29%	14.29%	14.29%
58457	3.49914114	3.49914114	3.49914114		24.493988		14.29%	14.29%	14.29%
59616	16.8477166	16.8477166	16.8477166		117.934016		14.29%	14.29%	14.29%
56511	5.37830953	5.37830953	5.37830953		37.6481667		14.29%	14.29%	14.29%
56517	3.56394005	3.56394005	3.56394005		24.9475804		14.29%	14.29%	14.29%
56518	3.2399455	3.2399455	3.2399455		22.6796185		14.29%	14.29%	14.29%
56516	7.84066811	7.84066811	7.84066811		54.8846768		14.29%	14.29%	14.29%
56515	1.9439673	1.9439673	1.9439673		13.6077711		14.29%	14.29%	14.29%
56514	2.20316294	2.20316294	2.20316294		15.4221406		14.29%	14.29%	14.29%
56513	2.13836403	2.13836403	2.13836403		14.9685482		14.29%	14.29%	14.29%
56512	5.50790735	5.50790735	5.50790735		38.5553515		14.29%	14.29%	14.29%
S810087	2	16.2			50.2		57.77%	0.00%	0.00%
S817006		3.7	5		63.7		31.40%	0.00%	43.96%
S825085		1		62	127.7		50.67%	0.00%	0.00%
S823846	6.5	10			49.3		56.39%	0.00%	0.00%
S841419	2	6.5			18.5		54.05%	0.00%	0.00%
S821627		5		138	148.5		0.34%	0.00%	0.00%
S893128	3.72071842	3.72071842	3.72071842		26.0450289		14.29%	14.29%	14.29%
Totals	**897.897723**	**907.417763**	**828.180148**	**200**	**24120.6112**	**MIN**	**0.00%**	**0.00%**	**0.00%**
Percent	**3.72%**	**3.76%**	**3.43%**	**0.83%**	**100.00%**	**MAX**	**57.77%**	**33.33%**	**100.00%**

Attachment 1
LA-MHD09_001 WMP Calculations.xlsx

SHORT_ID	Other Inorganics%	Cellulosics%	Plastic%	Rubber%	Inorganic Matrix%
58454	50.00%	25.00%	25.00%	0.00%	0.00%
58453	0.00%	50.00%	25.00%	25.00%	0.00%
57563	0.00%	50.00%	25.00%	25.00%	0.00%
59203	0.00%	0.00%	0.00%	0.00%	0.00%
59204	0.00%	0.00%	0.00%	0.00%	0.00%
52316	25.00%	0.00%	0.00%	0.00%	0.00%
52026	14.29%	14.29%	14.29%	14.29%	0.00%
57842	14.29%	14.29%	14.29%	14.29%	0.00%
58457	14.29%	14.29%	14.29%	14.29%	0.00%
59616	14.29%	14.29%	14.29%	14.29%	0.00%
56511	14.29%	14.29%	14.29%	14.29%	0.00%
56517	14.29%	14.29%	14.29%	14.29%	0.00%
56518	14.29%	14.29%	14.29%	14.29%	0.00%
56516	14.29%	14.29%	14.29%	14.29%	0.00%
56515	14.29%	14.29%	14.29%	14.29%	0.00%
56514	14.29%	14.29%	14.29%	14.29%	0.00%
56513	14.29%	14.29%	14.29%	14.29%	0.00%
56512	14.29%	14.29%	14.29%	14.29%	0.00%
S810087	5.98%	3.98%	32.27%	0.00%	0.00%
S817006	10.99%	0.00%	5.81%	7.85%	0.00%
S825085	0.00%	0.00%	0.78%	0.00%	48.55%
S823846	10.14%	13.18%	20.28%	0.00%	0.00%
S841419	0.00%	10.81%	35.14%	0.00%	0.00%
S821627	3.37%	0.00%	3.37%	0.00%	92.93%
S893128	14.29%	14.29%	14.29%	14.29%	0.00%
Totals	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
Percent	**100.00%**	**100.00%**	**100.00%**	**33.33%**	**92.93%**

Attachment 1
LA-MHD09_001 WMP Calculations.xlsx

SHORT_ID	GENERATOR_COMMENTS
58454	
58453	
57563	
59203	LOT # 1 DRUM WAS PREVIOUSLY BARCODED AT 2171964
59204	DRUM WAS PREVIOUSLY LOT #1 BARCODE 2196824, DRUM FILTER #309NL 309
52316	SEALED SOURCES FROM RSWD S912738 METAL GLASS L52 PU238 DISKS PU238 L52-04821, 5 EACH OPEN CAN'S CONTAINI
52026	THIS PACKAGE HAS 5 EACH WASTE PROFILE NUMBERS 8898, 7081, 7080, 02101, 05445
57842	SWB# 57842
58457	A TOTAL OF 2 LITRES OF WASTE FROM A BROKEN CAUSTIC LINE WAS ABSORBED & PLACED IN A 55 GALLON DRUM WITH F
59616	(3'X 3' X4'- 24 GAGE) STAINLESS STEEL HOLDING TANK USED FOR PROCESS CAUSTIE WASTE FROM TA-55 AT TA-50-1, ROC
56511	FROM DRUM 56093, RADIONUCLIDE CONTENT < ORIGINAL MOTHER DRUM.
56517	FROM DRUM 56097, DRUM # 1, RADIONUCLIDE CONTENT < ORIGINAL MOTHER DRUM.
56518	FROM DRUM 56097, DRUM # 2, RADIONUCLIDE CONTENT < ORIGINAL MOTHER DRUM.
56516	FROM DRUM 56096, RADIONUCLIDE CONTENT < ORIGINAL MOTHER DRUM.
56515	FROM DRUM 56095, DRUM # 3, RADIONUCLIDE CONTENT < ORIGINAL MOTHER DRUM.
56514	FROM DRUM 56095, DRUM # 2, RADIONUCLIDE CONTENT < ORIGINAL MOTHER DRUM.
56513	FROM DRUM 56095, DRUM # 1, RADIONUCLIDE CONTENT < ORIGINAL MOTHER DRUM.
56512	FROM DRUM 56094, RADIONUCLIDE CONTENT < ORIGINAL NOTHER DRUM.
S810087	Homogeneous Inorganic, Non-cemented
S817006	Homogeneous Inorganic, Non-cemented
S825085	Homogeneous Inorganic, Non-cemented
S823846	Homogeneous Inorganic, Non-cemented
S841419	Homogeneous Inorganic, Non-cemented
S821627	Homogeneous Inorganic, Non-cemented
S893128	Iron-Based Metal/Alloys + Aluminum-Based Metal/Alloys + Other Metal/Alloys + Other Inorganic Materials + Cellulosics + Plastics + Rub
Totals	**24120.61121**
Percent	

DIVIDER

PAGE

Attachment 6 – Waste Form, Waste Material Parameters, Prohibited Items, and Packaging

Site(s): Los Alamos National Laboratory

Waste Stream Description: Mixed Contaminated Soil from TA-21 DP West

Container ID Numbers: See CCP-TP-005, Attachment 8 for containers in this waste stream

Waste Stream Number: LA-MSG04.001	
Physical Waste Form (e.g., debris, solidified waste)	Soil/Gravel
Summary Category Group[a]	S4000
Waste Matrix Code Group[a]	Soils
Waste Matrix Code[b]	S4200
Waste Material Parameter Weights[c]	Estimated Waste Stream Weight Percent Average (attach evaluation justifying percentages)
Iron-based metals/alloys	5.15%
Aluminum-based metals/alloys	0.00%
Other metals	0.00%
Other inorganic materials	<1.00%
Cellulosics	0.00%
Rubber	0.00%
Plastics (waste materials)	0.89%
Organic matrix	0.00%
Inorganic matrix	<1.00%
Soils/Gravels	93.96%
Packaging Materials	Present (Y/N)?
Steel	Y
Plastics	Y
Prohibited Wastes[d,e,f,g]	Present (Y/N)?
Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of RTR or VE. Observable liquid shall be no more than 60 milliliters or 3 percent by volume, whichever is greater, in an internal container. Observable liquid shall not be present in a container with EPA HWN U134 assigned.	Y
Non-radionuclide pyrophoric materials	N
Sealed containers > 4 liters	Y
Hazardous waste not occurring as co-contaminants with TRU mixed waste (non-mixed hazardous waste)	N

NTPC RECORDS ORIGINAL
DATE REC'D 2/10/13

Attachment 6 – Waste Form, Waste Material Parameters, Prohibited Items, and Packaging (continued)

Waste Stream Number: LA-MSG04.001	
Explosives	N
Compressed gases	N
Residual hydrofluoric acid (if U134 assigned to stream)	N
Residual PCB liquids[j]	N
High plutonium content material/waste	N
Ignitables (EPA Hazardous Waste Number D001)	N
Corrosives (EPA Hazardous Waste Number D002)	N
Reactives (EPA Hazardous Waste Number D003)	N
Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes [h]	N
Spent nuclear fuel or high-level waste[i]	N
Any un-vented plastic bags > 4 liters that have been heat-sealed	N
Additional information (if available)	Some containers may have up to two 5-mil to 12-mil plastic liner bags, twisted and taped closed. After 1995, up to two plastic liner bags could still be present, but are typically closed by folding, not by twisting and taping. Since 1997, plastic bags with filters are typically used. Remediated/repackaged waste may be packaged with or without a single plastic liner bag and include no liner, a fiberboard liner, or a 90-/125-mil rigid polyethylene liner without lid.
Packaging	
Waste container type?	DOT 7A, Type A 55-gallon drums, SWBs, and crates.
Liner type?	Some containers may have a 90-/125-mil rigid polyethylene liner with lid
Is liner punctured?	N (some liners may not be punctured)
Is filter vent installed?	N (some containers may not include filters)
Maximum number of confinement layers?	2

a. Source: *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (CCP-PO-001) Introduction.
b. Source: *Transuranic Waste Baseline Inventory Report* (DOE/CAO-95-1121) Table 1-2 or DOE Waste Treatability Group Guidance (DOE/LLW-217). Also see WIPP Hazardous Waste Permit Final Clarification Number CAO-00-061. Note: the waste matrix code should not be assigned at the summary category group level.
c. Source: CCP-PO-001 - Table C3-1. Attach the Waste Material Parameter Evaluation Memorandum used to estimate values include in this Table (see Section 4.4.27).
d. Source: CCP-PO-001 - Section C-1c
e. Source: *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC) (DOE/WIPP-02-3122), Section 3
f. Source: *TRUPACT-II Content Codes* (TRUCON) (DOE/WIPP 89-004)
g. Source: *TRUPACT-II Authorized Methods for Payload Control (TRAMPAC)*, Westinghouse TRU Solutions, LLC
h. This waste has been approved for disposal at the WIPP by the Permittee as documented by Appendix C1 of the WIPP RCRA Part B Permit Application and the Permittee's approval and assignment of the applicable TRUCON Codes for this waste stream.
i. Source: *Nuclear Waste Policy Act of 1982* (42 U.S.C. 10101)
j. Source: Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution and Commerce, and Use Prohibitions (40 CFR Part 761)

Acceptable Knowledge Expert: Michael Papp (Print) _____ (Sign) **Date:** 01/16/2013

Memorandum

To: CCP Records

From: Michael J. Papp, CCP AKE

Date: January 16, 2013

RE: Waste Material Parameter Analysis for Waste Stream LA-MSG04.001, Mixed Contaminated Soil from TA-21 DP West Facility

In accordance to *CCP Acceptable Knowledge Documentation*, CCP-TP-005, Revision 24, Section 4.4.27, Waste Material Parameters (WMP) shall be estimated on a weight percent basis for the waste stream, documenting the assumptions and justification for deriving the estimated WMPs.

To estimate the waste material parameters (WMPs) for waste stream LA-MSG04.001, WMP data were obtained from the Waste Data System (WDS), formerly known as the WIPP Waste Information System database. The WMP data were derived from RTR of this waste stream by the CCP TRU Waste Certification Program at LANL.

The WMPs for waste stream LA-MSG04.001 were estimated by reviewing the WDS data for five containers. The WDS data provides a weight for packaged waste materials, which were categorized into the following WMPs: iron-based metals/alloys, plastics, and soils/gravel. Although not identified in RTR data, WMPs other inorganic materials (e.g., concrete, insulation) and inorganic matrix (e.g., vermiculite) are expected to be present in this waste stream. Therefore, these WMPs are identified as being present and are listed at concentrations of less than one weight percent. Average, minimum, and maximum WMP weight percentages were calculated using this data, and the results of this analysis are presented in the table below, Waste Material Parameter Estimates for LA-MSG04.001.

Waste Material Parameter Estimates for LA-MSG04.001

WMP Description	Average Weight Percent	Weight Percent Range
Iron-Based Metals/Alloys	5.15%	3.53% - 8.53%
Aluminum-Based Metals/Alloys	0.00%	0.00% 0.00%
Other Metals	0.00%	0.00% - 0.00%
Other Inorganic Materials	<1.00%	0.00% - <1.00%
Cellulosics	0.00%	0.00% - 0.00%
Rubber	0.00%	0.00% - 0.00%
Plastic (waste materials)	0.89%	0.71% - 1.42%
Organic Matrix	0.00%	0.00% - 0.00%
Inorganic Matrix	<1.00%	0.00% - <1.00%
Soils/Gravel	93.96%	90.04% - 95.77%
Total Organic Waste Avg.	**0.89%**	
Total Inorganic Waste Avg.	**99.11%**	

Attachment 1 provides the calculations used to arrive at the average, minimum and maximum WMP weight percentages.

NDE Data
LA-MSG04.001
Lot 1

Attachment 1

Batch Data Report No.	Container	Cellulosics (kg)	Plastics (kg)	Rubber (kg)	Organic Matrix (kg)	Inorganic Matrix (kg)	Iron-based Metals (kg)	Aluminum-based Metals (kg)	Other Metals (kg)	Other Inorganics (kg)	Soils/gravel (kg)
LA-RTR2-11-0116	89891		1.0				5.0				135.8
LA-RTR2-11-0116	89892		1.0				5.0				84.3
LA-RTR2-11-0116	89983		1.0				8.0				120.3
LA-RTR2-11-0116	89984		1.0				5.0				125.3
LA-RTR2-11-0116	89987		1.0				6.0				63.3

NDE Data
LA-MSG04.001
Lot 1

Attachment 1

Batch Data Report No.	Container	Cellulosics Weight %	Plastics Weight %	Rubber Weight %	Organic Matrix Weight %	Inorganic Matrix Weight %	Iron-based Metals Weight %	Aluminum-based Metals Weight %	Other Metals Weight %	Other Inorganics Weight %	Soils/gravel Weight %
LA-RTR2-11-0116	89891		0.71%				3.53%				95.77%
LA-RTR2-11-0116	89892		1.11%				5.54%				93.36%
LA-RTR2-11-0116	89983		0.77%				6.19%				93.04%
LA-RTR2-11-0116	89984		0.76%				3.81%				95.43%
LA-RTR2-11-0116	89987		1.42%				8.53%				90.04%

Lot	1	Waste Stream Waste Material Parameter Weight Percent Lot Total							
Cellulosics	Plastics	Rubber	Organic Matrix	Inorganic Matrix	Iron-based Metals	Aluminum-based Metals	Other Metals	Other Inorganics	Soils/gravel
0.00%	0.89%	0.00%	0.00%	0.00%	5.15%	0.00%	0.00%	0.00%	93.96%

Supporting Documentation

DIVIDER

PAGE

Attachment 6 – Waste Form, Waste Material Parameters, Prohibited Items, and Packaging

Site(s): Los Alamos National Laboratory (CCP-AK-LANL-08)

Waste Stream Description: Defense Sealed Sources
Container ID Numbers: See CCP-TP-005, Attachment 8 for containers in this waste stream

Waste Stream Number: LA-OS-00-01.001	
Physical Waste Form (e.g., debris, solidified waste)	Heterogeneous Debris Waste
Summary Category Group [a]	S5000
Waste Matrix Code Group [a]	Uncategorized Metals
Waste Matrix Code [b]	S5100
Waste Material Parameter Weights [c]	Estimated Waste Stream Weight Percent Average (attach evaluation justifying percentages)
Iron-based metals/alloys	85.0%
Aluminum-based metals/alloys	0.0%
Other metals	15.0%
Other inorganic materials	0.0%
Cellulosics	0.0%
Rubber	0.0%
Plastics (waste materials)	0.0%
Organic matrix	0.0%
Inorganic matrix	0.0%
Soils/Gravels	0.0%
Packaging Materials	Present (Y/N)?
Steel	Y
Plastics	Y
Prohibited Wastes [d,e,f,g]	Present (Y/N)?
Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of RTR or VE. Observable liquid shall be no more than 60 milliliters or 3 percent by volume, whichever is greater, in an internal container. Observable liquid shall not be present in a container with EPA HWN U134 assigned.	N
Non-radionuclide pyrophoric materials	N
Sealed containers > 4 liters	N
Hazardous waste not occurring as co-contaminants with TRU mixed waste (non-mixed hazardous waste)	N

CCP RECORDS ORIGINAL
DATE REC'D 11-12-2012

Attachment 6 – Waste Form, Waste Material Parameters, Prohibited Items, and Packaging (continued)

Waste Stream Number: LA-OS-00-01.001	
Explosives	N
Compressed gases	N
Residual hydrofluoric acid (if U134 assigned to stream)	N/A
Residual PCB liquids [j]	N
Ignitables (EPA Hazardous Waste Number D001)	N
Corrosives (EPA Hazardous Waste Number D002)	N
Reactives (EPA Hazardous Waste Number D003)	N
Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes [h]	N
Spent Nuclear fuel or high-level waste [i]	N
Any un-vented plastic bags > 4 liters that have been heat-sealed	N
Additional Information (if available)	N/A
Packaging	
Waste container type?	55-gallon drum pipe overpack container
Liner type?	Rigid poly liner
Is liner punctured?	Y
Is filter vent installed?	Y
Maximum number of confinement layers	1

a. Source: *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (CCP-PO-001) Introduction.
b. Source: *Transuranic Waste Baseline Inventory Report* (DOE/CAO-95-1121) or DOE Waste Treatability Group Guidance (DOE/LLW-217). Note: the waste matrix code should not be assigned at the summary category group level.
c. Source: CCP-PO-001 – Table C3-1. Attach the Waste Material Parameter Evaluation Memorandum used to estimate values include in this Table (see Section 4.4.27).
d. Source: CCP-PO-001 – Section C-1c
e. Source: *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC)(DOE/WIPP-02-3122), Section 3
f. Source: *TRUPACT-II Content Codes* (TRUCON) (DOE/WIPP 89-004)
g. Source: *TRUPACT-II Authorized Methods for Payload Control (TRAMPAC)*, Washington TRU Solutions, LLC
h. This waste has been approved for disposal at the WIPP by the Permittee as documented by Appendix C1 of the WIPP RCRA Part B Permit Application and the Permittee's approval and assignment of the applicable TRUCON Codes for this waste stream.
i. Source: *Nuclear Waste Policy Act of 1982* (42 U.S.C. 10101)
j. Source: Polychlorinated Biphenyls (PCBs) manufacturing, Processing, Distribution and Commerce, and Use Prohibitions (40 CFR 761)

Acceptable Knowledge Expert: Christopher Chancellor / _____ Date: 07/18/2012
Print Sign

MEMORANDUM TO CCP CENTRAL RECORDS

FROM: Christopher J. Chancellor
Date: July 31, 2012
RE: *Waste Material Parameter Evaluation for the Mixed Waste Sealed Sources of Waste Stream LA-OS-00-01.001*

In accordance with *CCP Acceptable Knowledge Documentation*, CCP-TP-005, Revision 24, Waste Material Parameters (WMP) shall be estimated on a weight percent basis for the waste stream, documenting the assumptions and justification for deriving the estimated WMP.

The waste material parameter weight estimates for waste stream LA-OS-00-01.001 are 85% iron-based metal/alloys and 15% other metals (Table 1. Waste Stream LA-OS-00-01.001 Waste Material Parameter Estimates). These estimates come from the assumption that the sources that fall into the LA-OS-00-01.001 and LA-OS-00-04 waste streams are comprised of only those two material types. The packaging procedure CCP-TP-069 (Reference P001) recognizes that there are no non-packaging items placed in the container other than the sources. Metal composition of the sources is exemplified in the IAEA Certificate of Competent Authority which has been issued for the OSRP SFCs (Reference M145). The majority of the sources are in stainless steel capsules, which dominates the waste weight. The minor component, "other metals," is comprised of the metal oxides of the transuranic elements, beryllium, cadmium plating, lead holders, and the non-iron based capsules.

Waste Stream LA-OS-00-01.001 is identical in physical form to waste stream LA-OS-00-04 with the exception of the application of HWNs D006 and D008 (lead and cadmium) assigned to LA-OS-00-04. Therefore, it can be concluded that waste stream LA-OS-00-01.001 is 85.0% iron-based metals/alloys and 15% other metals as estimated for waste stream LA-OS-00-04.

In accordance with CCP-TP-005, this memorandum will be included with the most current version of Attachment 6, *Waste Form, Waste Material Parameters, Prohibited Items, and Packaging* for waste stream LA-OS-00-01.001.

Table 1. Waste Stream LA-OS-00-01.001 Waste Material Parameter Estimates

Waste Material Parameter	Estimated Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	85.0 %	0 – 99.9%
Aluminum-based Metals/Alloys	0.0 %	0 – 0 %
Other Metals	15.0 %	0.1 – 100 %
Other Inorganic Materials	0.0 %	0 – 0 %
Cellulosics	0.0 %	0 – 0 %
Rubber	0.0 %	0 – 0 %
Plastic (waste materials)	0.0 %	0 – 0 %
Soils/Gravel	0.0 %	0 – 0 %
Organic Matrix	0.0 %	0 – 0 %
Inorganic Matrix	0.0 %	0 – 0 %
Total Organic Waste Avg.	**0.0 %**	
Total Inorganic Waste Avg.	**100 %**	

Attachment 8 - Waste Containers

Site(s):	Los Alamos National Laboratory
Waste Stream Number(s):	LA-OS-00-01.001
Waste Stream Description(s):	Off-Site Source Recovery Sealed Sources
Number of Waste Containers in Waste Stream(s):	1301 55-gallon POC drums
Total Existing Volume (m^3):	273.21 m^3
Is waste expected to be generated in the future?	Yes
If yes, Estimated Future Volume (m^3):	1128 55-gallon POC drums x 0.208 = 235 m^3
Assumptions:	1128 drums to be added in the 2010 - 2025 time period
Waste Stream Container Evaluation Memo(s) for Added Containers:	C028, C029, C037, C039, C043, C065, C067, C069, C070, C072, C073, C074, C075, C076

55-gallon drum = 0.21 m^3

Container Identification Number	Generation Date	Generation Point
	See Attached Waste Containers List	

Acceptable Knowledge Expert: Sherry Auckland (Print) — (Sign) — 8/14/2014 (Date)

NTPC RECORDS ORIGINAL
DATE REC'D 8/18/14 SP

Container Identification Number	Waste Stream No	Generation Point	Gen Date
58502	LA-OS-00-01.001	LANL	12/6/2000
58503	LA-OS-00-01.001	LANL	12/6/2000
58504	LA-OS-00-01.001	LANL	12/6/2000
58505	LA-OS-00-01.001	LANL	12/6/2000
58506	LA-OS-00-01.001	LANL	12/6/2000
58508	LA-OS-00-01.001	LANL	12/6/2000
58509	LA-OS-00-01.001	LANL	12/6/2000
58510	LA-OS-00-01.001	LANL	12/6/2000
58511	LA-OS-00-01.001	LANL	12/6/2000
58512	LA-OS-00-01.001	LANL	12/6/2000
58513	LA-OS-00-01.001	LANL	12/6/2000
58501	LA-OS-00-01.001	LANL	12/15/2000
58507	LA-OS-00-01.001	LANL	12/15/2000
58535	LA-OS-00-01.001	LANL	1/15/2001
58544	LA-OS-00-01.001	LANL	1/15/2001
58547	LA-OS-00-01.001	LANL	1/15/2001
58555	LA-OS-00-01.001	LANL	1/15/2001
58557	LA-OS-00-01.001	LANL	1/15/2001
58559	LA-OS-00-01.001	LANL	1/15/2001
58523	LA-OS-00-01.001	LANL	1/16/2001
58524	LA-OS-00-01.001	LANL	1/16/2001
58525	LA-OS-00-01.001	LANL	1/16/2001
58526	LA-OS-00-01.001	LANL	1/16/2001
58527	LA-OS-00-01.001	LANL	1/16/2001
58528	LA-OS-00-01.001	LANL	1/16/2001
58529	LA-OS-00-01.001	LANL	1/16/2001
58530	LA-OS-00-01.001	LANL	1/16/2001
58531	LA-OS-00-01.001	LANL	1/16/2001
58532	LA-OS-00-01.001	LANL	1/16/2001
58533	LA-OS-00-01.001	LANL	1/16/2001
58534	LA-OS-00-01.001	LANL	1/16/2001
58536	LA-OS-00-01.001	LANL	1/16/2001
58537	LA-OS-00-01.001	LANL	1/16/2001
58539	LA-OS-00-01.001	LANL	1/16/2001
58540	LA-OS-00-01.001	LANL	1/16/2001
58545	LA-OS-00-01.001	LANL	1/16/2001
58546	LA-OS-00-01.001	LANL	1/16/2001
58548	LA-OS-00-01.001	LANL	1/16/2001
58549	LA-OS-00-01.001	LANL	1/16/2001
58550	LA-OS-00-01.001	LANL	1/16/2001
58551	LA-OS-00-01.001	LANL	1/16/2001
58552	LA-OS-00-01.001	LANL	1/16/2001
58553	LA-OS-00-01.001	LANL	1/16/2001
58554	LA-OS-00-01.001	LANL	1/16/2001
58556	LA-OS-00-01.001	LANL	1/16/2001
58558	LA-OS-00-01.001	LANL	1/16/2001
58560	LA-OS-00-01.001	LANL	1/16/2001

Container Identification Number	Waste Stream No	Generation Point	Gen Date
58561	LA-OS-00-01.001	LANL	1/16/2001
58562	LA-OS-00-01.001	LANL	1/16/2001
58563	LA-OS-00-01.001	LANL	1/16/2001
58564	LA-OS-00-01.001	LANL	1/16/2001
58538	LA-OS-00-01.001	LANL	1/17/2001
58541	LA-OS-00-01.001	LANL	1/17/2001
58542	LA-OS-00-01.001	LANL	1/17/2001
58543	LA-OS-00-01.001	LANL	1/17/2001
58521	LA-OS-00-01.001	LANL	1/18/2001
58522	LA-OS-00-01.001	LANL	1/18/2001
58514	LA-OS-00-01.001	LANL	2/20/2001
58515	LA-OS-00-01.001	LANL	2/20/2001
58516	LA-OS-00-01.001	LANL	2/20/2001
58517	LA-OS-00-01.001	LANL	2/20/2001
58518	LA-OS-00-01.001	LANL	2/20/2001
58587	LA-OS-00-01.001	LANL	3/5/2001
58588	LA-OS-00-01.001	LANL	3/5/2001
58589	LA-OS-00-01.001	LANL	3/5/2001
58590	LA-OS-00-01.001	LANL	3/5/2001
58591	LA-OS-00-01.001	LANL	3/5/2001
58592	LA-OS-00-01.001	LANL	3/5/2001
58593	LA-OS-00-01.001	LANL	3/5/2001
58594	LA-OS-00-01.001	LANL	3/5/2001
58595	LA-OS-00-01.001	LANL	3/5/2001
58596	LA-OS-00-01.001	LANL	3/5/2001
58597	LA-OS-00-01.001	LANL	3/5/2001
58598	LA-OS-00-01.001	LANL	3/5/2001
58599	LA-OS-00-01.001	LANL	3/5/2001
58600	LA-OS-00-01.001	LANL	3/5/2001
58601	LA-OS-00-01.001	LANL	3/5/2001
58602	LA-OS-00-01.001	LANL	3/5/2001
58606	LA-OS-00-01.001	LANL	3/5/2001
58607	LA-OS-00-01.001	LANL	3/5/2001
58608	LA-OS-00-01.001	LANL	3/5/2001
58609	LA-OS-00-01.001	LANL	3/5/2001
58610	LA-OS-00-01.001	LANL	3/5/2001
58611	LA-OS-00-01.001	LANL	3/5/2001
58612	LA-OS-00-01.001	LANL	3/5/2001
58613	LA-OS-00-01.001	LANL	3/5/2001
58614	LA-OS-00-01.001	LANL	3/5/2001
58615	LA-OS-00-01.001	LANL	3/5/2001
58616	LA-OS-00-01.001	LANL	3/5/2001
58617	LA-OS-00-01.001	LANL	3/5/2001
58618	LA-OS-00-01.001	LANL	3/5/2001
58619	LA-OS-00-01.001	LANL	3/5/2001
58620	LA-OS-00-01.001	LANL	3/5/2001
58621	LA-OS-00-01.001	LANL	3/5/2001

Container Identification Number	Waste Stream No	Generation Point	Gen Date
58622	LA-OS-00-01.001	LANL	3/5/2001
58623	LA-OS-00-01.001	LANL	3/5/2001
58624	LA-OS-00-01.001	LANL	3/5/2001
58625	LA-OS-00-01.001	LANL	3/5/2001
58626	LA-OS-00-01.001	LANL	3/5/2001
58627	LA-OS-00-01.001	LANL	3/5/2001
58628	LA-OS-00-01.001	LANL	3/5/2001
58629	LA-OS-00-01.001	LANL	3/5/2001
58569	LA-OS-00-01.001	LANL	3/7/2001
58570	LA-OS-00-01.001	LANL	3/7/2001
58571	LA-OS-00-01.001	LANL	3/7/2001
58572	LA-OS-00-01.001	LANL	3/7/2001
58573	LA-OS-00-01.001	LANL	3/7/2001
58574	LA-OS-00-01.001	LANL	3/7/2001
58575	LA-OS-00-01.001	LANL	3/7/2001
58576	LA-OS-00-01.001	LANL	3/7/2001
58577	LA-OS-00-01.001	LANL	3/7/2001
58578	LA-OS-00-01.001	LANL	3/7/2001
58579	LA-OS-00-01.001	LANL	3/7/2001
58580	LA-OS-00-01.001	LANL	3/7/2001
58581	LA-OS-00-01.001	LANL	3/7/2001
58582	LA-OS-00-01.001	LANL	3/7/2001
58583	LA-OS-00-01.001	LANL	3/7/2001
58584	LA-OS-00-01.001	LANL	3/7/2001
58585	LA-OS-00-01.001	LANL	3/7/2001
58586	LA-OS-00-01.001	LANL	3/7/2001
58635	LA-OS-00-01.001	LANL	9/20/2001
58637	LA-OS-00-01.001	LANL	9/25/2001
58638	LA-OS-00-01.001	LANL	9/26/2001
58644	LA-OS-00-01.001	LANL	9/26/2001
58636	LA-OS-00-01.001	LANL	9/27/2001
58649	LA-OS-00-01.001	LANL	9/27/2001
58650	LA-OS-00-01.001	LANL	9/27/2001
58639	LA-OS-00-01.001	LANL	11/26/2001
58643	LA-OS-00-01.001	LANL	11/26/2001
58651	LA-OS-00-01.001	LANL	12/4/2001
58677	LA-OS-00-01.001	LANL	3/19/2002
58678	LA-OS-00-01.001	LANL	3/19/2002
58679	LA-OS-00-01.001	LANL	4/11/2002
58681	LA-OS-00-01.001	LANL	4/11/2002
58680	LA-OS-00-01.001	LANL	4/17/2002
58519	LA-OS-00-01.001	LANL	4/30/2002
58520	LA-OS-00-01.001	LANL	4/30/2002
58603	LA-OS-00-01.001	LANL	4/30/2002
58604	LA-OS-00-01.001	LANL	4/30/2002
58605	LA-OS-00-01.001	LANL	4/30/2002
58630	LA-OS-00-01.001	LANL	4/30/2002

Container Identification Number	Waste Stream No	Generation Point	Gen Date
58631	LA-OS-00-01.001	LANL	4/30/2002
58642	LA-OS-00-01.001	LANL	4/30/2002
58645	LA-OS-00-01.001	LANL	4/30/2002
58646	LA-OS-00-01.001	LANL	4/30/2002
58647	LA-OS-00-01.001	LANL	4/30/2002
58665	LA-OS-00-01.001	LANL	4/30/2002
58675	LA-OS-00-01.001	LANL	4/30/2002
58648	LA-OS-00-01.001	LANL	5/1/2002
58652	LA-OS-00-01.001	LANL	5/1/2002
58653	LA-OS-00-01.001	LANL	5/1/2002
58654	LA-OS-00-01.001	LANL	5/1/2002
58655	LA-OS-00-01.001	LANL	5/1/2002
58656	LA-OS-00-01.001	LANL	5/1/2002
58657	LA-OS-00-01.001	LANL	5/1/2002
58658	LA-OS-00-01.001	LANL	5/1/2002
58659	LA-OS-00-01.001	LANL	5/1/2002
58660	LA-OS-00-01.001	LANL	5/1/2002
58661	LA-OS-00-01.001	LANL	5/1/2002
58662	LA-OS-00-01.001	LANL	5/1/2002
58663	LA-OS-00-01.001	LANL	5/1/2002
58664	LA-OS-00-01.001	LANL	5/1/2002
58666	LA-OS-00-01.001	LANL	5/1/2002
58667	LA-OS-00-01.001	LANL	5/1/2002
58668	LA-OS-00-01.001	LANL	5/1/2002
58669	LA-OS-00-01.001	LANL	5/1/2002
58670	LA-OS-00-01.001	LANL	5/1/2002
58671	LA-OS-00-01.001	LANL	5/1/2002
58672	LA-OS-00-01.001	LANL	5/1/2002
58673	LA-OS-00-01.001	LANL	5/1/2002
58674	LA-OS-00-01.001	LANL	5/1/2002
58684	LA-OS-00-01.001	LANL	7/26/2002
58685	LA-OS-00-01.001	LANL	7/26/2002
58686	LA-OS-00-01.001	LANL	7/26/2002
58687	LA-OS-00-01.001	LANL	7/26/2002
58688	LA-OS-00-01.001	LANL	7/26/2002
58689	LA-OS-00-01.001	LANL	7/26/2002
58690	LA-OS-00-01.001	LANL	8/15/2002
58692	LA-OS-00-01.001	LANL	8/15/2002
58693	LA-OS-00-01.001	LANL	9/16/2002
58695	LA-OS-00-01.001	LANL	9/17/2002
58694	LA-OS-00-01.001	LANL	9/18/2002
58696	LA-OS-00-01.001	LANL	9/19/2002
58697	LA-OS-00-01.001	LANL	9/19/2002
58698	LA-OS-00-01.001	LANL	9/19/2002
58699	LA-OS-00-01.001	LANL	9/25/2002
58700	LA-OS-00-01.001	LANL	9/25/2002
58706	LA-OS-00-01.001	LANL	10/10/2002

Container Identification Number	Waste Stream No	Generation Point	Gen Date
58691	LA-OS-00-01.001	LANL	10/16/2002
58701	LA-OS-00-01.001	LANL	10/16/2002
58704	LA-OS-00-01.001	LANL	10/24/2002
58705	LA-OS-00-01.001	LANL	10/24/2002
58707	LA-OS-00-01.001	LANL	11/13/2002
58709	LA-OS-00-01.001	LANL	11/13/2002
58710	LA-OS-00-01.001	LANL	11/13/2002
58711	LA-OS-00-01.001	LANL	11/13/2002
58712	LA-OS-00-01.001	LANL	11/13/2002
58713	LA-OS-00-01.001	LANL	11/13/2002
58714	LA-OS-00-01.001	LANL	11/13/2002
58715	LA-OS-00-01.001	LANL	11/13/2002
58717	LA-OS-00-01.001	LANL	11/13/2002
58708	LA-OS-00-01.001	LANL	11/14/2002
58716	LA-OS-00-01.001	LANL	11/14/2002
58718	LA-OS-00-01.001	LANL	11/14/2002
58719	LA-OS-00-01.001	LANL	11/14/2002
58720	LA-OS-00-01.001	LANL	11/14/2002
58721	LA-OS-00-01.001	LANL	11/14/2002
58722	LA-OS-00-01.001	LANL	11/14/2002
58723	LA-OS-00-01.001	LANL	11/14/2002
58724	LA-OS-00-01.001	LANL	11/14/2002
58725	LA-OS-00-01.001	LANL	11/14/2002
58726	LA-OS-00-01.001	LANL	11/14/2002
58727	LA-OS-00-01.001	LANL	11/14/2002
58728	LA-OS-00-01.001	LANL	11/18/2002
58729	LA-OS-00-01.001	LANL	11/18/2002
58730	LA-OS-00-01.001	LANL	11/18/2002
58731	LA-OS-00-01.001	LANL	11/18/2002
58732	LA-OS-00-01.001	LANL	11/18/2002
58733	LA-OS-00-01.001	LANL	11/19/2002
58734	LA-OS-00-01.001	LANL	11/19/2002
58735	LA-OS-00-01.001	LANL	11/19/2002
58736	LA-OS-00-01.001	LANL	11/19/2002
58737	LA-OS-00-01.001	LANL	11/19/2002
58738	LA-OS-00-01.001	LANL	11/19/2002
58739	LA-OS-00-01.001	LANL	11/19/2002
58740	LA-OS-00-01.001	LANL	11/19/2002
58741	LA-OS-00-01.001	LANL	11/19/2002
58742	LA-OS-00-01.001	LANL	11/19/2002
58743	LA-OS-00-01.001	LANL	11/19/2002
58744	LA-OS-00-01.001	LANL	11/19/2002
58745	LA-OS-00-01.001	LANL	11/19/2002
58746	LA-OS-00-01.001	LANL	11/19/2002
58747	LA-OS-00-01.001	LANL	11/19/2002
58748	LA-OS-00-01.001	LANL	11/19/2002
58749	LA-OS-00-01.001	LANL	11/19/2002

Container Identification Number	Waste Stream No	Generation Point	Gen Date
58750	LA-OS-00-01.001	LANL	11/19/2002
58751	LA-OS-00-01.001	LANL	11/19/2002
58752	LA-OS-00-01.001	LANL	11/19/2002
58753	LA-OS-00-01.001	LANL	11/19/2002
58754	LA-OS-00-01.001	LANL	11/19/2002
58755	LA-OS-00-01.001	LANL	11/19/2002
58756	LA-OS-00-01.001	LANL	11/19/2002
58757	LA-OS-00-01.001	LANL	11/19/2002
58758	LA-OS-00-01.001	LANL	11/19/2002
58759	LA-OS-00-01.001	LANL	11/19/2002
58760	LA-OS-00-01.001	LANL	11/19/2002
58761	LA-OS-00-01.001	LANL	11/20/2002
58762	LA-OS-00-01.001	LANL	11/20/2002
58763	LA-OS-00-01.001	LANL	11/20/2002
58764	LA-OS-00-01.001	LANL	11/20/2002
58765	LA-OS-00-01.001	LANL	11/20/2002
58766	LA-OS-00-01.001	LANL	11/20/2002
58767	LA-OS-00-01.001	LANL	11/20/2002
58768	LA-OS-00-01.001	LANL	11/20/2002
58769	LA-OS-00-01.001	LANL	11/20/2002
58770	LA-OS-00-01.001	LANL	11/20/2002
58771	LA-OS-00-01.001	LANL	11/20/2002
58772	LA-OS-00-01.001	LANL	11/20/2002
58773	LA-OS-00-01.001	LANL	11/20/2002
58774	LA-OS-00-01.001	LANL	11/20/2002
58775	LA-OS-00-01.001	LANL	11/20/2002
58776	LA-OS-00-01.001	LANL	11/20/2002
58777	LA-OS-00-01.001	LANL	11/20/2002
58778	LA-OS-00-01.001	LANL	11/20/2002
58779	LA-OS-00-01.001	LANL	11/20/2002
58780	LA-OS-00-01.001	LANL	11/20/2002
58781	LA-OS-00-01.001	LANL	11/20/2002
58782	LA-OS-00-01.001	LANL	11/20/2002
58783	LA-OS-00-01.001	LANL	11/20/2002
58784	LA-OS-00-01.001	LANL	11/20/2002
58785	LA-OS-00-01.001	LANL	11/20/2002
58786	LA-OS-00-01.001	LANL	11/20/2002
58787	LA-OS-00-01.001	LANL	11/20/2002
58788	LA-OS-00-01.001	LANL	11/20/2002
58789	LA-OS-00-01.001	LANL	11/20/2002
58790	LA-OS-00-01.001	LANL	11/20/2002
58791	LA-OS-00-01.001	LANL	11/20/2002
59902	LA-OS-00-01.001	LANL	1/29/2003
59903	LA-OS-00-01.001	LANL	1/29/2003
59908	LA-OS-00-01.001	LANL	2/19/2003
59910	LA-OS-00-01.001	LANL	2/20/2003
59909	LA-OS-00-01.001	LANL	3/11/2003

Container Identification Number	Waste Stream No	Generation Point	Gen Date
59916	LA-OS-00-01.001	LANL	3/11/2003
59917	LA-OS-00-01.001	LANL	3/11/2003
59918	LA-OS-00-01.001	LANL	3/11/2003
59919	LA-OS-00-01.001	LANL	3/11/2003
59924	LA-OS-00-01.001	LANL	3/11/2003
59925	LA-OS-00-01.001	LANL	3/11/2003
59926	LA-OS-00-01.001	LANL	3/11/2003
59927	LA-OS-00-01.001	LANL	3/11/2003
59928	LA-OS-00-01.001	LANL	3/11/2003
59929	LA-OS-00-01.001	LANL	3/11/2003
59920	LA-OS-00-01.001	LANL	3/12/2003
59921	LA-OS-00-01.001	LANL	3/12/2003
59922	LA-OS-00-01.001	LANL	3/12/2003
59930	LA-OS-00-01.001	LANL	3/12/2003
59932	LA-OS-00-01.001	LANL	3/12/2003
59934	LA-OS-00-01.001	LANL	3/12/2003
59936	LA-OS-00-01.001	LANL	3/12/2003
59948	LA-OS-00-01.001	LANL	3/12/2003
59949	LA-OS-00-01.001	LANL	3/12/2003
59935	LA-OS-00-01.001	LANL	3/31/2003
59939	LA-OS-00-01.001	LANL	3/31/2003
59940	LA-OS-00-01.001	LANL	3/31/2003
59947	LA-OS-00-01.001	LANL	3/31/2003
59950	LA-OS-00-01.001	LANL	3/31/2003
59962	LA-OS-00-01.001	LANL	3/31/2003
59963	LA-OS-00-01.001	LANL	3/31/2003
59964	LA-OS-00-01.001	LANL	3/31/2003
59965	LA-OS-00-01.001	LANL	3/31/2003
59966	LA-OS-00-01.001	LANL	3/31/2003
59967	LA-OS-00-01.001	LANL	3/31/2003
59968	LA-OS-00-01.001	LANL	3/31/2003
59970	LA-OS-00-01.001	LANL	3/31/2003
59975	LA-OS-00-01.001	LANL	3/31/2003
59911	LA-OS-00-01.001	LANL	4/1/2003
59912	LA-OS-00-01.001	LANL	4/1/2003
59913	LA-OS-00-01.001	LANL	4/1/2003
59914	LA-OS-00-01.001	LANL	4/1/2003
59915	LA-OS-00-01.001	LANL	4/1/2003
59974	LA-OS-00-01.001	LANL	4/1/2003
59976	LA-OS-00-01.001	LANL	4/1/2003
59977	LA-OS-00-01.001	LANL	4/1/2003
59978	LA-OS-00-01.001	LANL	4/1/2003
59979	LA-OS-00-01.001	LANL	4/1/2003
59980	LA-OS-00-01.001	LANL	4/1/2003
59981	LA-OS-00-01.001	LANL	4/1/2003
59985	LA-OS-00-01.001	LANL	4/1/2003
59986	LA-OS-00-01.001	LANL	4/1/2003

Container Identification Number	Waste Stream No	Generation Point	Gen Date
59987	LA-OS-00-01.001	LANL	4/1/2003
59988	LA-OS-00-01.001	LANL	4/1/2003
59989	LA-OS-00-01.001	LANL	4/1/2003
59990	LA-OS-00-01.001	LANL	4/1/2003
59991	LA-OS-00-01.001	LANL	4/1/2003
59992	LA-OS-00-01.001	LANL	4/1/2003
59969	LA-OS-00-01.001	LANL	4/2/2003
59971	LA-OS-00-01.001	LANL	4/2/2003
59972	LA-OS-00-01.001	LANL	4/2/2003
59973	LA-OS-00-01.001	LANL	4/2/2003
59993	LA-OS-00-01.001	LANL	4/2/2003
59994	LA-OS-00-01.001	LANL	4/2/2003
59995	LA-OS-00-01.001	LANL	4/2/2003
59996	LA-OS-00-01.001	LANL	4/2/2003
59997	LA-OS-00-01.001	LANL	4/2/2003
59998	LA-OS-00-01.001	LANL	4/2/2003
59999	LA-OS-00-01.001	LANL	4/2/2003
60000	LA-OS-00-01.001	LANL	4/2/2003
60001	LA-OS-00-01.001	LANL	4/2/2003
60002	LA-OS-00-01.001	LANL	4/2/2003
60003	LA-OS-00-01.001	LANL	4/2/2003
60005	LA-OS-00-01.001	LANL	4/2/2003
60006	LA-OS-00-01.001	LANL	4/2/2003
60007	LA-OS-00-01.001	LANL	4/2/2003
60009	LA-OS-00-01.001	LANL	4/2/2003
60010	LA-OS-00-01.001	LANL	4/2/2003
60011	LA-OS-00-01.001	LANL	4/2/2003
59923	LA-OS-00-01.001	LANL	4/3/2003
59931	LA-OS-00-01.001	LANL	4/3/2003
59933	LA-OS-00-01.001	LANL	4/3/2003
60004	LA-OS-00-01.001	LANL	4/3/2003
60008	LA-OS-00-01.001	LANL	4/3/2003
60012	LA-OS-00-01.001	LANL	4/3/2003
60013	LA-OS-00-01.001	LANL	4/3/2003
60014	LA-OS-00-01.001	LANL	4/3/2003
60015	LA-OS-00-01.001	LANL	4/3/2003
60016	LA-OS-00-01.001	LANL	4/3/2003
60017	LA-OS-00-01.001	LANL	4/3/2003
60018	LA-OS-00-01.001	LANL	4/3/2003
60019	LA-OS-00-01.001	LANL	4/3/2003
60024	LA-OS-00-01.001	LANL	4/3/2003
60025	LA-OS-00-01.001	LANL	4/3/2003
60026	LA-OS-00-01.001	LANL	4/3/2003
60027	LA-OS-00-01.001	LANL	4/3/2003
60028	LA-OS-00-01.001	LANL	4/3/2003
60029	LA-OS-00-01.001	LANL	4/3/2003
60030	LA-OS-00-01.001	LANL	4/3/2003

Container Identification Number	Waste Stream No	Generation Point	Gen Date
60031	LA-OS-00-01.001	LANL	4/3/2003
59938	LA-OS-00-01.001	LANL	4/4/2003
60020	LA-OS-00-01.001	LANL	4/4/2003
60021	LA-OS-00-01.001	LANL	4/4/2003
60022	LA-OS-00-01.001	LANL	4/4/2003
60023	LA-OS-00-01.001	LANL	4/4/2003
60032	LA-OS-00-01.001	LANL	4/4/2003
60033	LA-OS-00-01.001	LANL	4/4/2003
60034	LA-OS-00-01.001	LANL	4/4/2003
60035	LA-OS-00-01.001	LANL	4/4/2003
60036	LA-OS-00-01.001	LANL	4/4/2003
60037	LA-OS-00-01.001	LANL	4/4/2003
60038	LA-OS-00-01.001	LANL	4/4/2003
60039	LA-OS-00-01.001	LANL	4/4/2003
60040	LA-OS-00-01.001	LANL	4/4/2003
60041	LA-OS-00-01.001	LANL	4/4/2003
60043	LA-OS-00-01.001	LANL	4/4/2003
60045	LA-OS-00-01.001	LANL	4/4/2003
60047	LA-OS-00-01.001	LANL	4/4/2003
60050	LA-OS-00-01.001	LANL	4/4/2003
60052	LA-OS-00-01.001	LANL	4/4/2003
60053	LA-OS-00-01.001	LANL	4/4/2003
59953	LA-OS-00-01.001	LANL	4/7/2003
59954	LA-OS-00-01.001	LANL	4/7/2003
59982	LA-OS-00-01.001	LANL	4/7/2003
59983	LA-OS-00-01.001	LANL	4/7/2003
60042	LA-OS-00-01.001	LANL	4/7/2003
60044	LA-OS-00-01.001	LANL	4/7/2003
60046	LA-OS-00-01.001	LANL	4/7/2003
60049	LA-OS-00-01.001	LANL	4/7/2003
60054	LA-OS-00-01.001	LANL	4/7/2003
60055	LA-OS-00-01.001	LANL	4/7/2003
60057	LA-OS-00-01.001	LANL	4/7/2003
60059	LA-OS-00-01.001	LANL	4/7/2003
60060	LA-OS-00-01.001	LANL	4/7/2003
60061	LA-OS-00-01.001	LANL	4/7/2003
60062	LA-OS-00-01.001	LANL	4/7/2003
60063	LA-OS-00-01.001	LANL	4/7/2003
60064	LA-OS-00-01.001	LANL	4/7/2003
60065	LA-OS-00-01.001	LANL	4/7/2003
60200	LA-OS-00-01.001	LANL	4/7/2003
59941	LA-OS-00-01.001	LANL	4/8/2003
59942	LA-OS-00-01.001	LANL	4/8/2003
59943	LA-OS-00-01.001	LANL	4/8/2003
59951	LA-OS-00-01.001	LANL	4/8/2003
59952	LA-OS-00-01.001	LANL	4/8/2003
59955	LA-OS-00-01.001	LANL	4/8/2003

Container Identification Number	Waste Stream No	Generation Point	Gen Date
59956	LA-OS-00-01.001	LANL	4/8/2003
59958	LA-OS-00-01.001	LANL	4/8/2003
59959	LA-OS-00-01.001	LANL	4/8/2003
59984	LA-OS-00-01.001	LANL	4/8/2003
60058	LA-OS-00-01.001	LANL	4/8/2003
60066	LA-OS-00-01.001	LANL	4/8/2003
60067	LA-OS-00-01.001	LANL	4/8/2003
60068	LA-OS-00-01.001	LANL	4/8/2003
60069	LA-OS-00-01.001	LANL	4/8/2003
60070	LA-OS-00-01.001	LANL	4/8/2003
60071	LA-OS-00-01.001	LANL	4/8/2003
60072	LA-OS-00-01.001	LANL	4/8/2003
58793	LA-OS-00-01.001	LANL	4/16/2003
58794	LA-OS-00-01.001	LANL	4/16/2003
58795	LA-OS-00-01.001	LANL	4/16/2003
58796	LA-OS-00-01.001	LANL	4/16/2003
58797	LA-OS-00-01.001	LANL	4/16/2003
58798	LA-OS-00-01.001	LANL	4/16/2003
58799	LA-OS-00-01.001	LANL	4/16/2003
59900	LA-OS-00-01.001	LANL	4/16/2003
59901	LA-OS-00-01.001	LANL	4/16/2003
60300	LA-OS-00-01.001	LANL	5/20/2003
60302	LA-OS-00-01.001	LANL	5/28/2003
60303	LA-OS-00-01.001	LANL	5/28/2003
60367	LA-OS-00-01.001	LANL	5/28/2003
60078	LA-OS-00-01.001	LANL	6/2/2003
60079	LA-OS-00-01.001	LANL	6/2/2003
60080	LA-OS-00-01.001	LANL	6/2/2003
60081	LA-OS-00-01.001	LANL	6/2/2003
60082	LA-OS-00-01.001	LANL	6/2/2003
60083	LA-OS-00-01.001	LANL	6/2/2003
60084	LA-OS-00-01.001	LANL	6/2/2003
60085	LA-OS-00-01.001	LANL	6/2/2003
60086	LA-OS-00-01.001	LANL	6/2/2003
60087	LA-OS-00-01.001	LANL	6/2/2003
60088	LA-OS-00-01.001	LANL	6/2/2003
60089	LA-OS-00-01.001	LANL	6/2/2003
60090	LA-OS-00-01.001	LANL	6/2/2003
60091	LA-OS-00-01.001	LANL	6/2/2003
60092	LA-OS-00-01.001	LANL	6/2/2003
60093	LA-OS-00-01.001	LANL	6/2/2003
60094	LA-OS-00-01.001	LANL	6/2/2003
60095	LA-OS-00-01.001	LANL	6/2/2003
60096	LA-OS-00-01.001	LANL	6/2/2003
60097	LA-OS-00-01.001	LANL	6/2/2003
60098	LA-OS-00-01.001	LANL	6/3/2003
60099	LA-OS-00-01.001	LANL	6/3/2003

Container Identification Number	Waste Stream No	Generation Point	Gen Date
60201	LA-OS-00-01.001	LANL	6/3/2003
60202	LA-OS-00-01.001	LANL	6/3/2003
60203	LA-OS-00-01.001	LANL	6/3/2003
60204	LA-OS-00-01.001	LANL	6/3/2003
60206	LA-OS-00-01.001	LANL	6/3/2003
60207	LA-OS-00-01.001	LANL	6/3/2003
60208	LA-OS-00-01.001	LANL	6/3/2003
60209	LA-OS-00-01.001	LANL	6/3/2003
60210	LA-OS-00-01.001	LANL	6/3/2003
60211	LA-OS-00-01.001	LANL	6/3/2003
60212	LA-OS-00-01.001	LANL	6/3/2003
60213	LA-OS-00-01.001	LANL	6/3/2003
60214	LA-OS-00-01.001	LANL	6/3/2003
60215	LA-OS-00-01.001	LANL	6/3/2003
60216	LA-OS-00-01.001	LANL	6/3/2003
60217	LA-OS-00-01.001	LANL	6/3/2003
60218	LA-OS-00-01.001	LANL	6/3/2003
60219	LA-OS-00-01.001	LANL	6/3/2003
60205	LA-OS-00-01.001	LANL	6/4/2003
60220	LA-OS-00-01.001	LANL	6/4/2003
60221	LA-OS-00-01.001	LANL	6/4/2003
60222	LA-OS-00-01.001	LANL	6/4/2003
60223	LA-OS-00-01.001	LANL	6/4/2003
60224	LA-OS-00-01.001	LANL	6/4/2003
60225	LA-OS-00-01.001	LANL	6/4/2003
60230	LA-OS-00-01.001	LANL	6/4/2003
60231	LA-OS-00-01.001	LANL	6/4/2003
60232	LA-OS-00-01.001	LANL	6/4/2003
60233	LA-OS-00-01.001	LANL	6/4/2003
61409	LA-OS-00-01.001	LANL	6/4/2003
60301	LA-OS-00-01.001	LANL	6/11/2003
60304	LA-OS-00-01.001	LANL	6/11/2003
61522	LA-OS-00-01.001	LANL	6/16/2003
61526	LA-OS-00-01.001	LANL	6/16/2003
59944	LA-OS-00-01.001	LANL	6/24/2003
59945	LA-OS-00-01.001	LANL	6/24/2003
59946	LA-OS-00-01.001	LANL	6/24/2003
59957	LA-OS-00-01.001	LANL	6/24/2003
60073	LA-OS-00-01.001	LANL	6/24/2003
60074	LA-OS-00-01.001	LANL	6/24/2003
60075	LA-OS-00-01.001	LANL	6/24/2003
60076	LA-OS-00-01.001	LANL	6/24/2003
60242	LA-OS-00-01.001	LANL	6/24/2003
60244	LA-OS-00-01.001	LANL	6/24/2003
60245	LA-OS-00-01.001	LANL	6/24/2003
60247	LA-OS-00-01.001	LANL	6/24/2003
60305	LA-OS-00-01.001	LANL	6/24/2003

Container Identification Number	Waste Stream No	Generation Point	Gen Date
60306	LA-OS-00-01.001	LANL	6/24/2003
60307	LA-OS-00-01.001	LANL	6/24/2003
60308	LA-OS-00-01.001	LANL	6/24/2003
60309	LA-OS-00-01.001	LANL	6/24/2003
60311	LA-OS-00-01.001	LANL	6/24/2003
59937	LA-OS-00-01.001	LANL	6/25/2003
60077	LA-OS-00-01.001	LANL	6/25/2003
60237	LA-OS-00-01.001	LANL	6/25/2003
60238	LA-OS-00-01.001	LANL	6/25/2003
60239	LA-OS-00-01.001	LANL	6/25/2003
60240	LA-OS-00-01.001	LANL	6/25/2003
60241	LA-OS-00-01.001	LANL	6/25/2003
60243	LA-OS-00-01.001	LANL	6/25/2003
60246	LA-OS-00-01.001	LANL	6/25/2003
60248	LA-OS-00-01.001	LANL	6/25/2003
60249	LA-OS-00-01.001	LANL	6/25/2003
60252	LA-OS-00-01.001	LANL	6/25/2003
60263	LA-OS-00-01.001	LANL	6/25/2003
60310	LA-OS-00-01.001	LANL	6/25/2003
60312	LA-OS-00-01.001	LANL	6/25/2003
59960	LA-OS-00-01.001	LANL	6/26/2003
60250	LA-OS-00-01.001	LANL	6/26/2003
60251	LA-OS-00-01.001	LANL	6/26/2003
60253	LA-OS-00-01.001	LANL	6/26/2003
60254	LA-OS-00-01.001	LANL	6/26/2003
60255	LA-OS-00-01.001	LANL	6/26/2003
60256	LA-OS-00-01.001	LANL	6/26/2003
60257	LA-OS-00-01.001	LANL	6/26/2003
60258	LA-OS-00-01.001	LANL	6/26/2003
60259	LA-OS-00-01.001	LANL	6/26/2003
60260	LA-OS-00-01.001	LANL	6/26/2003
60261	LA-OS-00-01.001	LANL	6/26/2003
60262	LA-OS-00-01.001	LANL	6/26/2003
60264	LA-OS-00-01.001	LANL	6/26/2003
60265	LA-OS-00-01.001	LANL	6/26/2003
60266	LA-OS-00-01.001	LANL	6/26/2003
60267	LA-OS-00-01.001	LANL	6/26/2003
60268	LA-OS-00-01.001	LANL	6/26/2003
60269	LA-OS-00-01.001	LANL	6/26/2003
60270	LA-OS-00-01.001	LANL	6/26/2003
60271	LA-OS-00-01.001	LANL	6/26/2003
60272	LA-OS-00-01.001	LANL	6/26/2003
60274	LA-OS-00-01.001	LANL	6/26/2003
60275	LA-OS-00-01.001	LANL	6/26/2003
58568	LA-OS-00-01.001	LANL	7/17/2003
58702	LA-OS-00-01.001	LANL	7/21/2003
61401	LA-OS-00-01.001	LANL	8/5/2003

Container Identification Number	Waste Stream No	Generation Point	Gen Date
61402	LA-OS-00-01.001	LANL	8/5/2003
58703	LA-OS-00-01.001	LANL	8/6/2003
61403	LA-OS-00-01.001	LANL	8/12/2003
61404	LA-OS-00-01.001	LANL	8/12/2003
61405	LA-OS-00-01.001	LANL	8/12/2003
61406	LA-OS-00-01.001	LANL	8/13/2003
61407	LA-OS-00-01.001	LANL	8/13/2003
61408	LA-OS-00-01.001	LANL	8/13/2003
61410	LA-OS-00-01.001	LANL	8/14/2003
61411	LA-OS-00-01.001	LANL	8/14/2003
61412	LA-OS-00-01.001	LANL	8/19/2003
61413	LA-OS-00-01.001	LANL	8/19/2003
61414	LA-OS-00-01.001	LANL	8/19/2003
61415	LA-OS-00-01.001	LANL	8/20/2003
61416	LA-OS-00-01.001	LANL	8/20/2003
61417	LA-OS-00-01.001	LANL	8/21/2003
61418	LA-OS-00-01.001	LANL	8/21/2003
59904	LA-OS-00-01.001	LANL	9/9/2003
61423	LA-OS-00-01.001	LANL	9/9/2003
61400	LA-OS-00-01.001	LANL	9/10/2003
61419	LA-OS-00-01.001	LANL	9/10/2003
61420	LA-OS-00-01.001	LANL	9/30/2003
61421	LA-OS-00-01.001	LANL	9/30/2003
61422	LA-OS-00-01.001	LANL	10/1/2003
61424	LA-OS-00-01.001	LANL	10/1/2003
61425	LA-OS-00-01.001	LANL	10/7/2003
61427	LA-OS-00-01.001	LANL	10/7/2003
61426	LA-OS-00-01.001	LANL	10/8/2003
61428	LA-OS-00-01.001	LANL	10/24/2003
61429	LA-OS-00-01.001	LANL	10/24/2003
61431	LA-OS-00-01.001	LANL	10/29/2003
61434	LA-OS-00-01.001	LANL	11/4/2003
61435	LA-OS-00-01.001	LANL	11/4/2003
61436	LA-OS-00-01.001	LANL	11/5/2003
61430	LA-OS-00-01.001	LANL	11/11/2003
61433	LA-OS-00-01.001	LANL	11/11/2003
61437	LA-OS-00-01.001	LANL	11/11/2003
61438	LA-OS-00-01.001	LANL	11/12/2003
61439	LA-OS-00-01.001	LANL	11/12/2003
61443	LA-OS-00-01.001	LANL	11/13/2003
61444	LA-OS-00-01.001	LANL	11/13/2003
61440	LA-OS-00-01.001	LANL	12/1/2003
61441	LA-OS-00-01.001	LANL	12/1/2003
60276	LA-OS-00-01.001	LANL	12/2/2003
60277	LA-OS-00-01.001	LANL	12/2/2003
60278	LA-OS-00-01.001	LANL	12/2/2003
60279	LA-OS-00-01.001	LANL	12/2/2003

Container Identification Number	Waste Stream No	Generation Point	Gen Date
60280	LA-OS-00-01.001	LANL	12/2/2003
61442	LA-OS-00-01.001	LANL	12/2/2003
60282	LA-OS-00-01.001	LANL	12/3/2003
60283	LA-OS-00-01.001	LANL	12/3/2003
60284	LA-OS-00-01.001	LANL	12/3/2003
60285	LA-OS-00-01.001	LANL	12/3/2003
60286	LA-OS-00-01.001	LANL	12/3/2003
60287	LA-OS-00-01.001	LANL	12/3/2003
60288	LA-OS-00-01.001	LANL	12/3/2003
61446	LA-OS-00-01.001	LANL	12/3/2003
60289	LA-OS-00-01.001	LANL	12/4/2003
60290	LA-OS-00-01.001	LANL	12/4/2003
60291	LA-OS-00-01.001	LANL	12/4/2003
60292	LA-OS-00-01.001	LANL	12/4/2003
60293	LA-OS-00-01.001	LANL	12/4/2003
60294	LA-OS-00-01.001	LANL	12/4/2003
60295	LA-OS-00-01.001	LANL	12/4/2003
60296	LA-OS-00-01.001	LANL	12/4/2003
60297	LA-OS-00-01.001	LANL	12/4/2003
61448	LA-OS-00-01.001	LANL	12/8/2003
61449	LA-OS-00-01.001	LANL	12/8/2003
61450	LA-OS-00-01.001	LANL	12/9/2003
61451	LA-OS-00-01.001	LANL	12/9/2003
61452	LA-OS-00-01.001	LANL	12/9/2003
61453	LA-OS-00-01.001	LANL	12/10/2003
60273	LA-OS-00-01.001	LANL	12/12/2003
60281	LA-OS-00-01.001	LANL	12/12/2003
61663	LA-OS-00-01.001	LANL	12/13/2003
60390	LA-OS-00-01.001	LANL	12/16/2003
61482	LA-OS-00-01.001	LANL	12/16/2003
61487	LA-OS-00-01.001	LANL	12/16/2003
61488	LA-OS-00-01.001	LANL	12/16/2003
61481	LA-OS-00-01.001	LANL	12/17/2003
61483	LA-OS-00-01.001	LANL	12/17/2003
61484	LA-OS-00-01.001	LANL	12/17/2003
61489	LA-OS-00-01.001	LANL	12/17/2003
61494	LA-OS-00-01.001	LANL	1/20/2004
61495	LA-OS-00-01.001	LANL	1/21/2004
60298	LA-OS-00-01.001	LANL	1/27/2004
60299	LA-OS-00-01.001	LANL	1/27/2004
60313	LA-OS-00-01.001	LANL	1/27/2004
60314	LA-OS-00-01.001	LANL	1/27/2004
60316	LA-OS-00-01.001	LANL	1/27/2004
60317	LA-OS-00-01.001	LANL	1/27/2004
60318	LA-OS-00-01.001	LANL	1/27/2004
60319	LA-OS-00-01.001	LANL	1/27/2004
60320	LA-OS-00-01.001	LANL	1/27/2004

Container Identification Number	Waste Stream No	Generation Point	Gen Date
60321	LA-OS-00-01.001	LANL	1/27/2004
60322	LA-OS-00-01.001	LANL	1/27/2004
60323	LA-OS-00-01.001	LANL	1/27/2004
60324	LA-OS-00-01.001	LANL	1/27/2004
60325	LA-OS-00-01.001	LANL	1/27/2004
60326	LA-OS-00-01.001	LANL	1/27/2004
60335	LA-OS-00-01.001	LANL	1/27/2004
60336	LA-OS-00-01.001	LANL	1/27/2004
60337	LA-OS-00-01.001	LANL	1/27/2004
60328	LA-OS-00-01.001	LANL	1/28/2004
60329	LA-OS-00-01.001	LANL	1/28/2004
60330	LA-OS-00-01.001	LANL	1/28/2004
60331	LA-OS-00-01.001	LANL	1/28/2004
60332	LA-OS-00-01.001	LANL	1/28/2004
60333	LA-OS-00-01.001	LANL	1/28/2004
60334	LA-OS-00-01.001	LANL	1/28/2004
60338	LA-OS-00-01.001	LANL	1/28/2004
60339	LA-OS-00-01.001	LANL	1/28/2004
60340	LA-OS-00-01.001	LANL	1/28/2004
60341	LA-OS-00-01.001	LANL	1/28/2004
60344	LA-OS-00-01.001	LANL	1/28/2004
60345	LA-OS-00-01.001	LANL	1/28/2004
60347	LA-OS-00-01.001	LANL	1/28/2004
60348	LA-OS-00-01.001	LANL	1/28/2004
60327	LA-OS-00-01.001	LANL	1/29/2004
60342	LA-OS-00-01.001	LANL	1/29/2004
60346	LA-OS-00-01.001	LANL	1/29/2004
60351	LA-OS-00-01.001	LANL	1/29/2004
60352	LA-OS-00-01.001	LANL	1/29/2004
60354	LA-OS-00-01.001	LANL	1/29/2004
60361	LA-OS-00-01.001	LANL	1/29/2004
60362	LA-OS-00-01.001	LANL	1/29/2004
61500	LA-OS-00-01.001	LANL	2/11/2004
61501	LA-OS-00-01.001	LANL	2/11/2004
61497	LA-OS-00-01.001	LANL	2/12/2004
61498	LA-OS-00-01.001	LANL	2/12/2004
61499	LA-OS-00-01.001	LANL	2/12/2004
61490	LA-OS-00-01.001	LANL	2/24/2004
61503	LA-OS-00-01.001	LANL	3/2/2004
61504	LA-OS-00-01.001	LANL	3/3/2004
61502	LA-OS-00-01.001	LANL	3/10/2004
61517	LA-OS-00-01.001	LANL	3/16/2004
61518	LA-OS-00-01.001	LANL	3/16/2004
61519	LA-OS-00-01.001	LANL	3/16/2004
61520	LA-OS-00-01.001	LANL	3/16/2004
61521	LA-OS-00-01.001	LANL	3/16/2004
61523	LA-OS-00-01.001	LANL	3/16/2004

Container Identification Number	Waste Stream No	Generation Point	Gen Date
61524	LA-OS-00-01.001	LANL	3/16/2004
61527	LA-OS-00-01.001	LANL	3/16/2004
61528	LA-OS-00-01.001	LANL	3/16/2004
61530	LA-OS-00-01.001	LANL	3/16/2004
61536	LA-OS-00-01.001	LANL	3/16/2004
61529	LA-OS-00-01.001	LANL	3/17/2004
61533	LA-OS-00-01.001	LANL	3/17/2004
61534	LA-OS-00-01.001	LANL	3/17/2004
61535	LA-OS-00-01.001	LANL	3/17/2004
61565	LA-OS-00-01.001	LANL	3/23/2004
61491	LA-OS-00-01.001	LANL	3/29/2004
61492	LA-OS-00-01.001	LANL	3/30/2004
61507	LA-OS-00-01.001	LANL	3/30/2004
61508	LA-OS-00-01.001	LANL	3/30/2004
61509	LA-OS-00-01.001	LANL	3/30/2004
61511	LA-OS-00-01.001	LANL	4/7/2004
60349	LA-OS-00-01.001	LANL	4/13/2004
60350	LA-OS-00-01.001	LANL	4/13/2004
60353	LA-OS-00-01.001	LANL	4/13/2004
60356	LA-OS-00-01.001	LANL	4/13/2004
60364	LA-OS-00-01.001	LANL	4/13/2004
61579	LA-OS-00-01.001	LANL	4/13/2004
61597	LA-OS-00-01.001	LANL	4/13/2004
60343	LA-OS-00-01.001	LANL	4/14/2004
60357	LA-OS-00-01.001	LANL	4/14/2004
60358	LA-OS-00-01.001	LANL	4/14/2004
60359	LA-OS-00-01.001	LANL	4/14/2004
60360	LA-OS-00-01.001	LANL	4/14/2004
60363	LA-OS-00-01.001	LANL	4/14/2004
60373	LA-OS-00-01.001	LANL	4/14/2004
61598	LA-OS-00-01.001	LANL	4/14/2004
60365	LA-OS-00-01.001	LANL	4/15/2004
60366	LA-OS-00-01.001	LANL	4/15/2004
60368	LA-OS-00-01.001	LANL	4/15/2004
60370	LA-OS-00-01.001	LANL	4/15/2004
60372	LA-OS-00-01.001	LANL	4/15/2004
61454	LA-OS-00-01.001	LANL	4/15/2004
61560	LA-OS-00-01.001	LANL	4/15/2004
61561	LA-OS-00-01.001	LANL	4/15/2004
61562	LA-OS-00-01.001	LANL	4/15/2004
60315	LA-OS-00-01.001	LANL	4/16/2004
60355	LA-OS-00-01.001	LANL	4/20/2004
62378	LA-OS-00-01.001	LANL	5/17/2004
61580	LA-OS-00-01.001	LANL	6/2/2004
61564	LA-OS-00-01.001	LANL	6/20/2004
61510	LA-OS-00-01.001	LANL	6/21/2004
61577	LA-OS-00-01.001	LANL	6/22/2004

Container Identification Number	Waste Stream No	Generation Point	Gen Date
61578	LA-OS-00-01.001	LANL	6/22/2004
61575	LA-OS-00-01.001	LANL	6/29/2004
61576	LA-OS-00-01.001	LANL	6/29/2004
61512	LA-OS-00-01.001	LANL	7/7/2004
61563	LA-OS-00-01.001	LANL	7/7/2004
61513	LA-OS-00-01.001	LANL	7/15/2004
61539	LA-OS-00-01.001	LANL	10/10/2004
60371	LA-OS-00-01.001	LANL	11/30/2004
60379	LA-OS-00-01.001	LANL	11/30/2004
60382	LA-OS-00-01.001	LANL	11/30/2004
60376	LA-OS-00-01.001	LANL	12/1/2004
60374	LA-OS-00-01.001	LANL	12/2/2004
60375	LA-OS-00-01.001	LANL	12/2/2004
60378	LA-OS-00-01.001	LANL	12/2/2004
60381	LA-OS-00-01.001	LANL	12/2/2004
60377	LA-OS-00-01.001	LANL	12/15/2004
60387	LA-OS-00-01.001	LANL	12/15/2004
60388	LA-OS-00-01.001	LANL	12/15/2004
60389	LA-OS-00-01.001	LANL	12/15/2004
60391	LA-OS-00-01.001	LANL	12/15/2004
60383	LA-OS-00-01.001	LANL	12/16/2004
60392	LA-OS-00-01.001	LANL	12/16/2004
60393	LA-OS-00-01.001	LANL	12/16/2004
60394	LA-OS-00-01.001	LANL	12/16/2004
60395	LA-OS-00-01.001	LANL	12/16/2004
61540	LA-OS-00-01.001	LANL	3/7/2005
61541	LA-OS-00-01.001	LANL	3/7/2005
61542	LA-OS-00-01.001	LANL	3/8/2005
61543	LA-OS-00-01.001	LANL	3/8/2005
61515	LA-OS-00-01.001	LANL	3/11/2005
61544	LA-OS-00-01.001	LANL	3/22/2005
61545	LA-OS-00-01.001	LANL	3/22/2005
61546	LA-OS-00-01.001	LANL	3/22/2005
61547	LA-OS-00-01.001	LANL	3/22/2005
61548	LA-OS-00-01.001	LANL	3/23/2005
61549	LA-OS-00-01.001	LANL	3/23/2005
61550	LA-OS-00-01.001	LANL	3/23/2005
61551	LA-OS-00-01.001	LANL	3/23/2005
61552	LA-OS-00-01.001	LANL	3/23/2005
61553	LA-OS-00-01.001	LANL	3/23/2005
61554	LA-OS-00-01.001	LANL	3/23/2005
61555	LA-OS-00-01.001	LANL	3/23/2005
61585	LA-OS-00-01.001	LANL	3/23/2005
61586	LA-OS-00-01.001	LANL	3/23/2005
61587	LA-OS-00-01.001	LANL	3/23/2005
61588	LA-OS-00-01.001	LANL	3/23/2005
61556	LA-OS-00-01.001	LANL	3/24/2005

Container Identification Number	Waste Stream No	Generation Point	Gen Date
61557	LA-OS-00-01.001	LANL	3/24/2005
60384	LA-OS-00-01.001	LANL	5/3/2005
60386	LA-OS-00-01.001	LANL	5/3/2005
60396	LA-OS-00-01.001	LANL	5/3/2005
60397	LA-OS-00-01.001	LANL	5/3/2005
61589	LA-OS-00-01.001	LANL	5/4/2005
60380	LA-OS-00-01.001	LANL	5/5/2005
60398	LA-OS-00-01.001	LANL	5/5/2005
61505	LA-OS-00-01.001	LANL	5/5/2005
61590	LA-OS-00-01.001	LANL	5/24/2005
61595	LA-OS-00-01.001	LANL	5/24/2005
61591	LA-OS-00-01.001	LANL	5/25/2005
61592	LA-OS-00-01.001	LANL	5/25/2005
61593	LA-OS-00-01.001	LANL	5/25/2005
60399	LA-OS-00-01.001	LANL	6/14/2005
61600	LA-OS-00-01.001	LANL	6/14/2005
61601	LA-OS-00-01.001	LANL	6/14/2005
58566	LA-OS-00-01.001	LANL	6/29/2005
58632	LA-OS-00-01.001	LANL	6/29/2005
58633	LA-OS-00-01.001	LANL	6/29/2005
58634	LA-OS-00-01.001	LANL	6/29/2005
58682	LA-OS-00-01.001	LANL	6/29/2005
61582	LA-OS-00-01.001	LANL	7/19/2005
61599	LA-OS-00-01.001	LANL	7/19/2005
62300	LA-OS-00-01.001	LANL	7/19/2005
62301	LA-OS-00-01.001	LANL	7/19/2005
58792	LA-OS-00-01.001	LANL	7/26/2005
61558	LA-OS-00-01.001	LANL	7/26/2005
61559	LA-OS-00-01.001	LANL	7/26/2005
62307	LA-OS-00-01.001	LANL	7/26/2005
62308	LA-OS-00-01.001	LANL	7/26/2005
62309	LA-OS-00-01.001	LANL	9/15/2005
62310	LA-OS-00-01.001	LANL	9/15/2005
62311	LA-OS-00-01.001	LANL	9/15/2005
62312	LA-OS-00-01.001	LANL	9/16/2005
61624	LA-OS-00-01.001	LANL	9/25/2005
61608	LA-OS-00-01.001	LANL	9/28/2005
61613	LA-OS-00-01.001	LANL	9/28/2005
61614	LA-OS-00-01.001	LANL	9/28/2005
61616	LA-OS-00-01.001	LANL	9/28/2005
61618	LA-OS-00-01.001	LANL	9/28/2005
61620	LA-OS-00-01.001	LANL	9/28/2005
61621	LA-OS-00-01.001	LANL	9/28/2005
61609	LA-OS-00-01.001	LANL	9/29/2005
61610	LA-OS-00-01.001	LANL	9/29/2005
61611	LA-OS-00-01.001	LANL	9/29/2005
61612	LA-OS-00-01.001	LANL	9/29/2005

Container Identification Number	Waste Stream No	Generation Point	Gen Date
61622	LA-OS-00-01.001	LANL	9/29/2005
62313	LA-OS-00-01.001	LANL	10/26/2005
62314	LA-OS-00-01.001	LANL	11/3/2005
61651	LA-OS-00-01.001	LANL	11/9/2005
62315	LA-OS-00-01.001	LANL	11/9/2005
61605	LA-OS-00-01.001	LANL	11/16/2005
61606	LA-OS-00-01.001	LANL	11/16/2005
61607	LA-OS-00-01.001	LANL	11/16/2005
61617	LA-OS-00-01.001	LANL	11/16/2005
62388	LA-OS-00-01.001	LANL	12/7/2005
52325	LA-OS-00-01.001	LANL	12/13/2005
61432	LA-OS-00-01.001	LANL	1/12/2006
61514	LA-OS-00-01.001	LANL	1/12/2006
61604	LA-OS-00-01.001	LANL	1/12/2006
61625	LA-OS-00-01.001	LANL	1/12/2006
62374	LA-OS-00-01.001	LANL	1/17/2006
61619	LA-OS-00-01.001	LANL	1/18/2006
62376	LA-OS-00-01.001	LANL	1/18/2006
62377	LA-OS-00-01.001	LANL	1/18/2006
62380	LA-OS-00-01.001	LANL	1/26/2006
62381	LA-OS-00-01.001	LANL	1/27/2006
62382	LA-OS-00-01.001	LANL	1/30/2006
62383	LA-OS-00-01.001	LANL	2/1/2006
62395	LA-OS-00-01.001	LANL	2/7/2006
62396	LA-OS-00-01.001	LANL	2/8/2006
62384	LA-OS-00-01.001	LANL	2/13/2006
61623	LA-OS-00-01.001	LANL	2/16/2006
61626	LA-OS-00-01.001	LANL	2/16/2006
61628	LA-OS-00-01.001	LANL	2/16/2006
62375	LA-OS-00-01.001	LANL	2/16/2006
62379	LA-OS-00-01.001	LANL	2/22/2006
62385	LA-OS-00-01.001	LANL	3/1/2006
62386	LA-OS-00-01.001	LANL	3/1/2006
62302	LA-OS-00-01.001	LANL	3/15/2006
62303	LA-OS-00-01.001	LANL	3/21/2006
62726	LA-OS-00-01.001	LANL	3/23/2006
62727	LA-OS-00-01.001	LANL	3/23/2006
62730	LA-OS-00-01.001	LANL	3/29/2006
62731	LA-OS-00-01.001	LANL	3/29/2006
62732	LA-OS-00-01.001	LANL	3/29/2006
62728	LA-OS-00-01.001	LANL	3/30/2006
62729	LA-OS-00-01.001	LANL	3/30/2006
62724	LA-OS-00-01.001	LANL	4/6/2006
62725	LA-OS-00-01.001	LANL	4/6/2006
62722	LA-OS-00-01.001	LANL	4/20/2006
62723	LA-OS-00-01.001	LANL	4/20/2006
62304	LA-OS-00-01.001	LANL	5/11/2006

Container Identification Number	Waste Stream No	Generation Point	Gen Date
62733	LA-OS-00-01.001	LANL	5/11/2006
61629	LA-OS-00-01.001	LANL	5/16/2006
61631	LA-OS-00-01.001	LANL	5/16/2006
61632	LA-OS-00-01.001	LANL	5/18/2006
61633	LA-OS-00-01.001	LANL	5/18/2006
61634	LA-OS-00-01.001	LANL	5/18/2006
61635	LA-OS-00-01.001	LANL	5/18/2006
62705	LA-OS-00-01.001	LANL	6/6/2006
62706	LA-OS-00-01.001	LANL	6/6/2006
62707	LA-OS-00-01.001	LANL	7/12/2006
61636	LA-OS-00-01.001	LANL	7/17/2006
61637	LA-OS-00-01.001	LANL	7/17/2006
61638	LA-OS-00-01.001	LANL	7/17/2006
61639	LA-OS-00-01.001	LANL	7/17/2006
61640	LA-OS-00-01.001	LANL	7/18/2006
61641	LA-OS-00-01.001	LANL	7/18/2006
61642	LA-OS-00-01.001	LANL	7/18/2006
61643	LA-OS-00-01.001	LANL	7/19/2006
61615	LA-OS-00-01.001	LANL	7/20/2006
61644	LA-OS-00-01.001	LANL	7/20/2006
61645	LA-OS-00-01.001	LANL	7/20/2006
61646	LA-OS-00-01.001	LANL	7/20/2006
61647	LA-OS-00-01.001	LANL	7/20/2006
62305	LA-OS-00-01.001	LANL	8/8/2006
62716	LA-OS-00-01.001	LANL	8/8/2006
62769	LA-OS-00-01.001	LANL	8/10/2006
62770	LA-OS-00-01.001	LANL	8/10/2006
64038	LA-OS-00-01.001	LANL	8/13/2006
62736	LA-OS-00-01.001	LANL	8/15/2006
62737	LA-OS-00-01.001	LANL	8/15/2006
62719	LA-OS-00-01.001	LANL	8/16/2006
62738	LA-OS-00-01.001	LANL	8/16/2006
62739	LA-OS-00-01.001	LANL	8/16/2006
62740	LA-OS-00-01.001	LANL	8/16/2006
62741	LA-OS-00-01.001	LANL	8/16/2006
62742	LA-OS-00-01.001	LANL	8/17/2006
62715	LA-OS-00-01.001	LANL	8/23/2006
62717	LA-OS-00-01.001	LANL	8/23/2006
62718	LA-OS-00-01.001	LANL	8/23/2006
62747	LA-OS-00-01.001	LANL	9/12/2006
62748	LA-OS-00-01.001	LANL	9/12/2006
62750	LA-OS-00-01.001	LANL	9/12/2006
64524	LA-OS-00-01.001	LANL	9/12/2006
62746	LA-OS-00-01.001	LANL	9/13/2006
62751	LA-OS-00-01.001	LANL	9/13/2006
62743	LA-OS-00-01.001	LANL	10/3/2006
61650	LA-OS-00-01.001	LANL	10/5/2006

Container Identification Number	Waste Stream No	Generation Point	Gen Date
61648	LA-OS-00-01.001	LANL	10/19/2006
61652	LA-OS-00-01.001	LANL	10/19/2006
62744	LA-OS-00-01.001	LANL	10/24/2006
64066	LA-OS-00-01.001	LANL	10/30/2006
62752	LA-OS-00-01.001	LANL	11/9/2006
64518	LA-OS-00-01.001	LANL	11/11/2006
61493	LA-OS-00-01.001	LANL	11/20/2006
62753	LA-OS-00-01.001	LANL	1/17/2007
62754	LA-OS-00-01.001	LANL	1/17/2007
62755	LA-OS-00-01.001	LANL	1/18/2007
61571	LA-OS-00-01.001	LANL	3/20/2007
61572	LA-OS-00-01.001	LANL	3/20/2007
61573	LA-OS-00-01.001	LANL	3/20/2007
62761	LA-OS-00-01.001	LANL	4/3/2007
62762	LA-OS-00-01.001	LANL	4/3/2007
61567	LA-OS-00-01.001	LANL	4/4/2007
62763	LA-OS-00-01.001	LANL	4/4/2007
61653	LA-OS-00-01.001	LANL	4/26/2007
61654	LA-OS-00-01.001	LANL	4/26/2007
61655	LA-OS-00-01.001	LANL	4/26/2007
61657	LA-OS-00-01.001	LANL	4/26/2007
61658	LA-OS-00-01.001	LANL	5/9/2007
62771	LA-OS-00-01.001	LANL	6/25/2007
62772	LA-OS-00-01.001	LANL	6/25/2007
62773	LA-OS-00-01.001	LANL	6/25/2007
62774	LA-OS-00-01.001	LANL	6/25/2007
62775	LA-OS-00-01.001	LANL	6/25/2007
62776	LA-OS-00-01.001	LANL	6/27/2007
61566	LA-OS-00-01.001	LANL	8/21/2007
61660	LA-OS-00-01.001	LANL	8/21/2007
61661	LA-OS-00-01.001	LANL	8/21/2007
61659	LA-OS-00-01.001	LANL	8/22/2007
61584	LA-OS-00-01.001	LANL	8/27/2007
61596	LA-OS-00-01.001	LANL	8/28/2007
61583	LA-OS-00-01.001	LANL	9/5/2007
61568	LA-OS-00-01.001	LANL	9/18/2007
64000	LA-OS-00-01.001	LANL	9/19/2007
64003	LA-OS-00-01.001	LANL	9/19/2007
64009	LA-OS-00-01.001	LANL	9/19/2007
64011	LA-OS-00-01.001	LANL	9/19/2007
64001	LA-OS-00-01.001	LANL	9/20/2007
64004	LA-OS-00-01.001	LANL	9/20/2007
64006	LA-OS-00-01.001	LANL	9/20/2007
64005	LA-OS-00-01.001	LANL	9/21/2007
64007	LA-OS-00-01.001	LANL	9/21/2007
64010	LA-OS-00-01.001	LANL	9/21/2007
64012	LA-OS-00-01.001	LANL	9/21/2007

Container Identification Number	Waste Stream No	Generation Point	Gen Date
61569	LA-OS-00-01.001	LANL	9/26/2007
61459	LA-OS-00-01.001	LANL	10/10/2007
61460	LA-OS-00-01.001	LANL	10/10/2007
61461	LA-OS-00-01.001	LANL	10/10/2007
61570	LA-OS-00-01.001	LANL	12/11/2007
64014	LA-OS-00-01.001	LANL	12/11/2007
64002	LA-OS-00-01.001	LANL	12/13/2007
64008	LA-OS-00-01.001	LANL	12/13/2007
62711	LA-OS-00-01.001	LANL	1/1/2008
62709	LA-OS-00-01.001	LANL	1/21/2008
62710	LA-OS-00-01.001	LANL	1/21/2008
64015	LA-OS-00-01.001	LANL	1/22/2008
62708	LA-OS-00-01.001	LANL	1/24/2008
62712	LA-OS-00-01.001	LANL	1/24/2008
62713	LA-OS-00-01.001	LANL	1/24/2008
62734	LA-OS-00-01.001	LANL	2/26/2008
62735	LA-OS-00-01.001	LANL	2/26/2008
62778	LA-OS-00-01.001	LANL	2/26/2008
62779	LA-OS-00-01.001	LANL	2/26/2008
62768	LA-OS-00-01.001	LANL	2/28/2008
62720	LA-OS-00-01.001	LANL	4/7/2008
62721	LA-OS-00-01.001	LANL	4/7/2008
62764	LA-OS-00-01.001	LANL	4/8/2008
62765	LA-OS-00-01.001	LANL	4/30/2008
64040	LA-OS-00-01.001	LANL	4/30/2008
61630	LA-OS-00-01.001	LANL	5/13/2008
61664	LA-OS-00-01.001	LANL	5/13/2008
61665	LA-OS-00-01.001	LANL	5/13/2008
61666	LA-OS-00-01.001	LANL	5/13/2008
61667	LA-OS-00-01.001	LANL	5/13/2008
61668	LA-OS-00-01.001	LANL	5/13/2008
61669	LA-OS-00-01.001	LANL	5/13/2008
61670	LA-OS-00-01.001	LANL	5/13/2008
61671	LA-OS-00-01.001	LANL	5/13/2008
61672	LA-OS-00-01.001	LANL	5/13/2008
61673	LA-OS-00-01.001	LANL	5/13/2008
61674	LA-OS-00-01.001	LANL	5/13/2008
61675	LA-OS-00-01.001	LANL	5/13/2008
61676	LA-OS-00-01.001	LANL	5/13/2008
61677	LA-OS-00-01.001	LANL	5/13/2008
61678	LA-OS-00-01.001	LANL	5/13/2008
61679	LA-OS-00-01.001	LANL	5/13/2008
61680	LA-OS-00-01.001	LANL	5/13/2008
61681	LA-OS-00-01.001	LANL	5/13/2008
61682	LA-OS-00-01.001	LANL	5/13/2008
61683	LA-OS-00-01.001	LANL	5/14/2008
61684	LA-OS-00-01.001	LANL	5/14/2008

Container Identification Number	Waste Stream No	Generation Point	Gen Date
61685	LA-OS-00-01.001	LANL	5/14/2008
61686	LA-OS-00-01.001	LANL	5/14/2008
61687	LA-OS-00-01.001	LANL	5/15/2008
61689	LA-OS-00-01.001	LANL	5/15/2008
61690	LA-OS-00-01.001	LANL	5/15/2008
61691	LA-OS-00-01.001	LANL	5/15/2008
61692	LA-OS-00-01.001	LANL	5/15/2008
64017	LA-OS-00-01.001	LANL	5/21/2008
64018	LA-OS-00-01.001	LANL	5/23/2008
64019	LA-OS-00-01.001	LANL	5/23/2008
64041	LA-OS-00-01.001	LANL	6/17/2008
64042	LA-OS-00-01.001	LANL	6/17/2008
64043	LA-OS-00-01.001	LANL	6/17/2008
64044	LA-OS-00-01.001	LANL	6/17/2008
59961	LA-OS-00-01.001	LANL	7/22/2008
61594	LA-OS-00-01.001	LANL	7/23/2008
61695	LA-OS-00-01.001	LANL	7/23/2008
62766	LA-OS-00-01.001	LANL	8/12/2008
62767	LA-OS-00-01.001	LANL	8/12/2008
64036	LA-OS-00-01.001	LANL	8/12/2008
64039	LA-OS-00-01.001	LANL	9/9/2008
61662	LA-OS-00-01.001	LANL	10/7/2008
64060	LA-OS-00-01.001	LANL	10/21/2008
64061	LA-OS-00-01.001	LANL	10/22/2008
64062	LA-OS-00-01.001	LANL	10/22/2008
64063	LA-OS-00-01.001	LANL	10/22/2008
64045	LA-OS-00-01.001	LANL	10/28/2008
64046	LA-OS-00-01.001	LANL	10/29/2008
64065	LA-OS-00-01.001	LANL	10/30/2008
61698	LA-OS-00-01.001	LANL	11/3/2008
64069	LA-OS-00-01.001	LANL	11/4/2008
64070	LA-OS-00-01.001	LANL	11/4/2008
64071	LA-OS-00-01.001	LANL	11/4/2008
64073	LA-OS-00-01.001	LANL	11/4/2008
64074	LA-OS-00-01.001	LANL	11/4/2008
64075	LA-OS-00-01.001	LANL	11/5/2008
64076	LA-OS-00-01.001	LANL	11/5/2008
64047	LA-OS-00-01.001	LANL	11/13/2008
64048	LA-OS-00-01.001	LANL	11/13/2008
64049	LA-OS-00-01.001	LANL	11/13/2008
64501	LA-OS-00-01.001	LANL	1/14/2009
64502	LA-OS-00-01.001	LANL	1/14/2009
64503	LA-OS-00-01.001	LANL	1/14/2009
64507	LA-OS-00-01.001	LANL	1/21/2009
64508	LA-OS-00-01.001	LANL	1/21/2009
64050	LA-OS-00-01.001	LANL	1/27/2009
64522	LA-OS-00-01.001	LANL	3/2/2009

Container Identification Number	Waste Stream No	Generation Point	Gen Date
64517	LA-OS-00-01.001	LANL	3/3/2009
64521	LA-OS-00-01.001	LANL	3/3/2009
64520	LA-OS-00-01.001	LANL	3/4/2009
64515	LA-OS-00-01.001	LANL	3/5/2009
64078	LA-OS-00-01.001	LANL	3/13/2009
64525	LA-OS-00-01.001	LANL	3/13/2009
64079	LA-OS-00-01.001	LANL	5/5/2009
64523	LA-OS-00-01.001	LANL	5/28/2009
64528	LA-OS-00-01.001	LANL	6/23/2009
64529	LA-OS-00-01.001	LANL	6/23/2009
64530	LA-OS-00-01.001	LANL	6/24/2009
64536	LA-OS-00-01.001	LANL	7/29/2009
64021	LA-OS-00-01.001	LANL	8/14/2009
64509	LA-OS-00-01.001	LANL	8/18/2009
64510	LA-OS-00-01.001	LANL	8/18/2009
64526	LA-OS-00-01.001	LANL	8/25/2009
64020	LA-OS-00-01.001	LANL	10/14/2009
64033	LA-OS-00-01.001	LANL	10/27/2009
64034	LA-OS-00-01.001	LANL	10/27/2009
64550	LA-OS-00-01.001	LANL	12/28/2009
64549	LA-OS-00-01.001	LANL	12/29/2009
64548	LA-OS-00-01.001	LANL	1/26/2010
64583	LA-OS-00-01.001	LANL	4/5/2010
60227	LA-OS-00-01.001	LANL	4/19/2010
60228	LA-OS-00-01.001	LANL	4/19/2010
60229	LA-OS-00-01.001	LANL	4/19/2010
60234	LA-OS-00-01.001	LANL	4/19/2010
60235	LA-OS-00-01.001	LANL	4/19/2010
64035	LA-OS-00-01.001	LANL	4/21/2010
64067	LA-OS-00-01.001	LANL	4/21/2010
64068	LA-OS-00-01.001	LANL	4/21/2010
64537	LA-OS-00-01.001	LANL	4/21/2010
64553	LA-OS-00-01.001	LANL	5/20/2010
64554	LA-OS-00-01.001	LANL	5/20/2010
64577	LA-OS-00-01.001	LANL	6/14/2010
64578	LA-OS-00-01.001	LANL	6/14/2010
64051	LA-OS-00-01.001	LANL	6/28/2010
64052	LA-OS-00-01.001	LANL	6/28/2010
64585	LA-OS-00-01.001	LANL	7/13/2010
64592	LA-OS-00-01.001	LANL	7/13/2010
64595	LA-OS-00-01.001	LANL	7/14/2010
64539	LA-OS-00-01.001	LANL	7/15/2010
64534	LA-OS-00-01.001	LANL	8/6/2010
64016	LA-OS-00-01.001	LANL	8/10/2010
64540	LA-OS-00-01.001	LANL	8/10/2010
64586	LA-OS-00-01.001	LANL	8/10/2010
64589	LA-OS-00-01.001	LANL	8/10/2010

Container Identification Number	Waste Stream No	Generation Point	Gen Date
64542	LA-OS-00-01.001	LANL	8/11/2010
64580	LA-OS-00-01.001	LANL	9/2/2010
64581	LA-OS-00-01.001	LANL	9/2/2010
64511	LA-OS-00-01.001	LANL	9/16/2010
64597	LA-OS-00-01.001	LANL	9/16/2010
64544	LA-OS-00-01.001	LANL	10/14/2010
64556	LA-OS-00-01.001	LANL	10/15/2010
65404	LA-OS-00-01.001	LANL	10/26/2010
65405	LA-OS-00-01.001	LANL	10/26/2010
65406	LA-OS-00-01.001	LANL	10/27/2010
65407	LA-OS-00-01.001	LANL	10/27/2010
65408	LA-OS-00-01.001	LANL	10/28/2010
65409	LA-OS-00-01.001	LANL	12/8/2010
65410	LA-OS-00-01.001	LANL	12/8/2010
65411	LA-OS-00-01.001	LANL	12/8/2010
64582	LA-OS-00-01.001	LANL	12/9/2010
64599	LA-OS-00-01.001	LANL	1/11/2011
64559	LA-OS-00-01.001	LANL	2/14/2011
64560	LA-OS-00-01.001	LANL	2/14/2011
64561	LA-OS-00-01.001	LANL	2/14/2011
64545	LA-OS-00-01.001	LANL	2/15/2011
64547	LA-OS-00-01.001	LANL	2/15/2011
64562	LA-OS-00-01.001	LANL	2/15/2011
64546	LA-OS-00-01.001	LANL	2/16/2011
64081	LA-OS-00-01.001	LANL	2/17/2011
64557	LA-OS-00-01.001	LANL	2/17/2011
65413	LA-OS-00-01.001	LANL	2/17/2011
65442	LA-OS-00-01.001	LANL	2/23/2011
65453	LA-OS-00-01.001	LANL	4/1/2011
65454	LA-OS-00-01.001	LANL	4/4/2011
65455	LA-OS-00-01.001	LANL	4/4/2011
65456	LA-OS-00-01.001	LANL	4/5/2011
65457	LA-OS-00-01.001	LANL	4/6/2011
65458	LA-OS-00-01.001	LANL	4/6/2011
65459	LA-OS-00-01.001	LANL	4/6/2011
65460	LA-OS-00-01.001	LANL	5/3/2011
65445	LA-OS-00-01.001	LANL	5/28/2011
65446	LA-OS-00-01.001	LANL	5/28/2011
65447	LA-OS-00-01.001	LANL	5/28/2011
65448	LA-OS-00-01.001	LANL	5/29/2011
65449	LA-OS-00-01.001	LANL	5/31/2011
65450	LA-OS-00-01.001	LANL	5/31/2011
65451	LA-OS-00-01.001	LANL	5/31/2011
65452	LA-OS-00-01.001	LANL	5/31/2011
65415	LA-OS-00-01.001	LANL	8/9/2011
65466	LA-OS-00-01.001	LANL	8/23/2011
65467	LA-OS-00-01.001	LANL	8/24/2011

Container Identification Number	Waste Stream No	Generation Point	Gen Date
65468	LA-OS-00-01.001	LANL	8/24/2011
65443	LA-OS-00-01.001	LANL	8/29/2011
65473	LA-OS-00-01.001	LANL	8/30/2011
58641	LA-OS-00-01.001	LANL	9/25/2011
58640	LA-OS-00-01.001	LANL	9/26/2011
65469	LA-OS-00-01.001	LANL	9/27/2011
65417	LA-OS-00-01.001	LANL	10/11/2011
64551	LA-OS-00-01.001	LANL	1/18/2012
65478	LA-OS-00-01.001	LANL	2/7/2012
61506	LA-OS-00-01.001	LANL	4/14/2012
65412	LA-OS-00-01.001	LANL	6/7/2012
61455	LA-OS-00-01.001	LANL	7/11/2012
61463	LA-OS-00-01.001	LANL	7/11/2012
65444	LA-OS-00-01.001	LANL	7/11/2012
61469	LA-OS-00-01.001	LANL	7/16/2012
61470	LA-OS-00-01.001	LANL	7/17/2012
65475	LA-OS-00-01.001	LANL	7/17/2012
61464	LA-OS-00-01.001	LANL	7/23/2012
66725	LA-OS-00-01.001	LANL	7/26/2012
65461	LA-OS-00-01.001	LANL	7/31/2012
65462	LA-OS-00-01.001	LANL	7/31/2012
61466	LA-OS-00-01.001	LANL	8/12/2012
61467	LA-OS-00-01.001	LANL	8/22/2012
61474	LA-OS-00-01.001	LANL	8/28/2012
61475	LA-OS-00-01.001	LANL	8/29/2012
61473	LA-OS-00-01.001	LANL	8/30/2012
64598	LA-OS-00-01.001	LANL	8/30/2012
65470	LA-OS-00-01.001	LANL	9/12/2012
61476	LA-OS-00-01.001	LANL	11/5/2012
61477	LA-OS-00-01.001	LANL	11/6/2012
61478	LA-OS-00-01.001	LANL	11/7/2012
61447	LA-OS-00-01.001	LANL	11/27/2012
61486	LA-OS-00-01.001	LANL	11/27/2012
64513	LA-OS-00-01.001	LANL	11/27/2012
64514	LA-OS-00-01.001	LANL	11/27/2012
66729	LA-OS-00-01.001	LANL	11/27/2012
64541	LA-OS-00-01.001	LANL	11/28/2012
61479	LA-OS-00-01.001	LANL	1/28/2013
66707	LA-OS-00-01.001	LANL	1/29/2013
66708	LA-OS-00-01.001	LANL	1/29/2013
66709	LA-OS-00-01.001	LANL	1/29/2013
66710	LA-OS-00-01.001	LANL	1/29/2013
66711	LA-OS-00-01.001	LANL	1/29/2013
66712	LA-OS-00-01.001	LANL	1/30/2013
66713	LA-OS-00-01.001	LANL	1/30/2013
66714	LA-OS-00-01.001	LANL	1/30/2013
66715	LA-OS-00-01.001	LANL	1/31/2013

Container Identification Number	Waste Stream No	Generation Point	Gen Date
66716	LA-OS-00-01.001	LANL	1/31/2013
66730	LA-OS-00-01.001	LANL	2/5/2013
66731	LA-OS-00-01.001	LANL	2/5/2013
66726	LA-OS-00-01.001	LANL	2/6/2013
66732	LA-OS-00-01.001	LANL	2/6/2013
66733	LA-OS-00-01.001	LANL	2/6/2013
66734	LA-OS-00-01.001	LANL	2/6/2013
66704	LA-OS-00-01.001	LANL	2/7/2013
66705	LA-OS-00-01.001	LANL	2/7/2013
66720	LA-OS-00-01.001	LANL	2/7/2013
66721	LA-OS-00-01.001	LANL	2/7/2013
61468	LA-OS-00-01.001	LANL	2/26/2013
65479	LA-OS-00-01.001	LANL	2/26/2013
65471	LA-OS-00-01.001	LANL	2/28/2013
66722	LA-OS-00-01.001	LANL	3/5/2013
61471	LA-OS-00-01.001	LANL	3/6/2013
67501	LA-OS-00-01.001	LANL	3/12/2013
67502	LA-OS-00-01.001	LANL	3/12/2013
65481	LA-OS-00-01.001	LANL	3/20/2013
65482	LA-OS-00-01.001	LANL	3/20/2013
65483	LA-OS-00-01.001	LANL	3/20/2013
65484	LA-OS-00-01.001	LANL	3/21/2013
65485	LA-OS-00-01.001	LANL	3/21/2013
67503	LA-OS-00-01.001	LANL	4/9/2013
67504	LA-OS-00-01.001	LANL	4/10/2013
64082	LA-OS-00-01.001	LANL	4/30/2013
65487	LA-OS-00-01.001	LANL	4/30/2013
65488	LA-OS-00-01.001	LANL	4/30/2013
64584	LA-OS-00-01.001	LANL	5/1/2013
65486	LA-OS-00-01.001	LANL	5/1/2013
64558	LA-OS-00-01.001	LANL	6/3/2013
65489	LA-OS-00-01.001	LANL	6/3/2013
65490	LA-OS-00-01.001	LANL	6/6/2013
66724	LA-OS-00-01.001	LANL	6/6/2013
62759	LA-OS-00-01.001	LANL	6/18/2013
67500	LA-OS-00-01.001	LANL	6/18/2013
67505	LA-OS-00-01.001	LANL	6/19/2013
66718	LA-OS-00-01.001	LANL	6/20/2013
66719	LA-OS-00-01.001	LANL	6/20/2013
65492	LA-OS-00-01.001	LANL	8/1/2013
65493	LA-OS-00-01.001	LANL	8/1/2013
61472	LA-OS-00-01.001	LANL	8/8/2013
67512	LA-OS-00-01.001	LANL	9/18/2013
67513	LA-OS-00-01.001	LANL	9/19/2013
67514	LA-OS-00-01.001	LANL	9/19/2013
62756	LA-OS-00-01.001	LANL	9/26/2013
61485	LA-OS-00-01.001	LANL	11/27/2012

Container Identification Number	Waste Stream No	Generation Point	Gen Date
66706	LA-OS-00-01.001	LANL	11/27/2012
64543	LA-OS-00-01.001	LANL	11/28/2012
64555	LA-OS-00-01.001	LANL	11/28/2012
66727	LA-OS-00-01.001	LANL	11/28/2012
66728	LA-OS-00-01.001	LANL	11/29/2012
65491	LA-OS-00-01.001	LANL	9/26/2013
76511	LA-OS-00-01.001	LANL	5/15/2013
67515	LA-OS-00-01.001	LANL	12/4/2013
67517	LA-OS-00-01.001	LANL	12/5/2013
67518	LA-OS-00-01.001	LANL	12/5/2013
67519	LA-OS-00-01.001	LANL	12/5/2013
61574	LA-OS-00-01.001	LANL	12/17/2013
67523	LA-OS-00-01.001	LANL	1/28/2014
67524	LA-OS-00-01.001	LANL	1/29/2014
67538	LA-OS-00-01.001	LANL	3/11/2014
67539	LA-OS-00-01.001	LANL	3/11/2014
67540	LA-OS-00-01.001	LANL	3/12/2014
67528	LA-OS-00-01.001	LANL	3/5/2014
67529	LA-OS-00-01.001	LANL	3/4/2014
67530	LA-OS-00-01.001	LANL	3/5/2014
65463	LA-OS-00-01.001	LANL	2/25/2014
67506	LA-OS-00-01.001	LANL	2/11/2014
67507	LA-OS-00-01.001	LANL	2/12/2014
67508	LA-OS-00-01.001	LANL	2/12/2014
67509	LA-OS-00-01.001	LANL	2/13/2014
67510	LA-OS-00-01.001	LANL	2/13/2014
62758	LA-OS-00-01.001	LANL	3/4/2014
67525	LA-OS-00-01.001	LANL	6/17/2014
67546	LA-OS-00-01.001	LANL	6/16/2014
67526	LA-OS-00-01.001	LANL	6/17/2014
67541	LA-OS-00-01.001	LANL	5/15/2014
67543	LA-OS-00-01.001	LANL	5/15/2014

DIVIDER

PAGE

Attachment 8 – Waste Containers List

Site(s): Los Alamos National Laboratory
Waste Stream Number(s): LA-MSG04.001
Waste Stream Description: TA-21 Soil
Number of Waste Containers In Waste Stream: 47 55-Gal, 19 SWB, 15 Crates
Total Existing Volume (m^3): 221.09 m^3
Is waste expected to be generated in the future?: No
If yes, Estimated Future Volume (m^3):
Assumptions:
Waste Stream Container Evaluation Memo(s) for Added Containers: C037

Acceptable Knowledge Expert: Print/Sign/Date:

James M. Schoen 6/6/2014

Container Identification	Long Container REFERENCE	Waste Generation Date	Generation Point
66122	LA00000066122	4/14/2011	TA-21 Pu Facility
66123	LA00000066123	4/14/2011	TA-21 Pu Facility
66124	LA00000066124	4/14/2011	TA-21 Pu Facility
66125	LA00000066125	4/14/2011	TA-21 Pu Facility
66126	LA00000066126	4/14/2011	TA-21 Pu Facility
66127	LA00000066127	4/14/2011	TA-21 Pu Facility
66128	LA00000066128	4/14/2011	TA-21 Pu Facility
66129	LA00000066129	4/14/2011	TA-21 Pu Facility
66130	LA00000066130	4/14/2011	TA-21 Pu Facility
66131	LA00000066131	4/14/2011	TA-21 Pu Facility
66132	LA00000066132	4/14/2011	TA-21 Pu Facility
66134	LA00000066134	4/14/2011	TA-21 Pu Facility
66135	LA00000066135	4/14/2011	TA-21 Pu Facility
66136	LA00000066136	4/14/2011	TA-21 Pu Facility
66140	LA00000066140	4/14/2011	TA-21 Pu Facility
66141	LA00000066141	4/14/2011	TA-21 Pu Facility
66142	LA00000066142	4/14/2011	TA-21 Pu Facility
66147	LA00000066147	9/13/2011	TA-21 Pu Facility
89794	LA00000089794	1/27/1981	TA-21 Pu Facility
89891	LA00000089891	1/27/1981	TA-21 Pu Facility
89892	LA00000089892	1/27/1981	TA-21 Pu Facility
89982	LA00000089982	1/29/1981	TA-21 Pu Facility
89983	LA00000089983	1/29/1981	TA-21 Pu Facility
89984	LA00000089984	1/29/1981	TA-21 Pu Facility
89985	LA00000089985	1/29/1981	TA-21 Pu Facility
89986	LA00000089986	1/29/1981	TA-21 Pu Facility
89987	LA00000089987	1/29/1981	TA-21 Pu Facility
89988	LA00000089988	1/29/1981	TA-21 Pu Facility

NTPC RECORDS ORIGINAL
DATE REC'D 6-19-14

Container Identification	Long Container REFERENCE	Waste Generation Date	Generation Point
S780203	LAS780203	2/15/1978	TA-21 Pu Facility
S780204	LAS780204	2/15/1978	TA-21 Pu Facility
S780205	LAS780205	2/15/1978	TA-21 Pu Facility
S780206	LAS780206	2/15/1978	TA-21 Pu Facility
S780207	LAS780207	2/15/1978	TA-21 Pu Facility
S780208	LAS780208	2/15/1978	TA-21 Pu Facility
S780209	LAS780209	2/15/1978	TA-21 Pu Facility
S780210	LAS780210	2/15/1978	TA-21 Pu Facility
S780211	LAS780211	2/15/1978	TA-21 Pu Facility
S780212	LAS780212	2/15/1978	TA-21 Pu Facility
S780213	LAS780213	5/9/1978	TA-21 Pu Facility
S780214	LAS780214	2/15/1978	TA-21 Pu Facility
S780215	LAS780215	2/15/1978	TA-21 Pu Facility
S780216	LAS780216	2/15/1978	TA-21 Pu Facility
S780217	LAS780217	2/15/1978	TA-21 Pu Facility
S780218	LAS780218	2/15/1978	TA-21 Pu Facility
S780219	LAS780219	2/15/1978	TA-21 Pu Facility
S780221	LAS780221	2/15/1978	TA-21 Pu Facility
S780222	LAS780222	2/15/1978	TA-21 Pu Facility
S780223	LAS780223	2/15/1978	TA-21 Pu Facility
S780234	LAS780234	2/15/1978	TA-21 Pu Facility
S780235	LAS780235	5/9/1978	TA-21 Pu Facility
S780236	LAS780236	2/15/1978	TA-21 Pu Facility
S780237	LAS780237	2/15/1978	TA-21 Pu Facility
S780238	LAS780238	2/15/1978	TA-21 Pu Facility
S780239	LAS780239	2/15/1978	TA-21 Pu Facility
S780240	LAS780240	2/15/1978	TA-21 Pu Facility
S780241	LAS780241	2/15/1978	TA-21 Pu Facility
S780242	LAS780242	2/15/1978	TA-21 Pu Facility
S780243	LAS780243	2/15/1978	TA-21 Pu Facility
S780244	LAS780244	2/15/1978	TA-21 Pu Facility
S780245	LAS780245	2/15/1978	TA-21 Pu Facility
S780246	LAS780246	5/9/1978	TA-21 Pu Facility
S780249	LAS780249	2/15/1978	TA-21 Pu Facility
S780250	LAS780250	2/15/1978	TA-21 Pu Facility
S780251	LAS780251	5/9/1978	TA-21 Pu Facility
S780252	LAS780252	2/15/1978	TA-21 Pu Facility
S780258	LAS780258	5/9/1978	TA-21 Pu Facility
S792211	LAS792211	7/24/1979	TA-21 Pu Facility
S792213	LAS792213	7/19/1979	TA-21 Pu Facility
S792214	LAS792214	7/19/1979	TA-21 Pu Facility
S792215	LAS792215	7/19/1979	TA-21 Pu Facility
S792216	LAS792216	7/24/1979	TA-21 Pu Facility
S794043	LAS794043	10/5/1979	TA-21 Pu Facility
S794044	LAS794044	7/19/1979	TA-21 Pu Facility
S794046	LAS794046	7/19/1979	TA-21 Pu Facility

Container Identification	Long Container REFERENCE	Waste Generation Date	Generation Point
S794056	LAS794056	8/16/1979	TA-21 Pu Facility
S794119	LAS794119	12/15/1979	TA-21 Pu Facility
S805331	LAS805331	12/19/1980	TA-21 Pu Facility
S813225	LAS813225	1/29/1981	TA-21 Pu Facility
S813262	LAS813262	1/28/1981	TA-21 Pu Facility
S813315	LAS813315	1/28/1981	TA-21 Pu Facility
S813323	LAS813323	12/8/1981	TA-21 Pu Facility

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: C037
Waste Stream Number(s): LA-MHD04.001, LA-MSG04.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Additional Information	Category: ☑ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]: Evaluation of Volume and Period of Generation for Waste Streams LA-MHD04.001 and LA-MSG04.001, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MHD04.001	
Source Document Reference Information (author(s), document and revision number, date, publisher): James M. Schoen, NA, Rev. NA, 04/04/2012, P2010-3188	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR6, WS2, WS3, WS9, WS11	Throughout	Data used for the calculations of volumes, dates of generation and radionuclide masses and activities were extracted from the CONCERT database and from data queries of newly generated waste provide by TA-55 Waste and Environmental Services Division, Facility and Field Services Group. Waste stream LA-MHD04.001 consists of combustible and non-combustible debris waste contained in 552 30-gallon drums (62.6 m3), 1,802 55-gallon drums (378.4 m3), 14 85-gallon drums (4.5 m3), 1 110-gallon drum (0.4 m3), 16 Standard Waste Boxes (SWBs) (28.8 m\ 171 Crates (1,458 m3), and 39 other containers (approximately 159.8 m3, the volume may change after repackaging), totaling approximately 2,093 m3 of which 2,431 containers are stored below-grade. The package dates for containers in this waste stream range from October 1971 to September 2000. Based on an evaluation of the available container paperwork, this waste stream is comprised of greater than 50 percent by volume heterogeneous inorganic and organic debris. Therefore, Waste Matrix Code S5400 for heterogeneous debris waste is assigned to this waste stream. Waste stream LA-MSG04.001 consists of contaminated soil waste contained in 48 55-gallon drums (10.1 m3), 19 SWBs (35.7 m3), and 15 Crates (38.4 m3, the volume may change after repackaging), totaling approximately 84.2 m3 of which 45 containers are stored below-grade. The package dates for containers in this waste stream range from February 1978 to May 1997. Based on an evaluation of the available container paperwork, this waste stream is comprised of at least 50 percent, but no greater than 95 percent, by volume soil, sand, silt, or rock and gravel, with rock and gravel volumes totaling less than 50 percent of the matrix and the balance of the matrix being debris. Therefore, Waste Matrix Code S4200 for soil/gravel is assigned to this waste stream. Radiological data was available for over 99% of the container population in waste stream. LA-MHD04.001 (radiological data was not available for repackaged containers, consequently the data for the original container were used for repackaged containers). To determine the "Total Radionuclide Weight%" values on the table below, the gram value for each individual radionuclide was summed over the entire waste stream and then divided by the total radiological mass in the waste stream. In the same way, a calculation was performed for "Total Radionuclide Curie%" using the sum of activity values for each radionuclide over the entire waste stream (see attached Excel spreadsheet "LAMHD04_001 10-17-11 TotalGramsAndCuries.xlsx"). The "Radionuclide Ci% Range for Individual Containers" was determined by summing the total activity in each drum and calculating the Ci percent of each radionuclide in each drum. To determine the range for a specific radionuclide, the maximum and minimum were identified by reviewing the drum-by-drum

CCP RECORDS ORIGINAL
DATE REC'D 2-4-2013

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: C037
AK # [b]	Source Doc. Page # [c]	AK Information Summary
		results. The same type calculations were performed to determine the "Radionuclide Wt% Range for Individual Containers". From this evaluation, the two predominant radionuclides by weight percent are Pu-239 and Pu-238, while over 95 percent of the activity of the entire waste stream is from Pu-238 and Pu-241. The following table summarizes the results obtained from these queries for radionuclide, number of containers with the reported radionuclide, total radionuclide weight percent, total radionuclide curie percent, radionuclide weight percent for individual drums and radionuclide curie percent for individual drums.

Source Document Data Limitations (if any):

1. None.

Acceptable Knowlege Expert:

Amy Johns , Amy Johns Date: 11/25/2013

Print /Sign

[a] Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
[b] Obtain from Acceptable Knowledge Documentation Checklist
[c] For microfilm or microfiche, identify box, tape, reel number and location.

C037 P2010-3188

Letter to AK Record

Author: James M. Schoen
CCP AKE

Date: April 4, 2012
Telephone Number: 303-838-6552

Subject: Evaluation of Volume, Period of Generation and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Streams LA-MHD04.001 and LA-MSG04.001

Data used for the calculations of volumes, dates of generation and radionuclide masses and activities were extracted from the CONCERT database and from data queries of newly generated waste provide by TA-55 Waste and Environmental Services Division, Facility and Field Services Group. Waste stream LA-MHD04.001 consists of combustible and non-combustible debris waste contained in 552 30-gallon drums (62.6 m^3), 1,802 55-gallon drums (378.4 m^3), 14 85-gallon drums (4.5 m^3), 1 110-gallon drum (0.4 m^3), 16 Standard Waste Boxes (SWBs) (28.8 m^3), 171 Crates (1,458 m^3), and 39 other containers (approximately 159.8 m^3, the volume may change after repackaging), totaling approximately 2,093 m^3 of which 2,431 containers are stored below-grade. The package dates for containers in this waste stream range from October 1971 to September 2011. Based on an evaluation of the available container paperwork, this waste stream is comprised of greater than 50 percent by volume heterogeneous inorganic and organic debris. Therefore, Waste Matrix Code S5400 for heterogeneous debris waste is assigned to this waste stream.

Waste stream LA-MSG04.001 consists of contaminated soil waste contained in 48 55-gallon drums (10.1 m^3), 19 SWBs (35.7 m^3), and 15 Crates (38.4 m^3, the volume may change after repackaging), totaling approximately 84.2 m^3 of which 45 containers are stored below-grade. The package dates for containers in this waste stream range from February 1978 to September 2011. Based on an evaluation of the available container paperwork, this waste stream is comprised of at least 50 percent, but no greater than 95 percent, by volume soil, sand, silt, or rock and gravel, with rock and gravel volumes totaling less than 50 percent of the matrix and the balance of the matrix being debris. Therefore, Waste Matrix Code S4200 for soil/gravel is assigned to this waste stream.

Radiological data was available for over 99% of the container population in waste stream LA-MHD04.001 (radiological data was not available for repackaged containers, consequently the data for the original container were used for repackaged containers). To determine the "Total Radionuclide Weight%" values on the table below, the gram value for each individual radionuclide was summed over the entire waste stream and then divided by the total radiological mass in the waste stream. In the same way, a calculation was performed for "Total Radionuclide Curie%" using the sum of activity values for each radionuclide over the entire waste stream (see attached Excel spreadsheet "LA-MHD04_001 03-23-12 TotalGramsAndCuries.xlsx").

The "Radionuclide Ci% Range for Individual Containers" was determined by summing the total activity in each drum and calculating the Ci percent of each radionuclide in each drum. To determine the range for a specific radionuclide, the maximum and minimum were identified by reviewing the drum-by-drum results. The same type calculations were performed to determine the "Radionuclide Wt% Range for Individual Containers" (see

attached excerpt of Excel spreadsheet "LA-MHD04_001 03-23-12 Wt% and Ci% By Drum.xlsx").

From this evaluation, the two predominant radionuclides by weight percent are Pu-239 and Pu-238, while over 95 percent of the activity of the entire waste stream is from Pu-238 and Pu-241. The following table summarizes the results obtained from these queries for radionuclide, number of containers with the reported radionuclide, total radionuclide weight percent, total radionuclide curie percent, radionuclide weight percent for individual containers and radionuclide curie percent for individual containers.

Estimated Isotopic Distribution for the LA-MHD04.001 Waste Stream

Radionuclide	Number of Containers with Reported Nuclide	Total Radionuclide Weight%[1,5]	Total Radionuclide Curie%[2,5]	Radionuclide Wt% Range for Individual Containers[3,5]	Radionuclide Ci% Range for Individual Containers[4,5]	Expected Present
WIPP Required Radionuclides						
Am-241	33	0.01%	0.01%	0 - 100.00%	0 - 100.00%	Yes
Pu-238	2,409	**18.70%**	**94.11%**	0 - 100.00%	0 - 100.00%	Yes
Pu-239	2,225	**58.72%**	1.07%	0 - 100.00%	0 - 100.00%	Yes
Pu-240	2,070	2.96%	0.20%	0 - 38.98%	0 - 68.66%	Yes
Pu-242	2,060	0.03%	Trace[5]	0 - 30.77%	0 - 0.11%	Yes
U-233	28	14.43%	0.04%	0 - 100.00%	0 - 100.00%	Yes
U-234	1	Trace	Trace	0 - Trace	0 - 0.10%	Yes
U-238	1	16.46	Trace	0 - 98.73%	0 - 0.11%	Yes
Cs-137	5	Trace	Trace	0 - Trace	0 - 1.18%	Yes
Sr-90	1				0 - 0.17%	
Additional Radionuclides						
Cm-243	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Co-56	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Co-60	1	Trace	Trace	0 - Trace	0 - Trace	Yes
H-3						
Mn-56	2	Trace	Trace	0 - Trace	0 - Trace	Yes
Na-22	3	Trace	Trace	0 - Trace	0 - Trace	Yes
Np-237	14	Trace	Trace	0 - 30.77%	0 - 0.02%	Yes
Pa-231	7	Trace	Trace	0 - 7.69%	0 - 0.34%	Yes
Pu-241	2,057	0.15%	**4.56%**	0 - 2.55%	0 - 93.99%	Yes
U-235	13	4.52%	Trace	0 - 100.00%	0 - 100.00%	Yes
Other radionuclides that may be present in unknown amounts (no data values were available, although the radionuclides were listed in databases)						
U-236						Yes

1. This listing indicates the total weight percent of each radionuclide over the entire waste stream.
2. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
3. This listing is the weight percent range of each radionuclide on a container-by-container basis.
4. This listing is the curie percent range of each radionuclide on a container-by-container basis.
5. "Trace" indicates <0.01 weight or activity percent for that radionuclide.

The radiological distribution for the LA-MSG04.001 waste stream is listed in the table below, Estimated Radionuclide Distribution for the LA-MSG04.001 Waste Stream. The distribution represents existing generator-reported radionuclide data for each container in the waste stream. However, some of the containers list "zero" assay values. It is not

known why the zero assay values are listed. This could indicate that assay was not performed on these containers although they were managed as TRU waste. It could also indicate low assay containers that did not contain activity levels above the lower limit of detection. Finally, it could indicate measured or estimated plutonium mass values below 0.5 grams. The "Total Radionuclide Weight%" values in the table are the gram value for each radionuclide over the entire waste stream divided by the total radiological mass in the waste stream. The same calculation produced the values for the "Total Radionuclide Curie%" using the sum of activity values for each radionuclide over the entire waste stream (see attached Excel spreadsheet "LA-MSG04_001 03-23-12 TotalGramsAndCuries.xlsx").

The columns "Radionuclide Weight% Range for Individual Containers" and "Radionuclide Curie% Range for Individual Containers" illustrate the reported ranges of radionuclides in individual containers by identifying the maximum and minimum values for each radionuclide on a container-by-container basis over the entire waste stream (see attached excerpt of Excel spreadsheet "LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx").

From the data presented in Table 14, the two predominant radionuclides by mass percent are U-238 and Pu-239, while 95 percent of the activity over the entire waste stream is from Pu-239.

Estimated Radionuclide Distribution for the LA-MSG04.001 Waste Stream

Radio-nuclide	Number of Drums with Reported Nuclide	Total Nuclide Weight%[1]	Total Nuclide Curie%[2,3]	Nuclide Weight% Range for Individual Drums[3,4]	Nuclide Curie% Range for Individual Drums[3,4]	Expected Present
WIPP Required Radionuclides						
Am-241[6]	57	Trace	0.54%	0 - 16.30%	0 - 91.50%	Yes
Pu-238	57	Trace	0.12%	0 - Trace	0 - 0.71%	Yes
Pu-239	75	**8.38%**	**99.00%**	0 - 100.00%	0 - 100.00%	Yes
Pu-240	1	Trace	0.05%	0 - 0.43%	0 - 38.07%	Yes
Pu-242	1	Trace	Trace	0 - 0.05%	0 - 0.08%	Yes
U-233	1	Trace	Trace	0 - Trace	0 - 0.01%	Yes
U-234	19	0.01%	0.01%	0 - 0.39%	0 - 0.15%	Yes
U-238	19	**87.71%**	0.01%	0 - 98.77%	0 - 0.12%	Yes
Sr-90	19	Trace	0.04%	0 - Trace	0 - 0.26%	Yes
Cs-137	18	Trace	0.21%	0 - Trace	0 - 1.33%	Yes
Additional Radionuclides						
H-3	19	Trace	Trace	0 - Trace	0 - Trace	Yes
I-125	1	Trace	Trace	0 - Trace	0 - 0.02%	Yes
I-129	1	Trace	Trace	0 - 0.05%	0 - Trace	Yes
Np-237	1	Trace	Trace	0 - 0.13%	0 - 0.04%	Yes
Pb-210	1	Trace	Trace	0 - Trace	0 - 0.48%	Yes
Pu-244	1	0.20%	Trace	0 - 69.36%	0 - 0.48%	Yes
Ra-226	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Th-234	1	Trace	0.01%	0 - Trace	0 - 4.62%	Yes
U-235	56	3.70%	Trace	0 - 75.93%	0 - 0.14%	Yes

1 This listing indicates the total weight percent of each radionuclide over the entire waste stream.
2. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
3. This listing is the weight percent range of each radionuclide on a container-by-container basis.
4. This listing is the curie percent range of each radionuclide on a container-by-container basis.
5. "Trace" indicates <0.01 weight or activity (curie) percent for that radionuclide.
6. Maximum weight percent and curie percent ranges based upon preliminary CCP NDA analyses, not generator reported data.

LA-MHD04_001 03-23-12 Total Grams and Curies

Rad_Code	# of Containers	SumOfTotal_grams	TSA	Total Curies	Wt%	Ci%
Am-241	33	4.025561097	3.47	13.96869701	0.01%	0.01%
Cm-243	1	0.00000106	52.2	0.000055332	0.00%	0.00%
Co-56	1	1E-10	30000	0.000003	0.00%	0.00%
Co-60	1	4.09E-09	1140	4.6626E-06	0.00%	0.00%
Cs-137	5	8.88636E-06	88	0.000782	0.00%	0.00%
H-3	1	4.45697E-11	9760	0.000000435	0.00%	0.00%
MN-56	2	4.76454E-15	21978479.43	1.04717E-07	0.00%	0.00%
Na-22	3	1.50305E-09	6320	9.4993E-06	0.00%	0.00%
Np-237	14	0.30402941	0.000713	0.000216773	0.00%	0.00%
Pa-231	7	0.025	0.0478	0.001195	0.00%	0.00%
Pu-238	2409	5574.284401	17.3	96435.12014	18.70%	94.11%
Pu-239	2225	17502.32361	0.0629	1100.896155	58.72%	1.07%
Pu-240	2070	883.6979697	0.23	203.250533	2.96%	0.20%
Pu-241	2057	44.96745101	104	4676.614905	0.15%	4.56%
Pu-242	2060	9.7809779	0.00397	0.038830482	0.03%	0.00%
SR-90	1	5.38406E-07	138	0.0000743	0.00%	0.00%
U-233	28	4302	0.00976	41.98752	14.43%	0.04%
U-234	1	0.006977848	0.00632	0.0000441	0.00%	0.00%
U-235	13	1348.219402	0.00000219	0.0029526	4.52%	0.00%
U-238	1	135.8823529	0.00000034	0.0000462	0.46%	0.00%
		29805.51774		102471.8822	100.00%	100.00%

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
S760933	Am-241	1.8	1.8	100
65213	Am-241	0.03573487	0.037474001	95.35910122
65214	AM-241	0.004149856	0.004417738	93.93621391
65212	Am-241	0.055043228	0.093642752	58.78001896
S901531	Am-241	0.1	0.325	30.76923077
S805330	Am-241	1.0588235	67.09111343	1.578187402
S803220	Am-241	0.79411765	151.7036698	0.523466341
56102	Am-241	0.00408401	1.18676671	0.344129134
56107	Am-241	0.00212952	0.61897063	0.344042172
56110	Am-241	0.00700117	2.06020086	0.339829486
56100	Am-241	0.00192532	0.56688568	0.339631088
56101	Am-241	0.00816803	2.40577064	0.339518234
56105	Am-241	0.00350058	1.03230345	0.339103778
56106	Am-241	0.00274212	0.80878457	0.339042076
56103	Am-241	0.00236289	0.70420323	0.33554092
56108	Am-241	0.07584597	22.67426077	0.334502504
56104	Am-241	0.00525088	1.5806924	0.332188603
56111	Am-241	0.00350058	1.06454071	0.32883477
56112	Am-241	0.00670945	2.05990914	0.325715823
56109	Am-241	0.00350058	1.08506542	0.322614649
66145	AM-241	0.046397695	60.10796318	0.077190595
66146	AM-241	0.004305476	7.406365336	0.058132097
66133	Am-241	0.000267723	137.6311792	0.000194522
S900249	Am-241	0	0.013	0
S855146	Am-241	0	0.35039699	0
S855148	Am-241	0	0.4905558	0
S901533	Am-241	0	0	
S901283	Am-241	0	0	
S901535	Am-241	0	0	
S901534	Am-241	0	0	
S901532	Am-241		0	
S805330	Cm-243	0.00000106	67.09111343	1.57994E-06

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S760933	Am-241	6.246	6.246	100
65213	Am-241	0.124	0.124001311	99.99894259
65214	AM-241	0.0144	0.014400191	99.99867363
65212	Am-241	0.191	0.191001176	99.99938435
S901531	Am-241	0.347	0.3486633	99.5229495
S805330	Am-241	3.674117545	40.06536264	9.170308972
S803220	Am-241	2.755588246	42.68051124	6.456314991
56102	Am-241	0.014171515	0.100342305	14.12317035
56107	Am-241	0.007389434	0.052299641	14.12903474
56110	Am-241	0.02429406	0.173319153	14.01695051
56100	Am-241	0.00668086	0.047738765	13.99462342
56101	Am-241	0.028343064	0.202712367	13.98191165
56105	Am-241	0.012147013	0.087166257	13.93545287
56106	Am-241	0.009515156	0.06831401	13.92855776
56103	Am-241	0.008199228	0.059192139	13.85188721
56108	Am-241	0.263185516	1.905501728	13.81187495
56104	Am-241	0.018220554	0.13277714	13.72265854
56111	Am-241	0.012147013	0.08919398	13.6186462
56112	Am-241	0.023281792	0.172306885	13.51181733
56109	Am-241	0.012147013	0.091221237	13.31599196
66145	AM-241	0.0805	8.661499782	0.929400243
66146	AM-241	0.00747	0.48147	1.551498536
66133	Am-241	0.000929	0.042702425	2.175520477
S900249	Am-241	0	0.0008177	0
S855146	Am-241	0	0.099036268	0
S855148	Am-241	0	0.138651122	0
S901533	Am-241	0	0	
S901283	Am-241	0	0	
S901535	Am-241	0	0	
S901534	Am-241	0	0	
S901532	Am-241		0	
S805330	Cm-243	0.000055332	40.06536264	0.000138104

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
S805330	Co-56	1E-10	67.09111343	1.49051E-10
S805330	Co-60	4.09E-09	67.09111343	6.09619E-09
66145	Cs-137	3.18182E-06	60.10796318	5.29351E-06
66133	Cs-137	5.70455E-06	137.6311792	4.14481E-06
66146	CS-137	0	7.406365336	0
66133	H-3	4.45697E-11	137.6311792	3.23834E-11
66145	MN-56	4.76454E-15	60.10796318	7.92663E-15
65213	NA-22	1.12658E-11	0.037474001	3.0063E-08
65212	NA-22	1.1788E-11	0.093642752	1.25882E-08
S805330	Na-22	1.48E-09	67.09111343	2.20596E-09
S901531	Np-237	0.1	0.325	30.76923077
65214	NP-237	0.000267882	0.004417738	6.063786085
65213	NP-237	0.00173913	0.037474001	4.640898755
65212	NP-237	0.001430575	0.093642752	1.527694346
S805330	Np-237	0.1056338	67.09111343	0.157448274
S803220	Np-237	0.08169014	151.7036698	0.053848493
66145	NP-237	0.013267882	60.10796318	0.022073418
S900249	Np-237	0	0.013	0
S901533	Np-237	0	0	
S901534	Np-237	0	0	
S901532	Np-237		0	
S901283	Np-237	0	0	
S901535	Np-237	0	0	
S901531	Pa-231	0.025	0.325	7.692307692
S900249	Pa-231	0	0.013	0
S901283	Pa-231	0	0	
S901535	Pa-231	0	0	
S901533	Pa-231	0	0	
S901532	Pa-231		0	
S901534	Pa-231	0	0	
S761036	Pu-238	0.8	0.8	100
S761034	Pu-238	0.9	0.9	100

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S805330	Co-56	0.000003	40.06536264	7.48776E-06
S805330	Co-60	4.6626E-06	40.06536264	1.16375E-05
66145	Cs-137	0.00014	8.661499782	0.001616348
66133	Cs-137	0.000502	0.042702425	1.175577265
66146	CS-137	0	0.48147	0
66133	H-3	0.000000435	0.042702425	0.001018678
66145	MN-56	5.23586E-08	8.661499782	6.04499E-07
65213	NA-22	7.12E-08	0.124001311	5.74187E-05
65212	NA-22	7.45E-08	0.191001176	3.9005E-05
S805330	Na-22	9.3536E-06	40.06536264	2.33459E-05
S901531	Np-237	0.0000713	0.3486633	0.020449528
65214	NP-237	0.000000191	0.014400191	0.001326371
65213	NP-237	0.00000124	0.124001311	0.000999989
65212	NP-237	0.00000102	0.191001176	0.000534028
S805330	Np-237	7.53169E-05	40.06536264	0.000187985
S803220	Np-237	5.82451E-05	42.68051124	0.000136468
66145	NP-237	0.00000473	8.661499782	5.46095E-05
S900249	Np-237	0	0.0008177	0
S901533	Np-237	0	0	
S901534	Np-237	0	0	
S901532	Np-237		0	
S901283	Np-237	0	0	
S901535	Np-237	0	0	
S901531	Pa-231	0.001195	0.3486633	0.342737535
S900249	Pa-231	0	0.0008177	0
S901283	Pa-231	0	0	
S901535	Pa-231	0	0	
S901533	Pa-231	0	0	
S901532	Pa-231		0	
S901534	Pa-231	0	0	
S761036	Pu-238	13.84	13.84	100
S761034	Pu-238	15.57	15.57	100

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	Rad_Code	Total Grams of Nuclide	Total Rad Grams In Drum	WT% By Drum
S761028	Pu-238	0.1	0.1	100
S761027	Pu-238	0.3	0.3	100
S761026	Pu-238	0.2	0.2	100
S761035	Pu-238	0.7	0.7	100
S002602	Pu-238	0.2	0.2	100
S761022	Pu-238	0.1	0.1	100
S761021	Pu-238	0.1	0.1	100
S761025	Pu-238	0.5	0.5	100
S761029	Pu-238	0.4	0.4	100
S761033	Pu-238	0.4	0.4	100
S761032	Pu-238	0.7	0.7	100
S761031	Pu-238	0.7	0.7	100
S761030	Pu-238	0.3	0.3	100
S002600	Pu-238	0.1	0.1	100
S002601	Pu-238	0.1	0.1	100
S002608	Pu-238	0.1	0.1	100
S002607	Pu-238	0.2	0.2	100
S002605	Pu-238	0.1	0.1	100
S002604	Pu-238	0.5	0.5	100
S002603	Pu-238	0.1	0.1	100
S761013	Pu-238	0.4	0.4	100
S761014	Pu-238	0.2	0.2	100
S002200	Pu-238	72.9	72.9	100
S002208	Pu-238	24.9	24.9	100
S002207	Pu-238	45.4	45.4	100
S002206	Pu-238	68.6	68.6	100
S002205	Pu-238	62.3	62.3	100
S002204	Pu-238	76.2	76.2	100
S002203	Pu-238	65.6	65.6	100
S002212	Pu-238	0.7	0.7	100
S002201	Pu-238	73.5	73.5	100
S002199	Pu-238	70.4	70.4	100

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S761028	Pu-238	1.73	1.73	100
S761027	Pu-238	5.19	5.19	100
S761026	Pu-238	3.46	3.46	100
S761035	Pu-238	12.11	12.11	100
S002602	Pu-238	3.46	3.46	100
S761022	Pu-238	1.73	1.73	100
S761021	Pu-238	1.73	1.73	100
S761025	Pu-238	8.65	8.65	100
S761029	Pu-238	6.92	6.92	100
S761033	Pu-238	6.92	6.92	100
S761032	Pu-238	12.11	12.11	100
S761031	Pu-238	12.11	12.11	100
S761030	Pu-238	5.19	5.19	100
S002600	Pu-238	1.73	1.73	100
S002601	Pu-238	1.73	1.73	100
S002608	Pu-238	1.73	1.73	100
S002607	Pu-238	3.46	3.46	100
S002605	Pu-238	1.73	1.73	100
S002604	Pu-238	8.65	8.65	100
S002603	Pu-238	1.73	1.73	100
S761013	Pu-238	6.92	6.92	100
S761014	Pu-238	3.46	3.46	100
S002200	Pu-238	1261.17	1261.17	100
S002208	Pu-238	430.77	430.77	100
S002207	Pu-238	785.42	785.42	100
S002206	Pu-238	1186.78	1186.78	100
S002205	Pu-238	1077.79	1077.79	100
S002204	Pu-238	1318.26	1318.26	100
S002203	Pu-238	1134.88	1134.88	100
S002212	Pu-238	12.11	12.11	100
S002201	Pu-238	1271.55	1271.55	100
S002199	Pu-238	1217.92	1217.92	100

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	RadCode	Total Grams of Nuclide	Total Rad Grams In Drum	WT% By Drum
S770750	Pu-242	0	0	
S770777	Pu-242	0	0	
S781661	Pu-242	0	0	
S770790	Pu-242	0	0	
S781644	Pu-242	0	0	
S770789	Pu-242	0	0	
S781642	Pu-242	0	0	
S770787	Pu-242	0	0	
S781639	Pu-242	0	0	
S770757	Pu-242	0	0	
S781730	Pu-242	0	0	
S770774	Pu-242	0	0	
S781725	Pu-242	0	0	
S770754	Pu-242	0	0	
S781741	Pu-242	0	0	
S781740	Pu-242	0	0	
S770752	Pu-242	0	0	
S770753	Pu-242	0	0	
S781735	Pu-242	0	0	
S770755	Pu-242	0	0	
S770756	Pu-242	0	0	
S781705	Pu-242	0	0	
S781676	Pu-242	0	0	
S781714	Pu-242	0	0	
S781716	Pu-242	0	0	
S781711	Pu-242	0	0	
S781710	Pu-242	0	0	
S781708	Pu-242	0	0	
66133	SR-90	5.38406E-07	137.6311792	3.91195E-07
S761424	U-233	404.6	404.6	100
S762278	U-233	97	97	100
S762277	U-233	120	120	100

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S770750	Pu-242	0	0	
S770777	Pu-242	0	0	
S781661	Pu-242	0	0	
S770790	Pu-242	0	0	
S781644	Pu-242	0	0	
S770789	Pu-242	0	0	
S781642	Pu-242	0	0	
S770787	Pu-242	0	0	
S781639	Pu-242	0	0	
S770757	Pu-242	0	0	
S781730	Pu-242	0	0	
S770774	Pu-242	0	0	
S781725	Pu-242	0	0	
S770754	Pu-242	0	0	
S781741	Pu-242	0	0	
S781740	Pu-242	0	0	
S770752	Pu-242	0	0	
S770753	Pu-242	0	0	
S781735	Pu-242	0	0	
S770755	Pu-242	0	0	
S770756	Pu-242	0	0	
S781705	Pu-242	0	0	
S781676	Pu-242	0	0	
S781714	Pu-242	0	0	
S781716	Pu-242	0	0	
S781711	Pu-242	0	0	
S781710	Pu-242	0	0	
S781708	Pu-242	0	0	
66133	SR-90	0.0000743	0.042702425	0.173994802
S761424	U-233	3.948896	3.948896	100
S762278	U-233	0.94672	0.94672	100
S762277	U-233	1.1712	1.1712	100

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
S762276	U-233	100	100	100
S762275	U-233	79	79	100
S762274	U-233	293	293	100
S762273	U-233	55	55	100
S762272	U-233	1	1	100
S762271	U-233	15	15	100
S762115	U-233	78	78	100
S762114	U-233	87	87	100
S762116	U-233	62	62	100
S761888	U-233	404.7	404.7	100
S762119	U-233	190	190	100
S761423	U-233	456	456	100
S761422	U-233	264	264	100
S762117	U-233	71	71	100
S761421	U-233	60	60	100
S761420	U-233	154	154	100
S762118	U-233	4	4	100
S761419	U-233	33	33	100
S761418	U-233	73	73	100
S762120	U-233	108	108	100
S761889	U-233	404.7	404.7	100
S761417	U-233	222	233	95.27896996
S761415	U-233	204	231	88.31168831
S761416	U-233	262	299	87.62541806
S761900	U-233	0	1.1	0
66133	U-234	0.006977848	137.6311792	0.005069962
S781623	U-235	159	159	100
S781624	U-235	132	132	100
S781626	U-235	54	54	100
S781627	U-235	132	132	100
S781628	U-235	132	132	100
S781632	U-235	578	578	100

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S762276	U-233	0.976	0.976	100
S762275	U-233	0.77104	0.77104	100
S762274	U-233	2.85968	2.85968	100
S762273	U-233	0.5368	0.5368	100
S762272	U-233	0.00976	0.00976	100
S762271	U-233	0.1464	0.1464	100
S762115	U-233	0.76128	0.76128	100
S762114	U-233	0.84912	0.84912	100
S762116	U-233	0.60512	0.60512	100
S761888	U-233	3.949872	3.949872	100
S762119	U-233	1.8544	1.8544	100
S761423	U-233	4.45056	4.45056	100
S761422	U-233	2.57664	2.57664	100
S762117	U-233	0.69296	0.69296	100
S761421	U-233	0.5856	0.5856	100
S761420	U-233	1.50304	1.50304	100
S762118	U-233	0.03904	0.03904	100
S761419	U-233	0.32208	0.32208	100
S761418	U-233	0.71248	0.71248	100
S762120	U-233	1.05408	1.05408	100
S761889	U-233	3.949872	3.949872	100
S761417	U-233	2.16672	2.85862	75.79601346
S761415	U-233	1.99104	3.68934	53.96737628
S761416	U-233	2.55712	4.88442	52.35258229
S761900	U-233	0	19.03	0
66133	U-234	0.0000441	0.042702425	0.103272823
S781623	U-235	0.00034821	0.00034821	100
S781624	U-235	0.00028908	0.00028908	100
S781626	U-235	0.00011826	0.00011826	100
S781627	U-235	0.00028908	0.00028908	100
S781628	U-235	0.00028908	0.00028908	100
S781632	U-235	0.00126582	0.00126582	100

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	RadCode	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
S781622	U-235	132	132	100
S730354	U-235	9	18.41066208	48.8847167
65212	U-235	0.03716895	0.093642752	39.69228668
S805330	U-235	7.2727273	67.09111343	10.84007543
S803220	U-235	11.818182	151.7036698	7.790307259
66133	U-235	1.091324201	137.6311792	0.792933845
S781767	U-235	0	0	
66133	U-238	135.8823529	137.6311792	98.72933859

LA-MHD04.00_001 03-23-12 Wt% and Ci% By Drum

PKG_ID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S781622	U-235	0.00028908	0.00028908	100
S730354	U-235	0.00001971	2.659861801	0.000741016
65212	U-235	8.14E-08	0.191001176	4.26175E-05
S805330	U-235	1.59273E-05	40.06536264	3.97532E-05
S803220	U-235	2.58818E-05	42.68051124	6.06408E-05
66133	U-235	0.00000239	0.042702425	0.005596872
S781767	U-235	0	0	
66133	U-238	0.0000462	0.042702425	0.108190577

LA-MSG04_001 03-23-12 TotalGramsAndCuries.xlsx

Rad_Codes	# of Containers	SumOfTotal_grams	TSA	Total Curies	Wt%	Ci%
Am-241	57	0.039868082	3.47	0.138342245	0.00%	0.54%
Cs-137	18	0.000594584	88	0.052323367	0.00%	0.21%
H-3	19	3.41089E-09	9760	3.32903E-05	0.00%	0.00%
I-125	1	3.21E-10	17600	5.6496E-06	0.00%	0.00%
I-129	1	0.0067	0.000179	1.1993E-06	0.00%	0.00%
Np-237	1	0.0182	0.000713	1.29766E-05	0.00%	0.00%
Pb-210	1	0.00000227	77.2	0.000175244	0.00%	0.00%
Pu-238	57	0.001819268	17.3	0.03147333	0.00%	0.12%
Pu-239	75	401.6180563	0.0629	25.26177574	8.38%	99.00%
Pu-240	1	0.0609	0.23	0.014007	0.00%	0.05%
Pu-242	1	0.00753	0.00397	2.98941E-05	0.00%	0.00%
Pu-244	1	9.78	0.0000179	0.000175062	0.20%	0.00%
Ra-226	1	0.00000138	1	0.00000138	0.00%	0.00%
SR-90	19	8.24906E-05	138	0.011383707	0.00%	0.04%
Th-234	1	7.33E-08	23200	0.00170056	0.00%	0.01%
U-233	1	0.000531	0.00976	5.18256E-06	0.00%	0.00%
U-234	19	0.522180759	0.00632	0.003300182	0.01%	0.01%
U-235	56	177.2694064	0.00000219	0.00038822	3.70%	0.00%
U-238	19	4205.5	0.00000034	0.00142987	87.71%	0.01%
		4794.825873		25.5165641	100.00%	100.00%

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
56537	Am-241	0.00185294	14.09954982	0.013141838
66130	Am-241	0.0010317	7.867040039	0.013114212
66135	AM-241	0.01092219	172.5685076	0.006329191
66136	AM-241	0.004005764	86.06209805	0.004654504
66147	Am-241	0.004005764	86.06209805	0.004654504
66140	AM-241	0.002195965	55.56907999	0.003951776
66122	AM-241	0.001720461	83.11745851	0.002069915
66142	Am-241	0.002034582	143.923923	0.001413651
66128	AM-241	0.001363112	99.24692771	0.001373456
66126	AM-241	0.000962536	77.9347658	0.001235053
66127	Am-241	0.00170317	144.4274404	0.001179257
66129	AM-241	0.000913545	93.5520693	0.000976509
66123	Am-241	0.001288184	162.9756895	0.000790415
66131	AM-241	0.001763689	641.7323835	0.000274832
66124	AM-241	0.001538905	649.375579	0.000236982
66134	Am-241	0.001305476	575.4076866	0.000226878
66141	Am-241	0.001106628	592.5722789	0.00018675
66125	AM-241	0.000153314	108.6077242	0.000141163
66132	Am-241	1.56484E-07	688.7259725	2.27208E-08
S780246	Am-241	0	0	
S780238	Am-241	0	0	
S780239	Am-241	0	0	
S780210	Am-241	0	0	
S780240	Am-241	0	0	
S780241	Am-241	0	0	
S780211	Am-241	0	0	
S780216	Am-241	0	0	
S780237	Am-241	0	0	
S780208	Am-241	0	0	
S780243	Am-241	0	0	

LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx

CONTAINERID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
56537	Am-241	0.006429702	0.036794928	17.47442426
66130	Am-241	0.00358	0.14478397	2.472649424
66135	AM-241	0.0379	1.65997064	2.283172912
66136	AM-241	0.0139	0.6037088	2.302434551
66147	Am-241	0.0139	0.6037088	2.302434551
66140	AM-241	0.00762	0.32920074	2.314697105
66122	AM-241	0.00597	0.223959589	2.665659473
66142	Am-241	0.00706	0.269449549	2.620156545
66128	AM-241	0.00473	0.167411654	2.8253708
66126	AM-241	0.00334	0.117516562	2.842152581
66127	Am-241	0.00591	0.211965285	2.788192416
66129	AM-241	0.00317	0.128345454	2.469896596
66123	Am-241	0.00447	0.19630357	2.277085435
66131	AM-241	0.00612	0.28070313	2.180239315
66124	AM-241	0.00534	0.19638635	2.719129919
66134	Am-241	0.00453	0.20772982	2.180717241
66141	Am-241	0.00384	0.16747418	2.292890761
66125	AM-241	0.000532	0.165381315	0.321680838
66132	Am-241	0.000000543	0.244020723	0.000222522
S780246	Am-241	0	0	
S780238	Am-241	0	0	
S780239	Am-241	0	0	
S780210	Am-241	0	0	
S780240	Am-241	0	0	
S780241	Am-241	0	0	
S780211	Am-241	0	0	
S780216	Am-241	0	0	
S780237	Am-241	0	0	
S780208	Am-241	0	0	
S780243	Am-241	0	0	

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
S780244	Am-241	0	0	
S780245	Am-241	0	0	
S780207	Am-241	0	0	
S780209	Am-241	0	0	
S780214	Am-241	0	0	
S780217	Am-241	0	0	
S780218	Am-241	0	0	
S780215	Am-241	0	0	
S780219	Am-241	0	0	
S780221	Am-241	0	0	
S780222	Am-241	0	0	
S780242	Am-241	0	0	
S780223	Am-241	0	0	
S780213	Am-241	0	0	
S780234	Am-241	0	0	
S780235	Am-241	0	0	
S780212	Am-241	0	0	
S780236	Am-241	0	0	
S780203	Am-241	0	0	
S780204	Am-241	0	0	
S780258	Am-241	0	0	
S780252	Am-241	0	0	
S780205	Am-241	0	0	
S780251	Am-241	0	0	
S780250	Am-241	0	0	
S780249	Am-241	0	0	
S780206	Am-241	0	0	
66130	Cs-137	2.19318E-05	7.867040039	0.000278781
66135	Cs-137	0.000232955	172.5685076	0.000134993
66136	Cs-137	8.52273E-05	86.06209805	9.903E-05

CONTAINERID	Rad Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S780244	Am-241	0	0	
S780245	Am-241	0	0	
S780207	Am-241	0	0	
S780209	Am-241	0	0	
S780214	Am-241	0	0	
S780217	Am-241	0	0	
S780218	Am-241	0	0	
S780215	Am-241	0	0	
S780219	Am-241	0	0	
S780221	Am-241	0	0	
S780222	Am-241	0	0	
S780242	Am-241	0	0	
S780223	Am-241	0	0	
S780213	Am-241	0	0	
S780234	Am-241	0	0	
S780235	Am-241	0	0	
S780212	Am-241	0	0	
S780236	Am-241	0	0	
S780203	Am-241	0	0	
S780204	Am-241	0	0	
S780258	Am-241	0	0	
S780252	Am-241	0	0	
S780205	Am-241	0	0	
S780251	Am-241	0	0	
S780250	Am-241	0	0	
S780249	Am-241	0	0	
S780206	Am-241	0	0	
66130	Cs-137	0.00193	0.14478397	1.333020499
66135	Cs-137	0.0205	1.65997064	1.234961601
66136	Cs-137	0.0075	0.6037088	1.242320801

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
66147	Cs-137	8.52273E-05	86.06209805	9.903E-05
66140	Cs-137	4.68182E-05	55.56907999	8.42522E-05
66131	Cs-137	3.76136E-05	641.7323835	5.86127E-06
66134	Cs-137	2.78409E-05	575.4076866	4.83847E-06
66132	Cs-137	3.32955E-05	688.7259725	4.83435E-06
66141	Cs-137	2.36364E-05	592.5722789	3.98877E-06
56537	Cs-137	1.18E-08	14.09954982	8.36906E-08
66123	Cs-137	1.38636E-08	162.9756895	8.50657E-09
66122	Cs-137	3.17045E-09	83.11745851	3.81443E-09
66125	Cs-137	3.125E-09	108.6077242	2.87733E-09
66126	Cs-137	2.06818E-09	77.9347658	2.65373E-09
66129	Cs-137	1.63636E-09	93.5520693	1.74915E-09
66127	CS-137	1.53409E-09	144.4274404	1.06219E-09
66128	Cs-137	7.31818E-10	99.24692771	7.37371E-10
66142	Cs-137	3.31818E-10	143.923923	2.30551E-10
66130	H-3	1.96721E-10	7.867040039	2.50058E-09
56537	H-3	7.79E-11	14.09954982	5.525E-10
66140	H-3	1.51639E-10	55.56907999	2.72884E-10
66128	H-3	2.27459E-10	99.24692771	2.29185E-10
66122	H-3	1.73156E-10	83.11745851	2.08327E-10
66129	H-3	1.90574E-10	93.5520693	2.03709E-10
66125	H-3	2.15164E-10	108.6077242	1.98111E-10
66126	H-3	1.47541E-10	77.9347658	1.89313E-10
66127	H-3	2.28484E-10	144.4274404	1.582E-10
66142	H-3	2.17213E-10	143.923923	1.50922E-10
66136	H-3	1.18852E-10	86.06209805	1.38101E-10
66147	H-3	1.18852E-10	86.06209805	1.38101E-10
66123	H-3	2.10041E-10	162.9756895	1.28879E-10
66135	H-3	1.16803E-10	172.5685076	6.76852E-11
66141	H-3	1.92623E-10	592.5722789	3.25062E-11

CONTAINERID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
66147	Cs-137	0.0075	0.6037088	1.242320801
66140	Cs-137	0.00412	0.32920074	1.25151602
66131	Cs-137	0.00331	0.28070313	1.179181721
66134	Cs-137	0.00245	0.20772982	1.17941661
66132	Cs-137	0.00293	0.244020723	1.200717695
66141	Cs-137	0.00208	0.16747418	1.241982495
56537	Cs-137	1.0384E-06	0.036794928	0.002822128
66123	Cs-137	0.00000122	0.19630357	0.000621486
66122	Cs-137	0.000000279	0.223959589	0.000124576
66125	Cs-137	0.000000275	0.165381315	0.000166282
66126	Cs-137	0.000000182	0.117516562	0.000154872
66129	Cs-137	0.000000144	0.128345454	0.000112197
66127	CS-137	0.000000135	0.211965285	6.36897E-05
66128	Cs-137	6.44E-08	0.167411654	3.84681E-05
66142	Cs-137	2.92E-08	0.269449549	1.08369E-05
66130	H-3	0.00000192	0.14478397	0.001326114
56537	H-3	7.60304E-07	0.036794928	0.002066328
66140	H-3	0.00000148	0.32920074	0.000449574
66128	H-3	0.00000222	0.167411654	0.001326073
66122	H-3	0.00000169	0.223959589	0.0007546
66129	H-3	0.00000186	0.128345454	0.001449214
66125	H-3	0.0000021	0.165381315	0.001269793
66126	H-3	0.00000144	0.117516562	0.001225359
66127	H-3	0.00000223	0.211965285	0.001052059
66142	H-3	0.00000212	0.269449549	0.000786789
66136	H-3	0.00000116	0.6037088	0.000192146
66147	H-3	0.00000116	0.6037088	0.000192146
66123	H-3	0.00000205	0.19630357	0.001044301
66135	H-3	0.00000114	1.65997064	6.86759E-05
66141	H-3	0.00000188	0.16747418	0.001122561

LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
66132	H-3	2.23361E-10	688.7259725	3.2431E-11
66131	H-3	2.07992E-10	641.7323835	3.2411E-11
66134	H-3	1.86475E-10	575.4076866	3.24075E-11
66124	H-3	2.10041E-10	649.375579	3.23451E-11
56537	I-125	3.21E-10	14.09954982	2.27667E-09
56537	I-129	0.0067	14.09954982	0.047519248
56537	Np-237	0.0182	14.09954982	0.129082135
56537	Pb-210	0.00000227	14.09954982	1.60998E-05
66130	PU-238	4.55491E-05	7.867040039	0.000578987
66135	PU-238	0.000482659	172.5685076	0.000279691
66136	PU-238	0.000176301	86.06209805	0.000204853
66147	PU-238	0.000176301	86.06209805	0.000204853
66140	PU-238	9.71098E-05	55.56907999	0.000174755
66122	PU-238	7.57225E-05	83.11745851	9.11031E-05
56537	Pu-238	0.0000121	14.09954982	8.58183E-05
66125	PU-238	6.76301E-05	108.6077242	6.227E-05
66142	PU-238	8.95954E-05	143.923923	6.22519E-05
66128	PU-238	6.01156E-05	99.24692771	6.05718E-05
66126	PU-238	4.24277E-05	77.9347658	5.44401E-05
66127	PU-238	7.51445E-05	144.4274404	5.20292E-05
66129	PU-238	4.0289E-05	93.5520693	4.30659E-05
66123	PU-238	5.6763E-05	162.9756895	3.48291E-05
66131	PU-238	7.80347E-05	641.7323835	1.216E-05
66124	PU-238	6.82081E-05	649.375579	1.05036E-05
66134	PU-238	5.76301E-05	575.4076866	1.00155E-05
66132	PU-238	6.87861E-05	688.7259725	9.98744E-06
66141	PU-238	4.89017E-05	592.5722789	8.25245E-06
S780208	Pu-238	0	0	
S780205	Pu-238	0	0	
S780212	Pu-238	0	0	

CONTAINERID	Rad Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
66132	H-3	0.00000218	0.244020723	0.000893367
66131	H-3	0.00000203	0.28070313	0.000723184
66134	H-3	0.00000182	0.20772982	0.000876138
66124	H-3	0.00000205	0.19638635	0.001043861
56537	I-125	5.6496E-06	0.036794928	0.01535429
56537	I-129	1.1993E-06	0.036794928	0.003259417
56537	Np-237	1.29766E-05	0.036794928	0.035267361
56537	Pb-210	0.000175244	0.036794928	0.476272166
66130	PU-238	0.000788	0.14478397	0.544259147
66135	PU-238	0.00835	1.65997064	0.503020945
66136	PU-238	0.00305	0.6037088	0.505210459
66147	PU-238	0.00305	0.6037088	0.505210459
66140	PU-238	0.00168	0.32920074	0.510326921
66122	PU-238	0.00131	0.223959589	0.584926953
56537	Pu-238	0.00020933	0.036794928	0.568909934
66125	PU-238	0.00117	0.165381315	0.707455978
66142	PU-238	0.00155	0.269449549	0.575246834
66128	PU-238	0.00104	0.167411654	0.621223178
66126	PU-238	0.000734	0.117516562	0.624592813
66127	PU-238	0.0013	0.211965285	0.613307976
66129	PU-238	0.000697	0.128345454	0.543065592
66123	PU-238	0.000982	0.19630357	0.500245614
66131	PU-238	0.00135	0.28070313	0.480935143
66124	PU-238	0.00118	0.19638635	0.600856424
66134	PU-238	0.000997	0.20772982	0.479950351
66132	PU-238	0.00119	0.244020723	0.487663501
66141	PU-238	0.000846	0.16747418	0.505152496
S780208	Pu-238	0	0	
S780205	Pu-238	0	0	
S780212	Pu-238	0	0	

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT % By Drum
S780203	Pu-238	0	0	
S780215	Pu-238	0	0	
S780214	Pu-238	0	0	
S780211	Pu-238	0	0	
S780206	Pu-238	0	0	
S780207	Pu-238	0	0	
S780204	Pu-238	0	0	
S780213	Pu-238	0	0	
S780210	Pu-238	0	0	
S780209	Pu-238	0	0	
S780249	Pu-238	0	0	
S780239	Pu-238	0	0	
S780240	Pu-238	0	0	
S780216	Pu-238	0	0	
S780241	Pu-238	0	0	
S780242	Pu-238	0	0	
S780243	Pu-238	0	0	
S780244	Pu-238	0	0	
S780245	Pu-238	0	0	
S780238	Pu-238	0	0	
S780246	Pu-238	0	0	
S780250	Pu-238	0	0	
S780251	Pu-238	0	0	
S780252	Pu-238	0	0	
S780258	Pu-238	0	0	
S780221	Pu-238	0	0	
S780222	Pu-238	0	0	
S780219	Pu-238	0	0	
S780218	Pu-238	0	0	
S780223	Pu-238	0	0	

CONTAINERID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S780203	Pu-238	0	0	
S780215	Pu-238	0	0	
S780214	Pu-238	0	0	
S780211	Pu-238	0	0	
S780206	Pu-238	0	0	
S780207	Pu-238	0	0	
S780204	Pu-238	0	0	
S780213	Pu-238	0	0	
S780210	Pu-238	0	0	
S780209	Pu-238	0	0	
S780249	Pu-238	0	0	
S780239	Pu-238	0	0	
S780240	Pu-238	0	0	
S780216	Pu-238	0	0	
S780241	Pu-238	0	0	
S780242	Pu-238	0	0	
S780243	Pu-238	0	0	
S780244	Pu-238	0	0	
S780245	Pu-238	0	0	
S780238	Pu-238	0	0	
S780246	Pu-238	0	0	
S780250	Pu-238	0	0	
S780251	Pu-238	0	0	
S780252	Pu-238	0	0	
S780258	Pu-238	0	0	
S780221	Pu-238	0	0	
S780222	Pu-238	0	0	
S780219	Pu-238	0	0	
S780218	Pu-238	0	0	
S780223	Pu-238	0	0	

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
S780234	Pu-238	0	0	
S780217	Pu-238	0	0	
S780235	Pu-238	0	0	
S780236	Pu-238	0	0	
S780237	Pu-238	0	0	
S792214	Pu-239	0.22	0.22	100
S794044	Pu-239	6.388	6.388	100
S792213	Pu-239	3.85	3.85	100
S792215	Pu-239	0.18	0.18	100
S792216	Pu-239	0.18	0.18	100
S794043	Pu-239	6.385	6.385	100
S813323	Pu-239	13.28	13.28	100
S792211	Pu-239	4.75	4.75	100
S813289	Pu-239	19.16	19.16	100
S813241	Pu-239	11.5	11.5	100
S813262	Pu-239	143.7	143.7	100
S813240	Pu-239	78.81	78.81	100
S813225	Pu-239	0.5	0.5	100
S813315	Pu-239	1.61	1.61	100
S794119	Pu-239	0.3066	0.3066	100
S805331	Pu-239	9.96	9.96	100
S794056	Pu-239	3.83	3.83	100
S794046	Pu-239	6.388	6.388	100
66130	PU-239	2.193958665	7.867040039	27.88798142
66135	PU-239	25.2782194	172.5685076	14.64822275
66147	PU-239	9.189189189	86.06209805	10.67739388
66136	PU-239	9.189189189	86.06209805	10.67739388
66140	PU-239	5.007949126	55.56907999	9.012114518
66122	PU-239	3.434022258	83.11745851	4.131529427
66142	PU-239	4.13354531	143.923923	2.872034908

LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx

CONTAINERID	Rad_Code	Total Curies of Nuclide	Total Curies In Drum	Ci% By Drum
S780234	Pu-238	0	0	
S780217	Pu-238	0	0	
S780235	Pu-238	0	0	
S780236	Pu-238	0	0	
S780237	Pu-238	0	0	
S792214	Pu-239	0.013838	0.013838	100
S794044	Pu-239	0.4018052	0.4018052	100
S792213	Pu-239	0.242165	0.242165	100
S792215	Pu-239	0.011322	0.011322	100
S792216	Pu-239	0.011322	0.011322	100
S794043	Pu-239	0.4016165	0.4016165	100
S813323	Pu-239	0.835312	0.835312	100
S792211	Pu-239	0.298775	0.298775	100
S813289	Pu-239	1.205164	1.205164	100
S813241	Pu-239	0.72335	0.72335	100
S813262	Pu-239	9.03873	9.03873	100
S813240	Pu-239	4.957149	4.957149	100
S813225	Pu-239	0.03145	0.03145	100
S813315	Pu-239	0.101269	0.101269	100
S794119	Pu-239	0.01928514	0.01928514	100
S805331	Pu-239	0.626484	0.626484	100
S794056	Pu-239	0.240907	0.240907	100
S794046	Pu-239	0.4018052	0.4018052	100
66130	PU-239	0.138	0.14478397	95.31441913
66135	PU-239	1.59	1.65997064	95.78482665
66147	PU-239	0.578	0.6037088	95.74152307
66136	PU-239	0.578	0.6037088	95.74152307
66140	PU-239	0.315	0.32920074	95.68629767
66122	PU-239	0.216	0.223959589	96.44597088
66142	PU-239	0.26	0.269449549	96.49301725

LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
66128	PU-239	2.559618442	99.24692771	2.579040481
66125	PU-239	2.591414944	108.6077242	2.386031898
66126	PU-239	1.796502385	77.9347658	2.305136054
66127	PU-239	3.243243243	144.4274404	2.245586596
66129	PU-239	1.971383148	93.5520693	2.107257662
66123	PU-239	3.020667727	162.9756895	1.853446815
56537	Pu-239	0.223	14.09954982	1.58161078
66131	PU-239	4.276629571	641.7323835	0.666419473
66132	PU-239	3.799682035	688.7259725	0.551697219
66134	PU-239	3.163751987	575.4076866	0.549827898
66124	PU-239	3.004769475	649.375579	0.462716735
66141	PU-239	2.543720191	592.5722789	0.429267497
S780221	Pu-239	0	0	
S780258	Pu-239	0	0	
S780219	Pu-239	0	0	
S780218	Pu-239	0	0	
S780244	Pu-239	0	0	
S780217	Pu-239	0	0	
S780223	Pu-239	0	0	
S780215	Pu-239	0	0	
S780214	Pu-239	0	0	
S780213	Pu-239	0	0	
S780212	Pu-239	0	0	
S780216	Pu-239	0	0	
S780249	Pu-239	0	0	
S780243	Pu-239	0	0	
S780242	Pu-239	0	0	
S780245	Pu-239	0	0	
S780241	Pu-239	0	0	
S780240	Pu-239	0	0	

LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx

CONTAINERID	Rad Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
66128	PU-239	0.161	0.167411654	96.17012661
66125	PU-239	0.163	0.165381315	98.56010638
66126	PU-239	0.113	0.117516562	96.15665918
66127	PU-239	0.204	0.211965285	96.24217475
66129	PU-239	0.124	0.128345454	96.61425172
66123	PU-239	0.19	0.19630357	96.78886635
56537	Pu-239	0.0140267	0.036794928	38.12128686
66131	PU-239	0.269	0.28070313	95.83078037
66132	PU-239	0.239	0.244020723	97.94250138
66134	PU-239	0.199	0.20772982	95.79751236
66124	PU-239	0.189	0.19638635	96.23886793
66141	PU-239	0.16	0.16747418	95.53711503
S780221	Pu-239	0	0	
S780258	Pu-239	0	0	
S780219	Pu-239	0	0	
S780218	Pu-239	0	0	
S780244	Pu-239	0	0	
S780217	Pu-239	0	0	
S780223	Pu-239	0	0	
S780215	Pu-239	0	0	
S780214	Pu-239	0	0	
S780213	Pu-239	0	0	
S780212	Pu-239	0	0	
S780216	Pu-239	0	0	
S780249	Pu-239	0	0	
S780243	Pu-239	0	0	
S780242	Pu-239	0	0	
S780245	Pu-239	0	0	
S780241	Pu-239	0	0	
S780240	Pu-239	0	0	

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
S780246	Pu-239	0	0	
S780239	Pu-239	0	0	
S780252	Pu-239	0	0	
S780237	Pu-239	0	0	
S780222	Pu-239	0	0	
S780236	Pu-239	0	0	
S780250	Pu-239	0	0	
S780235	Pu-239	0	0	
S780251	Pu-239	0	0	
S780234	Pu-239	0	0	
S780238	Pu-239	0	0	
S780210	Pu-239	0	0	
S780206	Pu-239	0	0	
S780203	Pu-239	0	0	
S780211	Pu-239	0	0	
S780207	Pu-239	0	0	
S780209	Pu-239	0	0	
S780208	Pu-239	0	0	
S780205	Pu-239	0	0	
S780204	Pu-239	0	0	
56537	Pu-240	0.0609	14.09954982	0.431928684
56537	Pu-242	0.00753	14.09954982	0.05340596
56537	Pu-244	9.78	14.09954982	69.36391674
56537	Ra-226	0.00000138	14.09954982	9.78755E-06
66130	SR-90	2.07971E-06	7.867040039	2.64357E-05
66135	SR-90	2.2029E-05	172.5685076	1.27654E-05
66147	SR-90	8.04348E-06	86.06209805	9.34613E-06
66136	SR-90	8.04348E-06	86.06209805	9.34613E-06
66140	SR-90	4.42029E-06	55.56907999	7.95459E-06
66122	SR-90	3.46377E-06	83.11745851	4.16732E-06

CONTAINERID	Rad Code	Total Curies of Nuclide	Total Curies In Drum	Ci% By Drum
S780246	Pu-239	0	0	
S780239	Pu-239	0	0	
S780252	Pu-239	0	0	
S780237	Pu-239	0	0	
S780222	Pu-239	0	0	
S780236	Pu-239	0	0	
S780250	Pu-239	0	0	
S780235	Pu-239	0	0	
S780251	Pu-239	0	0	
S780234	Pu-239	0	0	
S780238	Pu-239	0	0	
S780210	Pu-239	0	0	
S780206	Pu-239	0	0	
S780203	Pu-239	0	0	
S780211	Pu-239	0	0	
S780207	Pu-239	0	0	
S780209	Pu-239	0	0	
S780208	Pu-239	0	0	
S780205	Pu-239	0	0	
S780204	Pu-239	0	0	
56537	Pu-240	0.014007	0.036794928	38.06774687
56537	Pu-242	2.98941E-05	0.036794928	0.081245165
56537	Pu-244	0.000175062	0.036794928	0.475777533
56537	Ra-226	0.00000138	0.036794928	0.003750517
66130	SR-90	0.000287	0.14478397	0.198226364
66135	SR-90	0.00304	1.65997064	0.183135769
66147	SR-90	0.00111	0.6037088	0.183863479
66136	SR-90	0.00111	0.6037088	0.183863479
66140	SR-90	0.00061	0.32920074	0.185297275
66122	SR-90	0.000478	0.223959589	0.213431361

LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams In Drum	Wt% By Drum
66142	SR-90	4.0942E-06	143.923923	2.8447E-06
66125	SR-90	3.08696E-06	108.6077242	2.8423E-06
66128	SR-90	2.74638E-06	99.24692771	2.76722E-06
66126	SR-90	1.93478E-06	77.9347658	2.48257E-06
66127	SR-90	3.42754E-06	144.4274404	2.37319E-06
66129	SR-90	1.84058E-06	93.5520693	1.96744E-06
66123	SR-90	2.58696E-06	162.9756895	1.58733E-06
66131	SR-90	3.55072E-06	641.7323835	5.53303E-07
66124	SR-90	3.0942E-06	649.375579	4.76489E-07
66134	SR-90	2.63043E-06	575.4076866	4.57143E-07
66132	SR-90	3.14493E-06	688.7259725	4.5663E-07
66141	SR-90	2.22464E-06	592.5722789	3.7542E-07
56537	Sr-90	4.86E-08	14.09954982	3.44692E-07
56537	Th-234	7.33E-08	14.09954982	5.19875E-07
56537	U-233	0.000531	14.09954982	0.003766078
66130	U-234	0.030696203	7.867040039	0.390187445
66140	U-234	0.023734177	55.56907999	0.042711121
66128	U-234	0.035601266	99.24692771	0.035871403
66122	U-234	0.027056962	83.11745851	0.032552682
66129	U-234	0.029905063	93.5520693	0.031966223
66125	U-234	0.033544304	108.6077242	0.030885744
66126	U-234	0.023101266	77.9347658	0.029641798
66127	U-234	0.035759494	144.4274404	0.024759487
66142	U-234	0.034018987	143.923923	0.023636784
66147	U-234	0.018512658	86.06209805	0.021510814
66136	U-234	0.018512658	86.06209805	0.021510814
66123	U-234	0.032911392	162.9756895	0.02019405
66135	U-234	0.01835443	172.5685076	0.010636025
56537	U-234	0.00082	14.09954982	0.005815789
66134	U-234	0.029272152	575.4076866	0.005087202

LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx

CONTAINERID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
66142	SR-90	0.000565	0.269449549	0.209686749
66125	SR-90	0.000426	0.165381315	0.257586536
66128	SR-90	0.000379	0.167411654	0.226388062
66126	SR-90	0.000267	0.117516562	0.227202018
66127	SR-90	0.000473	0.211965285	0.223149748
66129	SR-90	0.000254	0.128345454	0.197903387
66123	SR-90	0.000357	0.19630357	0.181861186
66131	SR-90	0.00049	0.28070313	0.174561645
66124	SR-90	0.000427	0.19638635	0.217428553
66134	SR-90	0.000363	0.20772982	0.174746216
66132	SR-90	0.000434	0.244020723	0.177853747
66141	SR-90	0.000307	0.16747418	0.183311839
56537	Sr-90	6.7068E-06	0.036794928	0.018227512
56537	Th-234	0.00170056	0.036794928	4.621723968
56537	U-233	5.18256E-06	0.036794928	0.014084985
66130	U-234	0.000194	0.14478397	0.133992734
66140	U-234	0.00015	0.32920074	0.045564904
66128	U-234	0.000225	0.167411654	0.134399245
66122	U-234	0.000171	0.223959589	0.07635306
66129	U-234	0.000189	0.128345454	0.147258819
66125	U-234	0.000212	0.165381315	0.128188605
66126	U-234	0.000146	0.117516562	0.124237807
66127	U-234	0.000226	0.211965285	0.106621233
66142	U-234	0.000215	0.269449549	0.079792303
66147	U-234	0.000117	0.6037088	0.019380204
66136	U-234	0.000117	0.6037088	0.019380204
66123	U-234	0.000208	0.19630357	0.105958338
66135	U-234	0.000116	1.65997064	0.006988075
56537	U-234	5.1824E-06	0.036794928	0.01408455
66134	U-234	0.000185	0.20772982	0.089057989

LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
66132	U-234	0.034968354	688.7259725	0.005077252
66141	U-234	0.030063291	592.5722789	0.005073354
66124	U-234	0.032911392	649.375579	0.00506816
66131	U-234	0.032436709	641.7323835	0.005054554
66123	U-235	123.7442922	162.9756895	75.92806794
66130	U-235	0.611872146	7.867040039	7.777666608
66135	U-235	7.260273973	172.5685076	4.207183612
66142	U-235	5.342465753	143.923923	3.712006761
66147	U-235	2.438356164	86.06209805	2.833252058
66136	U-235	2.438356164	86.06209805	2.833252058
66127	U-235	3.205479452	144.4274404	2.219439355
66140	U-235	1.123287671	55.56907999	2.021425713
66125	U-235	1.570776256	108.6077242	1.446284108
66126	U-235	1.114155251	77.9347658	1.429599794
66128	U-235	1.356164384	99.24692771	1.366454776
66129	U-235	1.255707763	93.5520693	1.342255465
66122	U-235	0.831050228	83.11745851	0.999850384
66132	U-235	5.479452055	688.7259725	0.795592481
66124	U-235	5.159817352	649.375579	0.794581367
66141	U-235	4.703196347	592.5722789	0.793691591
66134	U-235	4.566210046	575.4076866	0.793560836
66131	U-235	5.068493151	641.7323835	0.789814147
S780250	U-235	0	0	
S780258	U-235	0	0	
S780245	U-235	0	0	
S780244	U-235	0	0	
S780252	U-235	0	0	
S780251	U-235	0	0	
S780246	U-235	0	0	
S780249	U-235	0	0	

CONTAINERID	Rad Code	Total Curies of Nuclide #	Total Curies in Drum	Ci% By Drum
66132	U-234	0.000221	0.244020723	0.090566079
66141	U-234	0.00019	0.16747418	0.113450324
66124	U-234	0.000208	0.19638635	0.105913675
66131	U-234	0.000205	0.28070313	0.073030892
66123	U-235	0.000271	0.19630357	0.138051488
66130	U-235	0.00000134	0.14478397	0.000925517
66135	U-235	0.0000159	1.65997064	0.000957848
66142	U-235	0.0000117	0.269449549	0.004342186
66147	U-235	0.00000534	0.6037088	0.000884532
66136	U-235	0.00000534	0.6037088	0.000884532
66127	U-235	0.00000702	0.211965285	0.003311863
66140	U-235	0.00000246	0.32920074	0.000747264
66125	U-235	0.00000344	0.165381315	0.002080042
66126	U-235	0.00000244	0.117516562	0.002076303
66128	U-235	0.00000297	0.167411654	0.00177407
66129	U-235	0.00000275	0.128345454	0.002142655
66122	U-235	0.00000182	0.223959589	0.000812647
66132	U-235	0.000012	0.244020723	0.004917615
66124	U-235	0.0000113	0.19638635	0.005753964
66141	U-235	0.0000103	0.16747418	0.006150202
66134	U-235	0.00001	0.20772982	0.004813945
66131	U-235	0.0000111	0.28070313	0.003954356
S780250	U-235	0	0	
S780258	U-235	0	0	
S780245	U-235	0	0	
S780244	U-235	0	0	
S780252	U-235	0	0	
S780251	U-235	0	0	
S780246	U-235	0	0	
S780249	U-235	0	0	

LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
S780209	U-235	0	0	
S780218	U-235	0	0	
S780216	U-235	0	0	
S780215	U-235	0	0	
S780214	U-235	0	0	
S780213	U-235	0	0	
S780212	U-235	0	0	
S780211	U-235	0	0	
S780219	U-235	0	0	
S780210	U-235	0	0	
S780217	U-235	0	0	
S780208	U-235	0	0	
S780207	U-235	0	0	
S780206	U-235	0	0	
S780205	U-235	0	0	
S780204	U-235	0	0	
S780203	U-235	0	0	
S780240	U-235	0	0	
S780238	U-235	0	0	
S780237	U-235	0	0	
S780221	U-235	0	0	
S780236	U-235	0	0	
S780235	U-235	0	0	
S780239	U-235	0	0	
S780234	U-235	0	0	
S780241	U-235	0	0	
S780223	U-235	0	0	
S780242	U-235	0	0	
S780222	U-235	0	0	
S780243	U-235	0	0	

CONTAINERID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S780209	U-235	0	0	
S780218	U-235	0	0	
S780216	U-235	0	0	
S780215	U-235	0	0	
S780214	U-235	0	0	
S780213	U-235	0	0	
S780212	U-235	0	0	
S780211	U-235	0	0	
S780219	U-235	0	0	
S780210	U-235	0	0	
S780217	U-235	0	0	
S780208	U-235	0	0	
S780207	U-235	0	0	
S780206	U-235	0	0	
S780205	U-235	0	0	
S780204	U-235	0	0	
S780203	U-235	0	0	
S780240	U-235	0	0	
S780238	U-235	0	0	
S780237	U-235	0	0	
S780221	U-235	0	0	
S780236	U-235	0	0	
S780235	U-235	0	0	
S780239	U-235	0	0	
S780234	U-235	0	0	
S780241	U-235	0	0	
S780223	U-235	0	0	
S780242	U-235	0	0	
S780222	U-235	0	0	
S780243	U-235	0	0	

LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx

CONTAINERID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
66141	U-238	585.2941176	592.5722789	98.77176819
66124	U-238	641.1764706	649.375579	98.73738578
66134	U-238	567.6470588	575.4076866	98.65128187
66132	U-238	679.4117647	688.7259725	98.64761775
66131	U-238	632.3529412	641.7323835	98.53841842
66129	U-238	90.29411765	93.5520693	96.51749911
66126	U-238	75	77.9347658	96.23433038
66125	U-238	104.4117647	108.6077242	96.13659197
66128	U-238	95.29411765	99.24692771	96.01719654
66127	U-238	137.9411765	144.4274404	95.5089809
66122	U-238	78.82352941	83.11745851	94.83390232
66142	U-238	134.4117647	143.923923	93.3908428
66140	U-238	49.41176471	55.56907999	88.91952991
66147	U-238	74.41176471	86.06209805	86.46287552
66136	U-238	74.41176471	86.06209805	86.46287552
66135	U-238	140	172.5685076	81.12720097
66130	U-238	5.029411765	7.867040039	63.93016611
56537	U-238	4	14.09954982	28.3697001
66123	U-238	36.17647059	162.9756895	22.19746436

LA-MSG04_001 03-23-12 Wt% and Ci% By Drum.xlsx

CONTAINERID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
66141	U-238	0.000199	0.16747418	0.118824287
66124	U-238	0.000218	0.19638635	0.111005678
66134	U-238	0.000193	0.20772982	0.092909145
66132	U-238	0.000231	0.244020723	0.094664091
66131	U-238	0.000215	0.28070313	0.076593375
66129	U-238	0.0000307	0.128345454	0.023919819
66126	U-238	0.0000255	0.117516562	0.021699069
66125	U-238	0.0000355	0.165381315	0.021465545
66128	U-238	0.0000324	0.167411654	0.019353491
66127	U-238	0.0000469	0.211965285	0.022126265
66122	U-238	0.0000268	0.223959589	0.011966445
66142	U-238	0.0000457	0.269449549	0.016960503
66140	U-238	0.0000168	0.32920074	0.005103269
66147	U-238	0.0000253	0.6037088	0.004190762
66136	U-238	0.0000253	0.6037088	0.004190762
66135	U-238	0.0000476	1.65997064	0.002867521
66130	U-238	0.00000171	0.14478397	0.00118107
56537	U-238	0.00000136	0.036794928	0.003696162
66123	U-238	0.0000123	0.19630357	0.006265806

DIVIDER

PAGE

Attachment 8 – Waste Containers List

Site(s): Los Alamos National Laboratory

Waste Stream Number(s): LA-MHD09.001

Waste Stream Description: TRU Mixed Heterogeneous Debris

Number of Waste Containers in Waste Stream: 53 55-Gal (includes POCs), 5 85-Gal, 48 SWB, 2 Crates, 9 Other

Total Existing Volume (m^3): 157.2 m^3

Is waste expected to be generated in the future?: Yes

If yes, Estimated Future Volume (m^3): 0.2 m^3/yr

Assumptions: N/A

Waste Stream Container Evaluation Memo(s) for Added Containers: C106

Acceptable Knowledge Expert: Print/Sign/Date:

James M. Schoen 4/15/2014

Container Identification Number	Generation Date	Container Type	Generation Point
56511	1/2/1997	55G	TA-50
56512	12/20/1996	55G	TA-50
56513	1/8/1997	55G	TA-50
56514	1/8/1997	55G	TA-50
56515	1/8/1997	55G	TA-50
56516	1/9/1997	55G	TA-50
56517	1/7/1997	55G	TA-50
59204	11/15/2001	55G	TA-50
65222	8/14/2012	55G	TA-50
65223	3/14/2012	55G	TA-50
68710	9/9/1981	55G	TA-50
68771	10/5/1982	55G	TA-50
68797	9/2/1982	55G	TA-50
68866	6/2/1981	55G	TA-50
68870	7/13/1983	55G	TA-50
68871	11/8/1983	55G	TA-50
68877	2/16/1982	55G	TA-50
68879	3/17/1981	55G	TA-50

NTPC RECORDS ORIGINAL
DATE REC'D 6-19-14

Container Identification Number	Generation Date	Container Type	Generation Point
69049	9/10/1981	55G	TA-50
69296	1/25/2014	55G	TA-50
69365	5/20/1980	55G	TA-50
69507	3/3/2014	55G	TA-50
69567	3/13/2014	55G	TA-50
69570	3/13/2014	55G	TA-50
84607	10/11/2002	55G	TA-50
84854	4/12/2000	55G	TA-50
85109	1/3/1990	55G	TA-50
85122	7/7/1987	55G	TA-50
85160	7/7/1982	55G	TA-50
85710	4/6/1981	55G	TA-50
86583	1/7/1997	55G	TA-50
86765	9/10/1981	55G	TA-50
86986	3/13/1984	55G	TA-50
87527	2/6/2001	55G	TA-50
87551	2/6/2001	55G	TA-50
87702	3/21/1985	55G	TA-50
91724	11/1/1984	55G	TA-50
91807	9/20/1988	55G	TA-50
91859	9/10/1981	55G	TA-50
S772880	11/15/1977	55G	TA-50
S804516	12/2/1980	55G	TA-50
S810637	4/6/1981	55G	TA-50
S810689	11/4/1981	55G	TA-50
S816994	9/10/1981	55G	TA-50
S820647	5/18/1992	55G	TA-50
S820648	5/18/1982	55G	TA-50
S851153	11/20/1985	55G	TA-50
66139	6/2/2011	85G	TA-50
91808	9/20/1988	85G	TA-50
S810087	3/17/1981	85G	TA-50
S823846	10/5/1982	85G	TA-50
S823963	7/7/1982	85G	TA-50
89999	6/11/1980	B25OP	TA-50
S783476	7/10/1978	CRATE	TA-50
S784633	7/10/1978	CRATE	TA-50
68700	3/13/2014	Other	TA-50
91860	9/10/1981	POC	TA-50
91861	9/10/1981	POC	TA-50
91862	9/10/1981	POC	TA-50
91863	9/10/1981	POC	TA-50
91864	9/10/1981	POC	TA-50

Container Identification Number	Generation Date	Container Type	Generation Point
91865	9/10/1981	POC	TA-50
52308	2/13/1990	Steel Box	TA-50
54207	11/17/1987	Steel Box	TA-50
24559	10/13/1992	SWB	TA-50
25270	8/18/1992	SWB	TA-50
52026	9/7/1995	SWB	TA-50
52309	3/7/1990	SWB	TA-50
52311	5/18/1990	SWB	TA-50
52312	7/25/1990	SWB	TA-50
52315	1/25/1991	SWB	TA-50
52316	2/26/1993	SWB	TA-50
56500	5/30/1996	SWB	TA-50
57563	1/24/2002	SWB	TA-50
57842	2/22/2000	SWB	TA-50
59616	12/19/1990	SWB	TA-50
60499	2/8/2007	SWB	TA-50
63036	8/3/2006	SWB	TA-50
68268	5/14/1984	SWB	TA-50
68269	5/14/1984	SWB	TA-50
68272	5/14/1984	SWB	TA-50
68273	8/29/1984	SWB	TA-50
68274	5/14/1984	SWB	TA-50
68275	8/29/1984	SWB	TA-50
68276	8/29/1984	SWB	TA-50
68278	8/29/1984	SWB	TA-50
68281	8/29/1984	SWB	TA-50
68282	8/29/1984	SWB	TA-50
68283	8/29/1984	SWB	TA-50
68284	8/29/1984	SWB	TA-50
68285	8/29/1984	SWB	TA-50
68286	8/29/1984	SWB	TA-50
89998	6/11/1980	SWB	TA-50
SB10150	7/31/2013	SWB	TA-50
SB10151	7/30/2013	SWB	TA-50
SB10152	7/31/2013	SWB	TA-50
SB10153	7/31/2013	SWB	TA-50
SB10154	8/1/2013	SWB	TA-50
SB10155	8/1/2013	SWB	TA-50
SB10156	8/5/2013	SWB	TA-50
SB10157	8/5/2013	SWB	TA-50
SB10158	8/6/2013	SWB	TA-50
SB10159	8/6/2013	SWB	TA-50
SB10160	8/7/2013	SWB	TA-50

Container Identification Number	Generation Date	Container Type	Generation Point
SB10161	8/8/2013	SWB	TA-50
SB10162	8/12/2013	SWB	TA-50
SB10163	8/13/2013	SWB	TA-50
SB10164	8/14/2013	SWB	TA-50
SB10165	8/14/2013	SWB	TA-50
SB10166	8/14/2013	SWB	TA-50
SB10169	8/19/2013	SWB	TA-50
SB10189	6/13/1990	SWB	TA-50
53877	9/1/1987	TDOP	TA-50
53879	9/15/1988	TDOP	TA-50
53889	4/18/1984	TDOP	TA-50
53899	4/8/1988	TDOP	TA-50
54205	8/5/1987	TDOP	TA-50

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: C106

Waste Stream Number(s): LA-MHD09.001

(Applicable only when site library is not in use)

Acceptable Knowledge Documentation Type:	Category:
☑ TRU Waste Management Program Information	☑ C - Correspondence
☑ Waste Stream-Specific Information	☐ D - Documents
☐ Additional Information	☐ M - Miscellaneous
	☐ P - Procedures
	☐ DR - Discrepancy Resolution
	☐ U - Unpublished Documents

Title or Description of Source Document [a]: Evaluation of Additional Containers for Waste Stream LA-MHD09.001

Source Document Reference Information (author(s), document and revision number, date, publisher): Jim Schoen, NA, Rev. NA, Various, P2010-3395

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR4, PR6, PR7, WS2, WS3, WS4, WS8, WS9, WS11	Throughout	Evaluation and Addition of Containers to LA-MHD09.001. Presents the evaluation of containers not currently in the waste stream. Includes information regarding waste generation location and process, time period of generation, physical form, chemical content, prohibited items, and radionuclides.

Source Document Data Limitations (if any):

1. None.

Acceptable Knowlege Expert:

Amy Johns , Amy Johns Date: 2/7/13

Print /Sign

[a] Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
[b] Obtain from Acceptable Knowledge Documentation Checklist
[c] For microfilm or microfiche, identify box, tape, reel number and location.

NTPC RECORDS ORIGINAL
DATE REC'D 5/3/13 SP

Evaluation and Addition of 2 Containers to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of 2 containers previously added to waste stream LA-MHD09.001 and supersedes the discussion pertaining to LA-MHD09.001 contained in the add containers memorandum to Craig Simmons and Terri Groover dated March 22, 2012. Portage Environmental has provided database queries from the TA-54 (SWOON) database which include data on mixed heterogeneous debris generated at TA-50.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in Waste Stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. These additional containers were generated during waste repackaging operations at TA-50.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD03.001 was generated from November 1977 to present. The additional containers were generated between August 2006 and February 2007.

Physical Form

CCP-AK-LANL-004, Section 7.3 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non combustible debris. The container paperwork for these additional containers indicates they contain mixed heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. The HWN assigned to the new containers includes only D008.

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new drums, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items removed and segregated if necessary prior to certification and shipment.

NTPC RECORDS ORIGINAL
DATE REC'D 5/3/13 AP

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. All of the additional containers are bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20. This addition brings the total number of containers in waste stream LA-MHD09.001 to 72: 34 55 gallon drums, 6 POCs, 6 85 gallon drums, 15 standard waste boxes, 1 B25 overpack, and 10 other containers.

A freeze file change has been submitted to modify the weight percent range of AM-241 and Pu-241 in waste stream LA-MHD09.001 to 0.00% – 68.05% instead of 0.00% – 16.71%, and 0.00% – 16.28% instead of 0.00% – 2.45%, respectively (see attachment 1).

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze file changes) bounds these 2 containers. These containers are eligible for inclusion into waste stream LA-MHD09.001. The inclusion of these containers will not alter the generation date range, waste matrix code, EPA hazardous waste codes, or the expected radionuclides for the waste stream. The inclusion of these containers will not necessitate additional operator training.

James M. Schoen — January 31, 2013

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Review Result	Container Identification	drumid	Date Closed	Container Type	ta	pu_fge	pu_curies
Add to LA-MHD09.001	60499	LA00000060499	02/08/2007	STANDARD WASTE BOX	50		
Add to LA-MHD09.001	63036	LA00000063036	08/03/2006	STANDARD WASTE BOX	50		
	LA-MHD09.001 Minimum						
	LA-MHD09.001 Maximum						
	AK4 LA-MHD09.001 Minimum						
	AK4 LA-MHD09.001 Maximum						

Review Result	Container Identification	Am-241%	Cs-137	Np-237%	Pu-238%	Pu-239%	Pu-240%	Pu-241%	Pu-242%	Pu-244%	U-234%
Add to LA-MHD09.001	60499	1.16%	0.00%	0.17%	0.00%	98.53%	0.00%	0.14%	0.00%	0.00%	0.00%
Add to LA-MHD09.001	63036	68.05%	0.00%	5.29%	10.38%	0.00%	0.00%	16.28%	0.00%	0.00%	0.00%
	LA-MHD09.001 Minimum	1.16%	0.00%	0.17%	0.00%	0.00%	0.00%	0.14%	0.00%	0.00%	0.00%
	LA-MHD09.001 Maximum	68.05%	0.00%	5.29%	10.38%	98.53%	0.00%	16.28%	0.00%	0.00%	0.00%
	AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	AK4 LA-MHD09.001 Maximum	16.71%	Trace	98.47%	100.00%	100.00%	19.91%	2.45%	1.63%	N/A	1.87%

Review Result	Container Identification	U-235%	U-236%	U-238%	Am-241 Ci%	Cs-137 Ci%	Np-237 Ci%	Pu-238 Ci%	Pu-239 Ci%	Pu-240 Ci%
Add to LA-MHD09.001	60499	0.00%	0.00%	0.00%	16.52%	0.00%	0.00%	0.00%	25.40%	0.00%
Add to LA-MHD09.001	63036	0.00%	0.00%	0.00%	11.20%	0.00%	0.00%	8.51%	0.00%	0.00%
	LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	11.20%	0.00%	0.00%	0.00%	0.00%	0.00%
	LA-MHD09.001 Maximum	0.00%	0.00%	0.00%	16.52%	0.00%	0.00%	8.51%	25.40%	0.00%
	AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	AK4 LA-MHD09.001 Maximum	99.96%	N/A	96.85%	91.61%	9.01%	3.74%	100.00%	100.00%	4.88%

Review Result	Container Identification	Pu-241 Ci%	Pu-242 Ci%	Pu-244 Ci%	U-234 Ci%	U-235 Ci%	U-236 Ci%	U-238 Ci%
Add to LA-MHD09.001	60499	58.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Add to LA-MHD09.001	63036	80.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	LA-MHD09.001 Minimum	58.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	LA-MHD09.001 Maximum	80.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	AK4 LA-MHD09.001 Maximum	89.65%	Trace	N/A	98.00%	0.02%	N/A	Trace

Evaluation and Addition of 13 Containers to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of containers not currently in waste stream LA-MHD09.001. These containers are standard waste boxes which have been packaged with empty, used 55 gallon drums from TA-50. Therefore, these 13 containers have been characterized as heterogeneous debris and are being assigned to waste stream LA-MHD01.001.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in waste stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. These recharacterized containers were generated in TA-50 waste repackaging operations.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD01.001 was generated between November 1977 and the present. The additional containers were generated between July 2013 and August 2013.

Physical Form

CCP-AK-LANL-004, Section 7.4.1 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris. The new SWBs contain TRU contaminated empty, used 55 gallon drums from TA-50.

Chemical Content

Waste stream LA-MHD01.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D035, D038, D039, D040 F001, F002, and F005. No HWNs were assigned to these new containers by LANL.

NTPC RECORDS ORIGINAL
DATE REC'D 06/12/2014

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers.

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. All of the additional containers are bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20, with the exception of Pu-241. A freeze file change has been submitted to modify the weight and curie percent ranges of Pu-241 in waste stream LA-MHD09.001 to 0.00% – 59.65% instead of 0.00% – 16.28%, and 0.00% – 99.16% instead of 0.00% – 89.65%, respectively (see attachment 1).

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze-file changes) bounds these 13 containers. These containers are eligible for inclusion into waste stream LA-MHD09.001. The inclusion of these containers will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of these containers will not necessitate additional operator training.

James M. Schoen — September 17, 2013

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001 C106 - SWB Rebuilds) 091713
Attachment 1

Review Results	Container Identification	Point of Generation	Date of Generation
Add to LA-MHD09.001	SB10150	TA 54	7/29/2013
Add to LA-MHD09.001	SB10151	TA 54	7/30/2013
Add to LA-MHD09.001	SB10152	TA 54	7/31/2013
Add to LA-MHD09.001	SB10153	TA 54	7/31/2013
Add to LA-MHD09.001	SB10154	TA 54	8/01/2013
Add to LA-MHD09.001	SB10155	TA 54	8/01/2013
Add to LA-MHD09.001	SB10156	TA 54	8/05/2013
Add to LA-MHD09.001	SB10157	TA 54	8/05/2013
Add to LA-MHD09.001	SB10158	TA 54	8/06/2013
Add to LA-MHD09.001	SB10159	TA 54	8/06/2013
Add to LA-MHD09.001	SB10162	TA 54	8/12/2013
Add to LA-MHD09.001	SB10163	TA 54	8/13/2013
Add to LA-MHD09.001	SB10169	TA 54	8/19/2013
	N CB A 10/7/13		
	Minimum		
	Maximum		
	AK4 LA-MHD09.001 Minimum		
	AK4 LA-MHD09.001 Maximum		

Add Containers Memo (LA-MHD09.001 C106 - SWB Rebuilds) 091713
Attachment 1

Container Identification	Waste Matrix Code	Container Type	Am-241	Am-243	Cm-245	Pu-242
SB10150	S5400 > 50% Heterogeneous debris	SWB	2.20%	0.00%	0.00%	0.00%
SB10151	S5400 > 50% Heterogeneous debris	SWB	2.74%	0.00%	0.00%	0.00%
SB10152	S5400 > 50% Heterogeneous debris	SWB	0.35%	0.00%	0.00%	0.00%
SB10153	S5400 > 50% Heterogeneous debris	SWB	0.35%	0.00%	0.00%	0.00%
SB10154	S5400 > 50% Heterogeneous debris	SWB	2.23%	0.00%	0.00%	0.00%
SB10155	S5400 > 50% Heterogeneous debris	SWB	1.96%	0.00%	0.00%	0.00%
SB10156	S5400 > 50% Heterogeneous debris	SWB	0.55%	0.00%	0.00%	0.00%
SB10157	S5400 > 50% Heterogeneous debris	SWB	2.60%	0.00%	0.00%	0.00%
SB10158	S5400 > 50% Heterogeneous debris	SWB	0.91%	0.00%	0.00%	0.00%
SB10159	S5400 > 50% Heterogeneous debris	SWB	0.99%	0.00%	0.00%	0.00%
SB10162	S5400 > 50% Heterogeneous debris	SWB	3.39%	0.00%	0.00%	0.00%
SB10163	S5400 > 50% Heterogeneous debris	SWB	3.69%	0.00%	0.00%	0.00%
SB10169	S5400 > 50% Heterogeneous debris	SWB	16.16%	0.00%	0.00%	0.00%
	N/A CO 10/3/13					
Minimum			0.35%	0.00%	0.00%	0.00%
Maximum	N/A CO 10/3/13		16.16%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Minimum			0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum			68.05%	1.24%	NR	Trace

Add Containers Memo (LA-MHD09.001 C106 - SWB Rebuilds) 091713
Attachment 1

Container Identification	Np-237%	Pu-238%	Pu-239%	Pu-240%	Pu-241%	Am-241%	U-233%	U-235%
SB10150	0.00%	0.12%	0.00%	91.69%	5.87%	0.11%	0.00%	0.00%	0.00%
SB10151	0.00%	0.01%	0.38%	78.59%	4.47%	13.80%	0.00%	0.00%	0.00%
SB10152	0.00%	0.01%	0.00%	93.49%	6.01%	0.13%	0.00%	0.00%	0.00%
SB10153	0.00%	0.03%	0.00%	93.51%	6.00%	0.10%	0.00%	0.00%	0.00%
SB10154	0.00%	0.04%	0.78%	90.49%	6.47%	0.00%	0.00%	0.00%	0.00%
SB10155	0.00%	0.03%	0.58%	86.58%	5.32%	5.43%	0.00%	0.09%	0.00%
SB10156	0.00%	0.02%	0.02%	91.93%	7.31%	0.17%	0.00%	0.01%	0.00%
SB10157	0.00%	0.03%	0.41%	77.65%	5.78%	13.55%	0.00%	0.00%	0.00%
SB10158	0.00%	3.00%	0.08%	84.99%	7.20%	1.17%	0.00%	0.01%	2.64%
SB10159	0.00%	0.02%	1.02%	86.83%	5.71%	5.06%	0.00%	0.37%	0.00%
SB10162	0.00%	0.00%	0.99%	50.84%	6.60%	38.17%	0.00%	0.01%	0.00%
SB10163	0.00%	0.00%	1.06%	66.10%	3.09%	26.01%	0.00%	0.06%	0.00%
SB10169	0.00%	0.00%	1.07%	14.87%	8.25%	59.65%	0.00%	0.00%	0.00%
					A Co16 7/13				
Minimum	0.00%	0.00%	0.00%	14.87%	3.09%	0.00%	0.00%	0.00%	0.00%
Maximum	0.00%	3.00%	1.07%	93.51%	8.25%	59.65%	0.00%	0.37%	2.64%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	Trace	98.47%	100.00%	100.00%	19.91%	16.28%	1.63%	1.87%	96.96%

Add Containers Memo (LA-MHD09.001 C106 - SWB Rebuilds) 091713
Attachment 1

Waste Container Identification	Am-241 Ci%	Am-243 Ci%	Cm-243 Ci%	Eu-152 Ci%	Na-22 Ci%	Np-237 Ci%	Pu-238 Ci%
SB10150	28.71%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SB10151	0.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.46%
SB10152	5.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.29%
SB10153	6.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SB10154	27.29%	0.00%	0.00%	0.00%	0.00%	0.00%	47.38%
SB10155	1.15%	0.00%	0.00%	0.00%	0.00%	0.00%	1.72%
SB10156	6.87%	0.00%	0.00%	0.00%	0.00%	0.00%	1.10%
SB10157	0.63%	0.00%	0.00%	0.00%	0.00%	0.00%	0.49%
SB10158	2.38%	0.00%	0.00%	0.00%	0.00%	0.00%	0.99%
SB10159	0.62%	0.00%	0.00%	0.00%	0.00%	0.00%	3.20%
SB10162	0.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.43%
SB10163	0.47%	0.00%	0.00%	0.00%	0.00%	0.00%	0.67%
SB10169	0.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.29%
Minimum	0.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Maximum	28.71%	0.00%	0.00%	0.00%	0.00%	0.00%	47.38%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	91.61%	0.10%	NR	Trace	Trace	3.74%	100.00%

Add Containers Memo (LA-MHD09.001 C106 - SWB Rebuilds) 091713
Attachment 1

Container Identification	Pu-239 Cl%	Pu-240 Cl%	Pu-241 Cl%	[illegible]	[illegible]	[illegible]
SB10150	21.65%	5.07%	44.56%	0.00%	0.00%	0.00%
SB10151	0.34%	0.07%	98.48%	0.00%	0.00%	0.00%
SB10152	26.88%	6.32%	60.99%	0.00%	0.00%	0.00%
SB10153	31.85%	7.48%	54.02%	0.00%	0.00%	0.00%
SB10154	20.08%	5.25%	0.00%	0.00%	0.00%	0.00%
SB10155	0.92%	0.21%	96.00%	0.00%	0.00%	0.00%
SB10156	20.79%	6.04%	65.19%	0.00%	0.00%	0.00%
SB10157	0.34%	0.09%	98.45%	0.00%	0.00%	0.00%
SB10158	4.02%	1.24%	91.37%	0.00%	0.00%	0.00%
SB10159	0.99%	0.24%	94.96%	0.00%	0.00%	0.00%
SB10162	0.08%	0.04%	99.16%	0.00%	0.00%	0.00%
SB10163	0.15%	0.03%	98.69%	0.00%	0.00%	0.00%
SB10169	0.01%	0.03%	98.77%	0.00%	0.00%	0.00%
		CB 10/3/13				
Minimum	0.01%	0.03%	0.00%	0.00%	0.00%	0.00%
Maximum	31.85%	7.48%	99.16%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	100.00%	4.88%	89.65%	Trace	0.98%	0.02%

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Evaluation and Addition of 5 Containers to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of containers not currently in waste stream LA-MHD09.001. These containers are standard waste boxes which have been packaged with empty, used 55 gallon drums from TA-50. Therefore, these 5 containers have been characterized as heterogeneous debris and are being assigned to waste stream LA-MHD09.001.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in waste stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. These recharacterized containers were generated in TA-50 waste repackaging operations.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD09.001 was generated between November 1977 and the present. The additional containers were generated in August 2013.

Physical Form

CCP-AK-LANL-004, Section 7.4.1 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris. The new SWBs contain TRU contaminated empty, used 55 gallon drums from TA-50.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. No HWNs were assigned to these new containers by LANL.

NTPC RECORDS ORIGINAL
DATE REC'D 06/17/2014
FA

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers.

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. All of the additional containers are bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20, with the exception of U-234, U-236, and Pu-240. A freeze file change has been submitted to modify the weight percent ranges of U-234 and U-236 to 0.00% to 6.39% and 0.00% to 0.02% instead of 0.00% to 1.87% and Not Reported, respectively; and curie percent range of Pu-240 in waste stream LA-MHD09.001 to 0.00% – 4.91% instead of 0.00% – 4.88% (see attachment 1).

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze-file changes) bounds these 5 containers. These containers are eligible for inclusion into waste stream LA-MHD09.001. The inclusion of these containers will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of these containers will not necessitate additional operator training.

James M. Schoen — October 25, 2013

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001 C106-SWB Rebuilds[2]) 102513
Attachment 1

Review Result	Container Identification	Point of Generation	Date of Generation
Add to LA-MHD09.001	SB10160	TA 54	8/07/2013
Add to LA-MHD09.001	SB10161	TA 54	8/08/2013
Add to LA-MHD09.001	SB10164	TA 54	8/14/2013
Add to LA-MHD09.001	SB10165	TA 54	8/14/2013
Add to LA-MHD09.001	SB10166	TA 54	8/14/2013
	Minimum		
	Maximum		
	AK4 LA-MHD09.001 Minimum		
	AK4 LA-MHD09.001 Maximum		

Add Containers Memo (LA-MHD09.001 C106-SWB Rebuilds[2]) 102513
Attachment 1

Container Identification	Waste Matrix Code	Container Type	% Am-241	% Am-243	% Cs-137
SB10160	S5400 > 50% Heterogeneous debris	SWB	0.42%	0.00%	0.00%
SB10161	S5400 > 50% Heterogeneous debris	SWB	0.60%	0.00%	0.00%
SB10164	S5400 > 50% Heterogeneous debris	SWB	6.40%	0.00%	0.00%
SB10165	S5400 > 50% Heterogeneous debris	SWB	3.44%	0.69%	0.00%
SB10166	S5400 > 50% Heterogeneous debris	SWB	0.38%	0.00%	0.00%
Minimum			0.38%	0.00%	0.00%
Maximum			6.40%	0.69%	0.00%
AK4 LA-MHD09.001 Minimum			0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum			68.05%	1.24%	Trace

Add Containers Memo (LA-MHD09.001 C106-SWB Rebuilds[2]) 102513
Attachment 1

Container Identification	Eu-152%	Na-22%	Np-237%	Pu-238%	Pu-239%	Pu-240%	Pu-241%
SB10160	0.00%	0.00%	0.04%	14.97%	73.38%	4.70%	0.10%
SB10161	0.00%	0.00%	0.40%	0.04%	91.22%	6.51%	1.22%
SB10164	0.00%	0.00%	0.00%	0.72%	43.30%	0.91%	48.63%
SB10165	0.00%	0.00%	0.00%	0.80%	61.76%	8.06%	25.26%
SB10166	0.00%	0.00%	0.07%	0.12%	89.56%	5.74%	0.16%
Minimum	0.00%	0.00%	0.00%	0.04%	43.30%	0.91%	0.10%
Maximum	0.00%	0.00%	0.40%	14.97%	91.22%	8.06%	48.63%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	Trace	Trace	98.47%	100.00%	100.00%	19.91%	99.16%

Add Containers Memo (LA-MHD09.001 C106-SWB Rebuilds[2]) 102513
Attachment 1

Container Identification	Sr-90%	U-234%	U-235%	U-236%	U-238%	Am-241%	Am-243%
SB10160	0.00%	6.39%	0.00%	0.00%	0.00%	0.53%	0.00%
SB10161	0.00%	0.00%	0.00%	0.00%	0.00%	1.52%	0.00%
SB10164	0.00%	0.04%	0.00%	0.00%	0.00%	0.44%	0.00%
SB10165	0.00%	0.00%	0.00%	0.00%	0.00%	0.45%	0.01%
SB10166	0.00%	0.10%	3.64%	0.02%	0.22%	4.94%	0.00%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.44%	0.00%
Maximum	0.00%	6.39%	3.64%	0.02%	0.22%	4.94%	0.01%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	NR	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	Trace	1.87%	96.96%	NR	96.85%	91.61%	0.10%

Add Containers Memo (LA-MHD09.001 C106-SWB Rebuilds[2]) 102513
Attachment 1

Container Identification	Cs-137 Ci%	Eu-152 Ci%	Na-22 Ci%	Np-237 Ci%	Pu-240 Ci%	Pu-239 Ci%	Th-232 Ci%
SB10160	0.00%	0.00%	0.00%	0.00%	93.78%	1.67%	0.39%
SB10161	0.00%	0.00%	0.00%	0.00%	0.48%	4.19%	1.09%
SB10164	0.00%	0.00%	0.00%	0.00%	0.24%	0.05%	0.00%
SB10165	0.00%	0.00%	0.00%	0.00%	0.52%	0.15%	0.07%
SB10166	0.00%	0.00%	0.00%	0.00%	7.49%	20.95%	4.91%
Minimum	0.00%	0.00%	0.00%	0.00%	0.24%	0.05%	0.00%
Maximum	0.00%	0.00%	0.00%	0.00%	93.78%	20.95%	4.91%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	9.01%	Trace	Trace	3.74%	100.00%	100.00%	4.88%

Add Containers Memo (LA-MHD09.001 C106-SWB Rebuilds[2]) 102513
Attachment 1

Container Identification	Pu-241 Ci%	Sr-90 Ci%	U-234 Ci%	U-235 Ci%	U-238 Ci%	U-238 Ci%
SB10160	3.62%	0.00%	0.01%	0.00%	0.00%	0.00%
SB10161	92.71%	0.00%	0.00%	0.00%	0.00%	0.00%
SB10164	99.26%	0.00%	0.00%	0.00%	0.00%	0.00%
SB10165	98.81%	0.00%	0.00%	0.00%	0.00%	0.00%
SB10166	61.71%	0.00%	0.00%	0.00%	0.00%	0.00%
Minimum	3.62%	0.00%	0.00%	0.00%	0.00%	0.00%
Maximum	99.26%	0.00%	0.01%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	NR	0.00%
AK4 LA-MHD09.001 Maximum	99.92%	Trace	0.98%	0.02%	NR	Trace

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Evaluation and Addition of 1 Container to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of 1 container not currently in waste stream LA-MHD09.001. This is a newly generated drum from TA-50 which passed quick screening RTR as debris. It contains only a fiberboard liner and a plastic drum liner. Therefore, this container has been characterized as heterogeneous debris and is being assigned to waste stream LA-MHD09.001.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in Waste Stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. The additional container were generated during the TA-50 waste treatment process and associated facility and equipment maintenance operations at TA-50.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD03.001 was generated from November 1977 to present. The additional container was generated on March 14, 2012.

Physical Form

CCP-AK-LANL-004, Section 7.3 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non combustible debris. The container paperwork for this additional container indicates it contains mixed heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. No HWNs were applied to this waste container.

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new drums, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items removed and segregated if necessary prior to certification and shipment.

NTPC RECORDS ORIGINAL
DATE REC'D 06/17/2014
EPA

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. The additional container is bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20.

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze file changes) bounds this container. This container is eligible for inclusion into waste stream LA-MHD09.001. The inclusion of this container will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of this container will not necessitate additional operator training.

James M. Schoen — January 17, 2014

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001) January 17, 2013
Attachment 1

Review Result	Container Identification	Point of Generation	Date of Generation
Add to LA-MHD09.001	65223	TA 50	3/14/2012
	AK4 LA-MHD09.001 Minimum		
	AK4 LA-MHD09.001 Maximum		

Add Containers Memo (LA-MHD09.001) January 17, 2013
Attachment 1

Container Identification	Waste Matrix Code	Container Type	pu_fge	pu_curies	Am-241%
65223	S5400 > 50% Heterogeneous debris	55 GAL DRUM		0.07354	12.28%
AK4 LA-MHD09.001 Minimum					0.00%
AK4 LA-MHD09.001 Maximum					68.05%

Add Containers Memo (LA-MHD09.001) January 17, 2013
Attachment 1

Container Identification	Am-243%	Cs-137%	Na-22%	Np-237%	Pu-238%	Pu-239%	Pu-240%
65223	0.01%	0.00%	0.00%	0.00%	26.47%	17.38%	4.07%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	1.24%	Trace	Trace	98.47%	100.00%	100.00%	19.91%

Add Containers Memo (LA-MHD09.001) January 17, 2013
Attachment 1

Container Identification	Pu-241%	Pu-242%	Sr-90%	U-234%	U-235%	Am-241 Ci%	Am-243 Ci%
65223	39.79%	0.00%	0.00%	0.00%	0.00%	0.92%	0.00%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	59.65%	1.63%	Trace	1.87%	96.96%	91.61%	0.10%

Add Containers Memo (LA-MHD09.001) January 17, 2013
Attachment 1

Container Identification	Cs-137 Ci%	Na-22 Ci%	Np-237 Ci%	Pu-238 Ci%	Pu-239 Ci%	Pu-240 Ci%	Pu-241 Ci%
65223	0.00%	0.006%	0.00%	9.87%	0.02%	0.02%	89.16%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	9.01%	Trace	3.74%	100.00%	100.00%	4.88%	99.16%

Add Containers Memo (LA-MHD09.001) January 17, 2013
Attachment 1

Container Identification	Pu-242 CI%	Sr-90 CI%	U-234 CI%	U-235 CI%
65223	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	Trace	Trace	0.98%	0.02%

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Evaluation and Addition of 3 Containers to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of containers not currently in waste stream LA-MHD09.001. These containers were previously characterized as homogeneous dewatered sludge and were assigned to waste stream LA-MIN03-NC.001. However, they subsequently failed Quick Screening RTR for containing greater than 50% heterogeneous debris. Acceptable Knowledge Source Document Discrepancy Resolution DR025 was issued to address these findings.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in waste stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. These recharacterized containers were generated in the TA-50 waste treatment process and associated facility and equipment maintenance and waste repackaging operations.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD09.001 was generated between November 1977 and the present. The additional containers were generated between September 1981 and November 1983.

Physical Form

CCP-AK-LANL-004, Section 7.4.1 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris. The RTR Container Quick Screening Log Sheets for these additional containers indicate they contain greater than 50 percent heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. The additional containers were assigned HWNs D007, D008, D009, and F001 by LANL.

NTPC RECORDS ORIGINAL
DATE REC'D 06/17/2014
TPF

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers.

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. All of the additional containers are bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20.

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze-file changes) bounds these 3 containers. These containers are eligible for inclusion into waste stream LA-MHD09.001. The inclusion of these containers will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of these containers will not necessitate additional operator training.

James M. Schoen — January 30, 2014

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001 C106-DR025) 013014
Attachment 1

Review Result	CONTAINER ID	ID Used for Data	Point of Generation	Date of Generation
Add to LA-MHD09.001	68710	S817004	TA 50	9/09/1981
Add to LA-MHD09.001	68870	S833677	TA 50	7/13/1983
Add to LA-MHD09.001	68871	S834939	TA 50	11/08/1983
	Minimum			
	Maximum			
	AK4 LA-MHD09.001 Minimum			
	AK4 LA-MHD09.001 Maximum			

Add Containers Memo (LA-MHD09.001 C106-DR025) 013014
Attachment 1

CONTAINER ID	Container Type	pu_fge	pu_curies	Pu-238%	Pu-239%	Pu-240%	Pu-241%	Pu-242%
68710	55 GAL DRUM	1.88902434	0.17348592	0.02%	99.22%	0.00%	0.00%	0.00%
68870	55 GAL DRUM	1.01374972	0.15785262	0.04%	97.51%	0.00%	0.00%	0.00%
68871	55 GAL DRUM	1.20980583	0.09814874	0.01%	99.49%	0.00%	0.00%	0.00%
Minimum				0.01%	97.51%	0.00%	0.00%	0.00%
Maximum				0.04%	99.49%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Minimum				0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum				100.00%	100.00%	19.91%	59.65%	1.63%

Add Containers Memo (LA-MHD09.001 C106-DR025) 013014
Attachment 1

CONTAINER ID	Pu-238 Ci%	Pu-239 Ci%	Pu-240 Ci%	Pu-241 Ci%	Pu-242 Ci%
68710	4.97%	95.03%	0.00%	0.00%	0.00%
68870	9.60%	90.40%	0.00%	0.00%	0.00%
68871	2.69%	97.31%	0.00%	0.00%	0.00%
Minimum	2.69%	90.40%	0.00%	0.00%	0.00%
Maximum	9.60%	97.31%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	100.00%	100.00%	4.88%	99.16%	Trace

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Evaluation and Addition of 4 Containers to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of containers not currently in waste stream LA-MHD09.001. These containers were previously characterized as homogeneous dewatered sludge and were assigned to waste stream LA-MIN03-NC.001. However, they were subsequently determined, by Quick Screening RTR, to contain greater than 50% heterogeneous debris. Acceptable Knowledge Source Document Discrepancy Resolution DR026 was issued to address these findings.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in waste stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. These recharacterized containers were generated in the TA-50 waste treatment process and associated facility and equipment maintenance operations.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD09.001 was generated between November 1977 and the present. The additional containers were generated between March 1981 and October 1982.

Physical Form

CCP-AK-LANL-004, Section 7.4.1 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris. The RTR Container Quick Screening Log Sheets for these additional containers indicate they contain greater than 50 percent heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. The additional containers were assigned HWNs D007, D008, D009, and F001 by LANL. One of the containers (68879) was also assigned the prohibited HWN D003. This container will be placed on hold, and will not be shipped, until it is confirmed that no reactive constituents are present in the container and the D003 HWN is removed from the LANL databases.

NTPC RECORDS ORIGINAL
DATE REC'D 06/17/2014
TPT

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers.

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. All of the additional containers are bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20.

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze-file changes) bounds these 4 containers. These containers are eligible for inclusion into waste stream LA-MHD09.001. The inclusion of these containers will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of these containers will not necessitate additional operator training.

James M. Schoen — February 27, 2014

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001 C106-DR026) 022714
Attachment 1

Review Result	CONTAINER ID	PARENT CONTAINER	ID Used for Data	Point of Generation
Add to LA-MHD09.001	68771	S821620	S821620	TA 50
Add to LA-MHD09.001	68866	S814154	S814154	TA 50
Add to LA-MHD09.001	68877	S822036	S822036	TA 50
Add to LA-MHD09.001	68879	S814836	S814836	TA 50
	Minimum			
	Maximum			
	AK4 LA-MHD09.001 Minimum			
	AK4 LA-MHD09.001 Maximum			

Add Containers Memo (LA-MHD09.001 C106-DR026) 022714
Attachment 1

CONTAINER ID	Date of Generation	Waste Matrix Code	Container Type	pu_fge
68771	10/05/1982	S5400 > 50% Heterogeneous debris	55 GAL DRUM	2.6787831
68866	6/02/1981	S5400 > 50% Heterogeneous debris	55 GAL DRUM	0.83661628
68877	2/16/1982	S5400 > 50% Heterogeneous debris	55 GAL DRUM	5.14578977
68879	3/17/1981	S5400 > 50% Heterogeneous debris	55 GAL DRUM	0.98312401
Minimum				
Maximum				
AK4 LA-MHD09.001 Minimum				
AK4 LA-MHD09.001 Maximum				

Add Containers Memo (LA-MHD09.001 C106-DR026) 022714
Attachment 1

CONTAINER ID	pu_curies	Am-241%	Pu-238%	Pu-239%	Am-241 Ci%	Pu-238 Ci%	Pu-239 Ci%
68771	0.41004119	2.28%	0.06%	97.66%	52.52%	6.77%	40.71%
68866	0.08109061	0.87%	0.03%	99.11%	30.88%	5.01%	64.11%
68877	0.42320019	0.38%	0.04%	99.57%	15.98%	8.97%	75.05%
68879	0.1000423	0.98%	0.03%	98.99%	33.22%	5.73%	61.05%
Minimum		0.38%	0.03%	97.66%	15.98%	5.01%	40.71%
Maximum		2.28%	0.06%	99.57%	52.52%	8.97%	75.05%
AK4 LA-MHD09.001 Minimum		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum		68.50%	100.00%	100.00%	91.61%	100.00%	100.00%

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Evaluation and Addition of 2 Containers to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of containers not currently in waste stream LA-MHD09.001. Container Paperwork was provided by LANL for these 2 containers. These containers consist of heterogeneous debris from TA-50; therefore, this memo assigns a population of 2 waste containers to waste stream LA-MHD09.001.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in waste stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. These recharacterized containers were generated in the TA-50 waste treatment process and associated facility and equipment maintenance operations.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD09.001 was generated between November 1977 and the present. The additional containers were generated between June 2011 and August 2012.

Physical Form

CCP-AK-LANL-004, Section 7.4.1 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris. The container paperwork for these additional containers indicates they contain heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. The additional containers were assigned HWN D008 by LANL.

NTPC RECORDS ORIGINAL
DATE REC'D 06/17/2014
TP

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers.

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. All of the additional containers are bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20.

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze-file changes) bounds these 2 containers. These containers are eligible for inclusion into waste stream LA-MHD09.001. The inclusion of these containers will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of these containers will not necessitate additional operator training.

James M. Schoen — February 28, 2014

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001 C106-DR026) 022714
Attachment 1

Review Result	CONTAINER ID	PARENT CONTAINER	ID Used for Data	Point of Generation
Add to LA-MHD09.001	68771	S821620	S821620	TA 50
Add to LA-MHD09.001	68866	S814154	S814154	TA 50
Add to LA-MHD09.001	68877	S822036	S822036	TA 50
Add to LA-MHD09.001	68879	S814836	S814836	TA 50
	Minimum			
	Maximum			
	AK4 LA-MHD09.001 Minimum			
	AK4 LA-MHD09.001 Maximum			

Add Containers Memo (LA-MHD09.001 C106-DR026) 022714
Attachment 1

CONTAINER ID	pu_curies	Am-241%	Pu-238%	Pu-239%	Am-241 Ci%	Pu-238 Ci%	Pu-239 Ci%
68771	0.41004119	2.28%	0.06%	97.66%	52.52%	6.77%	40.71%
68866	0.08109061	0.87%	0.03%	99.11%	30.88%	5.01%	64.11%
68877	0.42320019	0.38%	0.04%	99.57%	15.98%	8.97%	75.05%
68879	0.1000423	0.98%	0.03%	98.99%	33.22%	5.73%	61.05%
Minimum		0.38%	0.03%	97.66%	15.98%	5.01%	40.71%
Maximum		2.28%	0.06%	99.57%	52.52%	8.97%	75.05%
AK4 LA-MHD09.001 Minimum		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum		68.50%	100.00%	100.00%	91.61%	100.00%	100.00%

Add Containers Memo (LA-MHD09.001 C106-DR026) 022714
Attachment 1

CONTAINER ID	Date of Generation	Waste Matrix Code	Container Type	pu_fge
68771	10/05/1982	S5400 > 50% Heterogeneous debris	55 GAL DRUM	2.6787831
68866	6/02/1981	S5400 > 50% Heterogeneous debris	55 GAL DRUM	0.83661628
68877	2/16/1982	S5400 > 50% Heterogeneous debris	55 GAL DRUM	5.14578977
68879	3/17/1981	S5400 > 50% Heterogeneous debris	55 GAL DRUM	0.98312401
Minimum				
Maximum				
AK4 LA-MHD09.001 Minimum				
AK4 LA-MHD09.001 Maximum				

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Evaluation and Addition of 1 Container to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of 1 container not currently in waste stream LA-MHD09.001. This container is a stainless steel tank generated at TA-50 that was used at the RLWTF. Therefore, this container has been characterized as heterogeneous debris and is being assigned to waste stream LA-MHD09.001.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in Waste Stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. The additional container was generated during the TA-50 waste treatment process and associated facility and equipment maintenance and D&D operations at TA-50.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD09.001 was generated from November 1977 to present. The additional container was generated in September 2013.

Physical Form

CCP-AK-LANL-004, Section 7.3 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non combustible debris. The container paperwork for this additional container indicates it contains heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. No HWNs were applied to this waste container.

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items removed and segregated if necessary prior to certification and shipment.

NTPC RECORDS ORIGINAL
DATE REC'D 04/17/2014
TPA

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. The additional container is bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20 with the exception of U-236. A freeze file has been submitted to change the weight percent range of U-236 to 0 to 0.06% instead of Not Reported.

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze file changes) bounds this container. This container is eligible for inclusion into waste stream LA-MHD09.001. The inclusion of this container will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of this container will not necessitate additional operator training.

James M. Schoen March 21, 2014

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001 C106 - 68700) 032114
Attachment 1

Review Result	Container Identification	Point of Generation	Date of Generation
Add to LA-MHD09.001	68700	TA-50	9/13/2013
	AK4 LA-MHD09.001 Minimum		
	AK4 LA-MHD09.001 Maximum		

Add Containers Memo (LA-MHD09.001 C106 - 68700) 032114
Attachment 1

Container Identification	Waste Matrix Code	Container Type	pu_fge	pu_curies	Am-241%	Am-243%
68700	S5400 > 50% Heterogeneous debris	Other	3.61	0.99249	3.51%	0.00%
AK4 LA-MHD09.001 Minimum					0.00%	0.00%
AK4 LA-MHD09.001 Maximum					68.05%	1.24%

Add Containers Memo (LA-MHD09.001 C106 - 68700) 032114
Attachment 1

Container Identification	Na-22%	Np-237%	Pu-238%	Pu-239%	Pu-240%	Pu-241%	U-234%	U-235%	U-236%	U-238%
68700	0.00%	1.22%	0.30%	70.11%	4.48%	0.13%	0.30%	12.41%	0.06%	7.47%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	NR	0.00%
AK4 LA-MHD09.001 Maximum	Trace	98.47%	100.00%	100.00%	19.91%	16.28%	1.87%	96.96%	NR	96.85%

Add Containers Memo (LA-MHD09.001 C106 - 68700) 032114
Attachment 1

Container Identification	Am-241 Ci%	Am-243 Ci%	Na-22 Ci%	Np-237 Ci%	Pu-238 Ci%	Pu-239 Ci%	Pu-240 Ci%
68700	33.57%	0.00%	0.00%	0.00%	14.42%	12.15%	2.84%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	91.61%	0.10%	Trace	3.74%	100.00%	100.00%	4.88%

Add Containers Memo (LA-MHD09.001 C106 - 68700) 032114
Attachment 1

Container Identification	Pu-241 Ci%	U-234 Ci%	U-235 Ci%	U-236 Ci%	U-238 Ci%
68700	37.01%	0.01%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	NR	0.00%
AK4 LA-MHD09.001 Maximum	89.65%	0.98%	0.02%	NR	Trace

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Evaluation and Addition of 3 Containers to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of containers not currently in waste stream LA-MHD09.001. Container Paperwork was provided by LANL for these 3 containers. These containers consist of heterogeneous debris from TA-50; therefore, this memo assigns a population of 3 waste containers to waste stream LA-MHD09.001.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in waste stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. These containers were generated in the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD09.001 was generated between November 1977 and the present. The additional containers were generated between August 2009 and March 2014.

Physical Form

CCP-AK-LANL-004, Section 7.4.1 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris. The container paperwork for these additional containers indicates they contain heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. No HWNs were assigned to the additional containers by LANL.

NTPC RECORDS ORIGINAL
DATE REC'D 06/17/2014

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers.

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. All of the additional containers are bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20 with the exception of Pu-240. A freeze-file has been submitted to change the upper weight and curie percent of Pu-240 in waste stream LA-MHD09.001 to 22.02% instead of 19.91%, and 15.42% instead of 4.88%, respectively.

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze-file changes) bounds these containers. These containers are eligible for inclusion into waste stream LA-MHD09.001. The inclusion of these containers will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of these containers will not necessitate additional operator training.

James M. Schoen — April 1, 2014

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD01.001 C225 - 65907, 65676, 69570) 040114
Attachment 1

Review Result	Container Identification	Point of Generation	Date of Generation
Add to LA-MHD09.001	69507	TA 50	8/18/2010
Add to LA-MHD09.001	69567	TA 50	8/25/2009
Add to LA-MHD09.001	69570	TA 50	3/13/2014
	Minimum		
	Maximum		
	AK4 LA-MHD09.001 Minimum		
	AK4 LA-MHD09.001 Maximum		

Add Containers Memo (LA-MHD01.001 C225 - 65907, 65676, 69570) 040114
Attachment 1

Container Identification	Waste Matrix Code	Container Typ	Am-241%	Am-243%	Mn-56%
69507	S5400 > 50% Heterogeneous debris	55 G	0.62%	0.00%	0.00%
69567	S5400 > 50% Heterogeneous debris	55 G	1.17%	0.00%	0.00%
69570	S5400 > 50% Heterogeneous debris	55 G	1.17%	0.00%	0.00%
Minimum			0.62%	0.00%	0.00%
Maximum			1.17%	0.00%	0.00%
AK4 LA-MHD09.001 Minimum			0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum			68.05%	1.24%	Trace

Add Containers Memo (LA-MHD01.001 C225 - 65907, 65676, 69570) 040114
Attachment 1

Container Identification	Na-22%	Np-237%	Pu-238%	Pu-239%	Pu-240%	Pu-241%	U-234%
69507	0.00%	0.08%	0.04%	72.00%	22.02%	0.20%	0.08%
69567	0.00%	0.06%	1.64%	92.70%	3.68%	0.05%	0.70%
69570	0.00%	0.06%	1.64%	92.70%	3.68%	0.05%	0.70%
Minimum	0.00%	0.06%	0.04%	72.00%	3.68%	0.05%	0.08%
Maximum	0.00%	0.08%	1.64%	92.70%	22.02%	0.20%	0.70%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	Trace	98.47%	100.00%	100.00%	19.91%	16.28%	1.87%

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Evaluation and Addition of 1 Container to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of a container not currently in waste stream LA-MHD09.001. This container was previously characterized as homogeneous dewatered sludge and was assigned to waste stream LA-MIN03-NC.001. However, it was subsequently determined, by RTR, to contain greater than 50% heterogeneous debris. Acceptable Knowledge Source Document Discrepancy Resolution DR028 was issued to address these findings.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in waste stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. This recharacterized container was generated in the TA-50 waste treatment process and associated facility and equipment maintenance operations.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD09.001 was generated between November 1977 and the present. The additional container was generated in June 1990.

Physical Form

CCP-AK-LANL-004, Section 7.4.1 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris. The CCP Radiography Data Sheet for this additional container indicates it contains greater than 50 percent heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. The additional container was assigned HWNs D007, D008, D009, and F001 by LANL.

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers.

NTPC RECORDS ORIGINAL
DATE REC'D 04/17/2014

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. The additional container is bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20.

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze-file changes) bounds this container. This container is eligible for inclusion into waste stream LA-MHD09.001. The inclusion of this container will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of this container will not necessitate additional operator training.

James M. Schoen

April 2, 2014

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001 C106-DR028) 040214
Attachment 1

Review Result	CONTAINER ID	PARENT CONTAINER	ID Used for Data	Point of Generation
Add to LA-MHD09.001	SB10189	S902589	S902589	TA 50
	AK4 LA-MHD09.001 Minimum			
	AK4 LA-MHD09.001 Maximum			

Add Containers Memo (LA-MHD09.001 C106-DR028) 040214
Attachment 1

CONTAINER ID	Date of Generation	Waste Matrix Code	Container Type	pu_fge	pu_curies	Am-241%
SB10189	6/13/1990	S5400	SWB	1.15025887	0.04320241	0.38%
AK4 LA-MHD09.001 Minimum						0.00%
AK4 LA-MHD09.001 Maximum						68.05%

Add Containers Memo (LA-MHD09.001 C106-DR028) 040214
Attachment 1

CONTAINER ID	Pu-238%	Pu-239%	U-235%	Am-241 Ci%	Pu-238 Ci%	Pu-239 Ci%	U-235 Ci%
SB10189	0.01%	29.78%	69.83%	38.44%	7.28%	54.27%	0.00%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	100.00%	100.00%	96.96%	91.61%	100.00%	100.00%	0.02%

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Evaluation and Addition of 1 Container to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of a container not currently in waste stream LA-MHD09.001. This container was previously characterized as homogeneous dewatered sludge and was assigned to waste stream LA-MIN03-NC.001. However, it was subsequently determined, by Quick Screening RTR, to contain greater than 50% heterogeneous debris. Acceptable Knowledge Source Document Discrepancy Resolution DR027 was issued to address these findings.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in waste stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. This recharacterized container was generated in the TA-50 waste treatment process, associated facility and equipment maintenance, and waste repackaging operations.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD09.001 was generated between November 1977 and the present. The additional container was generated in September 1982.

Physical Form

CCP-AK-LANL-004, Section 7.4.1 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris. The RTR Container Quick Screening Log Sheet for this recharacterized container indicates it contains greater than 50 percent heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. The additional container was assigned HWNs D007, D008, D009, and F001 by LANL.

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers.

NTPC RECORDS ORIGINAL
DATE REC'D 6/17/2014

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. The additional container is bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20.

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze-file changes) bounds this container. This container is eligible for inclusion into waste stream LA-MHD09.001. The inclusion of this container will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of this container will not necessitate additional operator training.

James M. Schoen — April 9, 2014

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001 C106-DR027) 040914
Attachment 1

Review Result	CONTAINER ID	PARENT CONTAINER	ID Used for Data	Point of Generation
Add to LA-MHD09.001	68797	S823819	S823819	TA 50
	AK4 LA-MHD09.001 Minimum			
	AK4 LA-MHD09.001 Maximum			

Add Containers Memo (LA-MHD09.001 C106-DR027) 040914
Attachment 1

CONTAINER ID	Date of Generation	Waste Matrix Code	Container Type	pu_fge	pu_curies
68797	9/02/1982	S5400	55G	2.03955823	0.27646048
AK4 LA-MHD09.001 Minimum					
AK4 LA-MHD09.001 Maximum					

Add Containers Memo (LA-MHD09.001 C106-DR027) 040914
Attachment 1

CONTAINER ID	Am-241%	Pu-238%	Pu-239%	Am-241 Ci%	Pu-238 Ci%	Pu-239 Ci%
68797	1.78%	0.06%	98.15%	45.92%	8.22%	45.85%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	68.05%	100.00%	100.00%	91.61%	100.00%	100.00%

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Evaluation and Addition of 1 Container to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of 1 container not currently in waste stream LA-MHD09.001. This is a drum containing debris generated at TA-50. Therefore, this container has been characterized as heterogeneous debris and is being assigned to waste stream LA-MHD09.001.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in Waste Stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. The additional container was generated during the TA-50 waste treatment process and associated facility and equipment maintenance operations at TA-50.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD03.001 was generated from November 1977 to present. The additional container was generated in January 2014.

Physical Form

CCP-AK-LANL-004, Section 7.3 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non combustible debris. The container paperwork for this additional container indicates it contains heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. No HWNs were applied to this waste container.

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items removed and segregated if necessary prior to certification and shipment.

NTPC RECORDS ORIGINAL
DATE REC'D 6/17/2014

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. The additional container is bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20 with the exception of Pu-240. A freeze file has been submitted to change the curie percent range of Pu-240 to 0 to 9.04% instead of 0 to 4.88%

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze file changes) bounds this container. This container is eligible for inclusion into waste stream LA-MHD09.001. The inclusion of this container will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of this container will not necessitate additional operator training.

James M. Schoen March 10, 2014

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001 C106 - 69296 031014
Attachment 1

Review Result	Container Identification	Point of Generation	Date of Generation
Add to LA-MHD09.001	69296	TA-50	1/25/2014
	AK4 LA-MHD09.001 Minimum		
	AK4 LA-MHD09.001 Maximum		

Add Containers Memo (LA-MHD09.001 C106 - 69296 031014
Attachment 1

Waste Matrix Code	Container Type	Am-241%	Cs-137%	Np-237%	Pu-238%	Pu-239%
S5400 > 50% Heterogeneous debris	55G	0.24%	0.00%	0.01%	0.01%	93.56%
		0.00%	0.00%	0.00%	0.00%	0.00%
		68.05%	Trace	98.47%	100.00%	100.00%

Add Containers Memo (LA-MHD09.001 C106 - 69296 031014
Attachment 1

Pu-240%	Pu-241%	Pu-242%	Sr-90%	U-234%	U-235%	Am-241 Ci%	Cs-137 Ci%	Np-237 Ci%
5.99%	0.07%	0.02%	0.00%	0.00%	0.10%	5.56%	0.00%	0.00%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
19.91%	16.28%	1.63%	Trace	1.87%	96.96%	91.61%	9.01%	3.74%

Add Containers Memo (LA-MHD09.001 C106 - 69296 031014
Attachment 1

Pu-238 Ci%	Pu-239 Ci%	Pu-240 Ci%	Pu-241 Ci%	Pu-242 Ci%	Sr-90 Ci%	U-234 Ci%	U-235 Ci%
1.13%	38.63%	9.04%	45.63%	0.00%	0.00%	0.00%	0.00%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
100.00%	100.00%	4.88%	89.65%	Trace	Trace	0.98%	0.02%

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

C106
Jim Schoen

Evaluation and Addition of 1 Container to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of 1 container not currently in waste stream LA-MHD09.001. This container is mixed heterogeneous debris generated at TA-50. Therefore, this container is being assigned to waste stream LA-MHD09.001.

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in Waste Stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. The additional container was generated during the TA-50 waste treatment process and associated facility and equipment maintenance and D&D operations at TA-50.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD09.001 was generated from November 1977 to present. The additional container was generated in March 2014.

Physical Form

CCP-AK-LANL-004, Section 7.3 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non combustible debris. The container paperwork for this additional container indicates it contains heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. HWN D006 was assigned to this waste container.

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers, during which time liquids are absorbed, sealed containers greater than four liters are opened, and other items removed and segregated if necessary prior to certification and shipment.

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. The additional container is bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20 with the exception of Pu-240. A freeze file has been submitted to change the weight and curie percent range of Pu-240 to 0.00% to Trace instead of Not Reported.

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze file changes) bounds this container. This container is eligible for inclusion into waste stream LA-MHD09.001. The inclusion of this container will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of this container will not necessitate additional operator training.

James M. Schoen

April 17, 2014

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001 C106 - 69609) 041714
Attachment 1

Review Result	Container Identification	Point of Generation	Date of Generation
Add to LA-MHD09.001	69609	TA-50	3/20/2014
	AK4 LA-MHD09.001 Minimum		
	AK4 LA-MHD09.001 Maximum		

Add Containers Memo (LA-MHD09.001 C106 - 69609) 041714
Attachment 1

Container Identification	Waste Matrix Code	Container Type	Am-241%	Am-243%	Mn-56%	Na-22%
69609	S5400 > 50% Heterogeneous debris	55 GAL DRUM	0.62%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Minimum			0.00%	0.00%	NR	0.00%
AK4 LA-MHD09.001 Maximum			68.05%	1.24%	NR	Trace

Add Containers Memo (LA-MHD09.001 C106 - 69609) 041714
Attachment 1

Container Identification	Np-237%	Pu-238%	Pu-239%	Pu-240%	Pu-241%	U-234%	U-235%	U-236%	U-238%
69609	0.08%	0.04%	72.00%	22.02%	0.20%	0.08%	4.66%	0.02%	0.28%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	NR	0.00%
AK4 LA-MHD09.001 Maximum	98.47%	100.00%	100.00%	22.02%	16.28%	1.87%	96.96%	NR	96.85%

Add Containers Memo (LA-MHD09.001 C106 - 69609) 041714
Attachment 1

Container Identification	Am-241 Ci%	Am-243 Ci%	Mn-56 Ci%	Na-22 Ci%	Np-237 Ci%	Pu-238 Ci%	Pu-239 Ci%
69609	6.56%	0.00%	0.00%	0.00%	0.00%	2.07%	13.78%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	NR	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	91.61%	0.10%	NR	Trace	3.74%	100.00%	100.00%

Add Containers Memo (LA-MHD09.001 C106 - 69609) 041714
Attachment 1

Container Identification	Pu-240 Ci%	Pu-241 Ci%	U-234 Ci%	U-235 Ci%	U-236 Ci%	U-238 Ci%
69609	15.42%	62.16%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	NR	0.00%
AK4 LA-MHD09.001 Maximum	15.42%	89.65%	0.98%	0.02%	NR	Trace

DIVIDER PAGE ONLY

Not part of page count

Evaluation and Addition of 3 Containers to CCP-AK-LANL-004, Waste Stream LA-MHD09.001

This memorandum presents the evaluation of containers not currently in waste stream LA-MHD09.001. These containers are mixed heterogeneous debris generated at TA-50. Therefore, they are being assigned to waste stream LA-MHD09.001

Waste Generation Location And Process

CCP-AK-LANL-004, Section 7.1 states that the debris waste included in waste stream LA-MHD09.001 was generated during the TA-50 waste treatment process and associated facility and equipment maintenance, D&D, and waste repackaging operations. These recharacterized containers were generated in the TA-50 waste treatment process and associated facility and equipment maintenance and repackaging operations.

Time Period Of Generation

CCP-AK-LANL-004, Section 7.2 states that waste stream LA-MHD09.001 was generated between November 1977 and the present. The additional containers were generated in April 2014.

Physical Form

CCP-AK-LANL-004, Section 7.4.1 states that waste stream LA-MHD09.001 consists of mixed heterogeneous combustible and non-combustible debris. The paperwork for these additional containers indicates they contain greater than 50 percent heterogeneous debris.

Chemical Content

Waste stream LA-MHD09.001 is a mixed waste stream. This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA) regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043. The additional containers were assigned HWNs D008 and D011 by LANL.

Prohibited Items

Waste containers with prohibited items are segregated then dispositioned appropriately and/or repackaged into new containers.

NTPC RECORDS ORIGINAL
DATE REC'D 6-24-14

Radionuclides

Table 20 of CCP-AK-LANL-004, Estimated Radionuclide Distribution in LA-MHD09.001, identifies the relative radionuclide weight and activity percent of expected radionuclides over the entire waste stream based on the container data evaluated. All of the additional containers are bounded by the Nuclide Wt% Range for Individual Containers and the Nuclide Ci% Range for Individual Containers listed in Table 20 with the exception of Cm-243 and U-236. A freeze-file change has been submitted to modify Table 20 to change the weight percent and curie percent ranges of Cm-243 to 0.00% - Trace instead of not reported, and the weight percent range of U-236 to 0.00% - 0.41% instead of 0.00% - 0.06%.

Conclusion

The existing CCP-AK-LANL-004 AK Summary Report (including existing freeze-file changes) bounds these 3 containers. These containers are eligible for inclusion into waste stream LA-MHD09.001. The inclusion of these containers will not alter the generation date range, waste matrix code, EPA hazardous waste numbers, or the expected radionuclides for the waste stream. The inclusion of these containers will not necessitate additional operator training.

James M. Schoen June 19, 2014

Attachment 1 – List of Containers and Summary of Data Evaluated for Addition of Containers to Waste Streams LA-MHD09.001.

Add Containers Memo (LA-MHD09.001 C106) 061914
Attachment 1

Review Result	Container Identification	Point of Generation	Date of Generation
Add to LA-MHD09.001	69526	TA 50	4/25/2014
Add to LA-MHD09.001	69563	TA 50	4/24/2014
Add to LA-MHD09.001	69625	TA 50	4/23/2014
	Minimum		
	Maximum		
	AK4 LA-MHD09.001 Minimum		
	AK4 LA-MHD09.001 Maximum		

Add Containers Memo (LA-MHD09.001 C106) 061914
Attachment 1

Container Identification	Waste Matrix Code	Container Type	Am-241%	Cm-243%	Cs-137%
69526	S5400 > 50% Heterogeneous debris	55 GAL DRUM	0.30%	0.00%	0.00%
69563	S5400 > 50% Heterogeneous debris	55 GAL DRUM	0.71%	0.00%	0.00%
69625	S5400 > 50% Heterogeneous debris	55 GAL DRUM	0.23%	0.00%	0.00%
Minimum			0.23%	0.00%	0.00%
Maximum			0.71%	0.00%	0.00%
AK4 LA-MHD09.001 Minimum			0.00%	NR	0.00%
AK4 LA-MHD09.001 Maximum			68.05%	NR	Trace

Add Containers Memo (LA-MHD09.001 C106) 061914
Attachment 1

Container Identification	Mn-56%	Na-22%	Np-237%	Pu-238%	Pu-239%	Pu-240%
69526	0.00%	0.00%	0.04%	0.01%	94.06%	5.38%
69563	0.00%	0.00%	0.00%	5.09%	86.41%	5.53%
69625	0.00%	0.00%	0.00%	1.52%	0.34%	0.05%
Minimum	0.00%	0.00%	0.00%	0.01%	0.34%	0.05%
Maximum	0.00%	0.00%	0.04%	5.09%	94.06%	5.53%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	Trace	Trace	98.47%	100.00%	100.00%	22.02%

Add Containers Memo (LA-MHD09.001 C106) 061914
Attachment 1

Container Identification	Pu-241%	Pu-242%	Sr-90%	U-234%	U-235%	U-236%	U-238%
69526	0.08%	0.02%	0.00%	0.00%	0.10%	0.00%	0.00%
69563	0.09%	0.00%	0.00%	2.17%	0.00%	0.00%	0.00%
69625	0.00%	0.00%	0.00%	1.91%	90.14%	0.41%	5.40%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Maximum	0.09%	0.02%	0.00%	2.17%	90.14%	0.41%	5.40%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	16.28%	1.63%	Trace	9.60%	96.96%	0.06%	96.85%

Add Containers Memo (LA-MHD09.001 C106) 061914
Attachment 1

Container Identification	Am-241 Ci%	Cm-243 Ci%	Cs-137 Ci%	Mn-56 Ci%	Na-22 Ci%	Np-237 Ci%	Pu-238 Ci%
69526	6.05%	0.00%	0.00%	0.000058%	0.00%	0.00%	1.01%
69563	2.29%	0.00%	0.00%	0.000024%	0.00%	0.00%	82.41%
69625	2.94%	0.00%	0.00%	0.000000%	0.00%	0.00%	96.49%
Minimum	2.29%	0.00%	0.00%	0.00%	0.00%	0.00%	1.01%
Maximum	6.05%	0.00%	0.00%	0.00%	0.00%	0.00%	96.49%
AK4 LA-MHD09.001 Minimum	0.00%	NR	0.00%	NR	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	91.61%	NR	9.01%	NR	Trace	3.74%	100.00%

Add Containers Memo (LA-MHD09.001 C106) 061914
Attachment 1

Container Identification	Pu-239 Ci%	Pu-240 Ci%	Pu-241 Ci%	Pu-242 Ci%	Sr-90 Ci%	U-234 Ci%	U-235 Ci%
69526	34.58%	7.23%	51.12%	0.00%	0.00%	0.00%	0.00%
69563	5.08%	1.19%	9.01%	0.00%	0.00%	0.01%	0.00%
69625	0.08%	0.04%	0.40%	0.00%	0.00%	0.04%	0.00%
Minimum	0.08%	0.04%	0.40%	0.00%	0.00%	0.00%	0.00%
Maximum	34.58%	7.23%	51.12%	0.00%	0.00%	0.04%	0.00%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	100.00%	15.42%	89.65%	Trace	Trace	0.98%	0.02%

Add Containers Memo (LA-MHD09.001 C106) 061914
Attachment 1

Container Identification	U-236 Ci%	U-238 Ci%
69526	0.00%	0.00%
69563	0.00%	0.00%
69625	0.00%	0.00%
Minimum	0.00%	0.00%
Maximum	0.00%	0.00%
AK4 LA-MHD09.001 Minimum	0.00%	0.00%
AK4 LA-MHD09.001 Maximum	Trace	Trace

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0553-14		**Revision** 0
1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-HERTR-14-0036
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 66140
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☑ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-120, CCP Container Management Rev. 4, section 4.1.2 [B] requires verification that each container meets the structural integrity criteria specified on Attachment 4, Structural Integrity and Distortion Criteria. Attachment 4 lists, in part, "Payload containers with obvious leaks, holes, or openings, cracks, deep crevices, creases, tears, broken welds, sharp edges or pits, are either breached or on the verge of being breached.."

7c. Actual Condition:

Container has liquid in the channel indicating that a leak has occurred, and therefore the container integrity is insufficient.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Michael Simmons (printed name) — signature — 03/18/2014 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: K

11. Responsible Manager: Terri-Anne Groover

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Antonio D. Chavarria (printed name) — signature — 3/19/14 (date)

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0553-14 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0553-14 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair
19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap
19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
Return to LANL

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri Anne Grosvenor		3.19.14

21. QA Engineer or QA Designee:

printed name	signature	date
Antonio D. Chavarria		3/19/14

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date

23. Attachments:

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date

DIVIDER

PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

NCR No. NCR-LANL-0704-08	Revision 1	
1. Lot No./Heat No. or Serial No. (as applicable): N/A	2. Process (e.g., NDA, HSG, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-RTR2-08-0080
4. Order/Work Order/Job Control Number (as applicable): N/A	5. PO # (as applicable): N/A	Container #(s): 56537
	6. Supplier (as applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7. (a) NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ >500 ppmv Flamm. VOCs

☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7. (b) Description of Nonconformance Required Condition (Implementing Procedure, Revision, Section, & Text):
CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 11, Section 4.4.2 [B] states in part "IF a container is identified in the S5000 summary category group that CAN NOT be penetrated by the RTR method because of the presence of lead, or other shielding, THEN initiate a NCR..."

7. (c) Actual Condition

Impenetrable item(s)

Reason for revision 1: reference current revision of operating procedure; reword actual condition; change final disposition instructions.

8. NCR Originator (Print name, sign, and date)	9. CCP QA Engineer or Designee Validation (Print name, sign, and date)
Terri-Anne Groover 1\19\12	ANTONIO D. CHAVARRIA 1/19/2012

9a. Does the identified condition have the potential to impact AK? ☐ YES ☒ NO ☐ INDETERMINATE
If YES or INDETERMINATE, then apply Trend Code L in Block 12.

9b. Have the CCP HOLD TAGS associated with the NCR been applied? ☒ YES ☐ NO If no is marked, provide an explanation.

10. Significant Condition? (If Yes, List CAR)	11. Recurring Condition?
☐ YES ☒ NO	☐ YES ☒ NO (If YES, List NCRs/CARs)
12. Trend Code: K	13. Responsible Manager: Terri-Anne Groover

CCP RECORDS ORIGINAL
DATE REC'D 10/25/12

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0704-08 Revision 1	
INTERIM DISPOSITION	
14. Interim Disposition (Check One) ☒ N/A (See Final Disposition) ☐ Hold ☐ Conditional Accept ☐ Conditional Use ☐ Sort ☐ Reinspect/Retest ☐ Remediate (a) Instructions for Completion of the Interim Disposition:	
INTERIM DISPOSITION APPROVALS	
15 .Responsible Manager/Individual (Print, sign, and date)	16. CCP QA Engineer or Designee (Print, sign and date)
Additional Approvals: (Print, sign and date)	Additional Approvals: (Print, sign and date)
COMPLETION OF INTERIM DISPOSITION	
17. Interim Disposition Complete Responsible Manager/Individual: (Print, sign and date)	
18. Interim Disposition Verified CCP QA Engineer: (Print, sign and date)	

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0704-08 Revision 1	
FINAL DISPOSITION	
19. Final Disposition (Check One) ☐ Use-As-Is ☒ Reject ☐ Repair ☐ Rework ☐ Scrap (a) Technical Justification (Required for Use-As-Is and Repair dispositions, N/A for Reject, Scrap, or Rework dispositions.) N/A	
(b) Disposition Instructions (Required for Reject and Scrap, N/A for Use-As-Is, Rework, and Repair) Run container at HERTR	
(c) Instructions for Completion of the Final Disposition, including Inspection Criteria (Required for Repair and Rework, N/A for Use-As-Is, Reject and Scrap) N/A	
(d) Corrective Actions (Actions to Prevent Recurrence) - as required, N/A if left blank. N/A	
FINAL DISPOSITION APPROVALS	
20. Responsible Manager/Individual: (Print, sign, and date) Terri-Anne Groover Ter-Anne Groover 1/23/12	21. CCP QA Engineer or Designee: (Print, sign, and date) ANTONIO D. CHAVARRIA 1/23/2012
Additional Approvals: (Print, sign, and date)	Additional Approvals: (Print, sign, and date)
CLOSURE	
22. Final Disposition Complete Responsible Manager/Individual: (Print, sign, and date) Terri-Anne Groover Ter-Anne Groover 10/24/12	
23. Attachments: #1	
24. (a) HOLD TAG removal has been validated and reconciled for all nonconforming items on the NCR. ☒ (b) Check if not applicable (N/A) and provide an explanation here or on a continuation sheet. ☐ A.C. 10/24/12	
25. Final Disposition Verified – NCR Closed Antonio D. Chavarria	CCP QA Engineer: (Print, sign, and date) 10/24/12

Attachment 2 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0704-08	Revision 1	Attachment # 1	Page 1 of 1
Continuation from Section Number: 56537 was characterized in LA-HERTR-12-0111.			

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523 or 575-234-7431

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	10/25/12
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0704-08 R1	CLOSURE PAPERWORK FOR NCR-LANL-0704-08 R1	10/24/12	4
NCR-LANL-0704-08	SUPERSEDED NCR	01/19/12	3
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Dana Trevino Printed Name	10-29-12 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	1270
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	10/29 11:13
TIME USE	00'15
PAGES SENT	1
RESULT	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523 or 575-234-7431

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	10/25/12
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0704-08 R1	CLOSURE PAPERWORK FOR NCR-LANL-0704-08 R1	10/24/12	4
NCR-LANL-0704-08	SUPERSEDED NCR	01/19/12	3
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

DIVIDER

PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0208-14 **Revision** 0

1. Lot No., Heat No., or Serial No. (if applicable):	2. Process (e.g., NDA, NDE, VE, Other):	3. Batch Data Report #(s):
N/A	NDE	LA-HERTR-14-0014
4. Order/Work Order/Job Control Number (if applicable):	5. PO # (if applicable):	Container #(s):
N/A	N/A	68134
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☑ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 14, Section 4.4.2 [H]states in part "Using Table 1, Prohibited Items, as a reference...confirm there are NO prohibited items in the waste container."
Table 1, Prohibited Items lists, in part, "Compressed Gasses/Pressurized containers (e.g., aerosol cans)"

7c. Actual Condition:

Unpunctured aerosol can at the bottom of the SWB.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Michael Simmons (printed name) — signature — 01/31/2014 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: K

11. Responsible Manager: TERRI ANNE GROOVER

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

THAO HAGENSTROM (printed name) — signature — 2-4-14 (date)

NTPC RECORDS ORIGINAL
DATE REC'D 3/3/14

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0208-14 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0208-14 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☒ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

RETURN CONTAINER TO LANL

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri Anne Groover		2-4-14

21. QA Engineer or QA Designee:

printed name	signature	date
THAD HASELSTROM		2-4-14

Additional Approval:

printed name	signature	date
THAD 2-4-14		

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date
Terri Anne Groover		2/26/14

23. Attachments:

#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒
24b. If HOLD TAG is not applicable, check: ☐ and explain:

A.L. 2/27/14

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date
Antonio D Chavarria		2/27/14

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0208-14 Revision 0	Attachment # 1	Page 1	of 1
Continuation from Section Number: n/a 68134 was remediated on 02/18/14.			

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record
[ ] Fax Record
[ ] Electronic Record
[ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-03-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0208-14	CLOSED NCR WITH ATTACHMENT 1	02-27-14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete Printed Name	3/14/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	3524
DESTINATION TEL #	915056291658
DESTINATION ID	LANL
ST. TIME	03/14 11:30
TIME USE	00'17
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-03-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0208-14	CLOSED NCR WITH ATTACHMENT 1	02-27-14	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [☑]

Signature	Printed Name	Date
	Leon Navarrete	3/14/14

DIVIDER

PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

NCR No. NCR-LANL-0625-12		Revision 0 3/28/12 EL
1. Lot No./Heat No. or Serial No. (as applicable): N/A	2. Process (e.g., NDA, HSG, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-HERTR-12-0026
4. Order/Work Order/Job Control Number (as applicable): N/A	5. PO # (as applicable): N/A	Container #(s): 52315
	6. Supplier (as applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7. (a) NCR Description: ☐ < 100 nCi/g ☑ Prohibited Item ☐ E-Flag
☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7. (b) Description of Nonconformance Required Condition (Implementing Procedure, Revision, Section, & Text):
CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 11, Section 4.4.2 [H]states in part "Using Table 1, Prohibited Items, as a reference...confirm there are NO prohibited items in the waste container."
Table 1, Prohibited Items lists, in part "Liquid waste
Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited.

7. (c) Actual Condition
1 QT. of prohibited liquid in a one GAL. paint can at 12".

8. NCR Originator (Print name, sign, and date) Eric Lyles 3/27/12	9. CCP QA Engineer or Designee Validation (Print name, sign, and date) Antonio D. Chavarria 3/28/2012
9a. Does the identified condition have the potential to impact AK? ☐ YES ☒ NO ☐ INDETERMINATE If YES or INDETERMINATE, then apply Trend Code L in Block 12.	
9b. Have the CCP HOLD TAGS associated with the NCR been applied? ☑ YES ☐ NO If no is marked, provide an explanation.	
10. Significant Condition? (If Yes, List CAR) ☐ YES ☒ NO	11. Recurring Condition? ☐ YES ☒ NO (If YES, List NCRs/CARs)
12. Trend Code: K	13. Responsible Manager: Terri-Anne Groover

12/20/12

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0625-12 Revision 0 3/28/12 EC	
INTERIM DISPOSITION	
14. Interim Disposition (Check One) ☒ N/A (See Final Disposition) ☐ Hold ☐ Conditional Accept ☐ Conditional Use ☐ Sort ☐ Reinspect/Retest ☐ Remediate (a) Instructions for Completion of the Interim Disposition:	
INTERIM DISPOSITION APPROVALS	
15 .Responsible Manager/Individual (Print, sign, and date)	16. CCP QA Engineer or Designee (Print, sign and date)
Additional Approvals: (Print, sign and date)	Additional Approvals: (Print, sign and date)
COMPLETION OF INTERIM DISPOSITION	
17. Interim Disposition Complete Responsible Manager/Individual: (Print, sign and date)	
18. Interim Disposition Verified CCP QA Engineer: (Print, sign and date)	

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0625-12 Revision 0 EC 3/28/12

FINAL DISPOSITION

19. Final Disposition (Check One)
☐ Use-As-Is ☒ Reject ☐ Repair ☐ Rework ☐ Scrap

(a) Technical Justification (Required for Use-As-Is and Repair dispositions, Enter N/A for Reject, Scrap, or Rework dispositions.)
N/A

(b) Instructions for Completion (Required for Reject, Repair, Rework, and Scrap – Enter N/A for Use-As-Is).
Return container to LANL

(c) Corrective Actions (Actions to Prevent Recurrence – Required for Repair and Rework; Enter N/A for Use-As-Is-, Reject, and Scrap).
N/A

FINAL DISPOSITION APPROVALS

20. Responsible Manager/Individual: (Print, sign, and date)	21. CCP QA Engineer or Designee: (Print, sign, and date)
Terri-Anne Groover 03/28/12	Antonio D. Chavarria 3/28/2012
Additional Approvals: (Print, sign, and date)	Additional Approvals: (Print, sign, and date)

CLOSURE

22. Final Disposition Complete Responsible Manager/Individual: (Print, sign, and date)
Terri-Anne Groover 12/18/12 12/19/12

23. Attachments:
#1

24. (a) HOLD TAG removal has been validated and reconciled for all nonconforming items on the NCR. ☒
(b) Check if not applicable (N/A) and provide an explanation here or on a continuation sheet. ☐ A.C. 12/19/12

25. Final Disposition Verified – NCR Closed
Antonio D. Chavarria 12/19/12
CCP QA Engineer: (Print, sign, and date)

Attachment 2 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0625-12	Revision 0	Attachment # 1	Page 1 of 1
Continuation from Section Number: 52315 was remediated by LANL on 11/30/12 as demonstrated by new vent and closure date on CCP AKTSS.			

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523 or 575-234-7431

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-20-12
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0625-12	CLOSED NCR	12-19-12	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	DANA TREVINO (Printed Name)	12-27-12 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

```
**********************
***   TX REPORT   ***
**********************

TRANSMISSION OK

TX/RX NO                3314
DESTINATION TEL #       915056627800
DESTINATION ID          LANL
ST. TIME                12/28 07:59
TIME USE                00'17
PAGES SENT                1
RESULT                  OK
```


Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220
Telephone Number: 575-234-7523 or 575-234-7431
Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-20-12
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0625-12	CLOSED NCR	12-19-12	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted	[X]	Signature	DANA TREVINO (Printed Name)	12-27-12 (Date)
Records Rejected	[ ]	Signature	Printed Name	Date

DIVIDER

PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0422-13 **Revision** 0

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-HERTR-13-0114
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 68223
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☑ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 14, Section 4.4.2 [H] states, in part, "Using Table 1, Prohibited Items, as a reference...confirm there are NO prohibited items in the waste container."
Table 1, Prohibited Items lists, in part, "Liquid waste- internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited," and, "sealed Containers greater than four liters."

7c. Actual Condition:

- A sealed 5 gallon plastic bucket at the bottom of the SWB with approximately 1.5 gallons of liquid, also constituting a sealed container greater than 4 liters.
- A 1 gallon plastic container with approximately 0.5 gallons of liquid, also at the bottom of the SWB.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Michael Simmons — printed name | signature | 11/14/2013 — date

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☑ NO ☐ INDETERMINATE

10. Trend Code: K

11. Responsible Manager: Terri-Anne Groover

12. Significant Condition? ☐ YES ☑ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☑ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Kenneth Simpson — printed name | signature | 11-18-13 — date

NTPC RECORDS ORIGINAL
DATE REC'D 12/9/13

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0422-13 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☑ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0422-13 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☑ N/A for Reject, Rework, or Scrap]

☑ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

Return Container(s) to LANL.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☑ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover		11-20-13

21. QA Engineer or QA Designee:

printed name	signature	date
Kenneth Simpson		11-19-13

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover		12.4.13

23. Attachments:
#1

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☒ A.C 12/5/13
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date
Antonio P. Chavarria		12/5/13

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0422-13 Revision 0	Attachment # 1	Page 1	of 1
Continuation from Section Number: n/a 68223 was remediated on 11/15/13 then recharacterized in LA-HERTR-13-0117.			

DIVIDER PAGE ONLY

Not part of page count

```
**********************************
***        Send Results        ***
**********************************

   Sending is complete.

Job No.                    0152
Address                    915056627800
Name                       LANL
Start Time                 12/19 07:38 AM
Call Length                00'19
Sheets                     1
Result                     OK
```

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-09-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0422-13	CLOSED NCR WITH ATTACHED CONTINUATION SHEET	12-05-13	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [x]	Signature	Leon Navarrete Printed Name	12/18/13 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-09-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0422-13	CLOSED NCR WITH ATTACHED CONTINUATION SHEET	12-05-13	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

	Signature	Printed Name	Date
Records Accepted [X]	[signature]	Leon Navarrete	12/18/13
Records Rejected [ ]			

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

DIVIDER

PAGE

Attachment 1 – CCP Nonconformance Report (NCR)

NCR No. NCR-LANL-0698-12		Revision 0
1. Lot No./Heat No. or Serial No. (as applicable): N/A	2. Process (e.g., NDA, HSG, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-HERTR-12-0031
4. Order/Work Order/Job Control Number (as applicable): N/A	5. PO # (as applicable): N/A	Container #(s): 52026
	6. Supplier (as applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7. (a) NCR Description: ☐ < 100 nCi/g ☑ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7. (b) Description of Nonconformance Required Condition (Implementing Procedure, Revision, Section, & Text):

CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 11, Section 4.4.2 [H]states in part "Using Table 1, Prohibited Items, as a reference...confirm there are NO prohibited items in the waste container." Table 1, Prohibited Items lists, in part "Liquid waste
Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited.

7. (c) Actual Condition

200 mL of prohibited liquid in a plastic 1000 mL container at 20".

8. NCR Originator (Print name, sign, and date)	9. CCP QA Engineer or Designee Validation (Print name, sign, and date)
Kenneth Simpson K Simpson 4-4-12	Antonio D. Chavarria 4/10/2012

9a. Does the identified condition have the potential to impact AK? ☐ YES ☒ NO ☐ INDETERMINATE
If YES or INDETERMINATE, then apply Trend Code L in Block 12.

9b. Have the CCP HOLD TAGS associated with the NCR been applied? ☑ YES ☐ NO If no is marked, provide an explanation.

10. Significant Condition? (If Yes, List CAR)	11. Recurring Condition?
☐ YES ☒ NO	☐ YES ☒ NO (If YES, List NCRs/CARs)
12. Trend Code: K	13. Responsible Manager: Terri-Anne Groover

CCP RECEIVED DATE RECD: 12/10/12

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0698-12	Revision 0
INTERIM DISPOSITION	
14. Interim Disposition (Check One) ☒ N/A (See Final Disposition) ☐ Hold ☐ Conditional Accept ☐ Conditional Use ☐ Sort ☐ Reinspect/Retest ☐ Remediate (a) Instructions for Completion of the Interim Disposition:	
INTERIM DISPOSITION APPROVALS	
15 .Responsible Manager/Individual (Print, sign, and date)	16. CCP QA Engineer or Designee (Print, sign and date)
Additional Approvals: (Print, sign and date)	Additional Approvals: (Print, sign and date)
COMPLETION OF INTERIM DISPOSITION	
17. Interim Disposition Complete Responsible Manager/Individual: (Print, sign and date)	
18. Interim Disposition Verified CCP QA Engineer: (Print, sign and date)	

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0698-12	Revision 0
FINAL DISPOSITION	
19. Final Disposition (Check One) ☐ Use-As-Is ☒ Reject ☐ Repair ☐ Rework ☐ Scrap	
(a) Technical Justification (Required for Use-As-Is and Repair dispositions, Enter N/A for Reject, Scrap, or Rework dispositions.) N\A	
(b) Instructions for Completion (Required for Reject, Repair, Rework, and Scrap – Enter N/A for Use-As-Is). Return to LANL	
(c) Corrective Actions (Actions to Prevent Recurrence – Required for Repair and Rework; Enter N/A for Use-As-Is-, Reject, and Scrap). NA	
FINAL DISPOSITION APPROVALS	
20. Responsible Manager/Individual: (Print, sign, and date) Terri-Anne Groover for A Brouwer 4\10\12	21. CCP QA Engineer or Designee: (Print, sign, and date) Antonio D. Chavarria 4/10/2012
Additional Approvals: (Print, sign, and date)	Additional Approvals: (Print, sign, and date)
CLOSURE	
22. Final Disposition Complete Responsible Manager/Individual: (Print, sign, and date) Terri-Anne Groover for A Brouwer 11\14\12	
23. Attachments: #1	
24. (a) HOLD TAG removal has been validated and reconciled for all nonconforming items on the NCR. ☒ (b) Check if not applicable (N/A) and provide an explanation here or on a continuation sheet. ☐ AL. ~~12/6/12~~ 12/6/12 AL 12/6/12	
25. Final Disposition Verified – NCR Closed Antonio D. Chavarria	CCP QA Engineer: (Print, sign, and date) ~~12/6/12~~

12/6/12 AL 12/6/12

Attachment 2 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-LANL-0698-12	Revision 0	Attachment # 1	Page 1 of 1
Continuation from Section Number:			
Container 52026 has been re-characterized in LA-HERTR-12-0103.			

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523 or 575-234-7431

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-10-12
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0698-12	CLOSED NCR	12-06-12	4
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X] Signature: [signature] Printed Name: DANA TREVINO Date: 12-17-12

Records Rejected [ ] Signature _____ Printed Name _____ Date _____

Reason for Rejection:

Re-submittal: Signature _____ Printed Name _____ Date _____

```
**********************
***   TX REPORT    ***
**********************

TRANSMISSION OK

TX/RX NO                3088
DESTINATION TEL #       915056627800
DESTINATION ID          LANL
ST. TIME                12/17 13:13
TIME USE                00'19
PAGES SENT                1
RESULT                  OK
```


Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220
Telephone Number: 575-234-7523 or 575-234-7431
Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-10-12
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
NCR-LANL-0698-12	CLOSED NCR	12-08-12	4
	N/A		

Comments
N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted	[X] Signature	Printed Name	Date
Records Rejected	[ ] Signature	Printed Name	Date

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: DR005
Waste Stream Number(s): LA-MSG04.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Additional Information	Category: ☐ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☑ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]: Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers for Waste Stream LA-MSG04.001	
Source Document Reference Information (author(s), document and revision number, date, publisher): Michael J. Papp, NA, Rev. NA, 11/03/2009, P2010-2722	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR6, PR7, WS2, WS3, WS8, WS9, WS12, S4	Throughout	The CCP Acceptable Knowledge (AK) Summary Report for Los Alamos National Laboratory (LANL) TA-21 DP West Facility, CCP-AKLANL-010, was created to characterize heterogeneous debris and new contaminated soil waste stream LA-MSG04.001. The materials and chemicals used in past operations at the DP West Facility are the same as certain materials and chemicals used at the TA-55 Plutonium Facility. The number of AK source documents relating to the DP West Facility and the level of detail in these documents is also less than that available in the compilation of AK for the TA-55 Plutonium Facility. Therefore, the TA-21 AK Summary Report relies heavily on the AK documentation that has been compiled for plutonium operations conducted in TA-55 including associated chemical and material inputs. This soil waste could be contaminated with any of the materials and chemicals from the processes described in the TA-21 AK Summary Report (Reference Section 6.4.1). Therefore, this waste stream contains the same or similar hazardous constituents identified for waste stream LA-MHD04.001 and will carry all the same Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWNs). The TA-55 AK Summary Report assigns EPA HWNs D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D035, D038, D039, D040, F001, F002, and F005. The TA-21 report assigns the aforementioned EPA HWNs to soil waste stream LA-MSG04.001 except for D018, D019, D021, D035, D038, D039, and D040, which is inconsistent with the TA-55 report and historical LANL characterization (Reference CCP-AK-LANL-006, D059, and D060). Resolution: In accordance to CCP Acceptable Knowledge Documentation, CCP-TP-005, a review of available AK was completed to determine the Resource Conservation and Recovery Act (RCRA) characterization and the assignment of EPA HWNs if applicable. To assign EPA HWNs, AK source documents including procedures, personnel interviews, reports, container packaging, shipping documentation, material safety data sheets (MSDS), and manufacturer information for commercial products are reviewed to determine potential waste material inputs and possible chemical contaminants associated with the waste. EPA HWNs are often conservatively assigned for compounds used due to the lack of analytical evidence or inconsistent process knowledge that these constituents are not present in the waste or exceed the regulatory thresholds. Section 4.4.14 of CCP-TP-005 provides specific instruction on the review of AK to determine if toxicity characteristic EPA HWNs are to be assigned. The appropriate toxicity characteristic HWN is assigned if characteristic contamination is identified and has NOT been

CCP RECORDS ORIGINAL
DATE REC'D 1-3-12

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: DR005
AK # [b]	Source Doc. Page # [c]	AK Information Summary
		assigned a more specific listed HWN or data is available that demonstrates the concentration in the waste is less than the regulatory threshold. In addition, McCoy's RCRA Unraveled indicates that if the treatment standard for the listed waste specifically addresses the characteristic exhibited by the waste, only the listed HWN applies. Since the waste characterized in the TA-21 AK Summary Report includes the assignment of HWNs F001, F002, and F005, the following toxicity characteristics are specifically addressed by these listed HWNs and they are not assigned: D018 (benzene), D019 (carbon tetrachloride), D021 (chlorobenzene), D035 (methyl ethyl ketone), D038 (pyridine), D039 (tetrachloroethylene), and D040 (trichloroethylene).

Source Document Data Limitations (if any):

1. None.

Acceptable Knowledge Expert:

Amy Johns — Amy Johns — Date: 12/21/11
Print /Sign

[a] Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
[b] Obtain from Acceptable Knowledge Documentation Checklist
[c] For microfilm or microfiche, identify box, tape, reel number and location.

Attachment 11 – Acceptable Knowledge Source Document Discrepancy Resolution P2010-2722

Waste Stream Number(s): LA-MSG04.001

Waste Stream Description: Mixed Contaminated Soil from TA-21 DP West

AK Documentation Type: [X] TRU Waste Management Program Information [X] Waste Stream Specific Information [X] Supplemental Information							
AK Source Document Discrepancy Form Tracking Number: DR005 – Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers for Waste Stream LA-MSG04.001							
Tracking #	Category[a]	Title	Document/Rev#	Author	Date	Publisher	Page #
D059	Unpub.	Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility (Draft Report)	TWCP 23596; AK-00-23, Rev. 0	C. Smith	07/08/2004	N/A	All
D060	Pub.	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams	AK-00-019	C. Smith	09/22/2003	N/A	All
DR001	Disc.	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers for Waste Steam LA-MHD04.001	N/A	CCP	04/04/2007	N/A	All
N/A	Pub.	CCP Acceptable Knowledge Summary Report Los Alamos National Laboratory TA-21 DP West Facility	CCP-AK-LANL-010, Rev. 4	CCP	Draft	N/A	Sections 5.4.3, 6.4.1 & 6.4.3
N/A	Pub.	CCP Acceptable Knowledge Summary Report Los Alamos National Laboratory TA-55 Mixed Transuranic Waste	CCP-AK-LANL-006, Rev. 9	CCP	01/27/2009	N/A	Section 5.4.3
N/A	Pub.	CCP Acceptable Knowledge Documentation	CCP-TP-005/ Rev. 18	CCP	11/16/2006	N/A	Section 4.4.14
N/A	Pub.	McCoy's RCRA Unraveled	N/A	McCoy and Associates, Inc.	2004 Edition	N/A	Pg. 463

Nature of Discrepancy:

The CCP Acceptable Knowledge (AK) Summary Report for Los Alamos National Laboratory (LANL) TA-21 DP West Facility, CCP-AK-LANL-010, was created to characterize heterogeneous debris and new contaminated soil waste stream LA-MSG04.001. The materials and chemicals used in past operations at the DP West Facility are the same as certain materials and chemicals used at the TA-55 Plutonium Facility. The number of AK source documents relating to the DP West Facility and the level of detail in these documents is also less than that available in the compilation of AK for the TA-55 Plutonium Facility. Therefore, the TA-21 AK Summary Report relies heavily on the AK documentation that has been compiled for plutonium operations conducted in TA-55 including associated chemical and material inputs. This soil waste could be contaminated with any of the materials and chemicals from the processes described in the TA-21 AK Summary Report (Reference Section 6.4.1). Therefore, this waste stream contains the same or similar hazardous constituents identified for waste stream LA-MHD04.001 and will carry all the same Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWNs).

The TA-55 AK Summary Report assigns EPA HWNs D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D035, D038, D039, D040, F001, F002, and F005. The TA-21 report assigns the aforementioned EPA HWNs to soil waste stream LA-MSG04.001 except for D018, D019, D021, D035, D038, D039, and D040, which is inconsistent with the TA-55 report and historical LANL characterization (Reference CCP-AK-LANL-006, D059, and D060).

Resolution:

In accordance to CCP Acceptable Knowledge Documentation, CCP-TP-005, a review of available AK was completed to determine the Resource Conservation and Recovery Act (RCRA) characterization and the assignment of EPA HWNs if applicable. To assign EPA HWNs, AK source documents including procedures, personnel interviews, reports, container packaging, shipping documentation, material safety data sheets (MSDS), and manufacturer information for commercial products are reviewed to determine potential waste material inputs and possible chemical contaminants associated with the waste. EPA HWNs are often conservatively assigned for compounds used due to the lack of analytical evidence or inconsistent process knowledge that these constituents are not present in the waste or exceed the regulatory thresholds.

Section 4.4.14 of CCP-TP-005 provides specific instruction on the review of AK to determine if toxicity characteristic EPA HWNs are to be assigned. The appropriate toxicity characteristic HWN is assigned if characteristic contamination is identified and has **NOT** been assigned a more specific listed HWN or data is available that demonstrates the concentration in the waste is less than the regulatory threshold. In addition, McCoy's RCRA Unraveled indicates that if the treatment standard for the listed waste specifically addresses the characteristic exhibited by the waste, only the listed HWN applies. Since the waste characterized in the TA-21 AK Summary Report includes the assignment of HWNs F001, F002, and F005, the following toxicity characteristics are specifically addressed by these listed HWNs and they are not assigned: D018 (benzene), D019 (carbon tetrachloride), D021 (chlorobenzene), D035 (methyl ethyl ketone), D038 (pyridine), D039 (tetrachloroethylene), and D040 (trichloroethylene).

Although the assignment of both listed and associated toxicity characteristic HWNs in TA-55 AK Summary Report is inconsistent with the characterization of TA-21 waste and is not required, this method of characterization is considered acceptable by RCRA. The waste identified in TA-55 report is also the same type of waste characterized by LANL under a previously approved profile and it was determined that removing the toxicity characteristic HWNs was unnecessary. Therefore, the HWNs associated with TA-55 waste will not be updated.

Discrepancy Resolved: [X] Yes [ ] No

Acceptable Knowledge Expert: Michael J. Papp (Print) (Sign) Date: 11/02/2009

Site Project Manager: S M Peterman (Print) (Sign) Date: 11/03/09

[a] Published Document or Controlled Database (Pub.); Unpublished Data (Unpub.); Internal Procedure or Note (Proc.); Correspondence (Corr.) or Discrepancy (Disc.)

COPY

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	575-234-7523	Date Sent:	11/19/09

Document Number	Title/Description	Record Date	Total Pages
DR005	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	11/12/2009	2
N/A	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers for Waste Stream LA-MSG04.001	11/3/2009	3

COPY

Comments:
None

Acceptance/Rejection Signature and Date

Records Accepted ☑	Sonia Gonzalez (Signature)	SONIA GONZALEZ (Printed Name)	12/07/09 (Date)
Records Rejected ☐	_____ (Signature)	_____ (Printed Name)	_____ (Date)

Reason for Rejection:

Re-submittal:

_____ (Signature)	_____ (Printed Name)	_____ (Date)

```
**********************
***   TX REPORT   ***
**********************

TRANSMISSION OK

TX/RX NO                0746
DESTINATION TEL #       92347138
DESTINATION ID          CHEZIE TODD
ST. TIME                01/13 09:50
TIME USE                00'17
PAGES SENT                1
RESULT                  OK
```


Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220
Telephone Number: 505-234-7523
Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian 4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
		Company:	Technical Specialists, LLC
Telephone Number:	575-234-7523	Telephone Number:	505-302-3669
		Date Sent:	11/19/09

Document Number	Document Description	Revision Date	Revision
DR005	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	11/12/2009	2
N/A	Discrepancy Resolution Form for Historical and Current RCRA Characterization and Assignment of EPA Hazardous Waste Numbers for Waste Stream LA-MSG04.001	11/3/2009	3

Comments:
None

Acceptance/Rejection Signature and Date

Records Accepted	☑	Sonia Gonzalez Signature	SONIA GONZALEZ Printed Name	12/07/09 Date
Records Rejected	☐	Signature	Printed Name	Date

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: DR010
Waste Stream Number(s): LA-MHD09.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Additional Information	Category: ☐ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☑ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]: Acceptable Knowledge Source Document Discrepancy Resolution - EPA Hazardous Waste Number Discrepancy Resolution for Waste Stream LA-MHD09.001	
Source Document Reference Information (author(s), document and revision number, date, publisher): Mike J. Papp, NA, Rev. NA, 5/26/2009, P2010-2583	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR7, WS2, WS9, WS12, S9	Throughout	The CCP acceptable knowledge (AK) Summary Report for Los Alamos National Laboratory (LANL) TA-50 Mixed Transuranic Waste, CCP-AK-LANL-004, was created to characterize homogeneous and heterogeneous debris waste streams. Various LANL buildings and operations contributed process liquid waste to the TA-50-01 Radioactive Liquid Waste Treatment Facility (RLWTF) for treatment, TRU waste to the TA-50-37 Controlled Air Incinerator (CAI) for incineration, and solid TRU waste to the TA-50-69 Waste Characterization, Reduction, and Repackaging (WCRR) Facility for size reduction and repackaging. The heterogeneous debris waste is generated from the RLWTF, the CAI, and the WCRR Facility during facility and equipment maintenance, decontamination and decommissioning (D&D), and waste repackaging activities at TA-50. Some of the containers in this waste stream were originally characterized as Resource Conservation and Recovery Act (RCRA) nonhazardous waste and the hazardous containers only identified toxicity characteristic contamination (Reference M227). However, an evaluation of material and chemical inputs and processes associated with contributing buildings and operations has identified the potential for additional RCRA contamination. Resolution: In accordance to CCP Acceptable Knowledge Documentation, CCP-TP-005, a review of AK was completed to determine the RCRA characterization and the assignment of Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWNs) if applicable. To assign EPA HWNs, AK source documents including procedures, personnel interviews, reports, container packaging, waste profiles, material safety data sheets (MSDSs), and manufacturer information for commercial products are reviewed to determine potential waste material inputs and possible chemical contaminants associated with the waste. EPA HWNs are often conservatively assigned for compounds used due to the lack of analytical evidence or inconsistent process knowledge that these constituents are not present in the waste or exceed the regulatory thresholds. Based on review of AK, this waste may contain or be mixed with F-listed hazardous wastes from nonspecific sources listed in 40 CFR 261.31. F001, F002, F004, and F005 listed solvents were used and potentially contaminated the waste. F003 constituents, including acetone, cyclohexanone, ethyl benzene, ethyl ether, methyl alcohol, methyl isobutyl ketone, n-butyl alcohol, and xylene are listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is not liquid; therefore, F003 is not assigned. The assignment of F-listed HWNs is inconsistent with the TA-50 Facility's

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: DR010
AK # [b]	Source Doc. Page # [c]	AK Information Summary
		original characterization (Reference M227); however, LANL's historical TRU program researched this waste and also assigned listed solvent HWNs. Based on the rationale provided in CCP-AK-LANL-004, Section 4.3.6, the debris in this waste stream contains the same or similar hazardous constituents identified for waste stream LA-MIN03-NC.001 and will carry all the same EPA HWNs. This includes contamination with liquid wastes from cyanide plating operations (F007, F009) conducted in the TA-3-66 Sigma Building that have been treated at TA-50, and EPA HWN F006 also applies to the RLWTF debris waste derived from the treatment of the liquids from plating operations. Therefore, this waste stream is assigned F-listed EPA HWNs F001, F002, F004, F005, F006, F007, and F009 for the presence of 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, 1,2-dichlorobenzene, 2-ethoxyethanol, 2-nitropropane, benzene, carbon disulfide, carbon tetrachloride, chlorobenzene, cresols, cyanides (e.g., potassium), isobutyl alcohol, methylene chloride, methyl ethyl ketone, nitrobenzene, pyridine, tetrachloroethylene, toluene, trichloroethylene, and trichlorofluoromethane (References CCP-AK-LANL-006, CCP-AK-LANL-009, D078, and DR001). This waste does not contain and is not mixed with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof as defined in 40 CFR 261.33. P- and U-listed reagents, including hydrofluoric acid (U134), were used or present in the contributing facilities; however, no pure product or unused chemicals would have been disposed of in this waste stream. No listed chemicals were identified in the container-specific documentation and no record of a significant spill of listed chemicals was located (e.g., incident report, waste profile form). In addition, LANL's historical research of this waste determined it did not contain listed chemicals. Beryllium may be present in the waste stream, but does not meet the definition of a P015-listed waste. Available AK did not identify the use of beryllium powder as a constituent or contaminant in this waste stream. Any beryllium present would be a result of residual contamination in process liquid waste or debris processed at TA-50 and it would not result in concentrations exceeding 1 percent by weight of the final waste form or 5 kg in any payload container. Therefore, this waste stream is not assigned a P- or U-listed HWN (References CCP-AK-LANL-006, CCP-AK-LANL-009, D078, DR001, and M227). Based on review of AK, this waste may contain or be contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24. The AK sources identified the use of organic toxicity characteristic compounds including benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), chloroform (D022), cresol (D026), 1,4-dichlorobenzene, (D027), 1,2-dichloroethane (D028), 1,1-dichloroethylene (D029), 2,4-dinitrotoluene (D030), methyl ethyl ketone (D035), nitrobenzene (D036), pentachlorophenol (D037), pyridine (D038), tetrachloroethylene (D039), trichloroethylene (D040), and vinyl chloride (D043). Benzene, carbon tetrachloride, chlorobenzene, cresol, methyl ethyl ketone, nitrobenzene, pyridine, tetrachloroethylene, and trichloroethylene are identified as F-listed solvents. McCoy's RCRA Unraveled indicates that if the treatment standard for the listed waste specifically addresses the characteristic exhibited by the waste, only the listed HWN applies. Since the more specific F-listed EPA HWNs have been assigned for these compounds, assignment of the corresponding toxicity characteristic HWNs (i.e., D018, D019, D021, D026, D035, D036, D038, D039, and D040) is not necessary. This waste also contains or is contaminated with toxicity characteristic metals. Toxicity characteristic metals are present as a result of residual contamination in process liquid waste and debris processed at TA-50. In addition, LANL's historical research of this waste determined it contained toxicity characteristic compounds. Therefore, this waste stream is conservatively assigned toxicity characteristic HWNs for arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), silver (D011), chloroform (D022), 1,4-dichlorobenzene, (D027), 1,2-dichloroethane (D028), 1,1-dichloroethylene (D029), 2,4-dinitrotoluene (D030), pentachlorophenol (D037), and vinyl chloride (D043) (References CCP-AK-LANL-006, CCP-AK-LANL-009, CCP-AK-LANL-010, C089, D078, DR001, and M227). It should be noted that HWNs D027, D029, D030, and D043 are not assigned to waste stream LA-MIN03-NC.001. However, waste stream LA-MHD09.001 includes debris waste from the CMR repackaged at TA-50 and debris waste from the CMR is conservatively assumed to be

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: DR010
AK # [b]	Source Doc. Page # [c]	AK Information Summary
		contaminated with these HWNs (References CCP-AK-LANL-009 and C089). One container in this waste stream, S810650, is identified as reactive and is assigned HWN D003, Research was conducted to discover the reason for the assignment of HWN D003 to 77 LANL containers identified under attached NCR PWR-03-0804 (S810650 is included in the 77 LANL containers). Based on this research, it was determined that HWN D003 was added because of the presence of unpunctured aerosol cans. Aerosol cans pose a unique hazardous waste determination problem because they consist of three different types of materials, each of which may require a hazardous waste determination. They include the can itself, the liquid product contained in the can, and the gaseous propellant. The EPA has stated that unpunctured aerosol cans may exhibit the characteristic of reactivity. The can could explode when subjected to a strong initiating source or if heated under confinement. However, punctured and emptied aerosol cans do not meet the definition of reactivity. Therefore, characterization activities will identify and remediate any unpunctured cans prior to waste certification, and HWN D003 will not be assigned to this waste stream. LANL may continue to assign HWN D003 to containers With unpunctured aerosol cans for onsite waste management purposes (Reference AK9-DR001). Based on the above review, this waste stream contains RCRA regulated constituents and is assigned EPA HWNs F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043.

Source Document Data Limitations (if any):

1. None.

Acceptable Knowlege Expert:

Amy Johns / Amy Johns Date: 8/20/2014

Print /Sign

[a] Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
[b] Obtain from Acceptable Knowledge Documentation Checklist
[c] For microfilm or microfiche, identify box, tape, reel number and location.

P2010-2583

Attachment 11 – Acceptable Knowledge Source Document Discrepancy Resolution

Waste Stream Number(s): LA-MHD09.001

Waste Stream Description: Heterogeneous Debris Generated in TA-50 Facilities

AK Documentation Type: [X] TRU Waste Management Program Information [X] Waste Stream Specific Information [X] Supplemental Information							
AK Source Document Discrepancy Form Tracking Number: DR010 – EPA Hazardous Waste Number Discrepancy Resolution for Waste Stream LA-MHD09.001							
Tracking #	Category[a]	Title	Document/Rev#	Author	Date	Publisher	Page #
C089	Corr.	Waste Stream LA-MIN03-NC.001 and LA-MHD03.001 EPA HWN Assignment Comparison	N/A	CCP	05/23/2007	N/A	All
D078	Pub.	Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams	AK-00-019	LANL	09/22/2003	N/A	Pages 21 - 23, 72-73, and App. A – 1 of 21 & 3 of 21
DR001	Disc.	Resolution of RCRA Discrepancies for Waste Stream LA-MIN03-NC.001	N/A	CCP	04/15/2004	N/A	All
AK9-DR001	Disc.	RCRA EPA Hazardous Waste Number Assignment Discrepancy Report for CMR Waste	N/A	CCP	10/19/2005	N/A	All
M227	Unpub.	RSWD, CWSR, and TWSR Records for Waste Stream LA-MHD09.001	N/A	N/A	Various	N/A	All
N/A	Pub.	CCP Acceptable Knowledge Summary Report for Los Alamos National Laboratory TA-50 Mixed Transuranic Waste	CCP-AK-LANL-004, Rev. 9	CCP	TBD	N/A	Sections 4.3.6 and 5.4.3
N/A	Pub.	CCP Acceptable Knowledge Summary Report for Los Alamos National Laboratory TA-55 Mixed Transuranic Waste	CCP-AK-LANL-006, Rev. 9	CCP	01/27/2009	N/A	Section 5.4.3

N/A	Pub.	CCP Acceptable Knowledge Summary Report for Los Alamos National Laboratory Chemistry and Metallurgy Research (CMR) Facility	CCP-AK-LANL-009, Rev. 5	CCP	10/02/2008	N/A	Section 5.4.3
N/A	Pub.	CCP Acceptable Knowledge Summary Report for Los Alamos National Laboratory TA-21 DP West Facility	CCP-AK-LANL-010, Rev. 3	CCP	02/25/2008	N/A	Section 5.4.3
N/A	Pub.	CCP Acceptable Knowledge Documentation	CCP-TP-005/ Rev. 18	CCP	11/16/2006	N/A	All
N/A	Pub.	McCoy's RCRA Unraveled	N/A	McCoy and Associates, Inc.	2004 Edition	N/A	Page 463

Nature of Discrepancy:

The CCP acceptable knowledge (AK) Summary Report for Los Alamos National Laboratory (LANL) TA-50 Mixed Transuranic Waste, CCP-AK-LANL-004, was created to characterize homogeneous and heterogeneous debris waste streams. Various LANL buildings and operations contributed process liquid waste to the TA-50-01 Radioactive Liquid Waste Treatment Facility (RLWTF) for treatment, TRU waste to the TA-50-37 Controlled Air Incinerator (CAI) for incineration, and solid TRU waste to the TA-50-69 Waste Characterization, Reduction, and Repackaging (WCRR) Facility for size reduction and repackaging. The heterogeneous debris waste is generated from the RLWTF, the CAI, and the WCRR Facility during facility and equipment maintenance, decontamination and decommissioning (D&D), and waste repackaging activities at TA-50. Some of the containers in this waste stream were originally characterized as Resource Conservation and Recovery Act (RCRA) nonhazardous waste and the hazardous containers only identified toxicity characteristic contamination (Reference M227). However, an evaluation of material and chemical inputs and processes associated with contributing buildings and operations has identified the potential for additional RCRA contamination.

Resolution:

In accordance to CCP Acceptable Knowledge Documentation, CCP-TP-005, a review of AK was completed to determine the RCRA characterization and the assignment of Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWNs) if applicable. To assign EPA HWNs, AK source documents including procedures, personnel interviews, reports, container packaging, waste profiles, material safety data sheets (MSDSs), and manufacturer information for commercial products are reviewed to determine potential waste material inputs and possible chemical contaminants associated with the waste. EPA HWNs are often conservatively assigned for compounds used due to the lack of analytical evidence or inconsistent process knowledge that these constituents are not present in the waste or exceed the regulatory thresholds.

Based on review of AK, this waste may contain or be mixed with F-listed hazardous wastes from nonspecific sources listed in 40 CFR 261.31. F001, F002, F004, and F005 listed solvents were used and potentially contaminated the waste. F003 constituents, including acetone, cyclohexanone, ethyl benzene, ethyl ether, methyl alcohol, methyl isobutyl ketone, n-butyl alcohol, and xylene are listed solely because these

solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is not liquid; therefore, F003 is not assigned. The assignment of F-listed HWNs is inconsistent with the TA-50 Facility's original characterization (Reference M227); however, LANL's historical TRU program researched this waste and also assigned listed solvent HWNs. Based on the rationale provided in CCP-AK-LANL-004, Section 4.3.6, the debris in this waste stream contains the same or similar hazardous constituents identified for waste stream LA-MIN03-NC.001 and will carry all the same EPA HWNs. This includes contamination with liquid wastes from cyanide plating operations (F007, F009) conducted in the TA-3-66 Sigma Building that have been treated at TA-50, and EPA HWN F006 also applies to the RLWTF debris waste derived from the treatment of the liquids from plating operations. Therefore, this waste stream is assigned F-listed EPA HWNs F001, F002, F004, F005, F006, F007, and F009 for the presence of 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, 1,2-dichlorobenzene, 2-ethoxyethanol, 2-nitropropane, benzene, carbon disulfide, carbon tetrachloride, chlorobenzene, cresols, cyanides (e.g., potassium), isobutyl alcohol, methylene chloride, methyl ethyl ketone, nitrobenzene, pyridine, tetrachloroethylene, toluene, trichloroethylene, and trichlorofluoromethane (References CCP-AK-LANL-006, CCP-AK-LANL-009, D078, and DR001).

This waste does not contain and is not mixed with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof as defined in 40 CFR 261.33. P- and U-listed reagents, including hydrofluoric acid (U134), were used or present in the contributing facilities; however, no pure product or unused chemicals would have been disposed of in this waste stream. No listed chemicals were identified in the container-specific documentation and no record of a significant spill of listed chemicals was located (e.g., incident report, waste profile form). In addition, LANL's historical research of this waste determined it did not contain listed chemicals. Beryllium may be present in the waste stream, but does not meet the definition of a P015-listed waste. Available AK did not identify the use of beryllium powder as a constituent or contaminant in this waste stream. Any beryllium present would be a result of residual contamination in process liquid waste or debris processed at TA-50 and it would not result in concentrations exceeding 1 percent by weight of the final waste form or 5 kg in any payload container. Therefore, this waste stream is not assigned a P- or U-listed HWN (References CCP-AK-LANL-006, CCP-AK-LANL-009, D078, DR001, and M227).

Based on review of AK, this waste may contain or be contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24. The AK sources identified the use of organic toxicity characteristic compounds including benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), chloroform (D022), cresol (D026), 1,4-dichlorobenzene, (D027), 1,2-dichloroethane (D028), 1,1-dichloroethylene (D029), 2,4-dinitrotoluene (D030), methyl ethyl ketone (D035), nitrobenzene (D036), pentachlorophenol (D037), pyridine (D038), tetrachloroethylene (D039), trichloroethylene (D040), and vinyl chloride (D043). Benzene, carbon tetrachloride, chlorobenzene, cresol, methyl ethyl ketone, nitrobenzene, pyridine, tetrachloroethylene, and trichloroethylene are identified as F-listed solvents. McCoy's RCRA Unraveled indicates that if the treatment standard for the listed waste specifically addresses the characteristic exhibited by the waste, only the listed HWN applies. Since the more specific F-listed EPA HWNs have been assigned for these compounds, assignment of the corresponding toxicity characteristic HWNs (i.e., D018, D019, D021, D026, D035, D036, D038, D039, and D040) is not necessary. This waste also contains or is contaminated with toxicity characteristic metals. Toxicity characteristic metals are present as a result of residual contamination in process liquid waste and debris processed at TA-50. In addition, LANL's historical research of this waste determined it contained toxicity characteristic compounds. Therefore, this waste stream is conservatively assigned toxicity characteristic HWNs for arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), silver (D011), chloroform (D022), 1,4-dichlorobenzene, (D027), 1,2-dichloroethane (D028), 1,1-dichloroethylene (D029), 2,4-dinitrotoluene (D030), pentachlorophenol (D037), and vinyl chloride (D043) (References CCP-AK-LANL-006, CCP-AK-LANL-009, CCP-AK-LANL-010, C089, D078, DR001, and M227).

DR010

It should be noted that HWNs D027, D029, D030, and D043 are not assigned to waste stream LA-MIN03-NC.001. However, waste stream LA-MHD09.001 includes debris waste from the CMR repackaged at TA-50 and debris waste from the CMR is conservatively assumed to be contaminated with these HWNs (References CCP-AK-LANL-009 and C089).

One container in this waste stream, S810650, is identified as reactive and is assigned HWN D003. Research was conducted to discover the reason for the assignment of HWN D003 to 77 LANL containers identified under attached NCR PWR-03-0804 (S810650 is included in the 77 LANL containers). Based on this research, it was determined that HWN D003 was added because of the presence of unpunctured aerosol cans. Aerosol cans pose a unique hazardous waste determination problem because they consist of three different types of materials, each of which may require a hazardous waste determination. They include the can itself, the liquid product contained in the can, and the gaseous propellant. The EPA has stated that unpunctured aerosol cans may exhibit the characteristic of reactivity. The can could explode when subjected to a strong initiating source or if heated under confinement. However, punctured and emptied aerosol cans do not meet the definition of reactivity. Therefore, characterization activities will identify and remediate any unpunctured cans prior to waste certification, and HWN D003 will not be assigned to this waste stream. LANL may continue to assign HWN D003 to containers with unpunctured aerosol cans for onsite waste management purposes (Reference AK9-DR001).

Based on the above review, this waste stream contains RCRA regulated constituents and is assigned EPA HWNs F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D037, and D043.

Discrepancy Resolved: [X] Yes [ ] No

Acceptable Knowledge Expert: Michael J. Papp / S Papp Date: 5/21/2009
Print Sign

Site Project Manager: S.M. Peterman / [signature] Date: 5/26/09
Print Sign

[a] Published Document or Controlled Database (Pub.); Unpublished Data (Unpub.); Internal Procedure or Note (Proc.); Correspondence (Corr.); or Discrepancy (Disc.)

PROHIBITED WASTE REPORT

1. Originator: Catherine H. Smith	Date: 08/18/2003	PWR #: PWR-03-0804 Container ID#: See attached list.

2. Prohibited waste:

The 77 containers on the attached list have EPA HWN D003 (reactive) applied in the Facility and Waste Operations (FWO) TRU Waste Management database. Reactive waste is not eligible for disposal at WIPP.

The listed containers predate LANL's Waste Profile Form system; and the waste generators did apparently not apply the D003 code. The basis for applying the D003 code to the containers must be investigated, and Project 2010 acceptable knowledge experts must evaluate the validity of the D003 code assignment.

3. Activity:	Hold Tag Placed on Container?	NPCI
☐ NDA ☐ RTR ☐ VE ☐ Repackaging ☐ GGT ☐ OSR ☐ TA-55 ☐ CMR ☐ HGAS ☐ Other (Describe): AK	☐ No X Yes Hold tags on: S793748, S793757, S814956, S911828	☐ Full ☐ Item(s) X N/A

4. Signature (originator): C H Smith	Date: 08/18/03

5. Signature (Site Project QA Officer):	Date: 8/19/03	Is a PWR necessary? ☒ Yes ☐ No Is an NCR necessary? ☐ Yes ☒ No Is a CAR required? ☐ Yes ☒ No

6. Disposition: ☐ Remediate ☒ Other Date:

Assign to Ak export for further investigation.

Person or operation assigned corrective action: C. Smith

Signature (Site Project Manager): 8/19/03

7. Disposition Accomplished: ☐ Disposition from Block 6 ☐ Other (describe) Date:

Signature (operations leader or person assigned corrective action):

8. Disposition Approval: Date:

Signature (Site Project Manager):

9. Site Project QA Officer Verification and Signature: Date:

Signature (Site Project QA Officer):

Comments:

COPY

RECEIVED AUG 19

Disposition for PWR-03-0804

Catherine Smith and Greg Bayhurst (RRES-CE) contacted Julie Minton-Hughes (Nuclear Operations Team Leader, FWO-SWO) on August 18, 2003. Julie had no personal knowledge of the rationale for applying the D003 code to the listed containers, and suspected that Juan Corpion assigned the codes in 1992 as a result of a short acceptable knowledge investigation (see TWCP-0813, attached). The FWO database describes the D003 code as "Reactive Propellant", which is interpreted to mean that aerosol cans and/or pressurized containers were thought to be present. Copies of the original generator forms (attached) provided by Julie Minton-Hughes have been reviewed by Catherine Smith and do not indicate the presence of aerosol cans or pressurized containers.

This is the AK you have

Further investigation shows that of the 77 containers listed on PWR-03-0804, 29 containers underwent RTR characterization prior to implementation of the WIPP WAP, and 1 container has undergone WAP-compliant RTR characterization. Of the 30 containers that have undergone RTR, 26 containers (87%) have open Prohibited Waste Reports (PWRs) for pressurized containers and/or aerosol cans. There are also 60 containers that are not included on the PWR-03-0804 container list that have open PWRs for pressurized containers and/or aerosol cans identified by RTR.

LANL Project 2010 quality assurance procedures require that containers with pre-WAP RTR data be re-examined by RTR to verify the presence of prohibited items. Containers with open PWRs for pressurized containers (or any other prohibited item) must be remediated and the PWR must be closed prior to certification for transportation to WIPP.

LANL Project 2010 quality assurance procedures are adequate to ensure that no waste container with pressurized containers will be certified for shipment to WIPP. If the presence of a pressurized container is identified through RTR or VE, a PWR will be issued at that time. The container will not be certified for transportation to WIPP until the pressurized container has been remediated to remove the reactivity characteristic.

Summary

- The acceptable knowledge basis for applying D003 to individual containers remains ~~unknown~~ sketchy, i.e., ... not matching generator records.

Not true - the AK basis is "Reactive Propellant interpreted to mean aerosol cans + pressurized containers

- The presence or absence of the D003 code in the FWO database is insufficient to identify prohibited items. Project 2010 characterization data indicates that a large percentage of the D003 containers do contain pressurized containers; however, there are many other containers that do not have D003 assigned that are found by RTR to contain pressurized containers.

- It is not necessary to add the D003 code to any of the LANL TRU waste streams. Prior to certification for shipment to WIPP, containers will be remediated for pressurized containers and aerosol cans identified by WAP-compliant RTR or VE, so that the D003 code is not applicable.

PROHIBITED WASTE REPORT

[1] Originator: Catherine H. Smith	Date: 08/18/2003	PWR #: PWR-03-0804 Container ID#: See attached list.

[2] Prohibited waste:

The 77 containers on the attached list have EPA HWN D003 (reactive) applied in the Facility and Waste Operations (FWO) TRU Waste Management database. Reactive waste is not eligible for disposal at WIPP.

The listed containers predate LANL's Waste Profile Form system; and the waste generators did apparently not apply the D003 code. The basis for applying the D003 code to the containers must be investigated, and Project 2010 acceptable knowledge experts must evaluate the validity of the D003 code assignment.

[3] Activity:	Hold Tag Placed on Container?	NPCI
☐ NDA ☐ RTR ☐ VE ☐ Repackaging ☐ GGT ☐ OSR ☐ TA-55 ☐ CMR ☐ HGAS ☐ Other (Describe): AK	☐ No X Yes Hold tags on: S793748, S793757, S814956, S911828	☐ Full ☐ Item(s) X N/A

[4] Signature (originator): C H Smith — Date: 08/18/03

[5] Signature (Site Project QA Officer):	Date: 8/19/03	Is a PWR necessary? ☒ Yes ☐ No Is an NCR necessary? ☐ Yes ☐ No Is a CAR required? ☐ Yes ☐ No

[6] Disposition: ☐ Remediate ☒ Other — Date:

Assign to Ak expert for further investigation.

Person or operation assigned corrective action: C. Smith

Signature (Site Project Manager): [signature] 8/19/03

[7] Disposition Accomplished: ☐ Disposition from Block 6 ☐ Other (describe) Date:

Signature (operations leader or person assigned corrective action):

[8] Disposition Approval: Date:

Signature (Site Project Manager):

[9] Site Project QA Officer Verification and Signature: Date:

Signature (Site Project QA Officer):

Comments:

D003 (Reactive) Container List

EPA_CD	HNAME	PKG_ID	Container_ID	AK_Waste_Stream	Cert_Waste_Stream
D003	REACTIVE PROPELLANT	S873058	S873058	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S871142	S871142	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S880555	S880555	LA-MHD02-238	LA-MHD02-238
D003	REACTIVE PROPELLANT	S911828	S911828	LA-MHD02-238	LA-MHD02-238
D003	REACTIVE PROPELLANT	S802858	S802858	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S816797	S816797	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S816383	S816383	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S801219	S801219	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S802712	S802712	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S793757	S793757	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S802671	S802671	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S860030	S860030	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S862347	S862347	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S864675	S864675	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S810650	S810650	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S802933	S802933	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S880062	S880062	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S817373	S817373	LA-MIN03-NC	LA-MIN03-NC
D003	REACTIVE PROPELLANT	S814223	S814223	LA-MIN03-NC	LA-MIN03-NC
D003	REACTIVE PROPELANT	S873067	S873067	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S802710	S802710	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S792740	S792740	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE REPELLANT	S792742	S792742	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE REPELLANT	S793748	S793748	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S801218	S801218	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S802658	S802658	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE REPELLANT	S802672	S802672	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE REPELLANT	S802725	S802725	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE REPELLANT	S802745	S802745	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE REPELLANT	S802752	S802752	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE REPELLANT	S802839	S802839	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S803014	S803014	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S803100	S803100	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S803163	S803163	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S803185	S803185	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE REPELLANT	S803199	S803199	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S804918	S804918	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S804955	S804955	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S805266	S805266	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S811728	S811728	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S811870	S811870	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S813293	S813293	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S813340	S813340	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S813402	S813402	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S813426	S813426	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S813460	S813460	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S813489	S813489	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S813571	S813571	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S813879	S813879	LA-MHD05-ITRI	LA-MHD05-ITRI
D003	REACTIVE PROPELLANT	S813885	S813885	LA-MHD05-ITRI	LA-MHD05-ITRI
D003	REACTIVE PROPELLANT	S813888	S813888	LA-MHD05-ITRI	LA-MHD05-ITRI
D003	REACTIVE PROPELLANT	S813892	S813892	LA-MHD05-ITRI	LA-MHD05-ITRI

D003 (Reactive) Container List

D003	REACTIVE PROPELLANT	S813897	S813897	LA-MHD05-ITRI	LA-MHD05-ITRI
D003	REACTIVE PROPELLANT	S814888	S814888	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S814910	S814910	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S814956	S814956	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S815147	S815147	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S815177	S815177	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S815277	S815277	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S815279	S815279	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S816318	S816318	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S816486	S816486	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S816719	S816719	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S816791	S816791	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S816801	S816801	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S816866	S816866	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S817482	S817482	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S818265	S818265	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE REPELLANT	S818282	S818282	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S818410	S818410	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S861411	S861411	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S863123	S863123	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S864366	S864366	LA-TA-55-19	LA-TA-55-19
D003	REACTIVE PROPELLANT	S870396	S870396	LA-MHD02-238	LA-MHD02-238
D003	REACTIVE PROPELLANT	S870457	S870457	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S872086	S872086	LA-TA-55-30	LA-TA-55-30
D003	REACTIVE PROPELLANT	S873065	S873065	LA-TA-55-30	LA-TA-55-30

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records/Records Custodian, 4021 National Parks Highway - MS GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523.
Fax Number: 505-234-7914

☒ Original Record
☐ Faxed Record
☐ Electronic Record

Attn:	Records Custodian	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-004
	4021 National Parks Highway - MS GSA 203	Company:	Technical Specialists, LLC
	Carlsbad, NM 88220	Telephone Number:	505-302-8669
		Date Sent:	5/28/2009

Telephone Number: 505-234-7523

Document Number	Title/Description	Record Date	Total Pages
DR010	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-004	5/26/2009	3
NA	Acceptable Knowledge Source Document Discrepancy Resolution - EPA Hazardous Waste Number Discrepancy Resolution for Waste Stream LA-MHD09.001	5/26/2009	9

Comments
None

Acceptance/Rejection Signature and Date

Records Accepted ☑ Sonia Gonzalez (Signature) SONIA GONZALEZ (Printed Name) 06:04:09 (Date)

Records Rejected ☐ _____ (Signature) _____ (Printed Name) _____ (Date)

Reason for Rejection: N/A

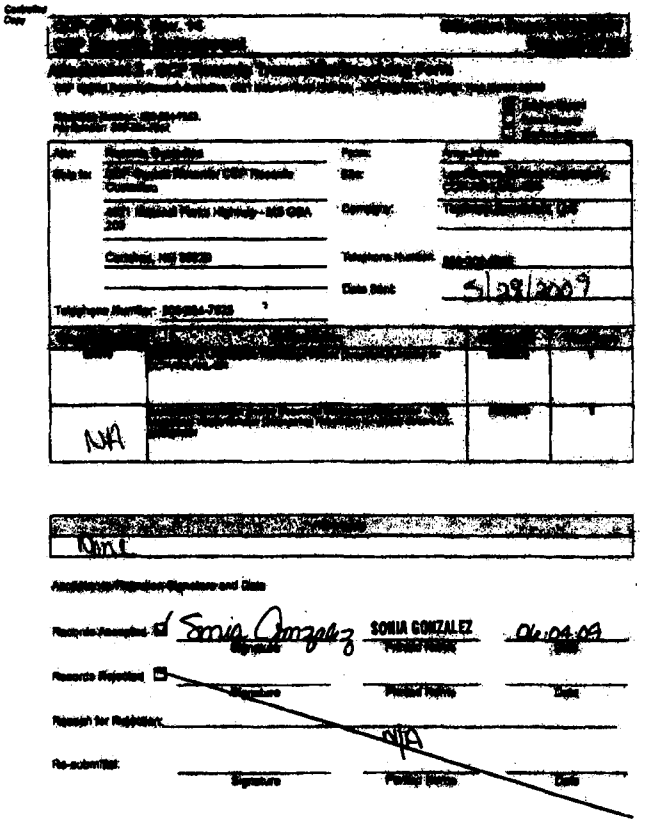
Re-submittal: _____ (Signature) _____ (Printed Name) _____ (Date)

HP Color LaserJet *CM2320nf MFP*

Fax Confirmation Report

CCP RECORDS
5752347033
Jul-15-2009 10:25AM

Job	Date	Time	Type	Identification	Duration	Pages	Result
2079	7/15/2009	10:24:01AM	Send	96283238	0:59	1	OK



Best Available Copy

AK15

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-MHD09.001

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: DR014
Acceptable Knowledge Documentation Type: ✔ TRU Waste Management Program Information ✔ Waste Stream-Specific Information Additional Information	Category: C - Correspondence D - Documents M - Miscellaneous P - Procedures ✔ DR - Discrepancy Resolution U - Unpublished Documents

Title of Source Document: Removal of Drum No. 86669 from debris waste stream (Over 50% homogeneous material)

Source Document Reference Information (author(s), document and revision number, date, publisher): Randy Fitzgerald, NA, Rev. NA, 09/22/2010, P2010-3009

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR6, WS1, WS3	Throughout	Based on the AK collected for waste stream LA-MHD09.001 containers, the waste stream is comprised of greater than 50 percent of mixed heterogeneous debris. Although the waste stream, as a whole, is comprised of more than 50 percent heterogeneous debris, any drum may include nearly any percentage of the waste material parameters listed in the report, except that no individual drum will contain greater than 50 percent of homogeneous waste. RTR identified one (1) drum with greater than 50 percent homogeneous waste in this heterogeneous debris waste stream, i.e., Drum No. 86669 (Parent Drum No. S804517) [NCR-LANL-0674-10, R.O]. Because the waste observed by RTR in this drum did not match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MHD09.001 heterogeneous debris), an NCR was written for this drums in accordance with CCP-TP-053, Section 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure. Resolution: [Drum No. 86669 has removed from Waste Stream IA-MHD09.001].

Source Document Data Limitations (if any):

1. None.

Acceptable Knowlege Expert:

Amy Johns Amy Johns Date: 4/19/11
Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

BEST AVAILABLE COPY

Attachment 11 – Acceptable Knowledge Source Document Discrepancy Resolution P2010 - 3009

Waste Stream Number(s): LA-MHD09.001 (AK4)

Waste Stream Description: Heterogeneous debris

AK Documentation Type: [X] TRU Waste Management Program Information [X] Waste Stream Specific Information [X] Supplemental Information							
AK Source Document Discrepancy Form Tracking Number: **AK4 DR014** – Removal of Drum No. 86669 from debris waste stream (Over 50% homogeneous material)							
Tracking #	Category[a]	Title	Document/Rev#	Author	Date	Publisher	Page #
------	Pub.	CCP AK Summary Report for LANL TA-50 Mixed TRU Waste	CCP-AK-LANL-004, Rev. 9	L. Porter	8/26/2009	CCP	119 - 130
------	Unpub.	NCR	NCR-LANL-0674-10, R.0	E. Lyles	7/30/2010	CCP	All
------	Unpub.	CCP Radiography Data Sheets for Drum No. 86669	LA-RTR2-10-0094, Rev. 0	E. Lyles	7/30/2010	CCP	69 - 71
M227	Unpub.	Radioactive Solid Waste Disposal (RSWD) form for Drum No. S804517 (parent drum for Drum No. 86669)	N/A	L. Williams	9/22/1980	LANL	All

Nature of Discrepancy:

Based on the AK collected for waste stream LA-MHD09.001 containers, the waste stream is comprised of greater than 50 percent of mixed heterogeneous debris. Although the waste stream, as a whole, is comprised of more than 50 percent heterogeneous debris, any drum may include nearly any percentage of the waste material parameters listed in the report, except that no individual drum will contain greater than 50 percent of homogeneous waste.

RTR identified one (1) drum with greater than 50 percent homogeneous waste in this heterogeneous debris waste stream, *i.e.*, Drum No. 86669 (Parent Drum No. S804517) [NCR-LANL-0674-10, R.0]. Because the waste observed by RTR in this drum did **not** match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MHD09.001 (heterogeneous debris), an NCR was written for this drums in accordance with CCP-TP-053, Section 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure.

Resolution:

[Drum No. 86669 has removed from Waste Stream LA-MHD09.001]

The Radioactive Storage Waste Disposal (RSWD) form for Drum No. S804517 (parent drum to Drum No. 86669) indicated that Waste Code A55 (Filter Media) was assigned by the generator. However, RTR confirmed that this drum contains waste that is "greater than 50% homogeneous material" (see attached RTR Data Sheets). Accordingly, Drum No. 86669 has been removed from Waste Stream LA-MHD09.001 (heterogeneous debris) and will be re-assigned to an appropriate waste stream.

With the removal of this drum from Waste Stream LA-MHD09.001 (heterogeneous debris), the physical, chemical, and radiological characterization of the remaining containers in the waste stream is consistent with the waste stream description in CCP-AK-LANL-4.

Discrepancy Resolved: [X] Yes [ ] No

Acceptable Knowledge Expert: Randy Fitzgerald / _____ Date: 9/20/2010
Print Sign

Site Project Manager: Sue Peterman / _____ Date: 9/22/10
Print Sign

[a] Published Document or Controlled Database (Pub.); Unpublished Data (Unpub.); Internal Procedure or Note (Proc.); Correspondence (Corr.); or Discrepancy (Disc.)

Attachment 10 – Acceptable Knowledge Re-evaluation Checklist

P2010 - 3009

Site(s): Los Alamos National Laboratory (LANL)
Waste Stream Number(s): LA-MHD09.001 (AK4)
Waste Stream Description: Heterogeneous Debris
NCR numbers(s) if applicable: NCR-LANL-0674-10, R0
Inconsistency between waste characterization and acceptable knowledge information (describe): Real-Time Radiography (RTR) identified one (1) drum with greater than 50 percent homogeneous waste in this heterogeneous debris waste stream, *i.e.*, Drum No. 86669 (parent Drum No. S804517) [NCR-LANL-0674-10, R.0]. Because the waste observed by RTR in this drums did **not** match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MHD09.001 (heterogeneous debris), an was written for these drums in accordance with CCP-TP-053, Section 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure.

Requirements	Completed? Yes/No	Supporting Documentation [a]
Review existing information based on the container identification number and document all differences in EPA Hazardous Waste Number assignments. [c]	No	Drum not re-assigned at this time. See AK4 DR014.
If differences exist in the EPA Hazardous Waste Numbers that were assigned, reassess and document all required AK information associated with the new designation. [b,c]	No	Drum not re-assigned at this time. See AK4 DR014.
Reassess and document all sampling and analytical data associated with the waste. [c]	Yes	RTR Data Sheets for Drum Nos. 86669; Radioactive Solid Waste Disposal (RSWD) form for Drum No. S804517 (parent drum to Drum No. 86669). Drum not reassigned at this time. See AK4 DR014.
Verify and document that the reassigned Waste Matrix Code was generated within the specified time period, area and buildings, waste generating process, and that the process material inputs are consistent with the waste material parameters identified during RTR or VE.	No.	Drum No. S804517 (parent drum to Drum No. 84415) was assigned to waste stream LA-MHD09.001, which was assigned waste matrix code S5400, defined as predominately heterogeneous debris waste. Since RTR identified the waste is greater than 50% homogeneous material, which is not consistent with waste matrix code S5400 or summary category group S5000, this drum will be re-assigned to an appropriate waste stream. Drum not re-assigned at this time. See AK4 DR014.
If NDA results indicate the presence of additional or different radionuclides in the waste, reassess and document AK and characterization information associated with the new information. [c]	No	N/A – Radionuclides are not discrepant.
Record all changes to the AK records on the appropriate Attachments and resubmit to the CCP Facility Records Custodian.	Yes	Drum No. 86669 will be removed from the LANL AK4 Attachment 8, Waste Containers List for waste stream LA-MHD09.001. Drum not re-assigned at this time. See AK4 DR014.

CCP-TP-005, Rev. 19
CCP Acceptable Knowledge Documentation

Requirements	Completed? Yes/No	Supporting Documentation [a]
If unresolved discrepancies exist in the AK information for the reassigned Waste Matrix Code, EPA Hazardous Waste Numbers, or radionuclides, document the segregation of this container, and define the actions necessary to fully characterize the waste.	Yes	No unresolved discrepancies. Drum not re-assigned at this time. See AK4 DR014.

a. Cite the source document, nonconformance report number, attachment, or other documentation used to support a change or no change.
b. If a toxicity characteristic contaminant is identified, it is not included as a listed waste, and analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Number is applied.
c. Not applicable for LANL sealed source waste stream.

Acceptable Knowledge Expert: RFitz Date: 9/20/2010

Randy Fitzgerald
Print

Sign

Site Project Manager: Sue Peterman Date: 9/22/10

Sue Peterman
Print

Sign

Attachment 2 – CCP Radiography Data Sheet

Section 1: General Information	
☑ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID and Location:	LANL
Batch Number:	LA-RTR2-10-0094
Examination Date:	07/30/2010
Waste Container ID:	86669
Video/Audio Recorded Media Number:	LA-RTR2-10-0094 A
Procedure and Revision No.:	CCP-TP-053 Rev. 8
NCR(s) associated with the container? (e.g., Prohibited Items)	☐ NO ☑ YES NCR No.: NCR-LANL-0674-10 NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt: 187.1 kg. Tare Wt: 31.4 kg. Net Wt: 155.7 kg.
Rigid Liner and Liner Vent Description: (e.g., "90 mil liner – NO Lid" or "NO Liner")	Fiberboard Liner - No Liner Lid
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 86669

Section 3: Container Inventory and Comments (Detailed descriptions)
Plastic bags, horsetail, liner lid Solidified material (Sludge)

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.0
Others: Fiberboard (C)	3.7
Total Packaging Weight:	31.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI):	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	153.7
Soils (S):	
Total WMP Weight:	155.7

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 86669

Section 5: RTR Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No	N/A
Is there observable liquid in the container?	☐	☑	
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☑	☐
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑	☐
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐	☑	
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑	
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑	
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐	☑	
Is there an indication of wastes containing explosives or compressed gases?	☐	☑	
Is there an indication of polychlorinated biphenyls (PCBs) liquids?	☐	☑	
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003)?	☐	☑	
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☑	☐	
TRUPACT II Criteria			
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste?	☐	☑	
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑	
Are there sealed containers GREATER than 4 liters?	☐	☑	
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑	

Comments:

NCR-LANL-0674-10: This drum is assigned to waste stream LA-MHD09.001 and waste matrix code of S5400. RTR examination of this drum revealed the waste is >50% homogeneous material. This does not meet the assigned Waste Matrix Code.

RTR Operator:

Eric Lyles	Lyles	07/30/2010
Print Name	Signature	Date

LASL RADIOACTIVE SOLID WASTE DISPOSAL RECORD FORM

1. FORM NUMBER: S 8 0 4517

2. DATE (M M D D Y Y)	3. RETRIEVABLE SERIAL NO.	4. ORIGIN OF WASTE: GROUP	TA	BLDG.	WING	ROOM	5. WASTE CODE
0 9 2 2 8 0	2 0 8 2 8 0	H-7	50	1		1 1 6	A 5 5

6. WASTE DESCRIPTION: F I L T E R M E D I A

7. NUMBERS OF WASTE PACKAGES: PLASTIC BAGS	CARD-BOARD BOXES	DRUMS NO.	DRUMS GAL.	WOODEN CRATES NO.	WOODEN CRATES VOLUME - ft³	8. GROSS VOLUME (M = METER³, F = FEET³, G = GALLON)	UNITS	9. PACKAGE RADIATION AT: SURFACE MR/HR	1 METER MR/HR
		1	55			550	G	24	0

10. GROSS WEIGHT	UNITS (K = KILOGRAM, P = POUND, T = TON)	11. ADDITIONAL DESCRIPTION OF PACKAGING AND PACKAGING MATERIALS
1,8 1 9 4 5	G	55 gl Lined Steel drum

12. RADIONUCLIDE CONTENT: NUCLIDE	AMOUNT	±	UNITS (C = CURIE, M = GRAM)	ERROR ON AMOUNT	±	AMOUNT DETERMINED BY: (A = ANALYSIS, M = MEASUREMENT, E = ESTIMATE)	SS MATERIALS WRITEOFF: ACCOUNT	PROJECT CODE
Pu238	1.9.05	E -3	C		E	E		
Pu239	7.8.5.7	E -3	C		E	E		
Am241	2.8.5.7	E -2	C		E	E		
		E			E			

S D Williams
WASTE GENERATOR
Signature certifies that waste is in accordance with all applicable disposal requirements

H-1 AREA REPRESENTATIVE
Signature certifies that waste package or shipment is safe to handle and transport.

GROUP LEADER (AS NECESSARY)

13. DATE DISPOSED (M M D D Y Y)	14. DISPOSAL/STORAGE LOCATION: AREA	SHAFT	PIT	POST(S)	LAYER	POS.	15. SHAFT SURFACE DOSE MR/HR
1 2 0 2 8 0	Y		P1	14-15	1	W	

10-79

H-7 WASTE MANAGEMENT REPRESENTATIVE

Attachment 1 – CCP Nonconformance Report (NCR)

NCR No. NCR-LANL- 0674 -10 Revision 0

1. Lot No./Heat No. or Serial No. (as applicable): N/A	2. Process (e.g., NDA, HSG, NDE, VE, Other): NDE	3. Batch Data Report # (s): LA-RTR2-10-0094
4. Order/Work Order/Job Control Number (as applicable): N/A	5. PO # (as applicable): N/A	Container #(s): 86669
	6. Supplier (as applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7. (a) CCP HOLD TAGS SHALL BE APPLIED UNLESS JUSTIFIED AS FOLLOWS:
N/A

7. (b) NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ >500 ppmv Flamm. VOCs
☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS ☑ Other

7. (c) Description of Nonconformance Required Condition (Implementing Procedure, Revision, Section, & Text):

CCP-TP-053, Revision 8:
4.4.3 [H.2] IF the waste form DOES NOT match the Waste Stream description and/or the Waste Matrix Code, THEN initiate an NCR in accordance with CCP-QP-005, AND record NCR number in Section 1 of Attachment 2."

7. (d) Actual Condition

This drum is assigned to waste stream LA-MHD09.001 and waste matrix code of S5400. RTR examination of this drum revealed the waste is >50% homogeneous material. This does not meet the assigned Waste Matrix Code.

8. NCR Originator (Print name, sign, and date) Eric Lyles 7/30/10	9. CCP QA Engineer or Designee Validation (Print name, sign, and date) Carol Torres 8/9/10

9a. Does this NCR have the potential to impact AK? ☑ YES ☐ NO ☐ INDETERMINATE
If YES or INDETERMINATE, then apply Trend Code L in Block 12.

9b. Have the CCP HOLD TAGS associated with the NCR been applied? ☑ YES ☐ NO ☐ N/A

10. Significant Condition? ☐ YES ☑ NO ☐ N/A	11. Recurring Condition? ☐ YES ☑ NO (If YES, List NCRs/CARs)
12. Trend Code: L	13. Responsible Manager: Joe TENDRICH 8/9/10 JT.

Attachment 1 – CCP Nonconformance Report (NCR)

NCR No. NCR-LANL- 0674 -10 Revision 0

INTERIM DISPOSITION

14. Interim Disposition (Check One)

☐ N/A (See Final Disposition) ☑ Hold ☐ Conditional Accept ☐ Conditional Use

☐ Sort ☐ Reinspect/Retest ☐ Remediate

(a) Instructions for Completion of the Interim Disposition:

1. Responsible Manager send this NCR to the AK Expert for re-evaluation in accordance with CCP-TP-005.

2. AK Expert perform the AK re-evaluation and include a copy of documented results as an attachment to this NCR.

3. Determine Final Disposition (block 19) based on these results.

AKE RESPONSE: AK RE-EVALUATION COMPLETED, SEE ATTACHMENT 1. JR7 9/20/10

INTERIM DISPOSITION APPROVALS

15. Responsible Manager/Individual (Print, sign, and date)	16. CCP QA Engineer or Designee (Print, sign and date)
JOE TENORIO Joe Tenorio 8/9/10	Carol Torres Carol Torres 8/9/10
Additional Approvals: (Print, sign and date)	Additional Approvals: (Print, sign and date)

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete Responsible Manager/Individual: (Print, sign and date)

18. Interim Disposition Verified CCP QA Engineer: (Print, sign and date)

Attachment 1 – CCP Nonconformance Report (NCR)

NCR No. NCR-LANL- 0674 -10 Revision 0

FINAL DISPOSITION

19. Final Disposition (Check One)
☐ Use-As-Is ☐ Reject ☐ Repair ☐ Rework ☐ Scrap

(a) Technical Justification (Required for Use-As-Is and Repair dispositions, N/A for Reject, Scrap, or Rework dispositions.)

(b) Disposition Instructions (Required for Reject and Scrap, N/A for Use-As-Is, Rework, and Repair)

(c) Instructions for Completion of the Final Disposition, including Inspection Criteria (Required for Repair and Rework, N/A for Use-As-Is, Reject and Scrap)

(d) Corrective Actions (Actions to Prevent Recurrence) - as required, N/A if left blank.

FINAL DISPOSITION APPROVALS

20. Responsible Manager/Individual: (Print, sign, and date)	21. CCP QA Engineer or Designee: (Print, sign, and date)
Additional Approvals: (Print, sign, and date)	Additional Approvals: (Print, sign, and date)

CLOSURE

22. Final Disposition Complete Responsible Manager/Individual: (Print, sign, and date)

23. Attachments:

24. (a) HOLD TAG removal has been validated and reconciled for all nonconforming items on the NCR. ☐
(b) Check if not applicable (N/A) and provide an explanation here or on a continuation sheet. ☐

25. Final Disposition Verified – NCR Closed CCP QA Engineer: (Print, sign, and date)

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: DR020
Waste Stream Number(s): LA-MHD09.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Additional Information	Category: ☐ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☑ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]: Removal of Two Homogeneous Containers (91988, 91989) from Debri Waste Stream LA-MHD09.001	
Source Document Reference Information (author(s), document and revision number, date, publisher): Randy Fitzgerald, NA, Rev. NA, 03/13/2013, P2010-3411	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR6, WS1, WS3	Throughout	Based on the AK collected for waste stream LA-MHD09.001 containers, the waste stream is comprised of greater than 50 percent of heterogeneous debris waste. Although the waste stream, as a whole, is comprised of more than 50 percent debris, any drum may include nearly any percentage of the waste material parameters listed in Section 7.4.1.2, except that no individual container will contain greater than 50 percent homogeneous solids. RTR identified two (2) containers, i.e., 91988, 91989 with greater than 50 percent homogeneous material. Because the waste observed by RTR in these containers did not match the Waste Matrix Code and/or the Waste Stream Description for waste stream LA-MHD09.001, an NCR (NCR-LANL-1586-12, R.0) was written on these containers in accordance with CCP-TP-053, Sec. 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure. Containers 91988 and 91989 have been removed from waste stream LA-MHD09.001

NTPC RECORDS ORIGINAL
DATE REC'D 6/19/13

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: DR020

Source Document Data Limitations (if any):

1. None.

Acceptable Knowlege Expert:

Amy Johns , Amy Johns Date: 3/13/2013
Print /Sign

[a] Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
[b] Obtain from Acceptable Knowledge Documentation Checklist
[c] For microfilm or microfiche, identify box, tape, reel number and location.

Attachment 11 – Acceptable Knowledge Source Document Discrepancy Resolution

P2010 - 3411
Page 1 of 2

Waste Stream Number(s): LA-MHD09.001 (CCP-AK-LANL-004)

Waste Stream Description: Heterogeneous Debris

AK Source Document Discrepancy Form Tracking Number: DR020 – Removal of Two Homogeneous Containers (91998, 91989) from Debris Waste Stream LA-MHD09.001

Tracking #	Category[a]	Title	Document/Rev#	Author	Date	Publisher	Page #
N/A	Pub.	CCP AK Summary Report for LANL TA-50 Mixed TRU Waste	CCP-AK-LANL-004, Rev. 10	M. Pearcy	11/28/2011	CCP	122 - 134
N/A	Unpub	CCP Non-Conformance Report	NCR-LANL-1586-12, R.0	T. Groover	9/6/2012	CCP	All
NA	Unpub.	RTR Data Sheets for 91988, 91989 from LA-RTR2-12-0103	LA-RTR2-12-0103, R.0	T. Hasselstrom	9/6/2012	CCP	19 - 21
AK4 M026	Unpub.	Radioactive Solid Waste Disposal Form for S825085 (Parent to 91988, 91989)	NA	L. Williams	11/22/1982	LANL	All

Nature of Discrepancy: Based on the AK collected for waste stream LA-MHD09.001 containers, the waste stream is comprised of greater than 50 percent of heterogeneous debris waste. Although the waste stream, as a whole, is comprised of more than 50 percent debris, any drum may include nearly any percentage of the waste material parameters listed in Section 7.4.1.2, except that no individual container will contain greater than 50 percent homogeneous solids. RTR identified two (2) containers, i.e., 91988, 91989 with greater than 50 percent homogeneous material. Because the waste observed by RTR in these containers did not match the Waste Matrix Code and/or the Waste Stream Description for waste stream LA-MHD09.001, an NCR (NCR-LANL-1586-12, R.0) was written on these containers in accordance with CCP-TP-053, Sec. 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure.

Resolution: [Containers 91988 and 91989 have been removed from waste stream LA-MHD09.001]

Because the waste observed by RTR in this container did **not** match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MHD09.001, these two containers will be removed from waste stream LA-MHD09.001; and will be re-evaluated and re-assigned to the appropriate S3000 waste stream.

With the removal of these containers from waste stream LA-MHD09.001, the physical, chemical, and radiological characterization of the remaining containers in the waste stream is consistent with the waste stream description in CCP-AK-LANL-004.

Attachment 11 -- Acceptable Knowledge Source Document Discrepancy Resolution

P2010 - 3411
Page 2 of 2

Waste Stream Number(s): LA-MHD09.001 (CCP-AK-LANL-004)

Waste Stream Description: Heterogeneous debris

Discrepancy Resolved:	[X] Yes [ ] No		
Acceptable Knowledge Expert:	Randy Fitzgerald Print	Amy Johnson for R. Fitzgerald Sign	Date: 2/28/2013
Site Project Manager:	Terri-Anne Groover Print	Terri-Anne Groover Sign	Date: 3/13/13

*Published Document or Controlled Database (Pub.); Unpublished Data (Unpub.); Internal Procedure or Note (Proc.); Correspondence (Corr.) or Discrepancy (Disc.)

Attachment 10 – Acceptable Knowledge Re-evaluation Checklist

P2010 - 3411
Page 1 of 2

Site(s): Los Alamos National Laboratory (LANL)
Waste Stream Number(s): LA-MHD09.001 (CCP-AK-LANL-004)
Waste Stream Description: Heterogeneous Debris Waste
NCR numbers(s) if applicable: NCR-LANL-1586-12, R.0 (91988, 91989)
Inconsistency between waste characterization and acceptable knowledge information (describe): Based on the AK collected for waste stream LA-MHD09.001 containers, the waste stream is comprised of greater than 50 percent of heterogeneous debris waste. Although the waste stream, as a whole, is comprised of more than 50 percent debris, any drum may include nearly any percentage of the waste material parameters listed in Table 7.4.1.2, except that no individual container will contain greater than 50 percent homogeneous solids. RTR identified two (2) containers, i.e., 91988, 91989 with greater than 50 percent homogeneous material. Because the waste observed by RTR in these containers did not match the Waste Matrix Code and/or the Waste Stream Description for waste stream LA-MHD09.001, an NCR (NCR-LANL-1586-12, R.0) was written on these containers in accordance with CCP-TP-053, Sec. 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure.

Requirements	Completed? Yes/No	Additional Documentation [a]
Review existing information based on the container identification number and document all differences in EPA Hazardous Waste Number assignments. [c]	N/A	EPA hazardous waste numbers are not discrepant.
If differences exist in the EPA Hazardous Waste Numbers that were assigned, reassess and document all required AK information associated with the new designation. [b,c]	N/A	EPA hazardous waste numbers are not discrepant.
Reassess and document all sampling and analytical data associated with the waste. [c]	Yes	See RTR Data Sheets for 91988 and 91989 and DR020; Drums were NOT reevaluated at this time.
Verify and document that the reassigned Waste Matrix Code was generated within the specified time period, area and buildings, waste generating process, and that the process material inputs are consistent with the waste material parameters identified during RTR or VE.	Yes	Drum nos. 91988 and 91989 were originally assigned to debris waste stream LA-MHD09.001. RTR identified the drums as containing greater than 50% homogeneous waste. Consequently, these drums were removed from the waste stream. See DR020. Drums were NOT re-evaluated at this time.
If NDA results indicate the presence of additional or different radionuclides in the waste, reassess and document AK and characterization information associated with the new information. [c]	N/A	N/A – Radionuclides are not discrepant.
Record all changes to the AK records on the appropriate Attachments and resubmit to the CCP Facility Records Custodian.	Yes	Drum nos. 91988 and 91989 have been removed from waste stream LA-MHD09.001 and the associated Attachment 8, List of Containers will be updated. Drums will be re-evaluated and re-assigned to the appropriate S3000 waste stream. See DR020
If unresolved discrepancies exist in the AK information for the reassigned Waste Matrix Code, EPA Hazardous Waste Numbers, or radionuclides, document the segregation of this container, and define the actions necessary to fully characterize the waste.	N/A	No unresolved discrepancies.

a. Cite the source document, nonconformance report number, attachment, or other documentation used to support a change or no change.
b. If a toxicity characteristic contaminant is identified, it is not included as a listed waste, and analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Number is applied.
c. Not applicable for LANL sealed source waste stream.

Attachment 10 – Acceptable Knowledge Re-evaluation Checklist

Acceptable Knowledge Expert:

Randy Fitzgerald — Amy Johns for R. Fitzgerald — Date: 2/28/2013
Print — Sign

Site Project Manager:

Terri Groover — for - Am Broom — Date: 3/13/13
Print — Sign

CCP Radiography Data Sheet

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-12-0103	
Examination Date:	8/30/2012	
Waste Container ID:	91988	
Video/Audio Recorded Media Number:	LA-RTR2-12-0103	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. . 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[ ] No [X] Yes NCR No.: ~~NCR-LANL-1585-12~~ 7/11 9-6-12 NCR-LANL-1586-12 7/11 9-6-12 NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 120.0 kg Tare Wt.: 33.4 kg Net Wt.: 86.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 3 layers
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

Waste Container ID: 91988

Section 3: Container Inventory and Comments	Detailed description
IM:	Valve, scrap metal
AM:	
OM:	
OI:	
C:	Tape roll
R:	Rubber glove
XPM:	90 mil liner lid, plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	20.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	0.1
Rubber (R):	1.0
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	61.5
Soils (S):	
Total WMP Weight:	86.6

CCP Radiography Data Sheet

Waste Container ID: 91988

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☒ Yes ☐ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: ~~NCR-LANL-1585-12.~~ TJH 9-6-12 NCR-LANL-1586-12 TJH 9-6-12

RTR Operator:	Thad Hasselstrom 9-6-12	
Thad Hasselstrom	Thad Hasselstrom	8/30/2012
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-12-0103
Examination Date:	8/30/2012
Waste Container ID:	91989
Video/Audio Recorded Media Number:	LA-RTR2-12-0103 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[ ] No [X] Yes NCR No.: ~~NCR-LANL-1585-12~~ NCR-LANL-1586-12 NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 92.0 kg Tare Wt.: 33.4 kg Net Wt.: 58.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	55 %

CCP Radiography Data Sheet

Waste Container ID: 91989

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	Broken glass
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	0.5
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	52.0
Soils (S):	
Total WMP Weight:	58.6

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 91989

Section 5: RTR Summary (Questions answered "Yes" shall be explained in the Comments block or attached as necessary.)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☒ Yes ☐ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: ~~NCR-LANL-1585-12~~ TJH 9-6-12 NCR-LANL-1586-12 TJH 9-6-12	

RTR Operator:		
Thad Hasselstrom	Thad Hasselstrom 9-6-12	8/30/2012
Print Name	Signature	Date

PLEASE READ INSTRUCTIONS ON BACK CAREFULLY

1. FORM NUMBER: 5 8 2 5085

LOS ALAMOS RADIOACTIVE SOLID WASTE DISPOSAL RECORD FORM

H-7 Waste Management
Ext 6095 MS-592

2. DATE: 12 22 82

3. RETRIEVABLE SERIAL NO.: 0 0 8 8 7 4

4. ORIGIN OF WASTE

GROUP	TA	BLDG.	WING	ROOM
H 7	5 0	1		1 1 6 3

5. WASTE CODE: 4 7 3

6. WASTE DESCRIPTION

7. NUMBERS OF WASTE PACKAGES

PLASTIC BAGS	CARD BOARD BOXES	DRUMS NO.	DRUMS GAL.	WOODEN CRATES NO.	WOODEN CRATES VOLUME-ft³
		1	55		

8. GROSS VOLUME: 55 UNITS: G

M = METER³
F = FEET³
G = GALLON

9. PACKAGE RADIATION AT:

SURFACE MR/HR	1 METER MR/HR
2	1

10. GROSS WEIGHT: 2 0 2 . 2 UNITS: K

K - KILOGRAM
P - POUND
T - TON

11. ADDITIONAL DESCRIPTION OF PACKAGING AND PACKAGING MATERIALS: 90 mil Lined Steel drum

12. RADIONUCLIDE CONTENT

C - CURIE
M - GRAM

NUCLIDE	AMOUNT	±	UNITS	ERROR ON AMOUNT	±	AMOUNT DETERMINED BY: A - ANALYSIS M - MEASUREMENT E - ESTIMATE	SS MATERIALS WRITEOFF ACCOUNT	SS MATERIALS WRITEOFF PROJECT CODE
Pu^{238}	4.976 E	-2	C	E		A		
Pu^{239}	1.473 E	-1	C	E		A		
Am^{241}	1.908 E	-1	C	E		A		
	E			E				
	E			E				
	E			E				

L. D. Williams
WASTE GENERATOR
Signature certifies that waste is in accordance with all applicable disposal requirements.

H-1 AREA REPRESENTATIVE
Signature certifies that waste package or shipment is safe to handle and transport.

GROUP LEADER (AS NECESSARY)

13. DATE DISPOSED: M M D D Y Y: 1 2 2 8 8 2

14. DISPOSAL/STORAGE LOCATION

AREA	SHAFT	PIT	POST(S)	LAYER	POS.
G		P2	8 -	3	C

15. SHAFT SURFACE DOSE

MR/HR

H-7 WASTE MANAGEMENT REPRESENTATIVE

HS-E 7-1A (10/81)

DIVIDER

PAGE

Attachment 10 – Acceptable Knowledge Re-evaluation Checklist

P2010 - 3411
Page 1 of 2

Site(s): Los Alamos National Laboratory (LANL)
Waste Stream Number(s): LA-MHD09.001 (CCP-AK-LANL-004)
Waste Stream Description: Heterogeneous Debris Waste
NCR numbers(s) if applicable: NCR-LANL-1586-12, R.0 (91988, 91989)
Inconsistency between waste characterization and acceptable knowledge information (describe): Based on the AK collected for waste stream LA-MHD09.001 containers, the waste stream is comprised of greater than 50 percent of heterogeneous debris waste. Although the waste stream, as a whole, is comprised of more than 50 percent debris, any drum may include nearly any percentage of the waste material parameters listed in Table 7.4.1.2, except that no individual container will contain greater than 50 percent homogeneous solids. RTR identified two (2) containers, i.e., 91988, 91989 with greater than 50 percent homogeneous material. Because the waste observed by RTR in these containers did not match the Waste Matrix Code and/or the Waste Stream Description for waste stream LA-MHD09.001, an NCR (NCR-LANL-1586-12, R.0) was written on these containers in accordance with CCP-TP-053, Sec. 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure.

Requirements	Completed? Yes/No	Additional Documentation [a]
Review existing information based on the container identification number and document all differences in EPA Hazardous Waste Number assignments. [c]	N/A	EPA hazardous waste numbers are not discrepant.
If differences exist in the EPA Hazardous Waste Numbers that were assigned, reassess and document all required AK information associated with the new designation. [b,c]	N/A	EPA hazardous waste numbers are not discrepant.
Reassess and document all sampling and analytical data associated with the waste. [c]	Yes	See RTR Data Sheets for 91988 and 91989 and DR020; Drums were NOT reevaluated at this time.
Verify and document that the reassigned Waste Matrix Code was generated within the specified time period, area and buildings, waste generating process, and that the process material inputs are consistent with the waste material parameters identified during RTR or VE.	Yes	Drum nos. 91988 and 91989 were originally assigned to debris waste stream LA-MHD09.001. RTR identified the drums as containing greater than 50% homogeneous waste. Consequently, these drums were removed from the waste stream. See DR020. Drums were NOT re-evaluated at this time.
If NDA results indicate the presence of additional or different radionuclides in the waste, reassess and document AK and characterization information associated with the new information. [c]	N/A	N/A – Radionuclides are not discrepant.
Record all changes to the AK records on the appropriate Attachments and resubmit to the CCP Facility Records Custodian.	Yes	Drum nos. 91988 and 91989 have been removed from waste stream LA-MHD09.001 and the associated Attachment 8, List of Containers will be updated. Drums will be re-evaluated and re-assigned to the appropriate S3000 waste stream. See DR020
If unresolved discrepancies exist in the AK information for the reassigned Waste Matrix Code, EPA Hazardous Waste Numbers, or radionuclides, document the segregation of this container, and define the actions necessary to fully characterize the waste.	N/A	No unresolved discrepancies.

a. Cite the source document, nonconformance report number, attachment, or other documentation used to support a change or no change.
b. If a toxicity characteristic contaminant is identified, it is not included as a listed waste, and analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Number is applied.
c. Not applicable for LANL sealed source waste stream.

NTPC RECORDS ORIGINAL
DATE REC'D 6/20/13

Attachment 10 – Acceptable Knowledge Re-evaluation Checklist

Acceptable Knowledge Expert:

Randy Fitzgerald — Amy John for R. Fitzgerald — **Date:** 2/28/2013
Print — Sign

Site Project Manager:

Terri Groover — Terri Groover — Date: 3/13/13
Print — Sign

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: DR019
Waste Stream Number(s): LA-MHD09.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Additional Information	Category: ☐ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☑ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a] : Removal of One Homogeneous Container (91479) from Debris Waste Stream LA-MHD09.001	
Source Document Reference Information (author(s), document and revision number, date, publisher): Randy Fitzgerald, NA, Rev. NA, 02/11/2013, P2010-3391	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
pr6, WS1, WS3	Throughout	Based on the AK collected for waste stream LA-MHD09.001 containers, the waste stream is comprised of greater than 50 percent of heterogeneous debris waste. Although the waste stream, as a whole, is comprised of more than 50 percent debris, any drum may include nearly any percentage of the waste material parameters listed in Table 7.4.1.2, except that no individual container will contain greater than 50 percent homogeneous solids. RTR identified one (1) waste stream LA-MHD09.001 container, i.e., 91479, with greater than 50 percent homogenous material. Because the waste observed by RTR in this container did not match the Waste Matrix Code and/or the Waste Stream Description for waste stream LA-MHD09.001, an NCR (NCR-LANL-0901-12, R.0) was written on this container in accordance with CCP-TP-053, Sec. 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure. Because the waste observed by RTR in this container did not match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MHD09.001, this container will be removed from waste stream LA-MHD09.001; and will be re-evaluated and re-assigned to the appropriate S3000 waste stream. With the removal of this container from waste stream LA-MHD09.001, the physical, chemical, and radiological characterization of the remaining containers in the waste stream is consistent with the waste stream description in CCP-AK-LANL-004.

NTPC RECORDS ORIGINAL
DATE REC'D 1/19/13

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: DR019

Source Document Data Limitations (if any):

1. None.

Acceptable Knowlege Expert:

Amy Johns (Print) Amy Johns (/Sign) Date: 2/14/2013

[a] Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
[b] Obtain from Acceptable Knowledge Documentation Checklist
[c] For microfilm or microfiche, identify box, tape, reel number and location.

Attachment 11 – Acceptable Knowledge Source Document Discrepancy Resolution

P2010 - 3391
Page 1 of 2

Waste Stream Number(s): LA-MHD09.001 (CCP-AK-LANL-004)

Waste Stream Description: Heterogeneous Debris Waste

AK Source Document Discrepancy Form Tracking Number: AK4 DR019 – Removal of One Homogeneous Container (91479) from Debris Waste Stream ~~LA-MHD03.001~~ LA-MHD09.001. 2/14/13

Tracking #	Category[a]	Title	Document/Rev#	Author	Date	Publisher	Page #
N/A	Pub.	CCP AK Summary Report for LANL TA-50 Mixed TRU Waste	CCP-AK-LANL-004, Rev. 10	M. Pearcy	11/28/2011	CCP	122 - 134
N/A	Unpub	CCP Non-Conformance Report NCR-LANL-0901-12, R.0	CCP-QP-005, Rev. 21	T. Hasselstrom	5/16/2012	CCP	All
NA	Unpub.	RTR Data Sheets for 91479 from LA-RTR2-12-0058	CCP-TP-053, Rev. 11	T. Hasselstrom	NA	CCP	19 - 21
AK4 M227	Unpub.	Radioactive Solid Waste Disposal Form for S821627 (Parent to 91479)	NA	LANL	8/31/1982	LANL	All

Nature of Discrepancy: Based on the AK collected for waste stream LA-MHD09.001 containers, the waste stream is comprised of greater than 50 percent of heterogeneous debris waste. Although the waste stream, as a whole, is comprised of more than 50 percent debris, any drum may include nearly any percentage of the waste material parameters listed in Table 7.4.1.2, except that no individual container will contain greater than 50 percent homogeneous solids. RTR identified one (1) waste stream LA-MHD09.001 container, i.e., 91479, with greater than 50 percent homogenous material. Because the waste observed by RTR in this container did not match the Waste Matrix Code and/or the Waste Stream Description for waste stream LA-MHD09.001, an NCR (NCR-LANL-0901-12, R.0) was written on this container in accordance with CCP-TP-053, Sec. 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure.

Resolution: [Container 91479 has been removed from waste stream LA-MHD09.001

Because the waste observed by RTR in this container did not match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MHD09.001, this container will be removed from waste stream LA-MHD09.001; and will be re-evaluated and re-assigned to the appropriate S3000 waste stream.

With the removal of this container from waste stream LA-MHD09.001, the physical, chemical, and radiological characterization of the remaining containers in the waste stream is consistent with the waste stream description in CCP-AK-LANL-004.

Attachment 11 – Acceptable Knowledge Source Document Discrepancy Resolution

P2010 - 3391
Page 2 of 2

Waste Stream Number(s): LA-MHD09.001 (CCP-AK-LANL-004)

Waste Stream Description: Heterogeneous Debris Waste

Discrepancy Resolved:	[X] Yes [ ] No		
Acceptable Knowledge Expert:	Randy Fitzgerald Print	Amy Johnson for Randy Fitzgerald Sign	Date: 1/28/2013
Site Project Manager:	Terri-Anne Groover Print	T-A Groover Sign	Date: 2/11/13

[a]Published Document or Controlled Database (Pub.); Unpublished Data (Unpub.); Internal Procedure or Note (Proc.); Correspondence (Corr.) or Discrepancy (Disc.)

Attachment 10 – Acceptable Knowledge Re-evaluation Checklist **P2010 - 3391**
Page 1 of 2

Site(s): Los Alamos National Laboratory (LANL)
Waste Stream Number(s): LA-MHD09.001 (CCP-AK-LANL-004)
Waste Stream Description: Heterogeneous Debris Waste
NCR numbers(s) if applicable: NCR-LANL-0901-12, R.0 (Drum No. 91479);
Inconsistency between waste characterization and acceptable knowledge information (describe):

Based on the AK collected for waste stream LA-MHD09.001 containers, the waste stream is comprised of greater than 50 percent of heterogeneous debris waste. Although the waste stream, as a whole, is comprised of more than 50 percent debris, any drum may include nearly any percentage of the waste material parameters listed in Table 7.4.1.2, except that no individual container will contain greater than 50 percent homogeneous solids. RTR identified one (1) waste stream LA-MHD09.001 container, i.e., 91479, with greater than 50 percent homogenous material. Because the waste observed by RTR in this container did not match the Waste Matrix Code and/or the Waste Stream Description for waste stream LA-MHD09.001, an NCR (NCR-LANL-0901-12, R.0) was written on this container in accordance with CCP-TP-053, Sec. 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure. Because the waste observed by RTR in this container did **not** match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MHD09.001, this container will be removed from waste stream LA-MHD09.001; and will be re-evaluated and re-assigned to the appropriate S3000 waste stream.

Requirements	Completed? Yes/No	Additional Documentation [a]
Review existing information based on the container identification number and document all differences in EPA Hazardous Waste Number assignments. [c]	N/A	EPA hazardous waste numbers are not discrepant.
If differences exist in the EPA Hazardous Waste Numbers that were assigned, reassess and document all required AK information associated with the new designation. [b,c]	N/A	EPA hazardous waste numbers are not discrepant.
Reassess and document all sampling and analytical data associated with the waste. [c]	Yes	See attached RTR Data Sheet for 91479 and Radioactive Solid Waste Disposal form for parent container S821627. See DR019. Container NOT re-assigned at this time.
Verify and document that the reassigned Waste Matrix Code was generated within the specified time period, area and buildings, waste generating process, and that the process material inputs are consistent with the waste material parameters identified during RTR or VE.	Yes	Container no. 91479 was assigned to debris waste stream LA-MHD09.001. RTR identified the container as containing greater than 50% homogeneous waste. Consequently, this container was removed from the waste stream LA-MHD09.001. See DR019. Container NOT re-assigned at this time.
If NDA results indicate the presence of additional or different radionuclides in the waste, reassess and document AK and characterization information associated with the new information. [c]	N/A	N/A – Radionuclides are not discrepant.
Record all changes to the AK records on the appropriate Attachments and resubmit to the CCP Facility Records Custodian.	Yes	Container 91479 was removed from the waste stream LA-MHD09.001. See DR019. Container NOT re-assigned at this time. Attachment 8, List of Containers for LA-MHD09.001 will be updated.
If unresolved discrepancies exist in the AK information for the reassigned Waste Matrix Code, EPA Hazardous Waste Numbers, or radionuclides, document the segregation of this container, and define the actions necessary to fully characterize the waste.	N/A	No unresolved discrepancies.

Requirements	Completed? Yes/No	Additional Documentation [a]
a. Cite the source document, nonconformance report number, attachment, or other documentation used to support a change or no change. b. If a toxicity characteristic contaminant is identified, it is not included as a listed waste, and analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Number is applied. c. Not applicable for LANL sealed source waste stream.		

Acceptable Knowledge Expert:

Randy Fitzgerald — Amy Jones for Randy Fitzgerald — Date: 1/28/2013
Print — Sign

Site Project Manager:

Terri Groover — Terri A Groover — Date: 2/11/13
Print — Sign

Attachment 2 – CCP Radiography Data Sheet

Section 1: General Information	
☑ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-12-0058
Examination Date:	05/16/12
Waste Container ID:	91479
Video/Audio Recorded Media Number:	LA-RTR2-12-0058 A
Procedure and Revision No.:	CCP-TP-053 Rev. 11
NCR(s) associated with the container? (e.g., Prohibited Items)	☐ NO ☑ YES NCR No.: NCR-LANL-0901-12 NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 GALLON DRUM
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt: 184.5 kg. Tare Wt: 33.4 kg. Net Wt: 151.1 kg.
Rigid Liner and Liner Vent Description: (e.g., "90 mil liner – NO Lid" or "NO Liner")	Fiberboard Liner- No Lid
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	100 %

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 91479

Section 3: Container Inventory and Comments (Detailed Descriptions)
Glass containers Plastic containers, plastic bags, plastic liner lids Homogenous solids

Section 4: Packaging Material and Waste Material Parameters		
Packaging Material:		Estimated Weight (kg)
Steel (ST):		27.7
Plastics (PP):	Plastic Liner Bag	2.0
Others:	Fiberboard Liner	3.7
Total Packaging Weight:		33.4
Waste Material Parameter:		Estimated Weight (kg)
Iron-based Metal / Alloys (IM):		
Aluminum-based Metals / Alloys (AM):		
Other Metals (OM):		
Other Inorganic Materials (OI):		4.0
Cellulosics (C):		
Rubber (R):		
Plastics (waste materials) (XPM):		10.0
Organic Matrix (OR):		
Inorganic Matrix (IN):		137.1
Soils (S):		
Total WMP Weight:		151.1

PLEASE READ INSTRUCTIONS ON BACK CAREFULLY

1. FORM NUMBER
S,8,2, 1627

LOS ALAMOS RADIOACTIVE SOLID WASTE DISPOSAL RECORD FORM

H-7 Waste Management
LANL ENRD MS 592

2. DATE (M M D D Y Y): 0,8,3,1,8,2

3. RETRIEVABLE SERIAL NO.: 9,1,3,7,9,3

4. ORIGIN OF WASTE

GROUP	TA	BLDG.	WING	ROOM
H,7	50	1		1,1,6,8

5. WASTE CODE: A,7,5

6. WASTE DESCRIPTION

7. NUMBERS OF WASTE PACKAGES

PLASTIC BAGS	CARD BOARD BOXES	DRUMS NO.	DRUMS GAL.	WOODEN CRATES NO.	WOODEN CRATES VOLUME ft³
		1	55		

8. GROSS VOLUME: 5,5,0 G (UNITS)

M = METER³
F = FEET³
G = GALLON

9. PACKAGE RADIATION AT:

SURFACE MR/HR	1 METER MR/HR
9	1

10. GROSS WEIGHT: 2065 K (UNITS)

K = KILOGRAM
P = POUND
T = TON

11. ADDITIONAL DESCRIPTION OF PACKAGING AND PACKAGING MATERIALS: 90mil Lined Steel drum

12. RADIONUCLIDE CONTENT

NUCLIDE	AMOUNT	±	UNITS	ERROR ON AMOUNT	±	AMOUNT DETERMINED BY: A = ANALYSIS, M = MEASUREMENT, E = ESTIMATE	SS MATERIALS WRITEOFF ACCOUNT	SS MATERIALS WRITEOFF PROJECT CODE
Pu-238	2.768	E -2	C		E	A		
Pu-239	196.0	E -1	C		E	A		
Am-241	21.45	E -1	C		E	A		
		E			E			
		E			E			
		E			E			

C = CURIE
M = GRAM

L. D. Williams
WASTE GENERATOR
Signature certifies that waste is in accordance with all applicable disposal requirements.

H-1 AREA REPRESENTATIVE
Signature certifies that waste package or shipment is safe to handle and transport.

GROUP LEADER (AS NECESSARY)

13. DATE DISPOSED (M M D D Y Y): 1,6,0,5,1,2

14. DISPOSAL/STORAGE LOCATION

AREA	SHAFT	PIT	POST(S)	LAYER	POS.
G		1/2	5	3	E

15. SHAFT SURFACE DOSE

MR/HR

H-7 WASTE MANAGEMENT REPRESENTATIVE

HS-E 7-1A (10/81)

BEST AVAILABLE

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 91479

	Yes	No
Is there observable liquid?	☐	☑
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there an indication of PCBs liquids?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☑	☐
[illegible]		
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers GREATER than 4 liters?	☐	☑
Are there indications of inadequate protection for heavy and/or sharp objects?	☐	☑

Comments: NCR-LANL-0901-12
Container(s) currently assigned to Waste Stream LA-MHD09.001. Waste appears to be greater than 50% homogeneous; therefore, the waste does not match the waste stream description or the waste matrix code.

RTR Operator:

Thad Hasselstrom	[signature]	05/16/12
Print Name	Signature	Date

Best Available Copy

DIVIDER

PAGE

Attachment 10 – Acceptable Knowledge Re-evaluation Checklist

P2010 - 3391
Page 1 of 2

Site(s): Los Alamos National Laboratory (LANL)
Waste Stream Number(s): LA-MHD09.001 (CCP-AK-LANL-004)
Waste Stream Description: Heterogeneous Debris Waste
NCR numbers(s) if applicable: NCR-LANL-0901-12, R.0 (Drum No. 91479);
Inconsistency between waste characterization and acceptable knowledge information (describe):

Based on the AK collected for waste stream LA-MHD09.001 containers, the waste stream is comprised of greater than 50 percent of heterogeneous debris waste. Although the waste stream, as a whole, is comprised of more than 50 percent debris, any drum may include nearly any percentage of the waste material parameters listed in Table 7.4.1.2, except that no individual container will contain greater than 50 percent homogeneous solids. RTR identified one (1) waste stream LA-MHD09.001 container, i.e., 91479, with greater than 50 percent homogenous material. Because the waste observed by RTR in this container did not match the Waste Matrix Code and/or the Waste Stream Description for waste stream LA-MHD09.001, an NCR (NCR-LANL-0901-12, R.0) was written on this container in accordance with CCP-TP-053, Sec. 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure. Because the waste observed by RTR in this container did not match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MHD09.001, this container will be removed from waste stream LA-MHD09.001; and will be re-evaluated and re-assigned to the appropriate S3000 waste stream.

Requirements	Completed? Yes/No	Additional Documentation [a]
Review existing information based on the container identification number and document all differences in EPA Hazardous Waste Number assignments. [c]	N/A	EPA hazardous waste numbers are not discrepant.
If differences exist in the EPA Hazardous Waste Numbers that were assigned, reassess and document all required AK information associated with the new designation. [b,c]	N/A	EPA hazardous waste numbers are not discrepant.
Reassess and document all sampling and analytical data associated with the waste. [c]	Yes	See attached RTR Data Sheet for 91479 and Radioactive Solid Waste Disposal form for parent container S821627. See DR019. Container NOT re-assigned at this time.
Verify and document that the reassigned Waste Matrix Code was generated within the specified time period, area and buildings, waste generating process, and that the process material inputs are consistent with the waste material parameters identified during RTR or VE.	Yes	Container no. 91479 was assigned to debris waste stream LA-MHD09.001. RTR identified the container as containing greater than 50% homogeneous waste. Consequently, this container was removed from the waste stream LA-MHD09.001. See DR019. Container NOT re-assigned at this time.
If NDA results indicate the presence of additional or different radionuclides in the waste, reassess and document AK and characterization information associated with the new information. [c]	N/A	N/A – Radionuclides are not discrepant.
Record all changes to the AK records on the appropriate Attachments and resubmit to the CCP Facility Records Custodian.	Yes	Container 91479 was removed from the waste stream LA-MHD09.001. See DR019. Container NOT re-assigned at this time. Attachment 8, List of Containers for LA-MHD09.001 will be updated.
If unresolved discrepancies exist in the AK information for the reassigned Waste Matrix Code, EPA Hazardous Waste Numbers, or radionuclides, document the segregation of this container, and define the actions necessary to fully characterize the waste.	N/A	No unresolved discrepancies.

NTPC RECORDS ORIGINAL
DATE REC'D 6/20/13

Requirements	Completed? Yes/No	Additional Documentation [a]
a. Cite the source document, nonconformance report number, attachment, or other documentation used to support a change or no change. b. If a toxicity characteristic contaminant is identified, it is not included as a listed waste, and analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Number is applied. c. Not applicable for LANL sealed source waste stream.		

Acceptable Knowledge Expert:

Randy Fitzgerald — Amy James for Randy Fitzgerald — **Date:** 1/28/2013
Print — Sign

Site Project Manager:

Terri Groover — Terri A Groover — Date: 2/11/13
Print — Sign

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: DR007
Waste Stream Number(s): LA-MSG04.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Additional Information	*Category:* ☐ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☑ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a] : Removal of One (1) Debris Container from Soil Waste Stream LA-MSG04.001	
Source Document Reference Information (author(s), document and revision number, date, publisher): Randy Fitzgerald, NA, Rev. NA, 06/07/2012, P2010-3259	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR6, WS1, WS9, S9	Throughout	Based on the AK collected for waste stream LA-MSG04.001 containers, the waste stream is comprised of at least 50 percent, but no greater than 95 percent, by volume of soil, sand, silt, or rock and gravel, with rock and gravel volumes totaling less than 50 percent of the matrix and the balance of the matrix being debris. Although the waste stream, as a whole, is comprised of more than 50 to 95 percent soil, any container may include nearly any percentage of the waste material parameters listed in section 6.4.1.2 of the AK report, however, any payload container consisting of more than 50 percent by volume of debris will be excluded from this waste stream. RTR identified one container with greater than 50 percent by volume of debris waste in waste stream LA-MSG04.001. Resolution: Container no 89794 has been removed from waste stream LA-MSG04.001. With the removal of this container from waste stream LA-MSG04.001, the physical, chemical and radiological characterization of the remaining containers in the waste stream is consistent with waste stream description in CCP-AK-LANL-010.

CCP RECORDS ORIGINAL
DATE REC'D 7/19/12

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: DR007
Source Document Data Limitations (if any): 1. None.	
Acceptable Knowlege Expert: Amy Johns Amy Johns Date: 6/25/2012 Print /Sign	

a Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
b Obtain from Acceptable Knowledge Documentation Checklist
c For microfilm or microfiche, identify box, tape, reel number and location.

Attachment 11 – Acceptable Knowledge Source Document Discrepancy Resolution

P2010 - 3259
Page 1 of 2

Waste Stream Number(s): LA-MSG04.001 (CCP-AK-LANL-010)
Waste Stream Description: Contaminated Soil

AK Source Document Discrepancy Form Tracking Number: DR007 – Removal of one (1) debris container from soil waste stream LA-MSG04.001

Tracking #	Category[a]	Title	Document/Rev#	Author	Date	Publisher	Page #
	Pub.	CCP AK Summary Report for LANL TA-21 DP West Facility	CCP-AK-LANL-010, Rev. 5	M. Ramirez	5/04/2012	CCP	98 - 109
	Unpub.	CCP Non-Conformance Report	NCR-LANL-3967-11, Rev. 0	E. Lyles	11/29/2011	CCP	ALL
	Unpub	RTR Data Sheets for Container No. 89794	LA-HERTR-11-0003	E. Lyles	11/29/2011	CCP	10 - 12
M219	Unpub.	RSWD for Container No. S843289 (parent to container no. 89794)	RSWD S843289	C. Blackwell	4/23/1980	LANL	ALL

Nature of Discrepancy:

Based on the AK collected for waste stream LA-MSG04.001 containers, the waste stream is comprised of at least 50 percent, but no greater than 95 percent, by volume of soil, sand, silt, or rock and gravel, with rock and gravel volumes totaling less than 50 percent of the matrix and the balance of the matrix being debris. Although the waste stream, as a whole, is comprised of more than 50 to 95 percent soil, any container may include nearly any percentage of the waste material parameters listed in Section 6.4.1.2 of the AK Report, however, any payload container consisting of more than 50 percent by volume of debris will be excluded from this waste stream

RTR identified one (1) container with greater than 50 percent by volume of debris waste in soil waste stream LA-MSG04.001. Because the waste observed by RTR in this container did **not** match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MSG04.001, an NCR was written for this container in accordance with CCP-TP-053, Section 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure.

Resolution:

[Container no. 89794 has been removed from waste stream LA-MSG04.001]

Container No. S843289 (parent to container no. 89794) was assigned to waste stream LA-MSG04.001 because the Radioactive Solid Waste Form (RSWD), Block 5, Waste Code is A90 – Radioactive Contaminated Soil [RSWD attached]. Since RTR has determined that the waste in this container is greater than 50 percent debris material, container no. 89794 will be removed from waste stream LA-MSG04.001 (soil) and re-assigned to the LA-MHD04.001 (debris).

With the removal of this container from waste stream LA-MSG04 (contaminated soil), the physical, chemical, and radiological characterization of the remaining containers in the waste stream is consistent with the waste stream description in CCP-AK-LANL-10.

Discrepancy Resolved: [X] Yes [ ] No

Acceptable Knowledge Expert: Randy Fitzgerald / _____ Date: 6/7/2012
Print Sign

Site Project Manager: Terri Ann Groover / _____ Date: 6/7/2012
Print Sign

[a]Published Document or Controlled Database (Pub.); Unpublished Data (Unpub.); Internal Procedure or Note (Proc.); Correspondence (Corr.) or Discrepancy (Disc.)

Attachment 10 – Acceptable Knowledge Re-evaluation Checklist

P2010 - 3259
Page 1 of 2

Site(s): Los Alamos National Laboratory (LANL)
Waste Stream Number(s): LA-MSG04.001 (CCP-AK-LANL-010)
Waste Stream Description: Contaminated Soil
NCR numbers(s) if applicable: NCR-LANL-3967-11, Rev. 0
Inconsistency between waste characterization and acceptable knowledge information (describe): RTR identified one (1) container with greater than 50 percent heterogeneous debris material in this contaminated soil waste stream. Because the waste observed by RTR in this container did **not** match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MHD01.001 (heterogeneous debris), an NCR was written for this container in accordance with CCP-TP-053, Section 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure. [DR007 – Removal of one (1) debris container from contaminated soil waste stream LA-MSG04.001.

Requirements	Completed? Yes/No	Additional Documentation [a]
Review existing information based on the container identification number and document all differences in EPA Hazardous Waste Number assignments. [c]	No	EPA HWNs not discrepant. Container not re-assigned at this time. See DR007.
If differences exist in the EPA Hazardous Waste Numbers that were assigned, reassess and document all required AK information associated with the new designation. [b,c]	No	EPA HWNs not discrepant. Container not re-assigned at this time. See DR007
Reassess and document all sampling and analytical data associated with the waste. [c]	No	Container not re-assigned at this time. See DR007. Container documentation attached, i.e., RSWD for parent container no. S843289; and RTR Data Sheets for container no. 89794.
Verify and document that the reassigned Waste Matrix Code was generated within the specified time period, area and buildings, waste generating process, and that the process material inputs are consistent with the waste material parameters identified during RTR or VE.	No.	Container not re-assigned at this time. See DR007. Parent container S843289 was assigned to LA-MSG04.001, which is assigned a waste matrix code of S4200. RTR identified the waste in this container as greater than 50% debris waste, which is not consistent with waste matrix code S4200. Container no. 89794 will be removed from waste stream LA-MSG04.001, and will be re-assigned to the debris waste stream LA-MHD04.001.
If NDA results indicate the presence of additional or different radionuclides in the waste, reassess and document AK and characterization information associated with the new information. [c]	No	N/A – Radionuclides are not discrepant. Container not re-assigned at this time. See DR007.
Record all changes to the AK records on the appropriate Attachments and resubmit to the CCP Facility Records Custodian.	Yes	Container not re-assigned at this time. See DR007. Container no. 89794 will be removed from the LANL AK6 Attachment 8, Waste Containers List for waste stream LA-MSG04.001.
If unresolved discrepancies exist in the AK information for the reassigned Waste Matrix Code, EPA Hazardous Waste Numbers, or radionuclides, document the segregation of this container, and define the actions necessary to fully characterize the waste.	Yes	No unresolved discrepancies. Container not re-assigned at this time. See DR007.

a. Cite the source document, nonconformance report number, attachment, or other documentation used to support a change or no change.
b. If a toxicity characteristic contaminant is identified, it is not included as a listed waste, and analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Number is applied.
c. Not applicable for LANL sealed source waste stream.

Acceptable Knowledge Expert:

Randy Fitzgerald — **Date:** 6/7/2012
Print **Sign**

Site Project Manager:

Terri Groover — **Date:** 6/7/2012
Print **Sign**

Attachment 1 – CCP Nonconformance Report (NCR)

NCR No.NCR-LANL-3967-11	Revision 0	
1. Lot No./Heat No. or Serial No. (as applicable): N/A	2. Process (e.g., NDA, HSG, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-HERTR-11-0003
4. Order/Work Order/Job Control Number (as applicable): N/A	5. PO # (as applicable): N/A	Container #(s): 89794
	6. Supplier (as applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7. (a) NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ >500 ppmv Flamm. VOCs

☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7. (b) Description of Nonconformance Required Condition (Implementing Procedure, Revision, Section, & Text):
CCP-TP-053, Stanard Real Time Radiography (RTR) Inspection Procedure, Rev. 11, Section 4.4.2 [H.2] states in part "IF the waste form DOES NOT match the Waste Stream Description and/or the Waste Matrix Code, THEN initiate a NCR..."

7. (c) Actual Condition
Container(s) are currently assigned to Waste Stream LA-MSG04.001. Waste appears to be greater than 50% Debris; therefore, the waste does not match the waste stream description or the waste matrix code.

8. NCR Originator (Print name, sign, and date)	9. CCP QA Engineer or Designee Validation (Print name, sign, and date)
Eric Lyles 11/29/11	ANTONIO D. CHAVARRIA 12/20/2011

9a. Does the identified condition have the potential to impact AK? ☒ YES ☐ NO ☐ INDETERMINATE
If YES or INDETERMINATE, then apply Trend Code L in Block 12.

9b. Have the CCP HOLD TAGS associated with the NCR been applied? ☒ YES ☐ NO If no is marked, provide an explanation.

10. Significant Condition? (If Yes, List CAR)	11. Recurring Condition?
☐ YES ☒ NO	☐ YES ☒ NO (If YES, List NCRs/CARs)
12. Trend Code: L	13. Responsible Manager: Veronica Waldram

BEST AVAILABLE
06/25/12

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No.NCR-LANL-3967-11 Revision 0	
INTERIM DISPOSITION	
14. Interim Disposition (Check One) ☐ N/A (See Final Disposition) ☒ Hold ☐ Conditional Accept ☐ Conditional Use ☐ Sort ☐ Reinspect/Retest ☐ Remediate (a) Instructions for Completion of the Interim Disposition: 1. Responsible Manager to send NCR to AK Expert for re-evaluation in accordance with CCP-TP-005. 2. AK Expert to perform the AK re-evaluation and include a copy of documented results as an attachment to NCR. 3. SPM to determine Final Disposition (block 19) based on the results of the AK Expert for re-evaluation.	
INTERIM DISPOSITION APPROVALS	
15. Responsible Manager/Individual (Print, sign, and date) Veronica Waldram Veronica Waldram 12/20/11	16. CCP QA Engineer or Designee (Print, sign and date) Laura R. Jones Laura Roman-Jones 12/20/2011
Additional Approvals: (Print, sign and date)	Additional Approvals: (Print, sign and date)
COMPLETION OF INTERIM DISPOSITION	
17. Interim Disposition Complete Responsible Manager/Individual: (Print, sign and date)	
18. Interim Disposition Verified CCP QA Engineer (Print, sign and date)	

BEST AVAILABLE
06/28/12

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No.NCR-LANL-3967-11 Revision 0	
FINAL DISPOSITION	
19. Final Disposition (Check One) ☐ Use-As-Is ☐ Reject ☐ Repair ☐ Rework ☐ Scrap	
(a) Technical Justification (Required for Use-As-Is and Repair dispositions, N/A for Reject, Scrap, or Rework dispositions.)	
(b) Disposition Instructions (Required for Reject and Scrap, N/A for Use-As-Is, Rework, and Repair)	
(c) Instructions for Completion of the Final Disposition, including Inspection Criteria (Required for Repair and Rework, N/A for Use-As-Is, Reject and Scrap)	
(d) Corrective Actions (Actions to Prevent Recurrence) - as required, N/A if left blank.	
FINAL DISPOSITION APPROVALS	
20. Responsible Manager/Individual: (Print, sign, and date)	21. CCP QA Engineer or Designee: (Print, sign, and date)
Additional Approvals: (Print, sign, and date)	Additional Approvals: (Print, sign, and date)
CLOSURE	
22. Final Disposition Complete Responsible Manager/Individual: (Print, sign, and date)	
23. Attachments:	
24. (a) HOLD TAG removal has been validated and reconciled for all nonconforming items on the NCR. ☐ (b) Check if not applicable (N/A) and provide an explanation here or on a continuation sheet. ☐	
25. Final Disposition Verified – NCR Closed	CCP QA Engineer: (Print, sign, and date)

Attachment 2 – CCP Radiography Data Sheet

Section 1: General Information	
☑ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-11-0003
Examination Date:	11/29/11
Waste Container ID:	89794
Video/Audio Recorded Media Number:	LA-HERTR-11-0003 A
Procedure and Revision No.:	CCP-TP-053 Rev. 11
NCR(s) associated with the container? (e.g., Prohibited Items)	☐ NO ☑ YES NCR No.: NCR-LANL-3967-11 NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	SWB
TRUCON Code:	SQ211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt: 506.0 kg. Tare Wt: 290.0 kg. Net Wt: 216.0 kg.
Rigid Liner and Liner Vent Description: (e.g., "90 mil liner – NO Lid" or "NO Liner")	No Liner
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	85 %

BEST AVAILABLE
09/12/12

Attachment 2 – CCP Radiography Data Sheet (Continued)

Page 2 of 3

Waste Container ID: 89794

Section 3: Container Inventory and Comments (Detailed descriptions)
Metal pipes, metal banding, electrical equipment
Light bulbs
Coveralls, wood
Plastic bags, plastic cap

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	290.0
Plastics (PP):	0.0
Others:	0.0
Total Packaging Weight:	290.0
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal / Alloys (IM):	192.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI):	1.0
Cellulosics (C):	15.0
Rubber (R):	
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	216.0

BEST AVAILABLE
OD 4/28/12

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 89794

	Yes	No
Is there observable liquid?	☐	☑
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does *NOT match TRUCON Code[s]*)?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there an indication of PCBs liquids?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☑	☐
CH/QUALIFIED TRUPACT		
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers GREATER than 4 liters?	☐	☑
Are there indications of inadequate protection for heavy and/or sharp objects?	☐	☑

Comments: NCR-LANL-3967-11: Does not match waste stream description or waste matrix code. waste on Aki's assigned 54200. waste appears to be 55400. EC 1/4/12

RTR Operator:

Eric Lyles		11/29/11
Print Name	Signature	Date 1/4/12

BEST AVAILABLE
per 4/28/12

PLEASE READ INSTRUCTIONS ON BACK CAREFULLY

H-7 Waste Management
Ext 6095 MS-592

1/28 ✓

LASL RADIOACTIVE SOLID WASTE DISPOSAL RECORD FORM

RD.22

1. FORM NUMBER: 8 8 3253 (V)

2. DATE: 04 23 80

3. RETRIEVABLE SERIAL NO.: 003572

4. ORIGIN OF WASTE: GROUP: CMB-11 | TA: 21 | BLDG.: 2 | WING: | ROOM: 213

5. WASTE CODE: 49.0

6. WASTE DESCRIPTION: Soil, Insulation and pipe From 213 Tunnel

7. NUMBERS OF WASTE PACKAGES

PLASTIC BAGS	CARD-BOARD BOXES	DRUMS NO.	DRUMS GAL.	WOODEN CRATES NO.	WOODEN CRATES VOLUME - ft³
				1	560

8. GROSS VOLUME: 560 | UNITS: F (M = METER³, F = FEET³, G = GALLON)

9. PACKAGE RADIATION AT:

SURFACE MR/HR	1 METER MR/HR

10. GROSS WEIGHT: 0987 | UNITS: T (K = KILOGRAM, P = POUND, T = TON)

11. ADDITIONAL DESCRIPTION OF PACKAGING AND PACKAGING MATERIALS:

12. RADIONUCLIDE CONTENT (C = CURIE, M = GRAM)

NUCLIDE	AMOUNT	±	UNITS	ERROR ON AMOUNT	±	AMOUNT DETERMINED BY: (A = ANALYSIS, M = MEASUREMENT, E = ESTIMATE)	SS MATERIALS WRITEOFF ACCOUNT	SS MATERIALS WRITEOFF PROJECT CODE
Pu239	1991.6	E +1	M		E	M		
		E			E			
		E			E			
		E			E			

CMB-11
WASTE GENERATOR
Signature certifies that waste is in accordance with all applicable disposal requirements.

C Blackwell
H-1 AREA REPRESENTATIVE
Signature certifies that waste package or shipment is safe to handle and transport.

GROUP LEADER (AS NECESSARY)

13. DATE DISPOSED: 01 27 81

14. DISPOSAL/STORAGE LOCATION

AREA	SHAFT	PIT	POST(S)	LAYER	ROW
G		P1V9			

15. SHAFT SURFACE DOSE

MR/HR

10-79

H-7 WASTE MANAGEMENT REPRESENTATIVE

BEST AVAILABLE
CD 4/28/12

DIVIDER

PAGE

Attachment 10 – Acceptable Knowledge Re-evaluation Checklist

P2010 - 3259
Page 1 of 2

Site(s): Los Alamos National Laboratory (LANL)
Waste Stream Number(s): LA-MSG04.001 (CCP-AK-LANL-010)
Waste Stream Description: Contaminated Soil
NCR numbers(s) if applicable: NCR-LANL-3967-11, Rev. 0
Inconsistency between waste characterization and acceptable knowledge information (describe): RTR identified one (1) container with greater than 50 percent heterogeneous debris material in this contaminated soil waste stream. Because the waste observed by RTR in this container did not match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MHD01.001 (heterogeneous debris), an NCR was written for this container in accordance with CCP-TP-053, Section 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure. [DR007 – Removal of one (1) debris container from contaminated soil waste stream LA-MSG04.001.

Requirements	Completed? Yes/No	Additional Documentation [a]
Review existing information based on the container identification number and document all differences in EPA Hazardous Waste Number assignments. [c]	No	EPA HWNs not discrepant. Container not re-assigned at this time. See DR007.
If differences exist in the EPA Hazardous Waste Numbers that were assigned, reassess and document all required AK information associated with the new designation. [b,c]	No	EPA HWNs not discrepant. Container not re-assigned at this time. See DR007
Reassess and document all sampling and analytical data associated with the waste. [c]	No	Container not re-assigned at this time. See DR007. Container documentation attached, i.e., RSWD for parent container no. S843289; and RTR Data Sheets for container no. 89794.
Verify and document that the reassigned Waste Matrix Code was generated within the specified time period, area and buildings, waste generating process, and that the process material inputs are consistent with the waste material parameters identified during RTR or VE.	No.	Container not re-assigned at this time. See DR007. Parent container S843289 was assigned to LA-MSG04.001, which is assigned a waste matrix code of S4200. RTR identified the waste in this container as greater than 50% debris waste, which is not consistent with waste matrix code S4200. Container no. 89794 will be removed from waste stream LA-MSG04.001, and will be re-assigned to the debris waste stream LA-MHD04.001.
If NDA results indicate the presence of additional or different radionuclides in the waste, reassess and document AK and characterization information associated with the new information. [c]	No	N/A – Radionuclides are not discrepant. Container not re-assigned at this time. See DR007.
Record all changes to the AK records on the appropriate Attachments and resubmit to the CCP Facility Records Custodian.	Yes	Container not re-assigned at this time. See DR007. Container no. 89794 will be removed from the LANL AK6 Attachment 8, Waste Containers List for waste stream LA-MSG04.001.
If unresolved discrepancies exist in the AK information for the reassigned Waste Matrix Code, EPA Hazardous Waste Numbers, or radionuclides, document the segregation of this container, and define the actions necessary to fully characterize the waste.	Yes	No unresolved discrepancies. Container not re-assigned at this time. See DR007.

a. Cite the source document, nonconformance report number, attachment, or other documentation used to support a change or no change.
b. If a toxicity characteristic contaminant is identified, it is not included as a listed waste, and analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Number is applied.
c. Not applicable for LANL sealed source waste stream.

CCP RECORDS ORIGINAL
DATE REC'D 7/19/12

Acceptable Knowledge Expert:

Randy Fitzgerald — Date: 6/7/2012
Print **Sign**

Site Project Manager:

Terri Groover — Date: 6/7/2012
Print **Sign**

Attachment 11 – Acceptable Knowledge Source Document Discrepancy Resolution

P2010 - 3259
Page 1 of 2

Waste Stream Number(s): LA-MSG04.001 (CCP-AK-LANL-010)
Waste Stream Description: Contaminated Soil

AK Source Document Discrepancy Form Tracking Number: DR007 – Removal of one (1) debris container from soil waste stream LA-MSG04.001

Tracking #	Category[a]	Title	Document/Rev#	Author	Date	Publisher	Page #
	Pub.	CCP AK Summary Report for LANL TA-21 DP West Facility	CCP-AK-LANL-010, Rev. 5	M. Ramirez	5/04/2012	CCP	98 - 109
	Unpub.	CCP Non-Conformance Report	NCR-LANL-3967-11, Rev. 0	E. Lyles	11/29/2011	CCP	ALL
	Unpub	RTR Data Sheets for Container No. 89794	LA-HERTR-11-0003	E. Lyles	11/29/2011	CCP	10 - 12
M219	Unpub.	RSWD for Container No. S843289 (parent to container no. 89794)	RSWD S843289	C. Blackwell	4/23/1980	LANL	ALL

Nature of Discrepancy:

Based on the AK collected for waste stream LA-MSG04.001 containers, the waste stream is comprised of at least 50 percent, but no greater than 95 percent, by volume of soil, sand, silt, or rock and gravel, with rock and gravel volumes totaling less than 50 percent of the matrix and the balance of the matrix being debris. Although the waste stream, as a whole, is comprised of more than 50 to 95 percent soil, any container may include nearly any percentage of the waste material parameters listed in Section 6.4.1.2 of the AK Report, however, any payload container consisting of more than 50 percent by volume of debris will be excluded from this waste stream

RTR identified one (1) container with greater than 50 percent by volume of debris waste in soil waste stream LA-MSG04.001. Because the waste observed by RTR in this container did **not** match the Waste Matrix Code and the Waste Stream Description for Waste Stream LA-MSG04.001, an NCR was written for this container in accordance with CCP-TP-053, Section 4.4.3 [H.2] [CCP Standard Real-Time Radiography (RTR) Inspection Procedure.

Resolution:

[Container no. 89794 has been removed from waste stream LA-MSG04.001]

Container No. S843289 (parent to container no. 89794) was assigned to waste stream LA-MSG04.001 because the Radioactive Solid Waste Form (RSWD), Block 5, Waste Code is A90 – Radioactive Contaminated Soil [RSWD attached]. Since RTR has determined that the waste in this container is greater than 50 percent debris material, container no. 89794 will be removed from waste stream LA-MSG04.001 (soil) and re-assigned to the LA-MHD04.001 (debris).

With the removal of this container from waste stream LA-MSG04 (contaminated soil), the physical, chemical, and radiological characterization of the remaining containers in the waste stream is consistent with the waste stream description in CCP-AK-LANL-10.

Discrepancy Resolved: [X] Yes [ ] No

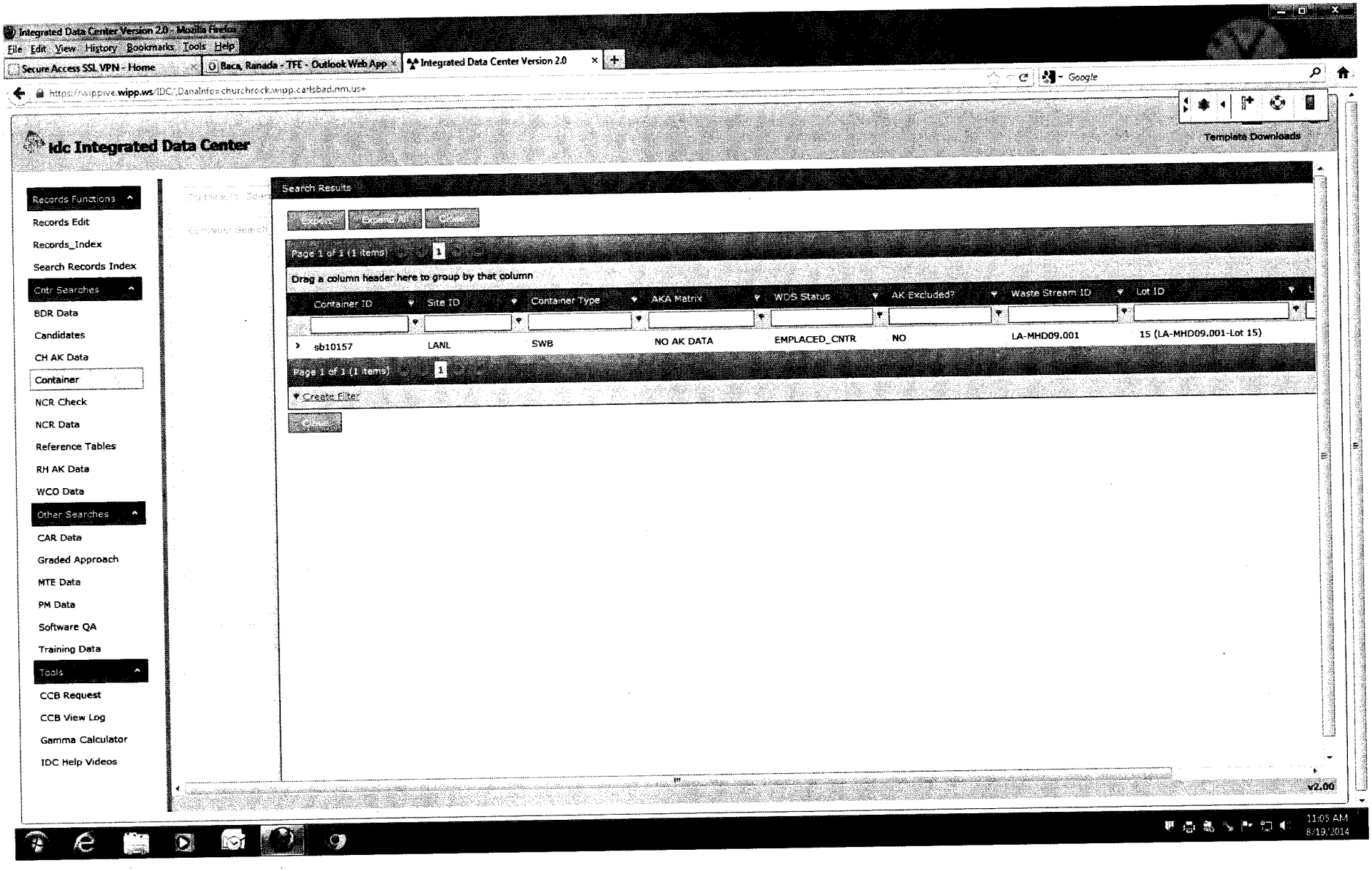
Acceptable Knowledge Expert: Randy Fitzgerald / _____ Date: 6/7/2012
Print Sign

Site Project Manager: Terri Ann Groover / _____ Date: 6/7/2012
Print Sign

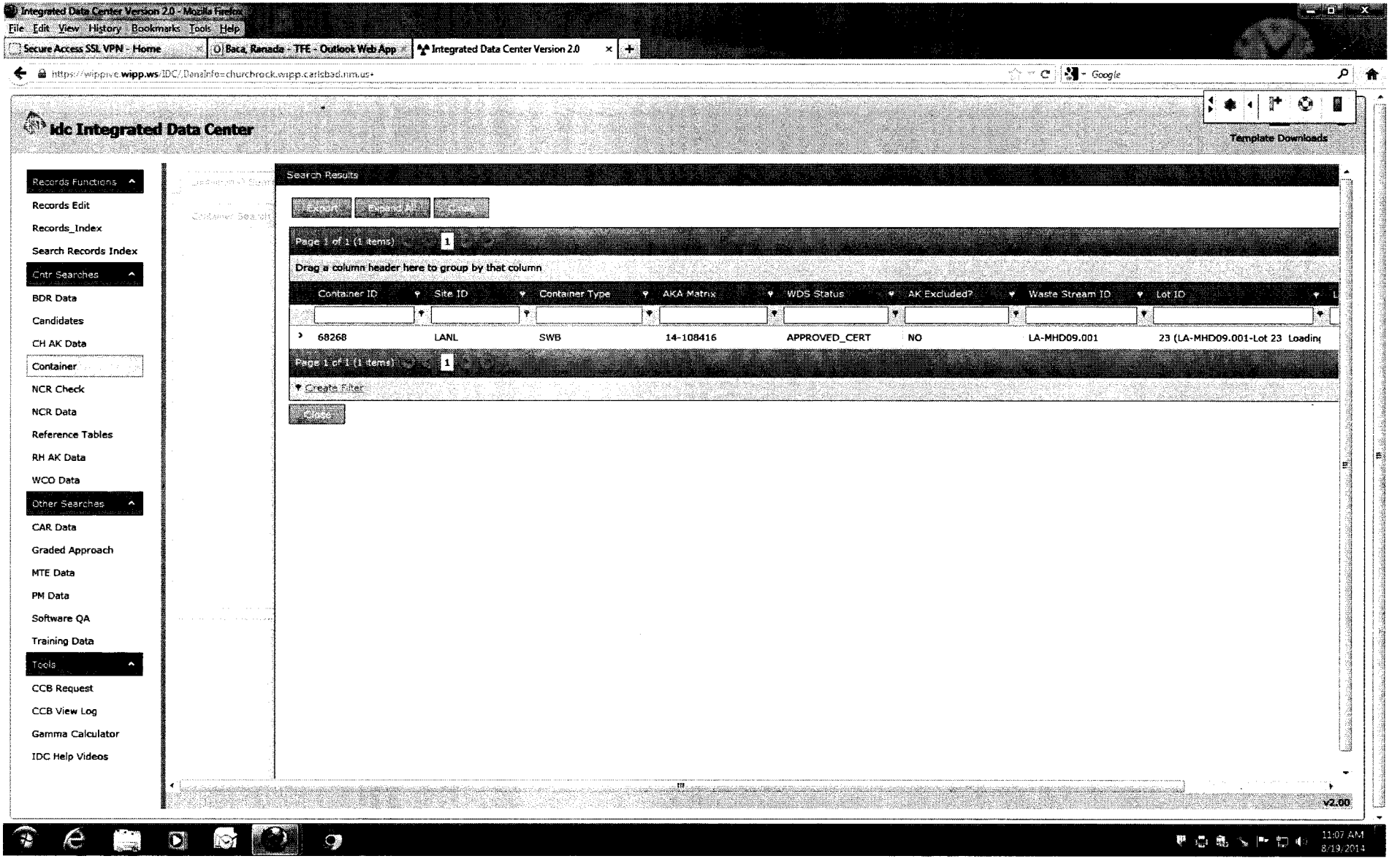
[a]Published Document or Controlled Database (Pub.); Unpublished Data (Unpub.); Internal Procedure or Note (Proc.); Correspondence (Corr.) or Discrepancy (Disc.)

P2010-3700

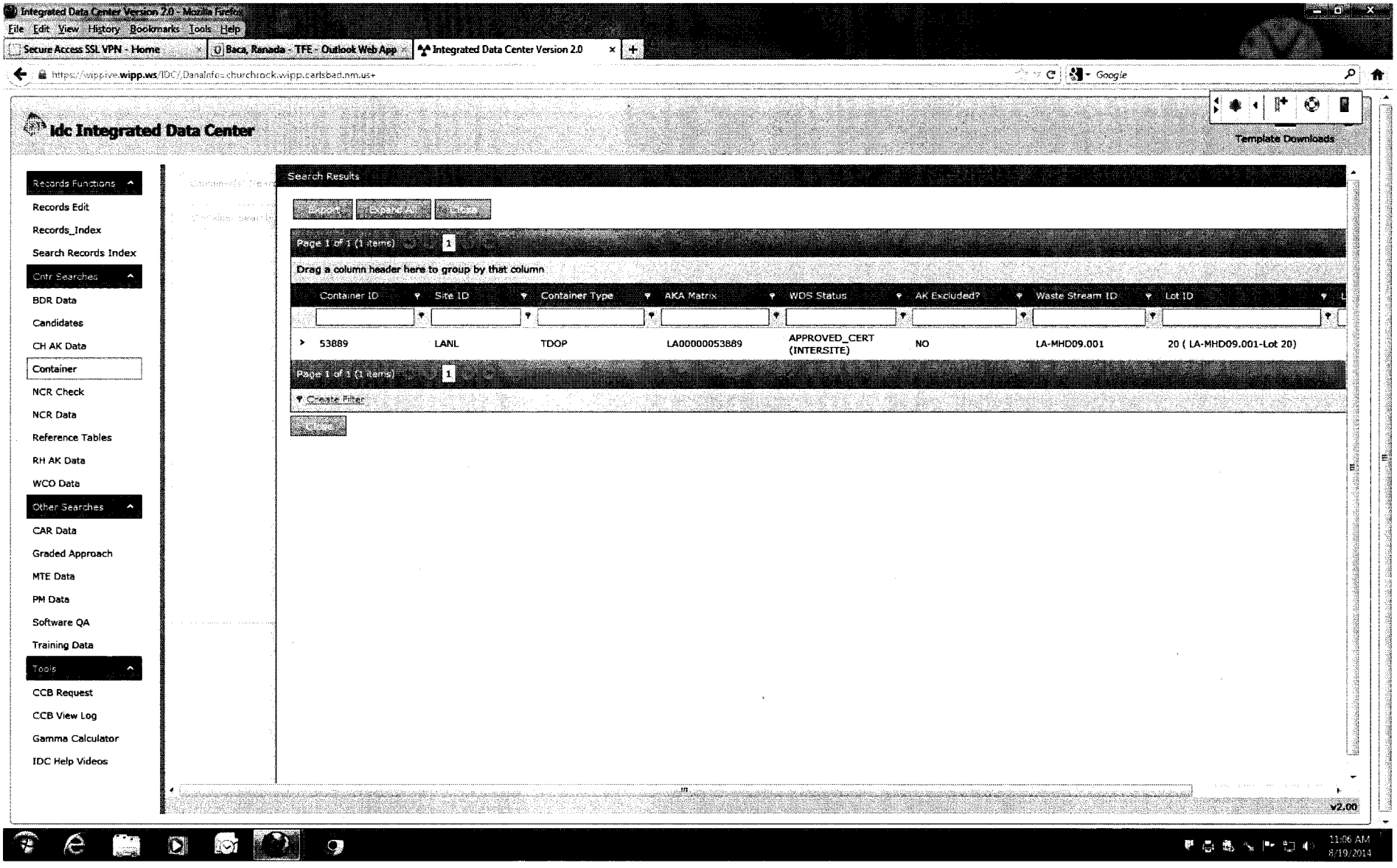
AK16



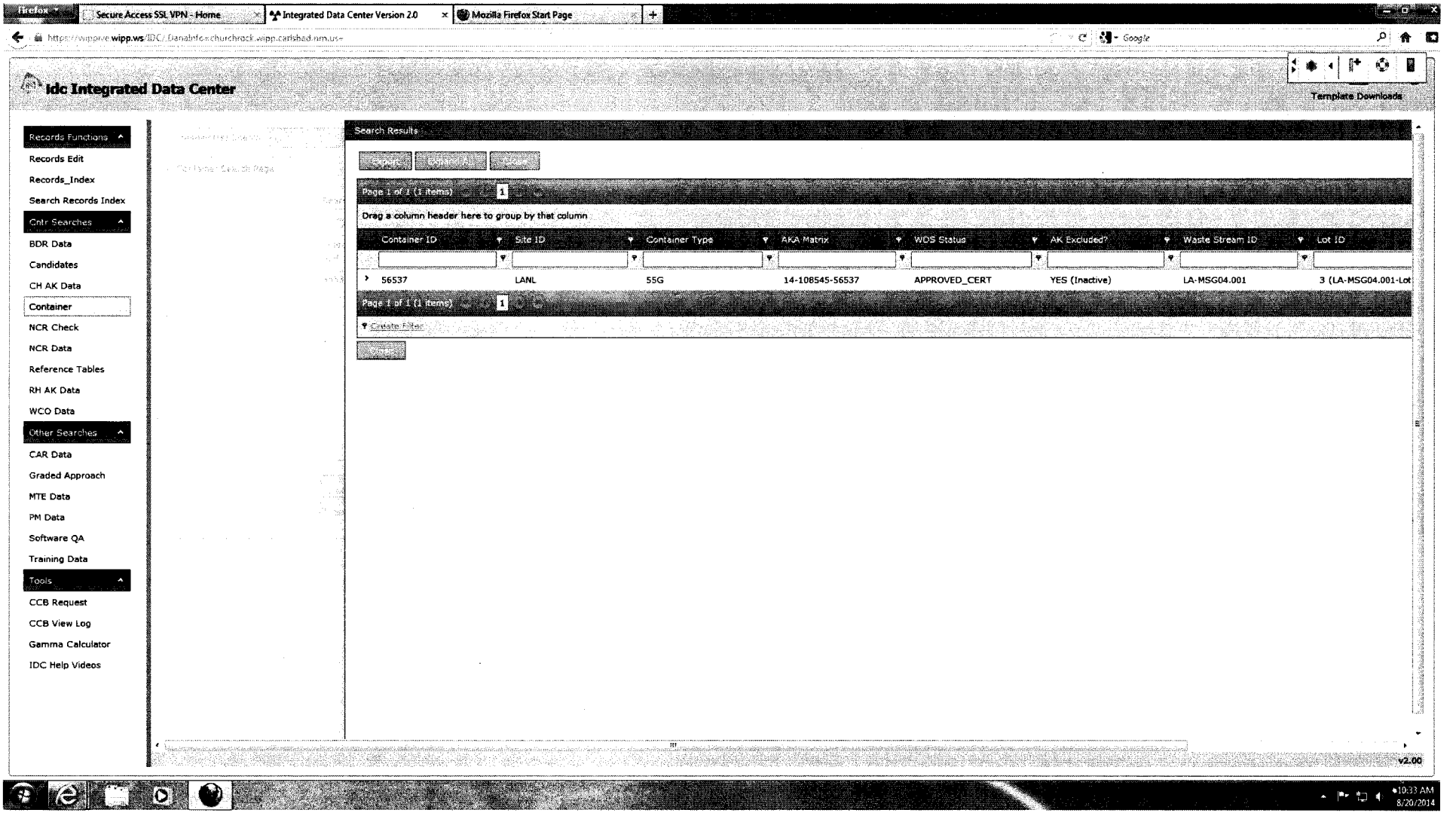
P2010-3699


Integrated Data Center Version 2.0 - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Secure Access SSL VPN - Home
Baca, Ranada - TFE - Outlook Web App
Integrated Data Center Version 2.0
https://wippvpn.wipp.ws/IDC/_DataInfo=churchrock.wipp.carlsbad.nm.us+
Google
idc Integrated Data Center
Template Downloads
Records Functions
Records Edit
Records_Index
Search Records Index
Cntr Searches
BDR Data
Candidates
CH AK Data
Container
NCR Check
NCR Data
Reference Tables
RH AK Data
WCO Data
Other Searches
CAR Data
Graded Approach
MTE Data
PM Data
Software QA
Training Data
Tools
CCB Request
CCB View Log
Gamma Calculator
IDC Help Videos
Search Results
Export
Expand All
Clear
Page 1 of 1 (1 items)
1
Drag a column header here to group by that column
Container ID
Site ID
Container Type
AKA Matrix
WDS Status
AK Excluded?
Waste Stream ID
Lot ID
68268
LANL
SWB
14-108416
APPROVED_CERT
NO
LA-MHD09.001
23 (LA-MHD09.001-Lot 23 Loadin
Page 1 of 1 (1 items)
1
Create Filter
Clear
v2.00
11:07 AM
8/19/2014

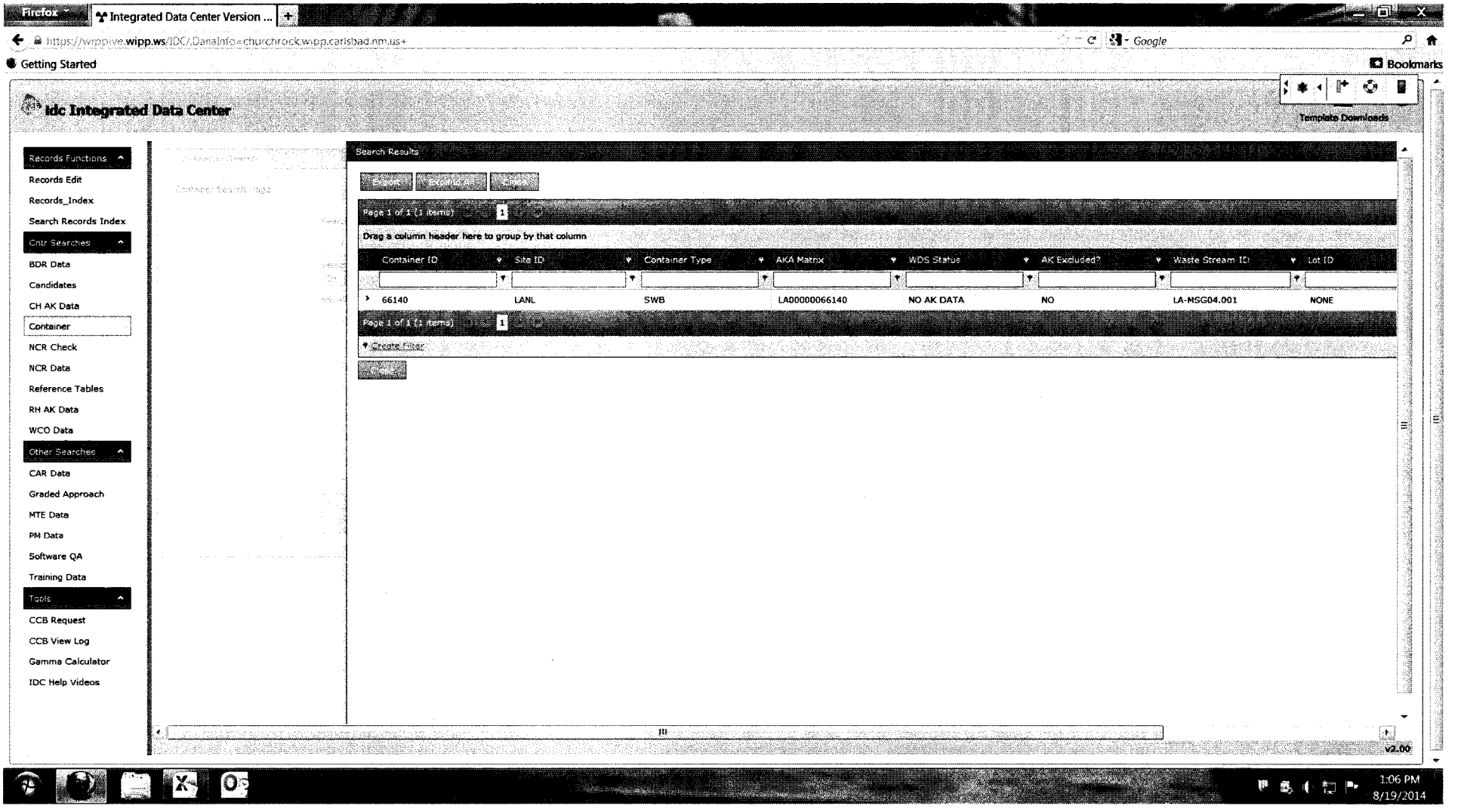
P2010-3700


Integrated Data Center Version 2.0 - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Secure Access SSL VPN - Home
Baca, Ranada - TFE - Outlook Web App
Integrated Data Center Version 2.0
https://wipp.wipp.ws/IDC/_DanaInfo=churchrock.wipp.carlsbad.nm.us+
Google
Idc Integrated Data Center
Template Downloads
Records Functions
Records Edit
Records_Index
Search Records Index
Cntr Searches
BDR Data
Candidates
CH AK Data
Container
NCR Check
NCR Data
Reference Tables
RH AK Data
WCO Data
Other Searches
CAR Data
Graded Approach
MTE Data
PM Data
Software QA
Training Data
Tools
CCB Request
CCB View Log
Gamma Calculator
IDC Help Videos
Search Results
Page 1 of 1 (1 items)
Drag a column header here to group by that column
Container ID
Site ID
Container Type
AKA Matrix
WDS Status
AK Excluded?
Waste Stream ID
Lot ID
53889
LANL
TDOP
LA00000053889
APPROVED_CERT (INTERSITE)
NO
LA-MHD09.001
20 (LA-MHD09.001-Lot 20)
Create Filter
v2.00
11:06 AM
8/19/2014

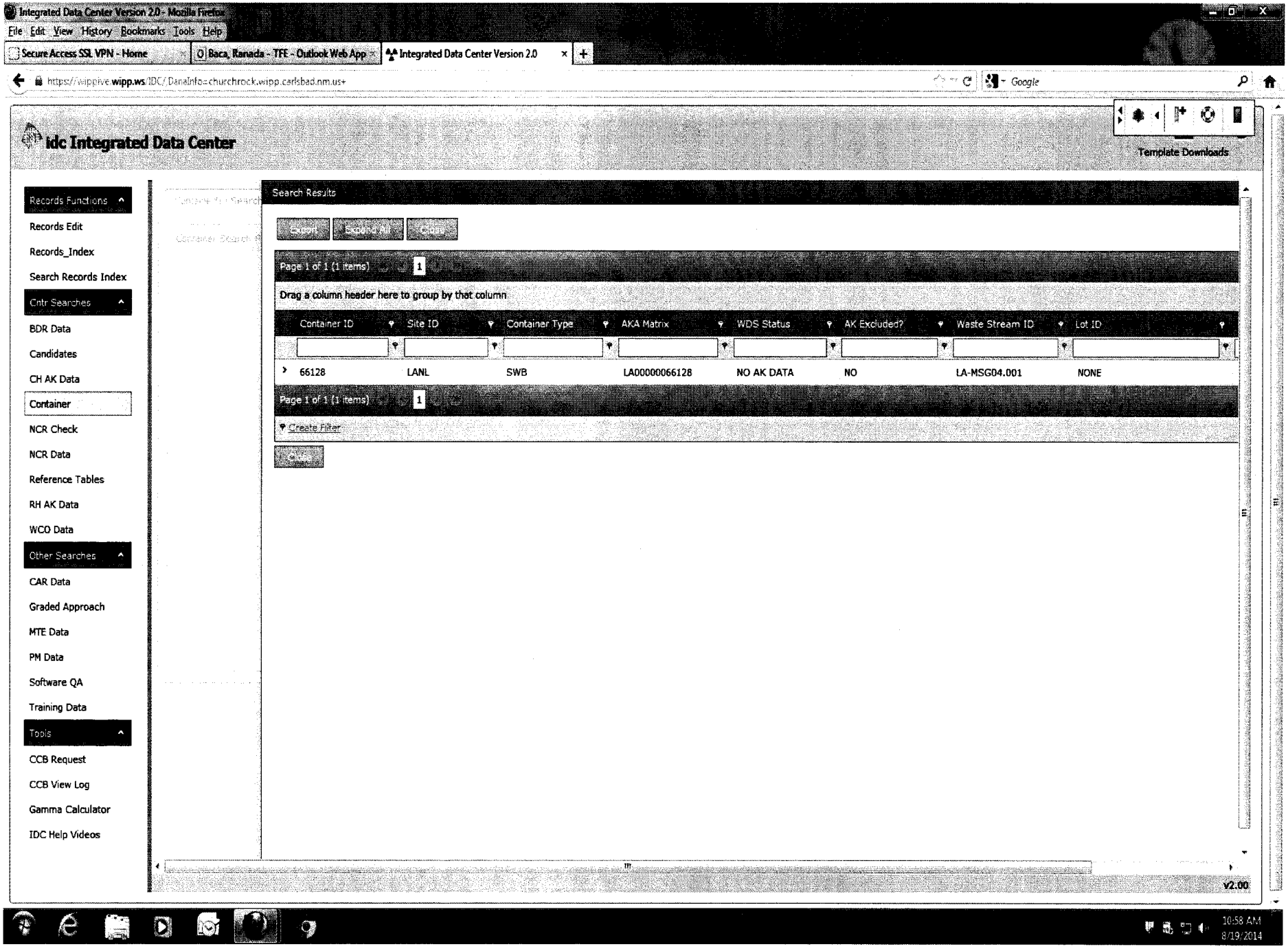
RZOIO-3700


Secure Access SSL VPN - Home
Integrated Data Center Version 2.0
Mozilla Firefox Start Page
idc Integrated Data Center
Template Downloads
Records Functions
Records Edit
Records_Index
Search Records Index
Cntr Searches
BDR Data
Candidates
CH AK Data
Container
NCR Check
NCR Data
Reference Tables
RH AK Data
WCO Data
Other Searches
CAR Data
Graded Approach
MTE Data
PM Data
Software QA
Training Data
Tools
CCB Request
CCB View Log
Gamma Calculator
IDC Help Videos
Search Results
Drag a column header here to group by that column
Container ID
Site ID
Container Type
AKA Matrix
WDS Status
AK Excluded?
Waste Stream ID
Lot ID
56537
LANL
55G
14-108545-56537
APPROVED_CERT
YES (Inactive)
LA-MSG04.001
3 (LA-MSG04.001-Lot
Create Filter
v2.00
10:33 AM
8/20/2014

P2010-3700


Firefox
Integrated Data Center Version ...
https://wippive.wipp.ws/IDC/DanaInfo=churchrock.wipp.carlsbad.nm.us+
Google
Getting Started
Bookmarks
idc Integrated Data Center
Template Downloads
Records Functions
Records Edit
Records_Index
Search Records Index
Cntr Searches
BDR Data
Candidates
CH AK Data
Container
NCR Check
NCR Data
Reference Tables
RH AK Data
WCO Data
Other Searches
CAR Data
Graded Approach
MTE Data
PH Data
Software QA
Training Data
Tools
CCB Request
CCB View Log
Gamma Calculator
IDC Help Videos
Search Results
Page 1 of 1 (1 items)
Drag a column header here to group by that column
Container ID
Site ID
Container Type
AKA Matrix
WDS Status
AK Excluded?
Waste Stream ID
Lot ID
66140
LANL
SWB
LA00000066140
NO AK DATA
NO
LA-MSG04.001
NONE
Create Filter
v2.00
1:06 PM
8/19/2014

P2010-3700


Integrated Data Center Version 2.0 - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Secure Access SSL VPN - Home
Baca, Ranada - TFE - Outlook Web App
Integrated Data Center Version 2.0
https://wippive.wipp.ws/IDC/DanaInfo=churchrock.wipp.carlsbad.nm.us+
idc Integrated Data Center
Template Downloads
Records Functions
Records Edit
Records_Index
Search Records Index
Cntr Searches
BDR Data
Candidates
CH AK Data
Container
NCR Check
NCR Data
Reference Tables
RH AK Data
WCO Data
Other Searches
CAR Data
Graded Approach
MTE Data
PM Data
Software QA
Training Data
Tools
CCB Request
CCB View Log
Gamma Calculator
IDC Help Videos
Search Results
Export
Export to All
Close
Page 1 of 1 (1 items)
1
Drag a column header here to group by that column
Container ID
Site ID
Container Type
AKA Matrix
WDS Status
AK Excluded?
Waste Stream ID
Lot ID
66128
LANL
SWB
LA00000066128
NO AK DATA
NO
LA-MSG04.001
NONE
Page 1 of 1 (1 items)
1
Create Filter
Close
V2.00
10:58 AM
8/19/2014

AK17

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
2	86583	LA00000086583	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	01/07/1997	07/19/2010	09/08/2009	07/19/2010	10/19/2011	FALSE	FALSE
3	SB10160		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/07/2013		08/07/2013		12/28/2013	FALSE	FALSE
4	68879	LA00000068879	55G	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	03/17/1981	01/16/2014	01/26/2004	01/16/2014		FALSE	FALSE
5	56500	LA00000056500	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	05/30/1996		05/30/1996		08/29/2013	FALSE	FALSE
6	57563	LA00000057563	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	01/24/2002		01/24/2002		09/07/2012	FALSE	FALSE
7	60499	LA00000060499	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	02/08/2007		02/08/2007		05/04/2013	FALSE	FALSE
8	SB10189		SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	06/13/1990	03/07/2014	12/31/1999	03/07/2014		FALSE	FALSE
9	91861	LA00000091861	POC	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/10/1981	08/06/2012	12/31/2001	08/06/2012	10/07/2012	TRUE	FALSE
10	SB10155		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/01/2013		08/01/2013		11/10/2013	FALSE	FALSE
11	56511	LA00000056511	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	01/02/1997		09/18/2009		10/18/2011	FALSE	FALSE
12	S810637	LAS810637	55G	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	04/06/1981		11/30/1998			FALSE	FALSE
13	52315	LA00000052315	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	01/25/1991	11/30/2012		11/30/2012	04/04/2013	FALSE	FALSE
14	66139	LA00000066139	85G		LA-MHD09.001	CCP-AK-LANL-004	S5400	06/02/2011		06/02/2011			FALSE	FALSE
15	SB10157		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/05/2013		08/05/2013		11/10/2013	FALSE	FALSE
16	56513	LA00000056513	55G	PRESUB_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	01/08/1997		09/18/2009			FALSE	FALSE
17	87527	LA00000087527	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	02/06/2001	11/16/2010	09/18/2009	11/16/2010	07/21/2012	FALSE	FALSE
18	SB10158		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/06/2013		08/06/2013		12/14/2013	FALSE	FALSE
19	91865	LA00000091865	POC	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/10/1981	08/06/2012	12/31/2001	08/06/2012	11/03/2013	TRUE	FALSE
20	69296	LA00000069296	55G	PRESUB_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	01/25/2014		01/25/2014			FALSE	FALSE
21	59204	LA00000059204	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	11/15/2001		09/18/2009		05/13/2012	FALSE	FALSE
22	68797	LA00000068797	55G	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/02/1982	01/31/2014	01/26/2004	01/31/2014		FALSE	FALSE
23	SB10165		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/14/2013		08/14/2013		12/29/2013	FALSE	FALSE
24	S851153	LAS851153	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	11/20/1985		12/31/1999		11/01/2011	FALSE	FALSE
25	69640	LA00000069640	55G		LA-MHD09.001	CCP-AK-LANL-004	S5400	10/05/1982	04/16/2014	12/31/2001	04/16/2014		TRUE	FALSE
26	SB10166		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/14/2013		08/14/2013		12/28/2013	FALSE	FALSE
27	SB10162		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/12/2013		08/12/2013		12/29/2013	FALSE	FALSE
28	84607	LA00000084607	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	10/11/2002	03/02/2010	04/02/2003	03/02/2010	09/11/2011	FALSE	FALSE
29	SB10152		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	07/31/2013		07/31/2013		12/08/2013	FALSE	FALSE
30	56515	LA00000056515	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	01/08/1997		09/18/2009		09/15/2012	FALSE	FALSE
31	S820648	LAS820648	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	05/18/1982		12/31/2001		09/11/2011	FALSE	FALSE
32	SB10163		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/13/2013		08/13/2013		11/01/2013	FALSE	FALSE
33	91807	LA00000091807	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/20/1988	07/27/2012	12/31/1999	07/27/2012	11/03/2012	TRUE	FALSE
34	84854	LA00000084854	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	04/12/2000	03/12/2010	09/18/2009	03/12/2010	10/19/2011	FALSE	FALSE
35	53889	LA00000053889	TDOP	APPROVED_CERT (INTERSITE)	LA-MHD09.001	CCP-AK-LANL-004	S5400	04/18/1984	01/14/2014	09/18/2009	01/14/2014		FALSE	FALSE
36	69609	LA00000069609	55G	PRESUB_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	03/20/2014		03/20/2014			FALSE	FALSE
37	87551	LA00000087551	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	02/06/2001	11/18/2010	09/18/2009	11/18/2010	10/19/2011	FALSE	FALSE
38	68278	LA00000068278	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/29/1984	02/08/2014	09/18/2009	02/08/2014		FALSE	FALSE
39	52312	LA00000052312	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	07/25/1990	03/26/2012		03/26/2012	10/30/2012	FALSE	FALSE
40	68275	14-108419	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/29/1984	02/10/2014	09/18/2009	02/10/2014		FALSE	FALSE
41	68272	14-108417	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	05/14/1984	02/05/2014	09/18/2009	02/05/2014		FALSE	FALSE
42	68283	14-108415	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/29/1984	02/13/2014	09/18/2009	02/13/2014		FALSE	FALSE
43	87702	LA00000087702	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	03/21/1985	12/06/2010	12/31/1999	12/06/2010	07/21/2012	FALSE	FALSE
44	53879	LA00000053879	TDOP	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/15/1988	08/20/2013	09/18/2009	08/20/2013	10/24/2013	FALSE	FALSE
45	85122	LA00000085122	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	07/07/1987	04/10/2010	12/31/1999	04/10/2010	09/11/2011	FALSE	FALSE
46	86765	LA00000086765	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/10/1981	08/03/2010	12/31/2001	08/03/2010	10/18/2011	TRUE	FALSE
47	68268	14-108416	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	05/14/1984	02/05/2014	09/18/2009	02/05/2014		FALSE	FALSE
48	68276	14-108533	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/29/1984	03/20/2014	09/18/2009	03/20/2014		FALSE	FALSE
49	69049	LA00000069049	55G	PRESUB_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/10/1981	12/19/2013	11/30/1988	12/19/2013		TRUE	FALSE
50	SB10150		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	07/31/2013		07/31/2013		12/19/2013	FALSE	FALSE
51	85710	LA00000085710	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	04/06/1981	05/20/2010	11/30/1998	05/20/2010	11/01/2011	FALSE	FALSE
52	52026	LA00000052026	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/07/1995	09/22/2012	09/07/1995	09/22/2012	03/31/2013	FALSE	FALSE
53	69526	LA00000069526	55G		LA-MHD09.001	CCP-AK-LANL-004	S5400	04/25/2014		04/25/2014			FALSE	FALSE
54	85109	LA00000085109	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	01/03/1990	04/09/2010	12/31/1999	04/09/2010	11/01/2011	FALSE	FALSE
55	S820647	LAS820647	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	05/18/1992		12/31/2001		09/11/2011	FALSE	FALSE
56	53899	LA00000053899	TDOP	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	04/08/1988	08/17/2013	09/18/2009	08/17/2013	10/27/2013	FALSE	FALSE
57	25270	LA00000025270	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/18/1992	02/17/2012		02/17/2012	10/05/2012	FALSE	FALSE
58	SB10164		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/14/2013		08/14/2013		12/29/2013	FALSE	FALSE
59	68282	14-108564	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/29/1984	02/09/2014	09/18/2009	02/09/2014		FALSE	FALSE
60	91860	LA00000091860	POC	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/10/1981	08/06/2012	12/31/2001	08/06/2012	10/07/2012	TRUE	FALSE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
61	70003	LA00000070003	55G		LA-MHD09.001	CCP-AK-LANL-004	S5400	10/05/1982	04/29/2014	01/26/2004	04/29/2014		FALSE	FALSE
62	SB10161		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/08/2013		08/08/2013		12/28/2013	FALSE	FALSE
63	56512	LA00000056512	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	12/20/1996		09/18/2009		10/19/2011	FALSE	FALSE
64	53877	LA00000053877	TDOP	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/01/1987	08/17/2013	09/18/2009	08/17/2013	10/10/2013	FALSE	FALSE
65	69570	LA00000069570	55G	PRESUB_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	03/13/2014		03/13/2014			FALSE	FALSE
66	54205	LA00000054205	TDOP	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/05/1987	08/12/2013	09/18/2009	08/12/2013	10/08/2013	FALSE	FALSE
67	69563	LA00000069563	55G		LA-MHD09.001	CCP-AK-LANL-004	S5400	04/24/2014		04/24/2014			FALSE	FALSE
68	89998	LA00000089998	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	06/11/1980	09/20/2011	11/30/1998	09/20/2011	05/20/2012	FALSE	FALSE
69	91859	LA00000091859	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/10/1981	08/06/2012	12/31/2001	08/06/2012	11/03/2012	TRUE	FALSE
70	56516	LA00000056516	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	01/09/1997		09/18/2009		10/18/2011	FALSE	FALSE
71	SB10151		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	07/30/2013		07/30/2013		11/10/2013	FALSE	FALSE
72	S810689	LAS810689	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	11/04/1981		11/30/1998		11/03/2012	FALSE	FALSE
73	52309	LA00000052309	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	03/07/1990	03/21/2012		03/21/2012	03/15/2013	FALSE	FALSE
74	63036	LA00000063036	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/03/2006		08/03/2006		03/24/2013	FALSE	FALSE
75	SB10154		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/01/2013		08/01/2013		12/15/2013	FALSE	FALSE
76	91724	LA00000091724	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	11/01/1984	06/07/2012	12/31/2001	06/07/2012	11/03/2012	TRUE	FALSE
77	86986	LA00000086986	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	03/13/1984	08/30/2010	12/31/2001	08/30/2010	10/18/2011	TRUE	FALSE
78	68286	14-108418	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/29/1984	02/14/2014	09/18/2009	02/14/2014		FALSE	FALSE
79	85160	LA00000085160	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	07/07/1982	04/13/2010	12/31/2001	04/13/2010	09/11/2011	FALSE	FALSE
80	68269	14-108420	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	05/14/1984	02/04/2014	09/18/2009	02/04/2014		FALSE	FALSE
81	68866	LA00000068866	55G	APPROVED_CERT (INTERSITE)	LA-MHD09.001	CCP-AK-LANL-004	S5400	06/02/1981	01/11/2014	01/26/2004	01/11/2014		FALSE	FALSE
82	70068	LA00000070068	55G		LA-MHD09.001	CCP-AK-LANL-004	S5400	10/05/1982	04/29/2014	01/26/2004	04/29/2014		FALSE	FALSE
83	SB10153		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	07/31/2013		07/31/2013		12/15/2013	FALSE	FALSE
84	69507	LA00000069507	55G	PRESUB_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	03/03/2014		03/03/2014			FALSE	FALSE
85	68273	LA00000068273	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/29/1984	03/18/2014	09/18/2009	03/18/2014		FALSE	FALSE
86	SB10169		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/19/2013		08/19/2013		01/14/2014	FALSE	FALSE
87	69625	LA00000069625	55G		LA-MHD09.001	CCP-AK-LANL-004	S5400	04/23/2014		04/23/2014			FALSE	FALSE
88	52316	LA00000052316	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	02/26/1993	04/03/2012		04/03/2012	08/29/2013	FALSE	FALSE
89	SB10156		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/05/2013		08/05/2013		11/14/2013	FALSE	FALSE
90	68284	14-108427	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/29/1984	02/15/2014	09/18/2009	02/15/2014		FALSE	FALSE
91	91864	LA00000091864	POC	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/10/1981	08/06/2012	12/31/2001	08/06/2012	11/03/2013	TRUE	FALSE
92	68281	14-108421	SWB	APPROVED_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/29/1984	02/13/2014	09/18/2009	02/13/2014		FALSE	FALSE
93	SB10159		SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	08/06/2013		08/06/2013		12/29/2013	FALSE	FALSE
94	91863	LA00000091863	POC	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/10/1981	08/06/2012	12/31/2001	08/06/2012	11/03/2013	TRUE	FALSE
95	91862	LA00000091862	POC	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	09/10/1981	08/06/2012	12/31/2001	08/06/2012	11/03/2013	TRUE	FALSE
96	56517	LA00000056517	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	01/07/1997		09/18/2009		09/11/2011	FALSE	FALSE
97	56514	LA00000056514	55G	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	01/08/1997		09/18/2009		11/18/2011	FALSE	FALSE
98	69631	LA00000069631	55G		LA-MHD09.001	CCP-AK-LANL-004	S5400	03/17/1981	04/25/2014	11/30/1998	04/25/2014		TRUE	FALSE
99	54207	LA00000054207	Steel Box		LA-MHD09.001	CCP-AK-LANL-004	S5400	11/17/1987	09/18/2013	09/18/2009	09/18/2013		FALSE	FALSE
100	69567	LA00000069567	55G	PRESUB_CERT	LA-MHD09.001	CCP-AK-LANL-004	S5400	03/13/2014		03/13/2014			FALSE	FALSE
101	57842	LA00000057842	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	02/22/2000		02/22/2000		03/15/2013	FALSE	FALSE
102	59616	LA00000059616	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	12/19/1990	02/13/2012		02/13/2012	06/10/2012	FALSE	FALSE
103	52311	LA00000052311	SWB	EMPLACED_CNTR	LA-MHD09.001	CCP-AK-LANL-004	S5400	05/18/1990	04/10/2012		04/10/2012	07/25/2012	FALSE	FALSE
104	68700	LA00000068700	Other		LA-MHD09.001	CCP-AK-LANL-004	S5400	03/13/2014		03/13/2014			FALSE	FALSE
105	S780210	LAS780210	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
106	S780239	LAS780239	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
107	66141	LA00000066141	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
108	S780238	LAS780238	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
109	S780237	LAS780237	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
110	66129	LA00000066129	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
111	S813262	LAS813262	CRATE		LA-MSG04.001	CCP-AK-LANL-010	S4200	01/28/1981		11/30/1998			FALSE	FALSE
112	89983	10457739, LA00000089983	55G	EMPLACED_CNTR	LA-MSG04.001	CCP-AK-LANL-010	S4200	01/29/1981	09/13/2011	11/30/1998	09/13/2011	07/11/2013	FALSE	FALSE
113	66135	LA00000066135	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
114	66126	LA00000066126	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
115	66122	LA00000066122	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
116	66125	LA00000066125	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
117	S780215	LAS780215	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
118	S780205	LAS780205	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
119	89986	LA00000089986	55G	EMPLACED_CNTR	LA-MSG04.001	CCP-AK-LANL-010	S4200	01/29/1981	09/13/2011	11/30/1998	09/13/2011	07/29/2013	FALSE	FALSE
120	89892	10457736, LA00000089892	55G	EMPLACED_CNTR	LA-MSG04.001	CCP-AK-LANL-010	S4200	01/27/1981	08/31/2011	11/30/1998	08/31/2011	07/11/2013	FALSE	FALSE
121	S780213	LAS780213	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	05/09/1978		08/17/2009			FALSE	FALSE
122	S780241	LAS780241	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
123	S780221	LAS780221	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
124	S780203	LAS780203	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
125	S813315	LAS813315	CRATE		LA-MSG04.001	CCP-AK-LANL-010	S4200	01/28/1981		11/30/1998			FALSE	FALSE
126	S780243	LAS780243	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
127	S780212	LAS780212	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
128	S780218	LAS780218	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
129	S780207	LAS780207	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
130	S780245	LAS780245	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
131	S780235	LAS780235	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	05/09/1978		08/17/2009			FALSE	FALSE
132	S780219	LAS780219	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
133	66127	LA00000066127	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
134	S792213	LAS792213	CRATE		LA-MSG04.001	CCP-AK-LANL-010	S4200	07/19/1979		08/17/2009			FALSE	FALSE
135	S792214	LAS792214	CRATE		LA-MSG04.001	CCP-AK-LANL-010	S4200	07/19/1979		08/17/2009			FALSE	FALSE
136	S780250	LAS780250	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
137	66144	LA00000066144	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
138	S780208	LAS780208	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
139	S780236	LAS780236	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
140	S780222	LAS780222	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
141	66147	LA00000066147	SWB	APPROVED_CERT	LA-MSG04.001	CCP-AK-LANL-010	S4200	09/13/2011		09/13/2011			FALSE	FALSE
142	66130	LA00000066130	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
143	66123	LA00000066123	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
144	89891	10457738, LA00000089891	55G	EMPLACED_CNTR	LA-MSG04.001	CCP-AK-LANL-010	S4200	01/27/1981	08/31/2011	11/30/1998	08/31/2011	07/11/2013	FALSE	FALSE
145	89987	10457743, LA00000089987	55G	EMPLACED_CNTR	LA-MSG04.001	CCP-AK-LANL-010	S4200	01/29/1981	09/13/2011	11/30/1998	09/13/2011	07/11/2013	FALSE	FALSE
146	66140	LA00000066140	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011	04/27/2014	04/14/2011	04/27/2014		FALSE	FALSE
147	S794043	LAS794043	CRATE		LA-MSG04.001	CCP-AK-LANL-010	S4200	10/05/1979		08/17/2009			FALSE	FALSE
148	66124	LA00000066124	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
149	S780252	LAS780252	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
150	S780249	LAS780249	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
151	S792211	LAS792211	CRATE		LA-MSG04.001	CCP-AK-LANL-010	S4200	07/24/1979		08/17/2009			FALSE	FALSE
152	S780204	LAS780204	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
153	89984	10457742, LA00000089984	55G	EMPLACED_CNTR	LA-MSG04.001	CCP-AK-LANL-010	S4200	01/29/1981	09/13/2011	11/30/1998	09/13/2011	07/11/2013	FALSE	FALSE
154	S780240	LAS780240	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
155	66132	LA00000066132	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
156	S780214	LAS780214	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
157	S792216	LAS792216	CRATE		LA-MSG04.001	CCP-AK-LANL-010	S4200	07/24/1979		08/17/2009			FALSE	FALSE
158	S780216	LAS780216	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
159	S780244	LAS780244	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
160	66131	LA00000066131	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
161	S780234	LAS780234	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
162	66142	LA00000066142	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
163	S780206	LAS780206	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
164	66134	LA00000066134	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
165	S780258	LAS780258	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	05/09/1978		08/17/2009			FALSE	FALSE
166	66128	LA00000066128	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
167	89985	LA00000089985	55G	EMPLACED_CNTR	LA-MSG04.001	CCP-AK-LANL-010	S4200	01/29/1981	09/13/2011	11/30/1998	09/13/2011	07/24/2013	FALSE	FALSE
168	66136	LA00000066136	SWB		LA-MSG04.001	CCP-AK-LANL-010	S4200	04/14/2011		04/14/2011			FALSE	FALSE
169	S780209	LAS780209	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
170	S780251	LAS780251	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	05/09/1978		08/17/2009			FALSE	FALSE
171	S780246	LAS780246	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	05/09/1978		08/17/2009			FALSE	FALSE
172	S780211	LAS780211	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
173	S780217	LAS780217	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
174	89982	10457740, LA00000089982	55G	EMPLACED_CNTR	LA-MSG04.001	CCP-AK-LANL-010	S4200	01/29/1981	09/13/2011	11/30/1998	09/13/2011	07/11/2013	FALSE	FALSE
175	S813225	LAS813225	CRATE		LA-MSG04.001	CCP-AK-LANL-010	S4200	01/29/1981		11/30/1998			FALSE	FALSE
176	S780242	LAS780242	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
177	89988	10457741, LA00000089988	55G	EMPLACED_CNTR	LA-MSG04.001	CCP-AK-LANL-010	S4200	01/29/1981	09/13/2011	11/30/1998	09/13/2011	07/11/2013	FALSE	FALSE
178	S780223	LAS780223	55G		LA-MSG04.001	CCP-AK-LANL-010	S4200	02/15/1978		08/17/2009			FALSE	FALSE
179	S792215	LAS792215	CRATE		LA-MSG04.001	CCP-AK-LANL-010	S4200	07/19/1979		08/17/2009			FALSE	FALSE
180	59962	LA00000059962	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		06/19/2010	TRUE	TRUE
181	60023	LA00000060023	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/19/2010	TRUE	TRUE
182	61554	LA00000061554	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		08/05/2006	TRUE	TRUE
183	58551	LA00000058551	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
184	61680	LA00000061680	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
185	61632	LA00000061632	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/18/2006		05/18/2006		09/30/2012	TRUE	TRUE
186	62721	LA00000062721	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2008		04/07/2008		03/29/2009	TRUE	TRUE
187	66726	LA00000066726	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/06/2013		02/06/2013		04/28/2013	TRUE	TRUE
188	61506	LA00000061506	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2004		04/04/2004		04/28/2013	TRUE	TRUE
189	58533	LA00000058533	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
190	59957	LA00000059957	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		04/01/2012	TRUE	TRUE
191	61415	LA00000061415	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/20/2003		08/20/2003		09/24/2005	TRUE	TRUE
192	61684	LA00000061684	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/14/2008		05/14/2008		08/15/2010	TRUE	TRUE
193	58708	LA00000058708	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		10/08/2006	TRUE	TRUE
194	61497	LA00000061497	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/12/2004		02/12/2004		01/26/2006	TRUE	TRUE
195	61545	LA00000061545	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/22/2005		03/22/2005		07/29/2006	TRUE	TRUE
196	58578	LA00000058578	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/12/2006	TRUE	TRUE
197	60224	LA00000060224	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		04/02/2009	TRUE	TRUE
198	60041	LA00000060041	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		07/20/2010	TRUE	TRUE
199	59965	LA00000059965	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		07/22/2010	TRUE	TRUE
200	58570	LA00000058570	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/04/2006	TRUE	TRUE
201	62384	LA00000062384	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/13/2006		02/13/2006		04/13/2006	TRUE	TRUE
202	61594	LA00000061594	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/23/2008		07/23/2008		04/09/2009	TRUE	TRUE
203	59904	LA00000059904	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/09/2003		09/09/2003		09/24/2005	TRUE	TRUE
204	60290	LA00000060290	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/04/2003		12/04/2003		09/30/2012	TRUE	TRUE
205	58631	LA00000058631	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		08/04/2006	TRUE	TRUE
206	60253	LA00000060253	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		07/21/2010	TRUE	TRUE
207	67514	LA00000067514	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/19/2013		09/19/2013			TRUE	TRUE
208	62301	LA00000062301	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/19/2005		07/19/2005		06/28/2007	TRUE	TRUE
209	58716	LA00000058716	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		10/08/2006	TRUE	TRUE
210	60280	LA00000060280	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/02/2003		12/02/2003		07/30/2005	TRUE	TRUE
211	60249	LA00000060249	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		10/16/2010	TRUE	TRUE
212	67500	LA00000067500	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/18/2013		06/18/2013			TRUE	TRUE
213	62730	LA00000062730	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/29/2006		03/29/2006		01/06/2007	TRUE	TRUE
214	60237	LA00000060237	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		07/08/2010	TRUE	TRUE
215	61630	LA00000061630	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
216	58772	LA00000058772	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		08/26/2010	TRUE	TRUE
217	62738	LA00000062738	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/16/2006		08/16/2006		12/14/2006	TRUE	TRUE
218	64065	LA00000064065	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/30/2008		10/30/2008		06/03/2010	TRUE	TRUE
219	61686	LA00000061686	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/14/2008		05/14/2008		08/08/2010	TRUE	TRUE
220	61423	LA00000061423	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/09/2003		09/09/2003		01/26/2006	TRUE	TRUE
221	60024	LA00000060024	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/19/2010	TRUE	TRUE
222	60200	LA00000060200	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		06/30/2010	TRUE	TRUE
223	61661	LA00000061661	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/21/2007		08/21/2007		10/15/2008	TRUE	TRUE
224	61689	LA00000061689	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/15/2008		05/15/2008		08/15/2010	TRUE	TRUE
225	59972	LA00000059972	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		08/18/2012	TRUE	TRUE
226	61635	LA00000061635	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/18/2006		05/18/2006		04/02/2009	TRUE	TRUE
227	58575	LA00000058575	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/12/2006	TRUE	TRUE
228	60314	LA00000060314	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		08/19/2010	TRUE	TRUE
229	64544	LA00000064544	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/14/2010		10/14/2010		10/06/2012	TRUE	TRUE
230	60061	LA00000060061	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		04/03/2011	TRUE	TRUE
231	58525	LA00000058525	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
232	60002	LA00000060002	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		02/10/2011	TRUE	TRUE
233	58729	LA00000058729	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/18/2002		11/18/2002		05/28/2010	TRUE	TRUE
234	61404	LA00000061404	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/12/2003		08/12/2003		04/09/2009	TRUE	TRUE
235	60223	LA00000060223	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		04/09/2009	TRUE	TRUE
236	59950	LA00000059950	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		09/29/2012	TRUE	TRUE
237	60294	LA00000060294	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/04/2003		12/04/2003		04/09/2009	TRUE	TRUE
238	58553	LA00000058553	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/29/2006	TRUE	TRUE
239	60032	LA00000060032	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/30/2010	TRUE	TRUE
240	64543	LA00000064543	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/28/2012		11/28/2012		08/06/2013	TRUE	TRUE
241	60217	LA00000060217	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		04/19/2012	TRUE	TRUE
242	62308	LA00000062308	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2005		07/26/2005		09/11/2012	TRUE	TRUE
243	60075	LA00000060075	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/21/2010	TRUE	TRUE
244	58643	LA00000058643	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/26/2001		09/26/2001		10/06/2012	TRUE	TRUE
245	60261	LA00000060261	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		04/03/2011	TRUE	TRUE
246	58706	LA00000058706	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/10/2002		10/10/2002		08/19/2010	TRUE	TRUE
247	67539	LA00000067539	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2014		03/11/2014			TRUE	TRUE
248	58538	LA00000058538	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/17/2001	07/18/2001		07/18/2001	07/15/2012	TRUE	TRUE
249	59966	LA00000059966	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		06/26/2010	TRUE	TRUE
250	61494	LA00000061494	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/20/2004		01/20/2004		09/24/2005	TRUE	TRUE
251	58776	LA00000058776	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/20/2010	TRUE	TRUE
252	61595	LA00000061595	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/24/2005		05/24/2005		09/11/2012	TRUE	TRUE
253	58502	LA00000058502	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/06/2000		12/06/2000		07/21/2006	TRUE	TRUE
254	65488	LA00000065488	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2013		04/30/2013		10/02/2013	TRUE	TRUE
255	60238	LA00000060238	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		07/08/2010	TRUE	TRUE
256	60276	LA00000060276	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/02/2002		12/02/2002		08/28/2012	TRUE	TRUE
257	61677	LA00000061677	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
258	62713	LA00000062713	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/24/2008		01/24/2008		04/15/2009	TRUE	TRUE
259	60367	LA00000060367	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/28/2003		05/28/2003		09/29/2012	TRUE	TRUE
260	58513	LA00000058513	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/06/2000		12/06/2000		07/22/2006	TRUE	TRUE
261	58782	LA00000058782	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		10/16/2010	TRUE	TRUE
262	62395	LA00000062395	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/07/2006		02/07/2006		04/13/2006	TRUE	TRUE
263	64050	LA00000064050	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2009		01/27/2009		05/28/2010	TRUE	TRUE
264	58616	LA00000058616	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001	07/18/2001		07/18/2001	07/15/2012	TRUE	TRUE
265	58717	LA00000058717	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2002		11/13/2002		10/08/2006	TRUE	TRUE
266	60306	LA00000060306	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/08/2010	TRUE	TRUE
267	60358	LA00000060358	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/14/2004		04/14/2004		04/02/2009	TRUE	TRUE
268	65417	LA00000065417	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/11/2011		10/11/2011			TRUE	TRUE
269	61535	LA00000061535	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/17/2004		03/17/2004		09/30/2012	TRUE	TRUE
270	60257	LA00000060257	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		06/30/2010	TRUE	TRUE
271	60279	LA00000060279	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/02/2003		12/02/2003		03/29/2009	TRUE	TRUE
272	59900	LA00000059900	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/16/2003		04/16/2003		04/02/2009	TRUE	TRUE
273	59960	LA00000059960	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2012		06/26/2012		09/30/2012	TRUE	TRUE
274	65447	LA00000065447	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/28/2011		03/28/2011		04/01/2012	TRUE	TRUE
275	58632	LA00000058632	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/15/2001	06/29/2005	05/15/2001	06/29/2005	08/13/2005	TRUE	TRUE
276	60016	LA00000060016	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/30/2010	TRUE	TRUE
277	60230	LA00000060230	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		04/02/2009	TRUE	TRUE
278	58691	LA00000058691	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/16/2002		10/16/2002		08/11/2013	TRUE	TRUE
279	64545	LA00000064545	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/15/2011		02/15/2011		04/19/2012	TRUE	TRUE
280	60357	LA00000060357	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/14/2004		04/14/2004		06/11/2011	TRUE	TRUE
281	62773	LA00000062773	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2007		06/25/2007		05/28/2010	TRUE	TRUE
282	58773	LA00000058773	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		08/26/2010	TRUE	TRUE
283	66729	LA00000066729	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/27/2012		11/27/2012		04/28/2013	TRUE	TRUE
284	62732	LA00000062732	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/29/2006		03/29/2006		01/06/2007	TRUE	TRUE
285	65413	LA00000065413	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/17/2011		02/17/2011		04/19/2012	TRUE	TRUE
286	58735	LA00000058735	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		05/28/2010	TRUE	TRUE
287	64561	LA00000064561	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/14/2011		02/14/2011		04/19/2012	TRUE	TRUE
288	60365	LA00000060365	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/15/2004		04/15/2004		09/30/2012	TRUE	TRUE
289	58586	LA00000058586	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/11/2006	TRUE	TRUE
290	62723	LA00000062723	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/20/2006		04/20/2006		07/22/2006	TRUE	TRUE
291	60020	LA00000060020	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/03/2010	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
292	60316	LA00000060316	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		08/19/2010	TRUE	TRUE
293	60389	LA00000060389	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/15/2004		12/15/2004		04/02/2009	TRUE	TRUE
294	58607	LA00000058607	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/26/2006	TRUE	TRUE
295	61524	LA00000061524	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/16/2004		03/16/2004		10/16/2010	TRUE	TRUE
296	61619	LA00000061619	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/18/2006		01/18/2006		03/25/2006	TRUE	TRUE
297	60092	LA00000060092	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/12/2006	TRUE	TRUE
298	64546	LA00000064546	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/16/2011		02/16/2011		04/19/2012	TRUE	TRUE
299	60335	LA00000060335	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		08/08/2010	TRUE	TRUE
300	60301	LA00000060301	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/11/2003		06/11/2003		08/05/2006	TRUE	TRUE
301	65482	LA00000065482	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/20/2013		03/20/2013		05/26/2013	TRUE	TRUE
302	62755	LA00000062755	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/18/2007		01/18/2007		10/15/2008	TRUE	TRUE
303	60260	LA00000060260	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		07/22/2010	TRUE	TRUE
304	60086	LA00000060086	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/05/2006	TRUE	TRUE
305	60388	LA00000060388	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/15/2004		12/15/2004		04/02/2009	TRUE	TRUE
306	60251	LA00000060251	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		10/16/2010	TRUE	TRUE
307	60047	LA00000060047	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		07/08/2010	TRUE	TRUE
308	60284	LA00000060284	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/03/2003		12/03/2003		10/16/2010	TRUE	TRUE
309	60258	LA00000060258	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		07/22/2010	TRUE	TRUE
310	65479	LA00000065479	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/26/2013		02/26/2013		09/14/2013	TRUE	TRUE
311	59990	LA00000059990	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
312	58645	LA00000058645	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		07/22/2006	TRUE	TRUE
313	59920	LA00000059920	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2003		03/12/2003		03/29/2009	TRUE	TRUE
314	61493	LA00000061493	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2006		11/20/2006		08/08/2010	TRUE	TRUE
315	58583	LA00000058583	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/11/2006	TRUE	TRUE
316	62719	LA00000062719	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/16/2006		08/16/2006		12/14/2006	TRUE	TRUE
317	59929	LA00000059929	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2003		03/11/2003		03/29/2009	TRUE	TRUE
318	60026	LA00000060026	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/19/2010	TRUE	TRUE
319	64039	LA00000064039	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/09/2008		09/09/2008		08/15/2010	TRUE	TRUE
320	60206	LA00000060206	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		09/30/2012	TRUE	TRUE
321	61429	LA00000061429	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/24/2003		10/24/2003		08/13/2005	TRUE	TRUE
322	60390	LA00000060390	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/16/2004		12/16/2004		09/30/2012	TRUE	TRUE
323	62778	LA00000062778	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/26/2008		02/26/2008		03/29/2009	TRUE	TRUE
324	61652	LA00000061652	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/19/2006		10/19/2006		09/11/2012	TRUE	TRUE
325	62314	LA00000062314	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/03/2005		11/03/2005		03/25/2006	TRUE	TRUE
326	60368	LA00000060368	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/15/2004		04/15/2004		04/09/2009	TRUE	TRUE
327	58546	LA00000058546	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
328	59997	LA00000059997	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/30/2010	TRUE	TRUE
329	58796	LA00000058796	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/16/2003		04/16/2003		08/28/2012	TRUE	TRUE
330	59934	LA00000059934	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2003		03/12/2003		09/29/2012	TRUE	TRUE
331	62753	LA00000062753	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/17/2007		01/17/2007		10/15/2008	TRUE	TRUE
332	60324	LA00000060324	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		08/19/2010	TRUE	TRUE
333	62376	LA00000062376	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/18/2006		01/18/2006		03/25/2006	TRUE	TRUE
334	64079	LA00000064079	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/05/2009		05/05/2009		06/19/2010	TRUE	TRUE
335	58629	LA00000058629	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		09/20/2006	TRUE	TRUE
336	58667	LA00000058667	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/22/2006	TRUE	TRUE
337	60227	LA00000060227	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/19/2010		04/19/2010		02/10/2011	TRUE	TRUE
338	60334	LA00000060334	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		08/19/2010	TRUE	TRUE
339	59969	LA00000059969	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/26/2010	TRUE	TRUE
340	62770	LA00000062770	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/10/2006		08/10/2006		12/14/2006	TRUE	TRUE
341	58590	LA00000058590	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
342	64043	LA00000064043	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/17/2008		06/17/2008		05/26/2011	TRUE	TRUE
343	65406	LA00000065406	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/27/2010		10/27/2010		08/23/2011	TRUE	FALSE
344	60079	LA00000060079	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/12/2006	TRUE	TRUE
345	64045	LA00000064045	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/28/2008		10/28/2008		12/02/2012	TRUE	TRUE
346	58704	LA00000058704	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/24/2002		10/24/2002		08/18/2012	TRUE	TRUE
347	58764	LA00000058764	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		08/26/2010	TRUE	TRUE
348	61447	LA00000061447	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/27/2012		11/27/2012		08/06/2013	TRUE	TRUE
349	58678	LA00000058678	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/19/2002		03/19/2002		09/20/2006	TRUE	TRUE
350	61567	LA00000061567	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2007		04/04/2007		10/01/2008	TRUE	TRUE
351	60053	LA00000060053	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		07/08/2010	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
352	61473	LA00000061473	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/30/2012		08/30/2012		12/02/2012	TRUE	TRUE
353	61453	LA00000061453	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/10/2003		12/10/2003		09/15/2005	TRUE	TRUE
354	59973	LA00000059973	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		08/18/2012	TRUE	TRUE
355	67504	LA00000067504	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/10/2013		04/10/2013		10/18/2013	TRUE	TRUE
356	64584	LA00000064584	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2013		05/01/2013		09/14/2013	TRUE	TRUE
357	61469	LA00000061469	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/16/2012		07/16/2012		11/08/2012	TRUE	TRUE
358	61586	LA00000061586	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		08/12/2006	TRUE	TRUE
359	58756	LA00000058756	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		09/29/2012	TRUE	TRUE
360	61539	LA00000061539	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/20/2004		10/20/2004		06/11/2011	TRUE	TRUE
361	61592	LA00000061592	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/25/2005		05/25/2005		09/30/2012	TRUE	TRUE
362	60264	LA00000060264	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		10/16/2010	TRUE	TRUE
363	67519	LA00000067519	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/05/2013		12/05/2013			TRUE	TRUE
364	66707	LA00000066707	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2013		01/29/2013		10/02/2013	TRUE	TRUE
365	58572	LA00000058572	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/11/2006	TRUE	TRUE
366	58661	LA00000058661	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
367	66706	LA00000066706	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/27/2012		11/27/2012		08/06/2013	TRUE	TRUE
368	61584	LA00000061584	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/27/2007		08/27/2007		10/15/2008	TRUE	TRUE
369	58696	LA00000058696	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/19/2002		09/19/2002		10/15/2008	TRUE	TRUE
370	58657	LA00000058657	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
371	60344	LA00000060344	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		04/09/2009	TRUE	TRUE
372	60211	LA00000060211	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		04/19/2012	TRUE	
373	60252	LA00000060252	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		09/30/2012	TRUE	TRUE
374	59974	LA00000059974	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		07/20/2010	TRUE	TRUE
375	58563	LA00000058563	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		08/12/2006	TRUE	TRUE
376	61565	LA00000061565	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2004		03/23/2004		12/02/2012	TRUE	TRUE
377	62396	LA00000062396	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/08/2006		02/08/2006		04/13/2006	TRUE	TRUE
378	59951	LA00000059951	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		07/22/2010	TRUE	TRUE
379	66704	LA00000066704	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/07/2013		02/07/2013		08/11/2013	TRUE	TRUE
380	61681	LA00000061681	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/19/2010	TRUE	TRUE
381	65457	LA00000065457	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/06/2011		04/06/2011		04/01/2012	TRUE	TRUE
382	60271	LA00000060271	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		04/01/2012	TRUE	TRUE
383	58693	LA00000058693	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/16/2002		09/16/2002		10/06/2012	TRUE	TRUE
384	60313	LA00000060313	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		07/08/2010	TRUE	TRUE
385	61471	LA00000061471	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/06/2013		03/06/2013			TRUE	TRUE
386	62763	LA00000062763	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2007		04/04/2007		03/25/2009	TRUE	TRUE
387	62707	LA00000062707	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/12/2006		07/12/2006		01/06/2007	TRUE	TRUE
388	59992	LA00000059992	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
389	64580	LA00000064580	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/02/2010		09/02/2010		05/21/2011	TRUE	TRUE
390	61646	LA00000061646	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/20/2006		07/20/2006		12/14/2006	TRUE	TRUE
391	62380	LA00000062380	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/26/2006		01/26/2006		04/13/2006	TRUE	TRUE
392	59952	LA00000059952	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		06/19/2010	TRUE	TRUE
393	61418	LA00000061418	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/21/2003		08/21/2003		07/30/2005	TRUE	TRUE
394	60098	LA00000060098	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		08/19/2010	TRUE	TRUE
395	58742	LA00000058742	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		07/20/2010	TRUE	TRUE
396	62313	LA00000062313	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/26/2005		10/26/2005		04/28/2013	TRUE	TRUE
397	61470	LA00000061470	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/17/2012		07/17/2012		11/08/2012	FALSE	FALSE
398	60029	LA00000060029	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/30/2010	TRUE	TRUE
399	62705	LA00000062705	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/06/2006		06/06/2006		12/14/2006	TRUE	TRUE
400	58608	LA00000058608	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
401	62305	LA00000062305	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/08/2006		08/08/2006		06/19/2010	TRUE	TRUE
402	58690	LA00000058690	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/15/2002		08/15/2002		11/03/2012	TRUE	TRUE
403	58652	LA00000058652	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
404	64592	LA00000064592	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/13/2010		07/13/2010		08/23/2011	TRUE	TRUE
405	61544	LA00000061544	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/22/2005		03/22/2005		07/29/2006	TRUE	TRUE
406	64502	LA00000064502	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/14/2009		01/14/2009			TRUE	TRUE
407	60045	LA00000060045	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		07/08/2010	TRUE	TRUE
408	62771	LA00000062771	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2007		06/25/2007		06/10/2009	TRUE	TRUE
409	65473	LA00000065473	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/30/2011		08/30/2011		07/17/2013	TRUE	TRUE
410	60241	LA00000060241	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		07/08/2010	TRUE	TRUE
411	60275	LA00000060275	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		07/22/2010	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
412	64553	LA00000064553	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/20/2010		05/20/2010		08/23/2011	TRUE	TRUE
413	64585	LA00000064585	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/13/2010		07/13/2010		04/19/2012	TRUE	TRUE
414	62311	LA00000062311	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/15/2005		09/15/2005		06/28/2007	TRUE	TRUE
415	60066	LA00000060066	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		07/21/2010	TRUE	TRUE
416	61482	LA00000061482	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/16/2003		12/16/2003		09/15/2005	TRUE	TRUE
417	59913	LA00000059913	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		07/17/2012	TRUE	TRUE
418	60089	LA00000060089	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/12/2006	TRUE	TRUE
419	65412	LA00000065412	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/07/2012		06/07/2012			TRUE	TRUE
420	58520	LA00000058520	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		07/28/2006	TRUE	TRUE
421	64539	LA00000064539	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/15/2010		07/15/2010		09/30/2012	TRUE	TRUE
422	58559	LA00000058559	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/15/2001		01/15/2001		07/29/2006	TRUE	TRUE
423	61671	LA00000061671	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
424	61403	LA00000061403	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/12/2003		08/12/2003		04/09/2009	TRUE	TRUE
425	60093	LA00000060093	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/12/2006	TRUE	TRUE
426	59998	LA00000059998	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/26/2010	TRUE	TRUE
427	61489	LA00000061489	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/17/2003		12/17/2003		08/13/2005	TRUE	TRUE
428	59987	LA00000059987	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
429	61517	LA00000061517	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/16/2004		03/16/2004		07/15/2012	TRUE	TRUE
430	58642	LA00000058642	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		08/11/2006	TRUE	TRUE
431	61615	LA00000061615	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/20/2006		07/20/2006		01/06/2007	TRUE	TRUE
432	60095	LA00000060095	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/05/2006	TRUE	TRUE
433	61552	LA00000061552	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		08/12/2006	TRUE	TRUE
434	67512	LA00000067512	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/18/2013		09/18/2013			TRUE	TRUE
435	58561	LA00000058561	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/29/2006	TRUE	TRUE
436	67508	LA00000067508	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/12/2014		02/12/2014			TRUE	TRUE
437	61600	LA00000061600	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/14/2005		06/14/2005		09/27/2007	TRUE	TRUE
438	58694	LA00000058694	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/18/2002		09/18/2002		10/08/2006	TRUE	TRUE
439	65470	LA00000065470	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/12/2012		09/12/2012			TRUE	TRUE
440	60239	LA00000060239	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		02/10/2011	TRUE	TRUE
441	65490	LA00000065490	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/06/2013		06/06/2013			TRUE	TRUE
442	58621	LA00000058621	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
443	59982	LA00000059982	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		02/10/2011	TRUE	TRUE
444	61618	LA00000061618	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/28/2005		09/28/2005		09/27/2007	TRUE	TRUE
445	64078	LA00000064078	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/13/2009		03/13/2009		05/28/2010	TRUE	TRUE
446	61609	LA00000061609	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/29/2005		09/29/2005		09/30/2012	TRUE	TRUE
447	60278	LA00000060278	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/02/2003		12/02/2003		03/29/2009	TRUE	TRUE
448	64067	LA00000064067	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/21/2010		04/21/2010		02/10/2011	TRUE	TRUE
449	60231	LA00000060231	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		09/29/2012	TRUE	TRUE
450	58522	LA00000058522	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/18/2001		01/18/2001		09/20/2006	TRUE	TRUE
451	58549	LA00000058549	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
452	62744	LA00000062744	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/24/2006		10/24/2006		09/14/2013	TRUE	TRUE
453	60327	LA00000060327	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2004		01/29/2004		04/09/2009	TRUE	TRUE
454	61492	LA00000061492	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/30/2004		03/30/2004		09/24/2005	TRUE	TRUE
455	64001	LA00000064001	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/20/2007		09/20/2007		10/15/2008	TRUE	TRUE
456	60037	LA00000060037	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/19/2010	TRUE	TRUE
457	65462	LA00000065462	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/31/2012				12/02/2012	TRUE	TRUE
458	61573	LA00000061573	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/20/2007		03/20/2007		10/15/2008	TRUE	TRUE
459	58673	LA00000058673	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
460	64015	LA00000064015	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/22/2008		01/22/2008		09/30/2012	TRUE	TRUE
461	59939	LA00000059939	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		07/22/2010	TRUE	TRUE
462	61558	LA00000061558	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2005		07/26/2005		09/11/2012	TRUE	TRUE
463	65475	LA00000065475	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/17/2012		07/17/2012		11/08/2012	TRUE	TRUE
464	58552	LA00000058552	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/29/2006	TRUE	TRUE
465	60386	LA00000060386	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100		05/03/2005		05/03/2005	12/15/2005	TRUE	TRUE
466	61431	LA00000061431	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/29/2003		10/29/2003		08/13/2005	TRUE	TRUE
467	61663	LA00000061663	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/13/2003		12/13/2003		03/29/2009	TRUE	TRUE
468	60031	LA00000060031	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/30/2010	TRUE	TRUE
469	60285	LA00000060285	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/03/2003		12/03/2003		07/22/2010	TRUE	TRUE
470	64547	LA00000064547	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/15/2011		02/15/2011		04/19/2012	TRUE	TRUE
471	61559	LA00000061559	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2005		07/26/2005		06/28/2007	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
472	61556	LA00000061556	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/24/2005		03/24/2005		08/05/2006	TRUE	TRUE
473	62302	LA00000062302	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/15/2006		03/15/2006		04/13/2006	TRUE	TRUE
474	64518	LA00000064518	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/11/2006		11/11/2006		06/03/2010	TRUE	TRUE
475	58695	LA00000058695	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/17/2002		09/17/2002		10/08/2006	TRUE	TRUE
476	60289	LA00000060289	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/04/2003		12/04/2003		07/22/2010	TRUE	TRUE
477	65485	LA00000065485	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/21/2013		03/21/2013		08/11/2013	TRUE	TRUE
478	58505	LA00000058505	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/06/2000		12/06/2000		07/21/2006	TRUE	TRUE
479	58671	LA00000058671	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
480	67503	LA00000067503	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/09/2013		04/09/2013			TRUE	TRUE
481	60256	LA00000060256	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		10/16/2010	TRUE	TRUE
482	62303	LA00000062303	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/21/2006		03/21/2006		07/22/2006	TRUE	TRUE
483	64597	LA00000064597	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/16/2010		09/16/2010		05/21/2011	TRUE	TRUE
484	59916	LA00000059916	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2003		03/11/2003		03/29/2009	TRUE	TRUE
485	64011	LA00000064011	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/19/2007		09/19/2007		04/15/2009	TRUE	TRUE
486	58647	LA00000058647	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		07/21/2006	TRUE	TRUE
487	58692	LA00000058692	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/15/2002		08/15/2002		09/29/2012	TRUE	TRUE
488	59944	LA00000059944	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		06/03/2010	TRUE	TRUE
489	65463	LA00000065463	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/25/2014		02/25/2014			TRUE	TRUE
490	60221	LA00000060221	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		02/10/2011	TRUE	TRUE
491	61402	LA00000061402	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/05/2003		08/05/2003		09/24/2005	TRUE	TRUE
492	62772	LA00000062772	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2007		06/25/2007		06/10/2009	TRUE	TRUE
493	67506	LA00000067506	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/11/2014		02/11/2014			TRUE	TRUE
494	60333	LA00000060333	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		07/22/2010	TRUE	TRUE
495	64034	LA00000064034	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/27/2009		10/27/2009		07/15/2012	TRUE	TRUE
496	60319	LA00000060319	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		07/22/2010	TRUE	TRUE
497	58674	LA00000058674	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/22/2006	TRUE	TRUE
498	64069	LA00000064069	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/04/2008		11/04/2008		06/10/2009	TRUE	TRUE
499	58682	LA00000058682	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/15/2002	06/29/2005	08/15/2002	06/29/2005	04/13/2006	TRUE	TRUE
500	64047	LA00000064047	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2008		11/13/2008		04/09/2009	TRUE	TRUE
501	66730	LA00000066730	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/05/2013		02/05/2013		08/11/2013	TRUE	TRUE
502	60312	LA00000060312	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		07/22/2010	TRUE	TRUE
503	61509	LA00000061509	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/30/2004		03/30/2004		03/29/2009	TRUE	TRUE
504	65446	LA00000065446	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/28/2011		03/28/2011		04/01/2012	TRUE	TRUE
505	58582	LA00000058582	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/26/2006	TRUE	TRUE
506	60338	LA00000060338	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		08/19/2010	TRUE	TRUE
507	64068	LA00000064068	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/21/2010		04/21/2010		02/10/2011	TRUE	TRUE
508	67528	LA00000067528	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2014		03/05/2014			TRUE	TRUE
509	67517	LA00000067517	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/05/2013		12/05/2013			TRUE	TRUE
510	58591	LA00000058591	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
511	61541	LA00000061541	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2005		03/07/2005		09/11/2012	TRUE	TRUE
512	60383	LA00000060383	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/16/2004		12/16/2004		12/01/2012	TRUE	TRUE
513	60207	LA00000060207	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		04/02/2009	TRUE	TRUE
514	61685	LA00000061685	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/14/2008		05/14/2008		08/08/2010	TRUE	TRUE
515	66722	LA00000066722	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2013		03/05/2013			FALSE	FALSE
516	58744	LA00000058744	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		07/20/2010	TRUE	TRUE
517	60063	LA00000060063	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		07/20/2010	TRUE	TRUE
518	64582	LA00000064582	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/09/2010		12/09/2010		08/23/2011	TRUE	TRUE
519	58778	LA00000058778	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/15/2012	TRUE	TRUE
520	60310	LA00000060310	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		07/08/2010	TRUE	TRUE
521	66734	LA00000066734	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/06/2013		02/06/2013		08/11/2013	TRUE	TRUE
522	64000	LA00000064000	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/19/2007		09/19/2007		10/01/2008	TRUE	TRUE
523	58715	LA00000058715	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2002		11/13/2002		10/08/2006	TRUE	TRUE
524	58754	LA00000058754	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		04/01/2012	TRUE	
525	64002	LA00000064002	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/13/2007		12/13/2007		03/25/2009	TRUE	TRUE
526	58733	LA00000058733	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		05/28/2010	TRUE	TRUE
527	60382	LA00000060382	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/30/2004		11/30/2004		10/06/2012	TRUE	TRUE
528	58710	LA00000058710	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2002		11/13/2002		10/08/2006	TRUE	TRUE
529	60027	LA00000060027	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/30/2010	TRUE	TRUE
530	61412	LA00000061412	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/19/2003		08/19/2003		07/30/2005	TRUE	TRUE
531	58766	LA00000058766	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/15/2012	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
532	67543	LA00000067543	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/14/2014		05/14/2014			TRUE	TRUE
533	59996	LA00000059996	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/26/2010	TRUE	TRUE
534	58794	LA00000058794	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/16/2003		04/16/2003		04/09/2009	TRUE	TRUE
535	61424	LA00000061424	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/01/2003		10/01/2003		07/30/2005	TRUE	TRUE
536	61598	LA00000061598	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/14/2004		04/14/2004		01/26/2006	TRUE	TRUE
537	64005	LA00000064005	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/21/2007		09/21/2007		10/01/2008	TRUE	TRUE
538	59942	LA00000059942	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		04/03/2011	TRUE	TRUE
539	66709	LA00000066709	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2013		01/29/2013		10/18/2013	TRUE	TRUE
540	59918	LA00000059918	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2003		03/11/2003		03/29/2009	TRUE	TRUE
541	60353	LA00000060353	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/13/2004		04/13/2004		08/28/2012	TRUE	TRUE
542	65450	LA00000065450	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2011		03/31/2011			TRUE	TRUE
543	61596	LA00000061596	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/28/2007		08/28/2007		10/15/2008	TRUE	TRUE
544	61564	LA00000061564	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/20/2004		06/20/2004		12/15/2005	TRUE	TRUE
545	59936	LA00000059936	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2003		03/12/2003		08/18/2012	TRUE	TRUE
546	66731	LA00000066731	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/05/2013		02/05/2013		08/06/2013	TRUE	TRUE
547	58646	LA00000058646	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		07/22/2006	TRUE	TRUE
548	58539	LA00000058539	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
549	61551	LA00000061551	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		07/29/2006	TRUE	TRUE
550	60330	LA00000060330	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		07/22/2010	TRUE	TRUE
551	60229	LA00000060229	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/19/2010		04/19/2010		02/10/2011	TRUE	TRUE
552	58600	LA00000058600	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/04/2006	TRUE	TRUE
553	60268	LA00000060268	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		10/16/2010	TRUE	TRUE
554	58760	LA00000058760	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		07/19/2012	TRUE	TRUE
555	61631	LA00000061631	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/16/2006		05/16/2006		09/27/2007	TRUE	TRUE
556	61491	LA00000061491	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/29/2004		03/29/2004		09/30/2012	TRUE	TRUE
557	61690	LA00000061690	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/15/2008		05/15/2008		08/15/2010	TRUE	TRUE
558	58714	LA00000058714	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2002		11/13/2002		10/08/2006	TRUE	TRUE
559	64007	LA00000064007	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/21/2007		09/21/2007		10/15/2008	TRUE	TRUE
560	58711	LA00000058711	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2002		11/13/2002		10/08/2006	TRUE	TRUE
561	58566	LA00000058566	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100		06/29/2005		06/29/2005	08/13/2005	TRUE	TRUE
562	59956	LA00000059956	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		04/03/2011	TRUE	TRUE
563	65453	LA00000065453	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2011		04/01/2011			TRUE	TRUE
564	58731	LA00000058731	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/18/2002		11/18/2002		05/28/2010	TRUE	TRUE
565	58722	LA00000058722	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		10/08/2006	TRUE	TRUE
566	58723	LA00000058723	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		10/08/2006	TRUE	TRUE
567	58655	LA00000058655	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/22/2006	TRUE	TRUE
568	64082	LA00000064082	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2013		04/30/2013		09/14/2013	TRUE	TRUE
569	58698	LA00000058698	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/19/2002		09/19/2002		10/08/2006	TRUE	TRUE
570	60345	LA00000060345	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		08/19/2010	TRUE	TRUE
571	58557	LA00000058557	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/15/2001		01/15/2001		07/29/2006	TRUE	TRUE
572	62304	LA00000062304	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/11/2006		05/11/2006		07/22/2006	TRUE	TRUE
573	61448	LA00000061448	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/08/2003		12/08/2003		04/28/2006	TRUE	TRUE
574	58518	LA00000058518	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/20/2001		02/20/2001		12/14/2006	TRUE	TRUE
575	64038	LA00000064038	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/13/2006		08/13/2006		06/10/2009	TRUE	TRUE
576	66728	LA00000066728	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/29/2012		11/29/2012		08/11/2013	TRUE	TRUE
577	61647	LA00000061647	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/20/2006		07/20/2006		12/14/2006	TRUE	TRUE
578	58662	LA00000058662	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/22/2006	TRUE	TRUE
579	66712	LA00000066712	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/30/2013		01/30/2013		10/18/2013	TRUE	TRUE
580	67507	LA00000067507	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/12/2014		02/12/2014			TRUE	TRUE
581	60203	LA00000060203	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		08/18/2012	TRUE	TRUE
582	60212	LA00000060212	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		04/19/2012	TRUE	
583	59970	LA00000059970	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		07/20/2010	TRUE	TRUE
584	66721	LA00000066721	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/07/2013		02/07/2013		08/11/2013	TRUE	TRUE
585	58637	LA00000058637	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/25/2001		09/25/2001		11/03/2012	TRUE	TRUE
586	64070	LA00000064070	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/04/2008		11/04/2008		06/19/2010	TRUE	TRUE
587	59903	LA00000059903	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2003		01/29/2003		06/11/2011	TRUE	TRUE
588	60364	LA00000060364	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/13/2004		04/13/2004		04/02/2009	TRUE	TRUE
589	62775	LA00000062775	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2007		06/25/2007		06/10/2009	TRUE	TRUE
590	58670	LA00000058670	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
591	62726	LA00000062726	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2006		03/23/2006		04/15/2009	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
592	58799	LA00000058799	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/16/2003		04/16/2003		09/29/2012	TRUE	TRUE
593	60065	LA00000060065	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		04/03/2011	TRUE	TRUE
594	59924	LA00000059924	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2003		03/11/2003		03/25/2009	TRUE	TRUE
595	59927	LA00000059927	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2003		03/11/2003		03/29/2009	TRUE	TRUE
596	67513	LA00000067513	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/19/2013		09/19/2013			TRUE	TRUE
597	59908	LA00000059908	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/19/2003		02/19/2003		09/30/2012	TRUE	TRUE
598	66708	LA00000066708	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2013		01/29/2013		10/18/2013	TRUE	TRUE
599	58536	LA00000058536	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
600	58749	LA00000058749	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		06/03/2010	TRUE	TRUE
601	58506	LA00000058506	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/06/2000		12/06/2000		07/22/2006	TRUE	TRUE
602	61455	LA00000061455	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/11/2012		07/11/2012		12/02/2012	TRUE	TRUE
603	58598	LA00000058598	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/26/2006	TRUE	TRUE
604	60309	LA00000060309	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/08/2010	TRUE	TRUE
605	67540	LA00000067540	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2014		03/12/2014			TRUE	TRUE
606	58774	LA00000058774	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		08/26/2010	TRUE	TRUE
607	60050	LA00000060050	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/19/2010	TRUE	TRUE
608	59959	LA00000059959	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		04/03/2011	TRUE	TRUE
609	60363	LA00000060363	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/14/2004		04/14/2004		09/15/2005	TRUE	TRUE
610	60049	LA00000060049	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		07/08/2010	TRUE	TRUE
611	61665	LA00000061665	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
612	65410	LA00000065410	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/08/2010		12/08/2010		04/19/2012	TRUE	FALSE
613	60362	LA00000060362	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2004		01/29/2004		09/24/2005	TRUE	TRUE
614	61508	LA00000061508	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/30/2004		03/30/2004		09/14/2013	TRUE	TRUE
615	58721	LA00000058721	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		10/08/2006	TRUE	TRUE
616	60218	LA00000060218	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		10/16/2010	TRUE	TRUE
617	60359	LA00000060359	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/14/2004		04/14/2004		06/11/2011	TRUE	TRUE
618	64598	LA00000064598	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/30/2012		08/30/2012		10/02/2013	TRUE	TRUE
619	67501	LA00000067501	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2013		03/12/2013		10/18/2013	TRUE	TRUE
620	61543	LA00000061543	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/08/2005		03/08/2005		06/28/2007	TRUE	TRUE
621	58777	LA00000058777	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		08/26/2010	TRUE	TRUE
622	60394	LA00000060394	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/16/2004		12/16/2004		04/09/2009	TRUE	TRUE
623	60331	LA00000060331	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		08/19/2010	TRUE	TRUE
624	60395	LA00000060395	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/16/2004		12/16/2004		09/29/2012	TRUE	TRUE
625	62766	LA00000062766	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/12/2008		08/12/2008		08/08/2010	TRUE	TRUE
626	62715	LA00000062715	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/23/2006		08/23/2006		12/14/2006	TRUE	TRUE
627	58725	LA00000058725	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		10/08/2006	TRUE	TRUE
628	58768	LA00000058768	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/19/2012	TRUE	
629	61676	LA00000061676	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
630	61553	LA00000061553	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		07/29/2006	TRUE	TRUE
631	58789	LA00000058789	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/22/2010	TRUE	TRUE
632	61666	LA00000061666	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
633	58635	LA00000058635	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/20/2001		09/20/2001		12/01/2012	TRUE	TRUE
634	60396	LA00000060396	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100		05/03/2005		05/03/2005	09/15/2005	TRUE	TRUE
635	58644	LA00000058644	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/26/2001		09/26/2001		07/17/2013	TRUE	TRUE
636	62383	LA00000062383	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/01/2006		02/01/2006		04/13/2006	TRUE	TRUE
637	58564	LA00000058564	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		08/11/2006	TRUE	TRUE
638	61605	LA00000061605	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/16/2005		11/16/2005		11/08/2012	TRUE	TRUE
639	64040	LA00000064040	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2008		04/30/2008		06/03/2010	TRUE	TRUE
640	65466	LA00000065466	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/23/2011		08/23/2011		07/15/2012	TRUE	TRUE
641	58573	LA00000058573	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/12/2006	TRUE	TRUE
642	58501	LA00000058501	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/15/2000		12/15/2000		07/22/2006	TRUE	TRUE
643	60381	LA00000060381	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/02/2004		12/02/2004		05/26/2011	TRUE	TRUE
644	58614	LA00000058614	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		09/20/2006	TRUE	TRUE
645	61626	LA00000061626	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/16/2006		02/16/2006		04/13/2006	TRUE	TRUE
646	58585	LA00000058585	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/11/2006	TRUE	TRUE
647	58532	LA00000058532	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
648	60073	LA00000060073	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/22/2010	TRUE	TRUE
649	58668	LA00000058668	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/22/2006	TRUE	TRUE
650	61673	LA00000061673	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
651	59993	LA00000059993	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/26/2010	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
652	61683	LA00000061683	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/14/2008		05/14/2008		08/15/2010	TRUE	TRUE
653	60011	LA00000060011	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		04/03/2011	TRUE	TRUE
654	60219	LA00000060219	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		04/19/2012	TRUE	TRUE
655	61561	LA00000061561	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/15/2004		04/15/2004		01/26/2006	TRUE	TRUE
656	65487	LA00000065487	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2013		04/30/2013		10/02/2013	TRUE	TRUE
657	60097	LA00000060097	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		07/19/2012	TRUE	TRUE
658	64554	LA00000064554	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/20/2010		05/20/2010		08/23/2011	TRUE	TRUE
659	65445	LA00000065445	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/28/2011		03/28/2011		04/01/2012	TRUE	TRUE
660	58550	LA00000058550	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/29/2006	TRUE	TRUE
661	62774	LA00000062774	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2007		06/25/2007		06/10/2009	TRUE	TRUE
662	64062	LA00000064062	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/22/2008		10/22/2008		06/03/2010	TRUE	TRUE
663	58732	LA00000058732	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/18/2002		11/18/2002		05/28/2010	TRUE	TRUE
664	61411	LA00000061411	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/14/2003		08/14/2003		07/15/2012	TRUE	TRUE
665	59931	LA00000059931	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		04/03/2011	TRUE	TRUE
666	58511	LA00000058511	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/06/2000		12/06/2000		07/21/2006	TRUE	TRUE
667	64048	LA00000064048	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2008		11/13/2008		08/08/2010	TRUE	TRUE
668	61678	LA00000061678	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
669	58521	LA00000058521	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/18/2001		01/18/2001		08/04/2006	TRUE	TRUE
670	60272	LA00000060272	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		06/11/2011	TRUE	TRUE
671	59947	LA00000059947	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		07/22/2010	TRUE	TRUE
672	62309	LA00000062309	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/15/2005		09/15/2005		04/15/2009	TRUE	TRUE
673	58793	LA00000058793	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/16/2003		04/16/2003		08/28/2012	TRUE	TRUE
674	59971	LA00000059971	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		08/18/2012	TRUE	TRUE
675	59922	LA00000059922	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2003		03/12/2003		03/29/2009	TRUE	TRUE
676	60090	LA00000060090	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		10/15/2008	TRUE	TRUE
677	61593	LA00000061593	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/25/2005		05/25/2005		09/30/2012	TRUE	TRUE
678	64017	LA00000064017	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/21/2008		05/21/2008			TRUE	TRUE
679	58589	LA00000058589	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
680	61451	LA00000061451	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/09/2003		12/09/2003		04/28/2006	TRUE	TRUE
681	62377	LA00000062377	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/18/2006		01/18/2006		03/25/2006	TRUE	TRUE
682	61414	LA00000061414	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/19/2003		08/19/2003		07/22/2006	TRUE	TRUE
683	65442	LA00000065442	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/23/2011		02/23/2011		07/17/2013	TRUE	TRUE
684	62711	LA00000062711	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/01/2008		01/01/2008		09/30/2012	TRUE	TRUE
685	59977	LA00000059977	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
686	61623	LA00000061623	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/16/2006		02/16/2006		04/13/2006	TRUE	TRUE
687	58535	LA00000058535	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/15/2001		01/15/2001		07/28/2006	TRUE	TRUE
688	61432	LA00000061432	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/12/2006		01/12/2006		03/25/2006	TRUE	TRUE
689	67511	LA00000067511	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/15/2013		08/15/2013			TRUE	TRUE
690	62751	LA00000062751	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/13/2006		09/13/2006		05/28/2010	TRUE	TRUE
691	58602	LA00000058602	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
692	59919	LA00000059919	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2003		03/11/2003		03/29/2009	TRUE	TRUE
693	66713	LA00000066713	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/30/2013		01/30/2013		10/18/2013	TRUE	TRUE
694	61645	LA00000061645	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/20/2006		07/20/2006		01/06/2007	TRUE	TRUE
695	62748	LA00000062748	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/12/2006		09/12/2006		05/28/2010	FALSE	FALSE
696	59928	LA00000059928	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2003		03/11/2003		04/09/2009	TRUE	TRUE
697	60255	LA00000060255	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		07/22/2010	TRUE	TRUE
698	61405	LA00000061405	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/12/2003		08/12/2003		04/02/2009	TRUE	TRUE
699	61574	LA00000061574	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/17/2013		12/17/2013			TRUE	TRUE
700	60228	LA00000060228	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/19/2010		04/19/2010		02/10/2011	TRUE	TRUE
701	65467	LA00000065467	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/24/2011		08/24/2011		07/17/2012	TRUE	TRUE
702	58787	LA00000058787	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/20/2010	TRUE	TRUE
703	60283	LA00000060283	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/03/2003		12/03/2003		07/22/2010	TRUE	TRUE
704	59994	LA00000059994	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/26/2010	TRUE	TRUE
705	66705	LA00000066705	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/07/2013		02/07/2013		10/02/2013	TRUE	TRUE
706	61426	LA00000061426	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/08/2003		10/08/2003		07/30/2005	TRUE	TRUE
707	60305	LA00000060305	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		02/10/2011	TRUE	TRUE
708	58798	LA00000058798	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/16/2003		04/16/2003		03/25/2009	TRUE	TRUE
709	58633	LA00000058633	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100		06/29/2005		06/29/2005	08/13/2005	TRUE	TRUE
710	58516	LA00000058516	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/20/2001		02/20/2001		08/04/2006	TRUE	TRUE
711	58636	LA00000058636	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/27/2001		09/27/2001		11/03/2012	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
712	61576	LA00000061576	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/29/2004		06/29/2004		03/25/2006	TRUE	TRUE
713	60067	LA00000060067	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		07/20/2010	TRUE	TRUE
714	62731	LA00000062731	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/29/2006		03/29/2006		12/14/2006	TRUE	TRUE
715	59953	LA00000059953	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		06/19/2010	TRUE	TRUE
716	64052	LA00000064052	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/28/2010		06/28/2010		05/21/2011	TRUE	TRUE
717	58618	LA00000058618	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/04/2006	TRUE	TRUE
718	61622	LA00000061622	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/29/2005		09/29/2005		03/25/2006	TRUE	TRUE
719	62300	LA00000062300	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/19/2005		07/19/2005		06/19/2010	TRUE	TRUE
720	61523	LA00000061523	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/16/2004		03/16/2004		07/15/2012	TRUE	TRUE
721	60081	LA00000060081	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/12/2006	TRUE	TRUE
722	60015	LA00000060015	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/30/2010	TRUE	TRUE
723	66716	LA00000066716	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/31/2013		01/31/2013		10/18/2013	TRUE	TRUE
724	66720	LA00000066720	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/07/2013		02/07/2013		09/14/2013	TRUE	TRUE
725	59901	LA00000059901	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/16/2003		04/16/2003		04/09/2009	TRUE	TRUE
726	61454	LA00000061454	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/15/2004		04/15/2004		09/15/2005	TRUE	TRUE
727	61650	LA00000061650	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/05/2006		10/05/2006		01/06/2007	TRUE	TRUE
728	61417	LA00000061417	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/21/2003		08/21/2003		01/26/2006	TRUE	TRUE
729	64041	LA00000064041	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/17/2008		06/17/2008		05/26/2011	TRUE	TRUE
730	64036	LA00000064036	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/12/2008		08/12/2008		05/28/2010	TRUE	TRUE
731	64075	LA00000064075	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/05/2008		11/05/2008		06/10/2009	TRUE	TRUE
732	64012	LA00000064012	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/21/2007		09/21/2007		10/01/2008	TRUE	TRUE
733	61692	LA00000061692	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/15/2008		05/15/2008		08/15/2010	TRUE	TRUE
734	61409	LA00000061409	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		04/02/2009	TRUE	TRUE
735	60069	LA00000060069	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		07/21/2010	TRUE	TRUE
736	60339	LA00000060339	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		08/08/2010	TRUE	TRUE
737	61624	LA00000061624	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/25/2005		09/25/2005		08/19/2010	TRUE	TRUE
738	64530	LA00000064530	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2009		06/24/2009		05/26/2011	TRUE	TRUE
739	61529	LA00000061529	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/16/2004		03/16/2004		07/15/2012	TRUE	TRUE
740	59985	LA00000059985	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
741	60064	LA00000060064	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		07/20/2010	TRUE	TRUE
742	61675	LA00000061675	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
743	64555	LA00000064555	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/28/2012		11/28/2012		08/06/2013	TRUE	TRUE
744	60296	LA00000060296	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/04/2003		12/04/2003		10/16/2010	TRUE	TRUE
745	62716	LA00000062716	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/08/2006		08/08/2006		12/14/2006	TRUE	TRUE
746	64074	LA00000064074	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/04/2008		11/04/2008		06/10/2009	TRUE	TRUE
747	61459	LA00000061459	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/10/2007		10/10/2007		10/15/2008	TRUE	TRUE
748	61528	LA00000061528	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/16/2004		03/16/2004		08/28/2012	TRUE	TRUE
749	61468	LA00000061468	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/26/2013		02/26/2013			TRUE	TRUE
750	58624	LA00000058624	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
751	60343	LA00000060343	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/14/2004		04/14/2004		04/02/2009	TRUE	TRUE
752	65405	LA00000065405	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/26/2010		10/26/2010		08/23/2011	TRUE	FALSE
753	58596	LA00000058596	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/26/2006	TRUE	TRUE
754	61474	LA00000061474	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/28/2012		08/28/2012		10/02/2013	TRUE	TRUE
755	58769	LA00000058769	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/20/2010	TRUE	TRUE
756	60348	LA00000060348	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		04/09/2009	TRUE	TRUE
757	61550	LA00000061550	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		07/29/2006	TRUE	TRUE
758	64557	LA00000064557	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/17/2011		02/17/2011		07/17/2013	TRUE	TRUE
759	61654	LA00000061654	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/26/2007		04/26/2007		10/15/2008	TRUE	TRUE
760	61421	LA00000061421	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/30/2003		09/30/2003		07/30/2005	TRUE	TRUE
761	62735	LA00000062735	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/26/2008		02/26/2008		03/29/2009	TRUE	TRUE
762	64018	LA00000064018	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/23/2008		05/23/2008		05/21/2011	TRUE	TRUE
763	61585	LA00000061585	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		07/29/2006	TRUE	TRUE
764	58660	LA00000058660	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
765	60233	LA00000060233	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		10/16/2010	TRUE	TRUE
766	61439	LA00000061439	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/12/2003		11/12/2003		12/15/2005	TRUE	TRUE
767	58640	LA00000058640	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/26/2001		09/26/2001		07/17/2013	TRUE	TRUE
768	65459	LA00000065459	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/06/2011		04/06/2011		04/01/2012	TRUE	TRUE
769	65471	LA00000065471	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/28/2013		02/28/2013		09/14/2013	TRUE	TRUE
770	58751	LA00000058751	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		02/10/2011	TRUE	TRUE
771	60267	LA00000060267	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		04/03/2011	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
772	61639	LA00000061639	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/17/2006		07/17/2006		01/06/2007	TRUE	TRUE
773	60017	LA00000060017	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/03/2010	TRUE	TRUE
774	66715	LA00000066715	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/30/2013		01/30/2013		10/18/2013	TRUE	TRUE
775	61440	LA00000061440	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/01/2003		12/01/2003		03/25/2006	TRUE	TRUE
776	62379	LA00000062379	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/22/2006		02/22/2006		04/13/2006	TRUE	TRUE
777	62725	LA00000062725	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/06/2006		04/06/2006		07/22/2006	TRUE	TRUE
778	61583	LA00000061583	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/05/2007		09/05/2007		10/15/2008	TRUE	TRUE
779	61617	LA00000061617	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/16/2005		11/16/2005		03/25/2006	TRUE	TRUE
780	60019	LA00000060019	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/30/2010	TRUE	TRUE
781	58548	LA00000058548	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
782	61637	LA00000061637	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/17/2006		07/17/2006		01/06/2007	TRUE	TRUE
783	61520	LA00000061520	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/16/2004		03/16/2004		08/28/2012	TRUE	TRUE
784	65407	LA00000065407	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/27/2010		10/27/2010		08/23/2011	TRUE	FALSE
785	60350	LA00000060350	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/13/2004		04/13/2004		08/28/2012	TRUE	TRUE
786	58653	LA00000058653	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
787	61490	LA00000061490	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/24/2004		02/24/2004		09/24/2005	TRUE	TRUE
788	58771	LA00000058771	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		08/26/2010	TRUE	TRUE
789	58759	LA00000058759	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		07/15/2012	TRUE	TRUE
790	58712	LA00000058712	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2002		11/13/2002		10/08/2006	TRUE	TRUE
791	61437	LA00000061437	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/11/2003		11/11/2003		12/15/2005	TRUE	TRUE
792	61687	LA00000061687	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/15/2008		05/15/2008		04/09/2009	TRUE	TRUE
793	61441	LA00000061441	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/01/2003		12/01/2003		12/15/2005	TRUE	TRUE
794	60308	LA00000060308	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/08/2010	TRUE	TRUE
795	60014	LA00000060014	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		04/03/2011	TRUE	TRUE
796	58587	LA00000058587	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/12/2006	TRUE	TRUE
797	62750	LA00000062750	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/12/2006		09/12/2006		05/28/2010	TRUE	TRUE
798	60328	LA00000060328	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		07/22/2010	TRUE	TRUE
799	60325	LA00000060325	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		07/22/2010	TRUE	TRUE
800	62736	LA00000062736	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/15/2006		08/15/2006		12/14/2006	TRUE	TRUE
801	58562	LA00000058562	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/29/2006	TRUE	TRUE
802	58568	LA00000058568	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/17/2003		07/17/2003		01/26/2006	TRUE	TRUE
803	67524	LA00000067524	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2014		01/29/2014			TRUE	TRUE
804	61449	LA00000061449	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/08/2003		12/08/2003		08/13/2005	TRUE	TRUE
805	61611	LA00000061611	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/29/2005		09/29/2005		09/30/2012	TRUE	TRUE
806	64560	LA00000064560	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/14/2011		02/14/2011		04/19/2012	TRUE	TRUE
807	59902	LA00000059902	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2003		01/29/2003		04/01/2012	TRUE	TRUE
808	60082	LA00000060082	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		10/08/2006	TRUE	TRUE
809	59975	LA00000059975	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		07/20/2010	TRUE	TRUE
810	58560	LA00000058560	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/29/2006	TRUE	TRUE
811	60030	LA00000060030	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/30/2010	TRUE	TRUE
812	59976	LA00000059976	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		07/20/2010	TRUE	TRUE
813	67515	LA00000067515	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/04/2013		12/04/2013			TRUE	TRUE
814	58619	LA00000058619	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/04/2006	TRUE	TRUE
815	61608	LA00000061608	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/28/2005		09/28/2005		09/27/2007	TRUE	TRUE
816	64595	LA00000064595	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/14/2010		07/14/2010		04/19/2012	TRUE	TRUE
817	62307	LA00000062307	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2005		07/26/2005		06/28/2007	TRUE	TRUE
818	58617	LA00000058617	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
819	61419	LA00000061419	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/10/2003		09/10/2003		09/24/2005	TRUE	TRUE
820	60250	LA00000060250	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		07/21/2010	TRUE	TRUE
821	61659	LA00000061659	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/22/2007		08/22/2007		10/01/2008	TRUE	TRUE
822	60245	LA00000060245	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		10/16/2010	TRUE	TRUE
823	60034	LA00000060034	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/30/2010	TRUE	TRUE
824	64006	LA00000064006	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/20/2007		09/20/2007		10/01/2008	TRUE	TRUE
825	58753	LA00000058753	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		09/29/2012	TRUE	TRUE
826	58669	LA00000058669	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/22/2006	TRUE	TRUE
827	60005	LA00000060005	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		04/03/2011	TRUE	TRUE
828	59910	LA00000059910	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/20/2003		02/20/2003		07/19/2012	TRUE	TRUE
829	61674	LA00000061674	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
830	61695	LA00000061695	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/23/2008		07/23/2008		04/09/2009	TRUE	TRUE
831	61463	LA00000061463	55G	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/11/2012		07/11/2012		11/08/2012	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
832	60055	LA00000060055	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		07/20/2010	TRUE	TRUE
833	60033	LA00000060033	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/30/2010	TRUE	TRUE
834	62722	LA00000062722	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/20/2006		04/20/2006		07/22/2006	TRUE	TRUE
835	60298	LA00000060298	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		07/22/2010	TRUE	TRUE
836	58780	LA00000058780	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		08/26/2010	TRUE	TRUE
837	59963	LA00000059963	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		06/19/2010	TRUE	TRUE
838	61610	LA00000061610	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/29/2005		09/29/2005		09/30/2012	TRUE	TRUE
839	58738	LA00000058738	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		05/28/2010	TRUE	TRUE
840	61498	LA00000061498	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/12/2004		02/12/2004		01/26/2006	TRUE	TRUE
841	61613	LA00000061613	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/28/2005		09/28/2005		09/27/2007	TRUE	TRUE
842	58604	LA00000058604	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		07/29/2006	TRUE	TRUE
843	58634	LA00000058634	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/14/2002	06/29/2005	08/14/2002	06/29/2005	08/13/2005	TRUE	TRUE
844	61460	LA00000061460	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/10/2007		10/10/2007		10/15/2008	TRUE	TRUE
845	61487	LA00000061487	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/16/2003		12/16/2003		09/15/2005	TRUE	TRUE
846	60052	LA00000060052	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		07/08/2010	TRUE	TRUE
847	65404	LA00000065404	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/26/2010		10/26/2010		06/11/2011	TRUE	TRUE
848	58779	LA00000058779	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		04/03/2011	TRUE	TRUE
849	61580	LA00000061580	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2004		06/02/2004		03/25/2006	TRUE	TRUE
850	66718	LA00000066718	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/15/2013		03/15/2013			TRUE	TRUE
851	61655	LA00000061655	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/26/2007		04/26/2007		09/14/2013	TRUE	TRUE
852	62756	LA00000062756	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/29/2013	09/26/2013	08/29/2013	09/26/2013		TRUE	TRUE
853	58700	LA00000058700	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/25/2002		09/25/2002		07/22/2006	TRUE	TRUE
854	60387	LA00000060387	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/15/2004		12/15/2004		09/29/2012	TRUE	TRUE
855	58681	LA00000058681	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/11/2002		04/11/2002		12/15/2005	TRUE	TRUE
856	64049	LA00000064049	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2008		11/13/2008		04/02/2009	TRUE	TRUE
857	62378	LA00000062378	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/17/2006		05/17/2006		09/11/2012	TRUE	TRUE
858	58705	LA00000058705	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/24/2002		10/24/2002		08/18/2012	TRUE	TRUE
859	64035	LA00000064035	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/21/2010		04/21/2010		02/10/2011	TRUE	TRUE
860	64583	LA00000064583	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/05/2010		04/05/2010		05/26/2011	TRUE	TRUE
861	61653	LA00000061653	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/26/2007		04/26/2007		06/10/2009	TRUE	TRUE
862	64020	LA00000064020	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/14/2009		10/14/2009		08/23/2011	TRUE	TRUE
863	64033	LA00000064033	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/27/2009		10/27/2009		04/19/2012	TRUE	TRUE
864	58765	LA00000058765	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		08/26/2010	TRUE	TRUE
865	58503	LA00000058503	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/06/2000		12/06/2000		07/22/2006	TRUE	TRUE
866	62762	LA00000062762	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2007		04/03/2007		03/29/2009	TRUE	TRUE
867	58748	LA00000058748	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		08/26/2010	TRUE	TRUE
868	61420	LA00000061420	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/30/2003		09/30/2003		07/30/2005	TRUE	TRUE
869	58609	LA00000058609	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/12/2006	TRUE	TRUE
870	60354	LA00000060354	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2004		01/29/2004		04/02/2009	TRUE	TRUE
871	59983	LA00000059983	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		04/03/2011	TRUE	TRUE
872	60215	LA00000060215	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		08/18/2012	TRUE	TRUE
873	62743	LA00000062743	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/03/2006		10/03/2006		12/14/2006	TRUE	TRUE
874	58770	LA00000058770	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/20/2010	TRUE	TRUE
875	61667	LA00000061667	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/08/2010	TRUE	TRUE
876	60010	LA00000060010	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/30/2010	TRUE	TRUE
877	61521	LA00000061521	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/16/2004		03/16/2004		07/15/2012	TRUE	TRUE
878	59930	LA00000059930	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2003		03/12/2003		03/29/2009	TRUE	TRUE
879	60375	LA00000060375	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/02/2004		12/02/2004		04/02/2009	TRUE	TRUE
880	60201	LA00000060201	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		04/03/2011	TRUE	TRUE
881	65478	LA00000065478	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/07/2012		02/07/2012		11/08/2012	TRUE	TRUE
882	60299	LA00000060299	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		07/22/2010	TRUE	TRUE
883	60360	LA00000060360	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/14/2004		04/14/2004		04/09/2009	TRUE	TRUE
884	59914	LA00000059914	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		07/17/2012	TRUE	TRUE
885	61422	LA00000061422	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/01/2003		10/01/2003		07/30/2005	TRUE	TRUE
886	61427	LA00000061427	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/07/2003		10/07/2003		07/30/2005	TRUE	TRUE
887	61698	LA00000061698	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/03/2008		11/03/2008		11/08/2012	TRUE	TRUE
888	60372	LA00000060372	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/15/2004		04/15/2004		09/30/2012	TRUE	TRUE
889	58556	LA00000058556	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/29/2006	TRUE	TRUE
890	61478	LA00000061478	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/07/2012		11/07/2012		08/06/2013	TRUE	TRUE
891	58581	LA00000058581	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/04/2006	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
892	60091	LA00000060091	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/12/2006	TRUE	TRUE
893	59986	LA00000059986	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
894	58534	LA00000058534	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
895	58699	LA00000058699	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/25/2002		09/25/2002		05/22/2008	TRUE	TRUE
896	58601	LA00000058601	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/04/2006	TRUE	TRUE
897	59917	LA00000059917	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2003		03/11/2003		03/25/2009	TRUE	TRUE
898	61514	LA00000061514	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/12/2006		01/12/2006		03/25/2006	TRUE	TRUE
899	58786	LA00000058786	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		10/16/2010	TRUE	TRUE
900	60277	LA00000060277	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/02/2003		12/02/2003		08/06/2013	TRUE	TRUE
901	67525	LA00000067525	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/17/2014		06/17/2014			TRUE	TRUE
902	61400	LA00000061400	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/10/2003		09/10/2003		03/25/2006	TRUE	TRUE
903	58792	LA00000058792	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2005		07/26/2005		09/30/2012	TRUE	TRUE
904	58628	LA00000058628	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/12/2006	TRUE	TRUE
905	62708	LA00000062708	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/24/2008		01/24/2008		04/15/2009	TRUE	TRUE
906	60039	LA00000060039	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/30/2010	TRUE	TRUE
907	61616	LA00000061616	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/28/2005		09/28/2005		09/27/2007	TRUE	TRUE
908	67538	LA00000067538	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2014		03/11/2014			TRUE	TRUE
909	59935	LA00000059935	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		07/22/2010	TRUE	TRUE
910	66724	LA00000066724	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/06/2013		06/06/2013			TRUE	TRUE
911	58736	LA00000058736	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		05/28/2010	TRUE	TRUE
912	60384	LA00000060384	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100		05/03/2005		05/03/2005	09/15/2005	TRUE	TRUE
913	62724	LA00000062724	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/06/2006		04/06/2006		07/22/2006	TRUE	TRUE
914	58529	LA00000058529	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
915	61641	LA00000061641	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/18/2006		07/18/2006		06/03/2010	TRUE	TRUE
916	58508	LA00000058508	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/06/2000		12/06/2000		07/21/2006	TRUE	TRUE
917	58627	LA00000058627	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/12/2006	TRUE	TRUE
918	60263	LA00000060263	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		10/16/2010	TRUE	TRUE
919	61436	LA00000061436	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/05/2003		11/05/2003		08/13/2005	TRUE	TRUE
920	58603	LA00000058603	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		07/29/2006	TRUE	TRUE
921	64508	LA00000064508	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/21/2009		01/21/2009		06/03/2010	TRUE	TRUE
922	58526	LA00000058526	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
923	60332	LA00000060332	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		08/19/2010	TRUE	TRUE
924	60216	LA00000060216	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		04/09/2009	TRUE	TRUE
925	60008	LA00000060008	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/30/2010	TRUE	TRUE
926	65481	LA00000065481	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/20/2013		03/20/2013		09/14/2013	TRUE	TRUE
927	58588	LA00000058588	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001	07/18/2001		07/18/2001	07/15/2012	TRUE	TRUE
928	65454	LA00000065454	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2011		04/04/2011		04/01/2012	TRUE	TRUE
929	59984	LA00000059984	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		06/26/2010	TRUE	TRUE
930	59981	LA00000059981	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
931	64044	LA00000064044	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/17/2008		06/17/2008		05/26/2011	TRUE	TRUE
932	62381	LA00000062381	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2006		01/27/2006		04/13/2006	TRUE	TRUE
933	58597	LA00000058597	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/04/2006	TRUE	TRUE
934	60326	LA00000060326	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		08/19/2010	TRUE	TRUE
935	62315	LA00000062315	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/09/2005		11/09/2005		04/13/2006	TRUE	TRUE
936	60040	LA00000060040	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		07/08/2010	TRUE	TRUE
937	61530	LA00000061530	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/16/2004		03/16/2004		12/02/2012	TRUE	TRUE
938	61643	LA00000061643	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/19/2006		07/19/2006		01/06/2007	TRUE	TRUE
939	61634	LA00000061634	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/18/2006		05/18/2006		11/08/2012	TRUE	TRUE
940	65486	LA00000065486	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2013		05/01/2013		11/03/2013	TRUE	TRUE
941	62779	LA00000062779	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/26/2008		02/26/2008		03/29/2009	TRUE	TRUE
942	60025	LA00000060025	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/19/2010	TRUE	TRUE
943	61549	LA00000061549	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		08/05/2006	TRUE	TRUE
944	60342	LA00000060342	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2004		01/29/2004		07/15/2012	TRUE	TRUE
945	59941	LA00000059941	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		04/03/2011	TRUE	TRUE
946	58663	LA00000058663	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/22/2006	TRUE	TRUE
947	61410	LA00000061410	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/14/2003		08/14/2003		04/19/2012	TRUE	TRUE
948	62717	LA00000062717	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/23/2006		08/23/2006		06/03/2010	TRUE	TRUE
949	64556	LA00000064556	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/15/2010		10/15/2010		04/19/2012	TRUE	TRUE
950	61430	LA00000061430	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/11/2003		11/11/2003		12/15/2005	TRUE	TRUE
951	58527	LA00000058527	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
952	61642	LA00000061642	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/18/2006		07/18/2006		06/19/2010	TRUE	TRUE
953	58713	LA00000058713	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2002		11/13/2002		10/08/2006	TRUE	TRUE
954	60379	LA00000060379	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/30/2004		11/30/2004		10/06/2012	TRUE	TRUE
955	61587	LA00000061587	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		07/29/2006	TRUE	TRUE
956	64581	LA00000064581	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/02/2010		09/02/2010		05/21/2011	TRUE	TRUE
957	67509	LA00000067509	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/13/2014		02/13/2014			TRUE	TRUE
958	58540	LA00000058540	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
959	60204	LA00000060204	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		07/19/2012	TRUE	TRUE
960	61669	LA00000061669	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
961	58615	LA00000058615	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
962	61625	LA00000061625	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/12/2006		01/12/2006		09/27/2007	TRUE	TRUE
963	61435	LA00000061435	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/04/2003		11/04/2003		08/13/2005	TRUE	TRUE
964	64551	LA00000064551	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/18/2012		01/18/2012		07/17/2012	TRUE	TRUE
965	58605	LA00000058605	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		07/29/2006	TRUE	TRUE
966	61475	LA00000061475	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/29/2012		08/29/2012		10/02/2013	TRUE	TRUE
967	60378	LA00000060378	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/02/2004		12/02/2004		09/11/2012	TRUE	TRUE
968	60347	LA00000060347	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		08/19/2010	TRUE	TRUE
969	62709	LA00000062709	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/21/2008		01/21/2008		04/19/2012	TRUE	TRUE
970	61464	LA00000061464	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/23/2012		10/23/2012		11/08/2012	TRUE	TRUE
971	66732	LA00000066732	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/06/2013		02/06/2013		08/11/2013	TRUE	TRUE
972	60287	LA00000060287	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/03/2003		12/03/2003		10/16/2010	TRUE	TRUE
973	61621	LA00000061621	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/28/2005		09/28/2005		09/27/2007	TRUE	TRUE
974	61588	LA00000061588	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		07/29/2006	TRUE	TRUE
975	64536	LA00000064536	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/29/2009		07/29/2009		05/26/2011	TRUE	TRUE
976	61662	LA00000061662	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/07/2008		10/07/2008		06/10/2009	TRUE	TRUE
977	64021	LA00000064021	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/14/2009		08/14/2009		05/26/2011	TRUE	TRUE
978	64559	LA00000064559	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/14/2011		02/14/2011		04/19/2012	TRUE	TRUE
979	61620	LA00000061620	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/28/2005		09/28/2005		09/27/2007	TRUE	TRUE
980	62739	LA00000062739	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/16/2006		08/16/2006		06/28/2007	TRUE	TRUE
981	60007	LA00000060007	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		04/03/2011	TRUE	TRUE
982	60392	LA00000060392	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/16/2004		12/16/2004		09/11/2012	TRUE	TRUE
983	58709	LA00000058709	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2002		11/13/2002		10/08/2006	TRUE	TRUE
984	60300	LA00000060300	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/20/2003		05/20/2003		07/30/2005	TRUE	TRUE
985	62310	LA00000062310	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/15/2005		09/15/2005		10/15/2008	TRUE	TRUE
986	64522	LA00000064522	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/02/2009		03/02/2009		06/19/2010	TRUE	TRUE
987	65449	LA00000065449	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2011		03/31/2011			TRUE	TRUE
988	59932	LA00000059932	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2003		03/12/2003		03/29/2009	TRUE	TRUE
989	61510	LA00000061510	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/21/2004		06/21/2004		12/15/2005	TRUE	TRUE
990	60042	LA00000060042	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		07/22/2010	TRUE	TRUE
991	60329	LA00000060329	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		08/19/2010	TRUE	TRUE
992	58757	LA00000058757	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		04/01/2012	TRUE	
993	65448	LA00000065448	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/29/2011		03/29/2011		04/01/2012	TRUE	TRUE
994	60225	LA00000060225	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		07/17/2012	TRUE	TRUE
995	58641	LA00000058641	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/25/2001		09/25/2001		07/17/2013	TRUE	TRUE
996	58758	LA00000058758	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		08/18/2012	TRUE	TRUE
997	61486	LA00000061486	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/27/2012		11/27/2012		08/06/2013	TRUE	TRUE
998	61578	LA00000061578	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/22/2004		06/22/2004		12/15/2005	TRUE	TRUE
999	61428	LA00000061428	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/24/2003		10/24/2003		07/30/2005	TRUE	TRUE
1000	58784	LA00000058784	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		10/16/2010	TRUE	TRUE
1001	64599	LA00000064599	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/11/2011		01/11/2011		07/17/2013	TRUE	TRUE
1002	58512	LA00000058512	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/06/2000		12/06/2000		07/21/2006	TRUE	TRUE
1003	61536	LA00000061536	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/17/2004		03/17/2004		07/15/2012	TRUE	TRUE
1004	59940	LA00000059940	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		04/03/2011	TRUE	TRUE
1005	59968	LA00000059968	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		06/19/2010	TRUE	TRUE
1006	61406	LA00000061406	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/13/2003		08/13/2004		09/30/2012	TRUE	TRUE
1007	58761	LA00000058761	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/19/2012	TRUE	TRUE
1008	66719	LA00000066719	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/20/2013		06/20/2013			TRUE	TRUE
1009	58523	LA00000058523	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
1010	58747	LA00000058747	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		07/20/2010	TRUE	TRUE
1011	67546	LA00000067546	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/16/2014		06/16/2014			TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
1012	59915	LA00000059915	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		07/19/2012	TRUE	TRUE
1013	60349	LA00000060349	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/13/2004		04/13/2004		06/11/2011	TRUE	TRUE
1014	58686	LA00000058686	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2002		07/26/2002		04/01/2012	TRUE	TRUE
1015	65409	LA00000065409	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/08/2010		12/08/2010		08/23/2011	TRUE	FALSE
1016	58514	LA00000058514	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/20/2001	07/18/2001		07/18/2001	07/15/2012	TRUE	TRUE
1017	60391	LA00000060391	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/15/2004		12/15/2004		04/09/2009	TRUE	TRUE
1018	62737	LA00000062737	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/15/2006		08/15/2006		01/06/2007	TRUE	TRUE
1019	61450	LA00000061450	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/09/2003		12/09/2003		08/13/2005	TRUE	TRUE
1020	60370	LA00000060370	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/15/2004		04/15/2004		09/30/2012	TRUE	TRUE
1021	61660	LA00000061660	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/21/2007		08/21/2007		10/15/2008	TRUE	TRUE
1022	59980	LA00000059980	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
1023	60208	LA00000060208	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		04/01/2012	TRUE	
1024	60074	LA00000060074	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/21/2010	TRUE	TRUE
1025	66711	LA00000066711	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2013		01/29/2013		10/18/2013	TRUE	TRUE
1026	58788	LA00000058788	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/22/2010	TRUE	TRUE
1027	59991	LA00000059991	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
1028	65469	LA00000065469	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/27/2011		09/27/2011			TRUE	TRUE
1029	65411	LA00000065411	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/08/2010		12/08/2010		07/17/2012	TRUE	
1030	60099	LA00000060099	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		07/15/2012	TRUE	TRUE
1031	61672	LA00000061672	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/19/2010	TRUE	TRUE
1032	61446	LA00000061446	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/03/2003		12/03/2003		08/13/2005	TRUE	TRUE
1033	64503	LA00000064503	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/14/2009		01/14/2009			TRUE	TRUE
1034	60318	LA00000060318	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		02/10/2011	TRUE	TRUE
1035	61542	LA00000061542	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/08/2005		03/08/2005		09/15/2005	TRUE	TRUE
1036	58599	LA00000058599	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/12/2006	TRUE	TRUE
1037	59926	LA00000059926	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2003		03/11/2003		04/09/2009	TRUE	TRUE
1038	60096	LA00000060096	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		07/19/2012	TRUE	TRUE
1039	58659	LA00000058659	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
1040	58675	LA00000058675	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		07/22/2006	TRUE	TRUE
1041	60336	LA00000060336	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		08/08/2010	TRUE	TRUE
1042	58680	LA00000058680	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/17/2002		04/17/2002		08/04/2006	TRUE	TRUE
1043	60286	LA00000060286	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/03/2003		12/03/2003		07/22/2010	TRUE	TRUE
1044	61481	LA00000061481	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/17/2003		12/17/2003		09/15/2005	TRUE	TRUE
1045	61560	LA00000061560	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/15/2004		04/15/2004		12/15/2005	TRUE	TRUE
1046	58790	LA00000058790	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/22/2010	TRUE	TRUE
1047	59949	LA00000059949	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2003		03/12/2003		09/29/2012	TRUE	TRUE
1048	60265	LA00000060265	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		04/03/2011	TRUE	TRUE
1049	62375	LA00000062375	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/16/2006		02/16/2006		09/30/2012	TRUE	TRUE
1050	64586	LA00000064586	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/10/2010		08/10/2010		10/02/2013	TRUE	TRUE
1051	60377	LA00000060377	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/15/2004		12/15/2004		07/17/2012	TRUE	TRUE
1052	58743	LA00000058743	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		07/20/2010	TRUE	TRUE
1053	60080	LA00000060080	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/12/2006	TRUE	TRUE
1054	60012	LA00000060012	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		02/10/2011	TRUE	TRUE
1055	59938	LA00000059938	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		04/03/2011	TRUE	TRUE
1056	58665	LA00000058665	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		07/21/2006	TRUE	TRUE
1057	58726	LA00000058726	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		10/08/2006	TRUE	TRUE
1058	64513	LA00000064513	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/27/2012		11/27/2012		08/11/2013	TRUE	TRUE
1059	58727	LA00000058727	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		05/28/2010	TRUE	TRUE
1060	61499	LA00000061499	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/12/2004		02/12/2004		01/26/2006	TRUE	TRUE
1061	61599	LA00000061599	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/19/2005		07/19/2005		06/28/2007	TRUE	TRUE
1062	62718	LA00000062718	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/23/2006		08/23/2006		12/14/2006	TRUE	TRUE
1063	60085	LA00000060085	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/05/2006	TRUE	TRUE
1064	60044	LA00000060044	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		10/16/2010	TRUE	TRUE
1065	65461	LA00000065461	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/31/2012		07/31/2012		12/02/2012	TRUE	TRUE
1066	60246	LA00000060246	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		07/21/2010	TRUE	TRUE
1067	66733	LA00000066733	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/06/2013		02/06/2013		08/11/2013	TRUE	TRUE
1068	58745	LA00000058745	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		07/20/2010	TRUE	TRUE
1069	59964	LA00000059964	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		07/22/2010	TRUE	TRUE
1070	58703	LA00000058703	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/06/2003		08/06/2003		03/25/2006	TRUE	TRUE
1071	61484	LA00000061484	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/17/2003		12/17/2003		12/15/2005	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
1072	60060	LA00000060060	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		07/20/2010	TRUE	TRUE
1073	61628	LA00000061628	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/16/2006		02/16/2006		06/28/2007	TRUE	TRUE
1074	64060	LA00000064060	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/21/2008		10/21/2008		05/28/2010	TRUE	TRUE
1075	65483	LA00000065483	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/20/2013		03/20/2013		08/11/2013	TRUE	TRUE
1076	60323	LA00000060323	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		07/22/2010	TRUE	TRUE
1077	60202	LA00000060202	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		08/18/2012	TRUE	TRUE
1078	61533	LA00000061533	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/17/2004		03/17/2004		07/15/2012	TRUE	TRUE
1079	64517	LA00000064517	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/03/2009		03/03/2009		06/03/2010	TRUE	TRUE
1080	62754	LA00000062754	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/17/2007		01/17/2007		10/15/2008	TRUE	TRUE
1081	64042	LA00000064042	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/17/2008		06/17/2008		05/26/2011	TRUE	TRUE
1082	61476	LA00000061476	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/05/2012		11/05/2012			TRUE	TRUE
1083	64501	LA00000064501	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/14/2009		01/14/2009			TRUE	TRUE
1084	64549	LA00000064549	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/29/2009		12/29/2009		05/28/2010	TRUE	TRUE
1085	59909	LA00000059909	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2003		03/11/2003		04/02/2009	TRUE	TRUE
1086	59948	LA00000059948	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2003		03/12/2012		08/18/2012	TRUE	TRUE
1087	58719	LA00000058719	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		10/08/2006	TRUE	TRUE
1088	58584	LA00000058584	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/04/2006	TRUE	TRUE
1089	60274	LA00000060274	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		07/22/2010	TRUE	TRUE
1090	62386	LA00000062386	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/01/2006		03/01/2006		09/14/2013	TRUE	TRUE
1091	61442	LA00000061442	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/02/2003		12/02/2003		09/24/2005	TRUE	TRUE
1092	60013	LA00000060013	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/30/2010	TRUE	TRUE
1093	61682	LA00000061682	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		02/10/2011	TRUE	TRUE
1094	62761	LA00000062761	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2007		04/03/2007		10/15/2008	TRUE	TRUE
1095	60320	LA00000060320	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		08/19/2010	TRUE	TRUE
1096	61433	LA00000061433	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/11/2003		11/11/2003		08/13/2005	TRUE	TRUE
1097	62768	LA00000062768	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/28/2008		02/28/2008		03/29/2009	TRUE	TRUE
1098	67529	LA00000067529	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/04/2014		03/04/2014			TRUE	TRUE
1099	64558	LA00000064558	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2013		06/03/2013		10/02/2013	TRUE	TRUE
1100	58507	LA00000058507	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/15/2000		12/15/2000		07/21/2006	TRUE	TRUE
1101	58741	LA00000058741	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		06/26/2010	TRUE	TRUE
1102	58625	LA00000058625	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
1103	58530	LA00000058530	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
1104	64063	LA00000064063	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/22/2008		10/22/2008		06/03/2010	TRUE	TRUE
1105	61501	LA00000061501	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/11/2004		02/11/2004		01/26/2006	TRUE	TRUE
1106	66725	LA00000066725	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2012		07/26/2012			TRUE	TRUE
1107	67518	LA00000067518	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/05/2013		12/05/2013			TRUE	TRUE
1108	58542	LA00000058542	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/17/2001		01/17/2001		07/28/2006	TRUE	TRUE
1109	65452	LA00000065452	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2011		03/31/2011		04/01/2012	TRUE	TRUE
1110	61546	LA00000061546	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/22/2005		03/22/2005		08/05/2006	TRUE	TRUE
1111	58554	LA00000058554	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
1112	64511	LA00000064511	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/16/2010		09/16/2010		05/21/2011	TRUE	TRUE
1113	66714	LA00000066714	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/30/2013		01/30/2013		10/18/2013	TRUE	TRUE
1114	60397	LA00000060397	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100		05/03/2005		05/03/2005	09/15/2005	TRUE	TRUE
1115	61572	LA00000061572	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/20/2007		03/20/2007		10/06/2012	TRUE	TRUE
1116	60070	LA00000060070	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		07/21/2010	TRUE	TRUE
1117	61534	LA00000061534	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/17/2004		03/17/2004		08/28/2012	TRUE	TRUE
1118	67530	LA00000067530	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2014		03/05/2014			TRUE	TRUE
1119	58592	LA00000058592	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
1120	58630	LA00000058630	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		08/04/2006	TRUE	TRUE
1121	58595	LA00000058595	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/26/2006	TRUE	TRUE
1122	64524	LA00000064524	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/12/2006		09/12/2006		05/28/2010	TRUE	TRUE
1123	58544	LA00000058544	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/15/2001		01/15/2001		07/28/2006	TRUE	TRUE
1124	60282	LA00000060282	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/03/2003		12/03/2003		02/10/2011	TRUE	TRUE
1125	62776	LA00000062776	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/27/2007		06/27/2007		07/20/2010	TRUE	TRUE
1126	64009	LA00000064009	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/19/2007		09/19/2007		06/10/2009	TRUE	TRUE
1127	58547	LA00000058547	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/15/2001		01/15/2001		07/28/2006	TRUE	TRUE
1128	61597	LA00000061597	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/13/2004		04/13/2004		10/06/2012	TRUE	TRUE
1129	62769	LA00000062769	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/10/2006		08/10/2006			TRUE	TRUE
1130	64514	LA00000064514	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/27/2012		11/27/2012		08/11/2013	TRUE	TRUE
1131	60346	LA00000060346	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2004		01/29/2004		04/02/2009	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
1132	61434	LA00000061434	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/04/2003		11/04/2003		08/13/2005	TRUE	TRUE
1133	61606	LA00000061606	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/16/2005		11/16/2005		06/28/2007	TRUE	TRUE
1134	61612	LA00000061612	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/28/2005		09/28/2005		09/30/2012	TRUE	TRUE
1135	60006	LA00000060006	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/30/2010	TRUE	TRUE
1136	58752	LA00000058752	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		12/02/2012	TRUE	
1137	61657	LA00000061657	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/26/2007		04/26/2007		10/15/2008	TRUE	TRUE
1138	58702	LA00000058702	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/21/2003		07/21/2003		07/30/2005	TRUE	TRUE
1139	58791	LA00000058791	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		07/22/2010	TRUE	TRUE
1140	60003	LA00000060003	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/26/2010	TRUE	TRUE
1141	58622	LA00000058622	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/12/2006	TRUE	TRUE
1142	61557	LA00000061557	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/24/2005		03/24/2005		08/05/2006	TRUE	TRUE
1143	58626	LA00000058626	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/12/2006	TRUE	TRUE
1144	60242	LA00000060242	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/08/2010	TRUE	TRUE
1145	58606	LA00000058606	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
1146	65491	LA00000065491	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/26/2013		09/26/2013			TRUE	TRUE
1147	58555	LA00000058555	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/15/2001		01/15/2001		07/29/2006	TRUE	TRUE
1148	59912	LA00000059912	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		07/17/2012	TRUE	TRUE
1149	60058	LA00000060058	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		07/20/2010	TRUE	TRUE
1150	60355	LA00000060355	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/20/2004		04/20/2004		08/19/2010	TRUE	TRUE
1151	58519	LA00000058519	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2002		04/30/2002		07/21/2006	TRUE	TRUE
1152	58611	LA00000058611	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001	07/18/2001		07/18/2001	07/15/2012	TRUE	TRUE
1153	58684	LA00000058684	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2002		07/26/2002		04/09/2009	TRUE	TRUE
1154	64542	LA00000064542	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/11/2010		08/11/2010		09/30/2012	TRUE	TRUE
1155	61502	LA00000061502	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/10/2004		03/10/2004		09/15/2005	TRUE	TRUE
1156	60036	LA00000060036	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/30/2010	TRUE	TRUE
1157	58577	LA00000058577	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/11/2006	TRUE	TRUE
1158	60292	LA00000060292	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/04/2003		12/04/2003		07/22/2010	TRUE	TRUE
1159	61640	LA00000061640	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/18/2006		07/18/2006		12/14/2006	TRUE	TRUE
1160	65492	LA00000065492	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/01/2013		08/01/2013			TRUE	TRUE
1161	59978	LA00000059978	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
1162	60009	LA00000060009	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/03/2010	TRUE	TRUE
1163	64510	LA00000064510	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/18/2009		08/18/2009		09/30/2012	TRUE	TRUE
1164	64066	LA00000064066	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/30/2006		10/30/2006		04/02/2009	TRUE	TRUE
1165	61591	LA00000061591	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/25/2005		05/25/2005		03/29/2009	TRUE	TRUE
1166	61416	LA00000061416	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/20/2003		08/20/2003		09/24/2005	TRUE	TRUE
1167	58797	LA00000058797	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/16/2003		04/16/2003		04/01/2012	TRUE	TRUE
1168	61512	LA00000061512	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/07/2004		07/07/2004		12/15/2005	TRUE	TRUE
1169	64010	LA00000064010	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/21/2007		09/21/2007		10/01/2008	TRUE	TRUE
1170	61668	LA00000061668	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
1171	61513	LA00000061513	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/15/2004		07/15/2004		01/26/2006	TRUE	TRUE
1172	62759	LA00000062759	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/18/2013		06/18/2013			TRUE	TRUE
1173	60043	LA00000060043	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		07/08/2010	TRUE	TRUE
1174	60210	LA00000060210	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		04/01/2012	TRUE	TRUE
1175	60293	LA00000060293	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/04/2003		12/04/2003		09/30/2012	TRUE	TRUE
1176	60035	LA00000060035	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/30/2010	TRUE	TRUE
1177	61679	LA00000061679	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
1178	64577	LA00000064577	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/14/2010		06/14/2010		05/21/2011	TRUE	TRUE
1179	58648	LA00000058648	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
1180	61658	LA00000061658	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/09/2007		05/09/2007		10/01/2008	TRUE	TRUE
1181	65456	LA00000065456	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/05/2011		04/05/2011		04/01/2012	TRUE	TRUE
1182	58594	LA00000058594	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/26/2006	TRUE	TRUE
1183	62706	LA00000062706	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/06/2006		06/06/2006		12/14/2006	TRUE	TRUE
1184	62728	LA00000062728	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/30/2006		03/30/2006		07/22/2006	TRUE	TRUE
1185	64562	LA00000064562	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/15/2011		02/15/2011		04/19/2012	TRUE	TRUE
1186	66727	LA00000066727	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/28/2012		11/28/2012		04/28/2013	TRUE	TRUE
1187	62767	LA00000062767	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/12/2008		08/12/2008		04/15/2009	TRUE	TRUE
1188	58688	LA00000058688	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2002		07/26/2002		04/28/2013	TRUE	TRUE
1189	58734	LA00000058734	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		05/28/2010	TRUE	TRUE
1190	60247	LA00000060247	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/21/2010	TRUE	TRUE
1191	58651	LA00000058651	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/04/2001		12/04/2001		09/20/2006	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
1192	60311	LA00000060311	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/08/2010	TRUE	TRUE
1193	64589	LA00000064589	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/10/2010		08/10/2010		10/02/2013	TRUE	TRUE
1194	67526	LA00000067526	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/17/2014		06/17/2014			TRUE	TRUE
1195	60214	LA00000060214	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		09/30/2012	TRUE	TRUE
1196	60235	LA00000060235	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/19/2010		04/19/2010		02/10/2011	TRUE	TRUE
1197	60262	LA00000060262	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		10/16/2010	TRUE	TRUE
1198	60076	LA00000060076	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		04/03/2011	TRUE	TRUE
1199	60269	LA00000060269	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		02/10/2011	TRUE	TRUE
1200	58543	LA00000058543	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/17/2001		01/17/2001		08/25/2012	TRUE	TRUE
1201	61638	LA00000061638	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/17/2006		07/17/2006		03/25/2009	TRUE	TRUE
1202	61438	LA00000061438	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/12/2003		11/12/2003		07/22/2006	TRUE	TRUE
1203	61555	LA00000061555	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		07/29/2006	TRUE	TRUE
1204	60062	LA00000060062	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		07/08/2010	TRUE	TRUE
1205	61607	LA00000061607	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/16/2005		11/16/2005		06/28/2007	TRUE	TRUE
1206	60068	LA00000060068	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		07/21/2010	TRUE	TRUE
1207	61408	LA00000061408	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/13/2003		08/13/2003		08/06/2013	TRUE	TRUE
1208	65484	LA00000065484	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/21/2013		03/21/2013		09/14/2013	TRUE	TRUE
1209	58613	LA00000058613	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/12/2006	TRUE	TRUE
1210	60266	LA00000060266	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		09/30/2012	TRUE	TRUE
1211	60046	LA00000060046	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		07/08/2010	TRUE	TRUE
1212	58574	LA00000058574	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/26/2006	TRUE	TRUE
1213	59943	LA00000059943	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		07/22/2010	TRUE	TRUE
1214	58623	LA00000058623	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
1215	61540	LA00000061540	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2005		03/07/2005		04/28/2006	TRUE	TRUE
1216	58685	LA00000058685	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2002		07/26/2002		12/02/2012	TRUE	TRUE
1217	61636	LA00000061636	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/17/2006		07/17/2006		09/30/2012	TRUE	TRUE
1218	60038	LA00000060038	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/30/2010	TRUE	TRUE
1219	60240	LA00000060240	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		09/30/2012	TRUE	TRUE
1220	61505	LA00000061505	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/05/2005		05/05/2005		04/15/2009	TRUE	TRUE
1221	58612	LA00000058612	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/12/2006	TRUE	TRUE
1222	62764	LA00000062764	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2008		04/08/2008		03/29/2009	TRUE	TRUE
1223	61443	LA00000061443	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2003		11/13/2003		04/28/2013	TRUE	TRUE
1224	61515	LA00000061515	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2005		03/11/2005		09/15/2005	TRUE	TRUE
1225	61562	LA00000061562	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/15/2004		04/15/2004		01/26/2006	TRUE	TRUE
1226	58795	LA00000058795	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/16/2003		04/16/2003		07/17/2012	TRUE	TRUE
1227	58775	LA00000058775	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		08/26/2010	TRUE	TRUE
1228	64540	LA00000064540	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/10/2010		08/10/2010		04/19/2012	TRUE	TRUE
1229	59979	LA00000059979	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/03/2010	TRUE	TRUE
1230	58746	LA00000058746	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		07/20/2010	TRUE	TRUE
1231	61483	LA00000061483	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/17/2003		12/17/2003		04/28/2006	TRUE	TRUE
1232	58576	LA00000058576	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/11/2006	TRUE	TRUE
1233	58528	LA00000058528	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
1234	58679	LA00000058679	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/11/2002		04/11/2002		08/04/2006	TRUE	TRUE
1235	58701	LA00000058701	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/16/2002		10/16/2002		04/15/2009	TRUE	TRUE
1236	60232	LA00000060232	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		04/19/2012	TRUE	TRUE
1237	58610	LA00000058610	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
1238	58697	LA00000058697	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/19/2002		09/19/2002		10/15/2008	TRUE	TRUE
1239	61579	LA00000061579	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/13/2004		04/13/2004		09/24/2005	TRUE	TRUE
1240	58639	LA00000058639	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/26/2001		09/26/2001		07/17/2013	TRUE	TRUE
1241	61581	LA00000061581	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/19/2005		07/19/2005		04/19/2012	TRUE	TRUE
1242	58740	LA00000058740	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		06/19/2010	TRUE	TRUE
1243	60071	LA00000060071	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		07/20/2010	TRUE	TRUE
1244	61504	LA00000061504	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/03/2004		03/03/2004		12/15/2005	TRUE	TRUE
1245	61548	LA00000061548	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2005		03/23/2005		07/29/2006	TRUE	TRUE
1246	60337	LA00000060337	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		08/08/2010	TRUE	TRUE
1247	67505	LA00000067505	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/19/2013		06/19/2013			TRUE	TRUE
1248	64537	LA00000064537	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/21/2010		04/21/2010		02/10/2011	TRUE	TRUE
1249	61629	LA00000061629	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/16/2006		05/16/2006		07/22/2006	TRUE	TRUE
1250	64003	LA00000064003	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/19/2007		09/19/2007		10/01/2008	TRUE	TRUE
1251	62741	LA00000062741	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/16/2006		08/16/2006		12/14/2006	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
1252	60307	LA00000060307	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/08/2010	TRUE	TRUE
1253	58737	LA00000058737	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		05/28/2010	TRUE	TRUE
1254	62740	LA00000062740	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/16/2006		08/16/2006		05/22/2008	TRUE	TRUE
1255	59999	LA00000059999	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/26/2010	TRUE	TRUE
1256	58763	LA00000058763	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		04/01/2012	TRUE	
1257	60057	LA00000060057	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		07/08/2010	TRUE	TRUE
1258	60088	LA00000060088	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/05/2006	TRUE	TRUE
1259	60373	LA00000060373	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/14/2004		04/14/2004		08/25/2012	TRUE	TRUE
1260	60393	LA00000060393	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/16/2004		12/16/2004		08/06/2013	TRUE	TRUE
1261	60321	LA00000060321	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		08/19/2010	TRUE	TRUE
1262	59925	LA00000059925	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/11/2003		03/11/2003		03/25/2009	TRUE	TRUE
1263	60083	LA00000060083	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/12/2006	TRUE	TRUE
1264	62382	LA00000062382	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/30/2006		01/30/2006		04/13/2006	TRUE	TRUE
1265	58767	LA00000058767	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		04/01/2012	TRUE	
1266	61488	LA00000061488	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/16/2003		12/16/2003		09/15/2005	TRUE	TRUE
1267	62758	LA00000062758	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/04/2014		03/04/2014			TRUE	TRUE
1268	61571	LA00000061571	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/20/2007		03/20/2007		06/03/2010	TRUE	TRUE
1269	61519	LA00000061519	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/16/2004		03/16/2004		10/16/2010	TRUE	TRUE
1270	61604	LA00000061604	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/12/2006		01/12/2006		06/11/2011	TRUE	TRUE
1271	58654	LA00000058654	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
1272	60054	LA00000060054	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		07/08/2010	TRUE	TRUE
1273	58664	LA00000058664	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
1274	60072	LA00000060072	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		02/10/2011	TRUE	TRUE
1275	60361	LA00000060361	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2004		01/29/2004		09/24/2005	TRUE	TRUE
1276	60270	LA00000060270	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		04/03/2011	TRUE	TRUE
1277	67502	LA00000067502	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2013		03/12/2013		10/18/2013	TRUE	TRUE
1278	59955	LA00000059955	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		06/19/2010	TRUE	TRUE
1279	60209	LA00000060209	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		03/29/2009	TRUE	TRUE
1280	67541	LA00000067541	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/15/2014		05/15/2014			TRUE	TRUE
1281	58677	LA00000058677	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/19/2002		03/19/2002		09/20/2006	TRUE	TRUE
1282	64526	LA00000064526	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/25/2009		08/25/2009		05/26/2011	TRUE	TRUE
1283	64004	LA00000064004	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/20/2007		09/20/2007		10/01/2008	TRUE	TRUE
1284	60366	LA00000060366	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/15/2004		04/15/2004		06/11/2011	TRUE	TRUE
1285	64046	LA00000064046	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/29/2008		10/29/2008		06/19/2010	TRUE	TRUE
1286	58650	LA00000058650	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/27/2001		09/27/2001		11/03/2013	TRUE	TRUE
1287	61477	LA00000061477	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/06/2012		11/06/2012			TRUE	TRUE
1288	60018	LA00000060018	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/03/2010	TRUE	TRUE
1289	64529	LA00000064529	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/23/2009		06/23/2009		06/19/2010	TRUE	TRUE
1290	58755	LA00000058755	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		07/19/2012	TRUE	TRUE
1291	64525	LA00000064525	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/13/2009		03/13/2009		05/28/2010	TRUE	TRUE
1292	60087	LA00000060087	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/05/2006	TRUE	TRUE
1293	61507	LA00000061507	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/30/2004		03/30/2004		09/30/2012	TRUE	TRUE
1294	58781	LA00000058781	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		08/26/2010	TRUE	TRUE
1295	60234	LA00000060234	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/19/2010		04/19/2010		02/10/2011	TRUE	TRUE
1296	61589	LA00000061589	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/04/2005		05/04/2005		03/25/2006	TRUE	TRUE
1297	59989	LA00000059989	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
1298	65489	LA00000065489	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2013		06/03/2013			TRUE	TRUE
1299	61547	LA00000061547	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/22/2005		03/22/2005		07/29/2006	TRUE	TRUE
1300	61500	LA00000061500	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/11/2004		02/11/2004		09/15/2005	TRUE	TRUE
1301	64076	LA00000064076	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/05/2008		11/05/2008		06/10/2009	TRUE	TRUE
1302	60340	LA00000060340	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		08/08/2010	TRUE	TRUE
1303	60399	LA00000060399	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/14/2005		06/14/2005		09/11/2012	TRUE	TRUE
1304	64550	LA00000064550	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/28/2009		12/28/2009		08/25/2012	TRUE	TRUE
1305	60374	LA00000060374	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/02/2004		12/02/2004		04/15/2009	TRUE	TRUE
1306	58571	LA00000058571	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/11/2006	TRUE	TRUE
1307	60356	LA00000060356	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/13/2004		04/13/2004		08/19/2010	TRUE	TRUE
1308	60059	LA00000060059	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		07/08/2010	TRUE	TRUE
1309	64061	LA00000064061	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/22/2008		10/22/2008		06/03/2010	TRUE	TRUE
1310	59921	LA00000059921	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/12/2003		03/12/2003		03/25/2009	TRUE	TRUE
1311	60317	LA00000060317	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		02/10/2011	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
1312	60222	LA00000060222	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		08/28/2012	TRUE	TRUE
1313	60273	LA00000060273	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/12/2003		12/12/2003		07/22/2010	TRUE	TRUE
1314	61670	LA00000061670	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
1315	61648	LA00000061648	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/19/2006		10/19/2006		06/28/2007	TRUE	TRUE
1316	65468	LA00000065468	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/24/2011		08/24/2011		07/17/2012	TRUE	TRUE
1317	61644	LA00000061644	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/20/2006		07/20/2006		01/06/2007	TRUE	TRUE
1318	60254	LA00000060254	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		08/19/2010	TRUE	TRUE
1319	60259	LA00000060259	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/26/2003		06/26/2003		04/03/2011	TRUE	TRUE
1320	61582	LA00000061582	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/19/2005		07/19/2005		09/27/2007	TRUE	TRUE
1321	60304	LA00000060304	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/11/2003		06/11/2003		08/05/2006	TRUE	TRUE
1322	66710	LA00000066710	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2013		01/29/2013		10/18/2013	TRUE	TRUE
1323	64515	LA00000064515	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2009		03/05/2009		05/28/2010	TRUE	TRUE
1324	58689	LA00000058689	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2002		07/26/2002		04/28/2013	TRUE	TRUE
1325	58687	LA00000058687	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/26/2002		07/26/2002		09/20/2006	TRUE	TRUE
1326	59937	LA00000059937	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		07/20/2010	TRUE	TRUE
1327	61467	LA00000061467	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/22/2012		08/22/2012		11/08/2012	TRUE	TRUE
1328	61526	LA00000061526	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/16/2004		06/16/2004		07/15/2012	TRUE	TRUE
1329	58509	LA00000058509	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/06/2000		12/06/2000		07/21/2006	TRUE	TRUE
1330	60094	LA00000060094	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003				07/19/2012	TRUE	TRUE
1331	65451	LA00000065451	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2011		03/31/2011		04/01/2012	TRUE	TRUE
1332	61569	LA00000061569	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/26/2007		09/26/2007		06/10/2009	TRUE	TRUE
1333	62712	LA00000062712	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/24/2008		01/24/2008		04/15/2009	TRUE	TRUE
1334	62729	LA00000062729	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/30/2006		03/30/2006		07/22/2006	TRUE	TRUE
1335	59946	LA00000059946	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/22/2010	TRUE	TRUE
1336	58638	LA00000058638	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/26/2001		09/26/2001		06/10/2009	TRUE	TRUE
1337	61503	LA00000061503	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/02/2004		03/02/2004		04/28/2006	TRUE	TRUE
1338	62727	LA00000062727	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/23/2006		03/23/2006		07/22/2006	TRUE	TRUE
1339	62747	LA00000062747	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/12/2006		09/12/2006		05/28/2010	TRUE	TRUE
1340	64534	LA00000064534	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/06/2010		08/06/2010		05/21/2011	TRUE	TRUE
1341	60322	LA00000060322	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/27/2004		01/27/2004		08/19/2010	TRUE	TRUE
1342	58620	LA00000058620	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/12/2006	TRUE	TRUE
1343	60220	LA00000060220	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		06/11/2011	TRUE	TRUE
1344	62742	LA00000062742	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/17/2006		08/17/2006		12/14/2006	TRUE	TRUE
1345	61664	LA00000061664	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/13/2008		05/13/2008		08/15/2010	TRUE	TRUE
1346	60022	LA00000060022	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/19/2010	TRUE	TRUE
1347	61527	LA00000061527	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/16/2004		03/16/2004		10/16/2010	TRUE	TRUE
1348	60028	LA00000060028	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/30/2010	TRUE	TRUE
1349	61452	LA00000061452	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/09/2003		12/09/2003		04/28/2006	TRUE	TRUE
1350	60288	LA00000060288	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/03/2003		12/03/2003		06/11/2011	TRUE	TRUE
1351	58593	LA00000058593	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/05/2001		03/05/2001		08/11/2006	TRUE	TRUE
1352	60295	LA00000060295	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/04/2003		12/04/2003		09/30/2012	TRUE	TRUE
1353	58718	LA00000058718	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		10/08/2006	TRUE	TRUE
1354	58569	LA00000058569	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/11/2006	TRUE	TRUE
1355	61691	LA00000061691	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/15/2008		05/15/2008		08/15/2010	TRUE	TRUE
1356	60398	LA00000060398	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/05/2005		05/05/2005		09/11/2012	TRUE	TRUE
1357	59967	LA00000059967	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/31/2003		03/31/2003		06/26/2010	TRUE	TRUE
1358	61485	LA00000061485	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/27/2012		11/27/2012		08/06/2013	TRUE	TRUE
1359	59923	LA00000059923	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		07/22/2010	TRUE	TRUE
1360	58524	LA00000058524	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
1361	59988	LA00000059988	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		06/26/2010	TRUE	TRUE
1362	58658	LA00000058658	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
1363	58728	LA00000058728	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/18/2002		11/18/2002		05/28/2010	TRUE	TRUE
1364	62734	LA00000062734	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/26/2008		02/26/2008		03/25/2009	TRUE	TRUE
1365	61466	LA00000061466	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/21/2012		08/21/2012		12/01/2012	TRUE	TRUE
1366	58783	LA00000058783	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		10/16/2010	TRUE	TRUE
1367	58750	LA00000058750	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		08/26/2010	TRUE	TRUE
1368	61461	LA00000061461	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/10/2007		10/10/2007		10/15/2008	TRUE	TRUE
1369	60302	LA00000060302	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/28/2003		05/28/2003		03/25/2009	TRUE	TRUE
1370	64507	LA00000064507	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/21/2009		01/21/2009		06/03/2010	TRUE	TRUE
1371	61577	LA00000061577	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/22/2004		06/22/2004		04/28/2006	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
1372	58515	LA00000058515	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/20/2001		02/20/2001		08/25/2012	TRUE	TRUE
1373	58739	LA00000058739	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/19/2002		11/19/2002		06/26/2010	TRUE	TRUE
1374	61575	LA00000061575	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/29/2004		06/29/2004		12/15/2005	TRUE	TRUE
1375	62746	LA00000062746	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/13/2006		09/13/2006		05/28/2010	TRUE	TRUE
1376	64520	LA00000064520	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/04/2009		03/04/2009		06/03/2010	TRUE	TRUE
1377	62385	LA00000062385	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/01/2006		03/01/2006		09/30/2012	TRUE	TRUE
1378	64071	LA00000064071	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/04/2008		11/04/2008		08/08/2010	TRUE	TRUE
1379	58537	LA00000058537	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
1380	64521	LA00000064521	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/03/2009		03/03/2009		06/03/2010	TRUE	TRUE
1381	59911	LA00000059911	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/01/2003		04/01/2003		07/17/2012	TRUE	TRUE
1382	60004	LA00000060004	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		06/30/2010	TRUE	TRUE
1383	64081	LA00000064081	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/17/2011		02/17/2011		04/19/2012	TRUE	TRUE
1384	65493	LA00000065493	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/01/2013		08/01/2013			TRUE	TRUE
1385	58579	LA00000058579	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/11/2006	TRUE	TRUE
1386	64578	LA00000064578	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/14/2010		06/14/2010		05/21/2011	TRUE	TRUE
1387	61651	LA00000061651	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/09/2005		11/09/2005		12/14/2006	TRUE	TRUE
1388	61563	LA00000061563	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/07/2004		07/07/2004		01/26/2006	TRUE	TRUE
1389	58541	LA00000058541	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/17/2001		01/17/2001		07/28/2006	TRUE	TRUE
1390	62720	LA00000062720	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2008		04/07/2008		03/25/2009	TRUE	TRUE
1391	58762	LA00000058762	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		06/03/2010	TRUE	TRUE
1392	60297	LA00000060297	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/04/2003		12/04/2003		09/30/2012	TRUE	TRUE
1393	65444	LA00000065444	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/11/2012		07/11/2012		12/02/2012	TRUE	TRUE
1394	61444	LA00000061444	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2003		11/13/2003		04/28/2013	TRUE	TRUE
1395	58672	LA00000058672	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
1396	60371	LA00000060371	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/30/2004		11/30/2004		09/30/2012	TRUE	TRUE
1397	60078	LA00000060078	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/12/2006	TRUE	TRUE
1398	60213	LA00000060213	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/03/2003		06/03/2003		07/19/2012	TRUE	TRUE
1399	65458	LA00000065458	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/06/2011		04/06/2011		04/01/2012	TRUE	TRUE
1400	58730	LA00000058730	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/18/2002		11/18/2002		05/28/2010	TRUE	TRUE
1401	61472	LA00000061472	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/08/2013		08/08/2013			TRUE	TRUE
1402	60248	LA00000060248	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		07/21/2010	TRUE	TRUE
1403	65443	LA00000065443	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/29/2011		08/29/2011		07/17/2012	TRUE	TRUE
1404	60291	LA00000060291	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/04/2003		12/04/2003		02/10/2011	TRUE	TRUE
1405	61633	LA00000061633	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/18/2006		05/18/2006		11/08/2012	TRUE	TRUE
1406	60281	LA00000060281	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/12/2003		12/12/2003		04/15/2009	TRUE	TRUE
1407	61614	LA00000061614	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/28/2005		09/28/2005		09/27/2007	TRUE	TRUE
1408	61568	LA00000061568	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/18/2007		09/18/2007		06/10/2009	TRUE	TRUE
1409	58649	LA00000058649	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/27/2001		09/27/2001		07/17/2013	TRUE	TRUE
1410	61407	LA00000061407	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/13/2003		08/13/2003		08/06/2013	TRUE	TRUE
1411	62733	LA00000062733	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/11/2006		05/11/2006		07/22/2006	TRUE	TRUE
1412	61401	LA00000061401	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/05/2003		08/05/2003		09/24/2005	TRUE	TRUE
1413	59995	LA00000059995	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		04/03/2011	TRUE	TRUE
1414	64051	LA00000064051	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/28/2010		06/28/2010		05/21/2011	TRUE	TRUE
1415	59954	LA00000059954	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2003		04/07/2003		10/16/2010	TRUE	TRUE
1416	60380	LA00000060380	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/05/2005		05/05/2005		04/15/2009	TRUE	TRUE
1417	58517	LA00000058517	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/20/2001		02/20/2001		08/11/2006	TRUE	TRUE
1418	64523	LA00000064523	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/28/2009		05/28/2009		05/21/2011	TRUE	TRUE
1419	60352	LA00000060352	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2004		01/29/2004		04/02/2009	TRUE	TRUE
1420	62374	LA00000062374	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/17/2006		01/17/2006		04/13/2006	TRUE	TRUE
1421	60001	LA00000060001	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		06/30/2010	TRUE	TRUE
1422	61511	LA00000061511	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/07/2004		04/07/2004		01/26/2006	TRUE	TRUE
1423	60243	LA00000060243	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		10/16/2010	TRUE	TRUE
1424	61518	LA00000061518	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/16/2004		03/16/2004		08/19/2010	TRUE	TRUE
1425	58720	LA00000058720	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		10/08/2006	TRUE	TRUE
1426	61601	LA00000061601	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/14/2005		06/14/2005		09/14/2013	TRUE	TRUE
1427	62765	LA00000062765	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/30/2008		04/30/2008		12/02/2012	TRUE	TRUE
1428	60315	LA00000060315	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/16/2004		04/16/2004		08/28/2012	TRUE	TRUE
1429	61495	LA00000061495	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/21/2004		01/21/2004		09/24/2005	TRUE	TRUE
1430	58545	LA00000058545	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
1431	58656	LA00000058656	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE

	A	B	C	H	I	J	K	O	P	Q	R	S	AD	AF
1	CONTAINER ID	AKA	CONTAINER_ TYPE	WDS_STATUS	WASTESTREAM	AK_REPORT	WASTE_M ATRIX_CO DE	CLOSUREDATE	CLOSUREDATE1	VENTDATE	VENTDATE1	DISPOSAL_DATE	LINER_PRESENT	LINER_LID
1432	60021	LA00000060021	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2003		04/04/2003		06/03/2010	TRUE	TRUE
1433	65415	LA00000065415	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/09/2011		08/09/2011		07/17/2013	TRUE	TRUE
1434	61479	LA00000061479	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2013		01/28/2013		10/02/2013	TRUE	TRUE
1435	64541	LA00000064541	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/28/2012		11/28/2012		05/26/2013	TRUE	TRUE
1436	64528	LA00000064528	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/23/2009		06/23/2009		10/16/2010	TRUE	TRUE
1437	59945	LA00000059945	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		06/03/2010	TRUE	TRUE
1438	61566	LA00000061566	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/21/2007		08/21/2007		10/15/2008	TRUE	TRUE
1439	64509	LA00000064509	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/18/2009		08/18/2009		12/02/2012	TRUE	TRUE
1440	58510	LA00000058510	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/06/2000		12/06/2000		07/21/2006	TRUE	TRUE
1441	59933	LA00000059933	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/03/2003		04/03/2003		07/22/2010	TRUE	TRUE
1442	64073	LA00000064073	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/04/2008		11/04/2008		08/15/2010	TRUE	TRUE
1443	60000	LA00000060000	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/02/2003		04/02/2003		04/03/2011	TRUE	TRUE
1444	58666	LA00000058666	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/01/2002		05/01/2002		07/21/2006	TRUE	TRUE
1445	62312	LA00000062312	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	09/16/2005		09/16/2005		06/19/2010	TRUE	TRUE
1446	60376	LA00000060376	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/01/2004		12/01/2004		09/11/2012	TRUE	TRUE
1447	58531	LA00000058531	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/28/2006	TRUE	TRUE
1448	58504	LA00000058504	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/06/2000		12/06/2000		07/21/2006	TRUE	TRUE
1449	60077	LA00000060077	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/25/2003		06/25/2003		07/08/2010	TRUE	TRUE
1450	67510	LA00000067510	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	02/13/2014		02/13/2014			TRUE	TRUE
1451	59958	LA00000059958	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/08/2003		04/08/2003		06/19/2010	TRUE	TRUE
1452	62710	LA00000062710, LA0000062710	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/21/2008		01/21/2008		08/23/2011	TRUE	TRUE
1453	58724	LA00000058724	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/14/2002		11/14/2002		10/08/2006	TRUE	TRUE
1454	58707	LA00000058707	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/13/2002		11/13/2002		10/08/2006	TRUE	TRUE
1455	65455	LA00000065455	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	04/04/2011		04/04/2011		04/01/2012	TRUE	TRUE
1456	58785	LA00000058785	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/20/2002		11/20/2002		08/19/2010	TRUE	TRUE
1457	64016	LA00000064016	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/10/2010		08/10/2010		10/06/2012	TRUE	TRUE
1458	67523	LA00000067523	POC		LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2014		01/28/2014			TRUE	TRUE
1459	61522	LA00000061522	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/16/2004		06/16/2004		08/28/2012	TRUE	TRUE
1460	65460	LA00000065460	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/03/2011		05/03/2011		04/19/2012	TRUE	TRUE
1461	61425	LA00000061425	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/07/2003		10/07/2003		07/30/2005	TRUE	TRUE
1462	58580	LA00000058580	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	03/07/2001		03/07/2001		08/11/2006	TRUE	TRUE
1463	64548	LA00000064548	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/26/2010		01/26/2010		02/10/2011	TRUE	TRUE
1464	62388	LA00000062388	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/07/2005		12/07/2005		04/02/2009	TRUE	TRUE
1465	64019	LA00000064019	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/23/2008		05/23/2008		05/21/2011	TRUE	TRUE
1466	60084	LA00000060084	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/02/2003		06/02/2003		08/12/2006	TRUE	TRUE
1467	61413	LA00000061413	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	08/19/2003		08/19/2003		07/30/2005	TRUE	TRUE
1468	62752	LA00000062752	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	11/09/2006		11/09/2006		12/14/2006	TRUE	TRUE
1469	59961	LA00000059961	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	07/22/2008		07/22/2008		04/02/2009	TRUE	TRUE
1470	60205	LA00000060205	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/04/2003		06/04/2003		09/29/2012	TRUE	TRUE
1471	64014	LA00000064014	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/11/2007		12/11/2007		10/01/2008	TRUE	TRUE
1472	60244	LA00000060244	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	06/24/2003		06/24/2003		07/21/2010	TRUE	TRUE
1473	60303	LA00000060303	POC	APPROVED_CERT	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	05/28/2003		05/28/2003			TRUE	TRUE
1474	61570	LA00000061570	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/11/2007		12/11/2007		06/10/2009	TRUE	TRUE
1475	65408	LA00000065408	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	10/28/2010		10/28/2010		08/23/2011	TRUE	
1476	64008	LA00000064008	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	12/13/2007		12/13/2007		10/15/2008	TRUE	TRUE
1477	58558	LA00000058558	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/16/2001		01/16/2001		07/29/2006	TRUE	TRUE
1478	60341	LA00000060341	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/28/2004		01/28/2004		04/09/2009	TRUE	TRUE
1479	60351	LA00000060351	POC	EMPLACED_CNTR	LA-OS-00-01.001	CCP-AK-LANL-008	S5100	01/29/2004		01/29/2004		04/02/2009	TRUE	TRUE

AK18

Los Alamos NATIONAL LABORATORY

TRU WASTE STORAGE RECORD

SB10157

1. Generator's Pre-Use Visual Inspection

Purchase Order #	Inspected Items		
This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.	☐ Ring, Bolt, and Nut	☐ Chime	☐ Dents
	☐ Lid and Gasket	☐ Gouges	☐ Paint

Printed Name	Signature	Sig. Date	Oper. Date

2. Generator's Package Information

Group	Technical Area	Building	Cost Center	Program Code	Cost Account	Work Package
LTP-DDP	50	000069				

Additional Information

☑ DP ☐ Non-DP If Non-DP waste, attach DOE approval doc.

Container	Liner
☐ Steel Drum (55 gal.)	☑ None
☐ Pipe Overpack Type:	☐ 90 mil liner
☐ Steel Drum (85 gal Overpack)	☐ 125 mil liner
☑ Standard Waste Box	☐ Fiberboard Liner
☐ Standard Waste Box Overpack	**Internal Shielding**
☐ RH Canister	☑ None
☐ Other (Call TWCO)	Type / Thickness

Radionuclide Content

Nuclide	Amount	Uncertainty	C= Curie M = Gram
Am-241	2.960E-002	6.220E-003	C
Am-243	1.010E-006	1.380E-007	C
Np-237	4.720E-007	6.620E-008	C
Pu-238	5.900E-003	8.840E-004	C
Pu-239	6.110E-002	8.000E-003	C
Pu-240	1.570E-002	2.110E-003	C
Pu-241	1.160E-001	1.590E-002	C
Pu-242	1.540E-006	2.630E-007	C

Filter Serial No.			
	01 AN-749		
	02 AN730		

Waste Profile Number	32358 (WS ID 13944)
Gross Weight (lb.)	1.23E+003
Net Weight (lb.)	5.98E+002
Shipping Category	
LANL Waste Stream ID	
TRUCON Code	NA

Hazardous Materials

Name	EPA Code	Qty (g)

Date Closed (MM/DD/YY): 08/05/2013

Accumulation Start Date (MM/DD/YY): 02/27/07

The data in this section were collected, and waste described herein was packaged and labeled according to approved procedures.

Printed Name	Signature	Date:

3. Generator Site Health Physics Information

		Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Gamma Dose Rate (mrem/h) (contact)	1.00E-001				
Neutron Dose Rate (mrem/h) (contact)	2.50E-001	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)	3.50E-001				
Total Dose Rate (mrem/h) (1 meter)					
Alpha Contamination (dpm/100cm2)	2.60E+000				
Beta-Gamma Cont (dpm/100 cm2)	1.00E+000				

The data in this section were collected according to approved procedures.

Printed Name	Date

Signature

Los Alamos NATIONAL LABORATORY

TRU WASTE STORAGE RECORD

SB10157

4. TRU Waste Management Review/Authorization

The data package for this waste has been reviewed. Basedon the information provided, this waste meets the WAC requirements for storage at TA-54.	Printed Name	Date:
	Signature	

5. Preload Visual Inspection

This waste package was visually inspected prior to transport according to approved procedures. It meets WAC packaging and labeling requirements and is free from obvious damage and defects.	Printed Name	Date:

6. Receiving Site Health Physics Information

Gamma Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Neutron Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)	*The data in this section were collected according to approved procedures.*			
Total Dose Rate (mrem/h) (1 meter)				
Alpha Contamination (dpm/100cm2)	Printed Name			Date
Beta-Gamma Cont (dpm/100 cm2)	Signature			

7. Storage Site Information

Received by (Initials)	Date Received	**Original Storage Data**	
This waste package was visually inspected and found to be properly labeled and in good condition. It was accepted and inspected according to approved procedures.		Building Number	Layer	Row Number
		Column Number	Date Stacked (MM/DD/YY)
Printed Name	Date:	Printed Name	Date:
Signature		Signature	

8. Waste Acceptance Office

Intials/Date	WE Description

NCR Number	Intials/Date	NCR Description

Los Alamos
NATIONAL LABORATORY

TRU WASTE STORAGE RECORD

SB10157

9. Continuation Sheet for Radionuclide Content (from Page 1, Section 2)

Radionuclide Content - Continued			
Nuclide	**Amount**	**Uncertainty**	**C= Curie M = Gram**
U-235	0.000E+000	0.000E+000	C

10. Continuation Sheet for Hazardous Materials (from Page 1, Section 2)

Hazardous Materials		
Name	**EPA Code**	**Qty (g)**
No Additional Hazardous Materials		

Los Alamos NATIONAL LABORATORY EST. 1943

WASTE PROFILE FORM

Reference Number

WCATS ID	Legacy WPF ID
13944	32358

Generator's Z Number	Waste Generator's Name *(print)*	WMC's Z Number	WMC's Name *(print)*		Generator's Phone
109185	AXTELL, RANDY R	086572	PETERSEN, ROBYN A		5056672203
Generator's Mail Stop	**Waste Generating Group**	**Waste Stream Technical Area**	**Building**	**Room**	**WMC Phone**
E528	NWISTP	50	000069	OUTSIDE	5056655622

Waste Accumulation *(check only one)*

- ☐ Satellite Accumulation Area — Site No: _____
- ☐ Less-than-90 Days Storage Area — Site No: _____
- ☑ TSDF — Site No: 461
- ☐ Universal Waste Storage Area — Site No: _____
- ☐ Used Oil for Recycle — Site No: _____

ER Use Only

- ☐ ER Site — SWMU/AOC No. _____

- ☐ PCBs Storage Area — Site No: _____
- ☐ NM Special Waste — Site No: _____
- ☐ Rad Staging Area — Site No: _____
- ☐ Rad Storage Area — Site No: _____
- ☐ None of the Above — Site No: _____

Method of Characterization *(check as many as apply)*

☐ Chemical/Physical Analysis	☐ Attached	Sample No: _____
☐ Radiological Analysis	☐ Attached	Sample No: _____
☐ PCB Analysis	☐ Attached	Sample No: _____
☑ Acceptable Knowledge Documentation	☐ Attached	Documentation No: TWCP-SOP/DTP
☐ Material Safety Data Sheet (MSDS)	☐ Attached	

Section 1 - Waste Prevention/Minimization *(answer all questions)*

Can hazard segregation, elimination, or material substitution be used?	☐ Yes *(provide comments)*	☑ No	
Can any of the materials in the waste stream be recycled or reused?	☐ Yes *(provide comments)*	☑ No	
Has waste minimization been incorporated into procedures or other process controls?	☑ Yes	☐ No *(provide comments)*	
Can this waste be generated outside a RCA?	☐ Yes *(provide comments)*	☑ No	☐ N/A

Comments:

Section 2 - Chemical and Physical Information

Waste Type *(check only one)*

- ☐ Unused/Unspent Chemical
- ☑ Process Waste/Spent Chemical/Other

Radiological Information

Was Waste generated in a RCA?

- ☑ Yes ☐ No
- ☐ Non-radioactive
- ☐ Radioactive - Low Level
- ☑ Radioactive - Transuranic

Waste Destination *(check one)*

- ☐ SWWS
- ☐ RLWTF
- ☐ RLWTP
- ☐ TA-16/HE
- ☐ NTS

Classified Information

- ☑ Unclassified
- ☐ Classified/Sensitive

Waste Category *(check all that apply)*

- ☐ Inorganic
- ☐ Organic
- ☐ Solvent (see instructions)
- ☐ Degreaser (see instructions)
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated Hazardous Waste or Residue
- ☐ No-Longer Contained-In
- ☐ Explosive Process
- ☐ Infectious/Medical
- ☐ Biological
- ☐ Beryllium
- ☐ Empty Container (see instructions)
- ☐ Battery (see instructions)

Asbestos

- ☐ Friable
- ☐ Non-Friable

PCB Source Concentration

- ☐ PCB < 50 ppm
- ☐ PCB >= 50 - < 500 ppm
- ☐ PCB >= 500 ppm
- ☐ Hazardous Waste Contaminated Soil
- ☐ Untreated Hazardous Debris
- ☐ Commercial Solid Waste
- ☑ Other [Describe]

Other:

Waste Source *(check only one)*

Waste Source A

- ☐ Decon
- ☐ Materials Processing/Production
- ☐ Research/Development/Testing
- ☐ Scheduled Maintenance
- ☐ Housekeeping - Routine
- ☐ Spill Cleanup - Routine
- ☐ Sampling - Routine Monitoring
- ☐ Other (describe)

Waste Source B

- ☐ Abatement
- ☐ Construction/Upgrades
- ☐ Demolition
- ☐ Decon/Decom
- ☐ Investigative Derived
- ☐ Orphan/Legacy
- ☐ Remediation/Restoration
- ☑ Repacking (secondary)
- ☐ Unscheduled Maintenance
- ☐ Housekeeping (non-routine)
- ☐ Spill Cleanup (non-routine)
- ☐ Non-Petroleum Tanks
- ☐ Petroleum Tanks
- ☐ Other (describe)

Other:

Waste Matrix *(check only one)*

Gas

- ☐ ≤1.5 Atmospheres Pressure
- ☐ >1.5 Atmospheres Pressure
- ☐ Liquified Compressed Gas

Liquid

- ☐ Aqueous
- ☐ Non-Aqueous
- ☐ Suspended Solids/Aqueous
- ☐ Suspended Solids/Non-Aqueous

Solid

- ☐ Powder/Ash/Dust
- ☑ Solid
- ☐ Sludge
- ☐ Absorbed/Solidified Liquid
- ☐ Debris

Matrix Type *(check only one)*

- ☐ Homogeneous
- ☐ Heterogeneous

Estimate Annual Volume (m^3):

500.0000

COPY

Section 3 - Process and Waste Description

Process Description:
GENERIC WPF FOR TRU WASTE PROCESSED UNDER THE TRANSURANIC WASTE CERTIFICATION PROGRAM (TWCP). THIS WPF WILL COVER A VARIETY OF TRU WASTE STREAMS THAT ARE SENT FROM TA-54 (FWO-SWO) TO TA-50-69 (E-ET) FOR VE, HEADSPACE GAS ANALYSIS, AND REPACKING. ALL NEW PERTINENT RCRA CLASSIFICATION/CHARACTERIZATION INFORMATION WILL BE DOCUMENTED ON THE TWSR FOR EACH DRUM.

Waste Description:

Section 4 - Characteristics

Ignitability *(check only one)*
- ☐ < 73 F (< 22.8 C)
- ☐ 73 - 99 F (22.8 - 37.2 C)
- ☐ 100 - 139 F (37.8 - 59.4 C)
- ☐ 140 - 200 F (60.0 - 99.3 C)
- ☐ > 200 (> 99.3 C)
- ☐ EPA Ignitable - Non-liquid
- ☐ DOT Flammable Gas
- ☐ DOT Oxidizer
- ☐ Not Ignitable

Corrosivity *(check only one)* (pH)
- ☐ <= 2.0
- ☐ 2.1 - 4.0
- ☐ 4.1 - 6.0
- ☐ 6.1 - 9.0
- ☐ 9.1 - 12.4
- ☐ >= 12.5
- ☐ Liquid Corrosive to Steel
- ☐ Non-aqueous

Reactivity *(check as many as apply)*
- ☐ RCRA Unstable
- ☐ Water Reactive
- ☐ Cyanide Bearing
- ☐ Sulfide Bearing
- ☐ Pyrophoric
- ☐ Shock Sensitive
- ☐ Explosive [Specify DOT Div.]
- ☐ Non-Reactive

Boiling Point *(check only one)*
- ☐ <= 95 F (<= 35 C)
- ☐ >95 F (> 35 C)
- ☐ Not Applicable

Identify for all contaminants listed	Characterization Method: AK	TCLP	Total	None or Non-detect	Concentration of Contaminants: Contaminant present at Minimum	Maxiumum	Regulatory Limit
Toxicity Characteristic Metals					(10,000 ppm = 1%)		
Arsenic	☐	☐	☐	☐	to	ppm	5.0 ppm
Barium	☐	☐	☐	☐	to	ppm	100.0 ppm
Cadmium	☐	☐	☐	☐	to	ppm	1.0 ppm
Chromium	☐	☐	☐	☐	to	ppm	5.0 ppm
Lead	☐	☐	☐	☐	to	ppm	5.0 ppm
Mercury	☐	☐	☐	☐	to	ppm	0.2 ppm
Selenium	☐	☐	☐	☐	to	ppm	1.0 ppm
Silver	☐	☐	☐	☐	to	ppm	5.0 ppm
Toxicity Characteristic Organics							
Benzene	☐	☐	☐	☐	to	ppm	0.5 ppm
Carbon tetrachloride	☐	☐	☐	☐	to	ppm	0.5 ppm
Chlorobenzene	☐	☐	☐	☐	to	ppm	100.0 ppm
Chloroform	☐	☐	☐	☐	to	ppm	6.0 ppm
Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
p-Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
m-Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
o-Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
1,4-Dichlorobenzene	☐	☐	☐	☐	to	ppm	7.5 ppm
1,2-Dichloroethane	☐	☐	☐	☐	to	ppm	0.5 ppm
1,1-Dichloroethylene	☐	☐	☐	☐	to	ppm	0.7 ppm
2,4-Dinitrotoluene	☐	☐	☐	☐	to	ppm	0.13 ppm
Hexachlorobenzene	☐	☐	☐	☐	to	ppm	0.13 ppm
Hexachlorobutadiene	☐	☐	☐	☐	to	ppm	0.5 ppm
Hexachloroethane	☐	☐	☐	☐	to	ppm	3.0 ppm
Methyl ethyl ketone	☐	☐	☐	☐	to	ppm	200.0 ppm
Nitrobenzene	☐	☐	☐	☐	to	ppm	2.0 ppm
Pentachlorophenol	☐	☐	☐	☐	to	ppm	100.0 ppm
Pyridine	☐	☐	☐	☐	to	ppm	5.0 ppm
Tetrachloroethylene	☐	☐	☐	☐	to	ppm	0.7 ppm
Trichloroethylene	☐	☐	☐	☐	to	ppm	0.5 ppm
2,4,6-Trichlorophenol	☐	☐	☐	☐	to	ppm	2.0 ppm
2,4,5-Trichlorophenol	☐	☐	☐	☐	to	ppm	400.0 ppm
Vinyl chloride	☐	☐	☐	☐	to	ppm	0.2 ppm
Herbicides and Pesticides							
Chlordane	☐	☐	☐	☐	to	ppm	0.03 ppm
2,4-D	☐	☐	☐	☐	to	ppm	10.0 ppm
Endrin	☐	☐	☐	☐	to	ppm	0.02 ppm
Heptachlor (& its epoxide)	☐	☐	☐	☐	to	ppm	0.008 ppm
Lindane (gamma-BHC)	☐	☐	☐	☐	to	ppm	0.4 ppm
Methoxychlor	☐	☐	☐	☐	to	ppm	10.0 ppm
2,4,5-TP (Silvex)	☐	☐	☐	☐	to	ppm	1.0 ppm
Toxaphene	☐	☐	☐	☐	to	ppm	0.5 ppm

Section 5 - Additional Constituents and Contaminants

Additional Constituents and Contaminants. Please account for 100% of waste. Range should be given within guidelines of individual constituents. List all other constients (including inerts) not identified above and attach any applicable analysis. No chemical formula allowed in this field. Continue in Section 3 Additional information as necessary. CAS numbers are needed for all chemical constituents, for material without a CAS number, enter "No CAS Number".

CAS No.	Name of constituent	Minimum	Maximum
	Total of max. ranges of this section and page 2		in %

Additional Information

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below

IT IS THE RESPONSIBILITY OF E-ET TO ENSURE ALL WASTE IS CASSIFIED PER RCRA REGULATIONS TO THE FULLEST EXTENT POSSIBLE. ANY NEW OR ADDITIONAL INFORMATION GAINED DURING THE TWCP PROCESS WILL BE CONVEYED TO FWO-SWO. THIS INFORMATION IS TO BE DOCUMENTED ON A TWSR AS WELL WITH ANY ACCOMPANY CHARACTERIZATION DOCUMENTATION, AS NECESSARY. ANY OFF-NORMAL CONDITION WHICH VIOLATES THE FWO-SWO WAC WILL BE DOCUMENTED ON THE TWSR AND/OR ASSOCIATED DATA PACKAGE.
section 7 Other: Sealed waste containers

Section 6 - Work Control Documentation

Do the procedures for this process cover how to manage this waste? ☑ Yes ☐ No *(provide comments)*

Do the procedures for this process address controls to prevent changes to waste constituents and concentrations or addition or removal of waste to/from containers? ☑ Yes ☐ No *(provide comments)*

Comments:

Section 7 - Packaging and Storage Control

Describe how the waste will be packaged in according to the applicable WAC.
CERTIFIED WASTE CONTAINERS

Identify the storage management controls that will be used for this waste stream: *(check all that apply)*
☐ Tamper Indication Devices ☑ Limited use locks with log-in for waste ☑ Locked cabinet or building ☑ Other (describe)

Section 8 - Waste Certification Statements

☑ Waste appears to meet WAC attachment for: TBD-TRU

☐ Waste stream needs exception/exemption for treatment, storage, or disposal.

☐ Waste does not meet the criteria for any known TSDF. (DOE approval is required. Contact the office of the Principle Associate Director for Weapons Programs [PADWP] for assistance.)

Waste Generator Certification: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the waste characterization information on this form is correct and that it meets the requirements of the applicable waste acceptance criteria. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature: *WCATS APPLICATION (000000)* Date: *03/28/00 12:00 AM*

Waste Management Coordinator: I have reviewed this form and any associated attachments and the characterization information provided appears to be complete and accurate. I certify, to the best of my knowledge, that the waste characterization information provided by the waste generator meets the requirements of the applicable WAC.

Signature: *WCATS APPLICATION (000000)* Date: *03/28/00 12:00 AM*

Attachment 4 - LDR and UHC

Identify category and presence of any constituents listed below *(equal to or above limit)*.

Non-Wastewater/Wastewater Category *(check only one)*

☐ Non Wastewater ☐ Wastewater [as defined by 40 CFR 268.2(f)] ☐ Lab Pack [40 CFR 268.2(f)] **Sign Certification #1**

Notifications and Certifications - Check the appilcable boxes

Generator Requirements:

☐ This shipment contains hazardous waste contaminated soil that does not meet treatment standards **Sign Certification #2**
☐ This shipment contains untreated hazardous debris to be treated to 40 CFR 268.45 treatment standards **(No certification)**
☐ Hazardous wastes (except soil) meeting treatment standards at point of generation **Sign Certification #3**
☐ Hazardous wastes contaminated soil meeting treatment standards at point of generation **Sign Certification #4**

TSDF or Generator Treatment:

☐ TSDF treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #5**
☐ Generator treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #6**
☐ Hazardous wastes contaminated soil treated to 40 CFR 268.49 **Sign Certification #7**
☐ Wastes or residues from characteristic hazardous waste treatment meeting treatment standards and UTS **Sign Certification #8**
☐ Wastes or residues from characteristic hazardous waste treatment not meeting UTS **Sign Certification #9**
☐ Other TSDF wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #10**
☐ Other generator wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #11**

Notification of Underlying Hazardous Constituents

(Check the applicable underlying constituents above the concentration levels for D001 through D043 characterstic wastes only)

☐ ***No Underlying Hazardous Constituents in this waste stream.***

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Acenaphthene	83-32-9	0.059	3.4	34.0
☐	Acenaphthylene	208-96-8	0.059	3.4	34.0
☐	Acetone	67-64-1	0.28	160.0	1600.0
☐	Acetonitrile	75-05-8	5.6	38.0	380.0
☐	Acetophenone	98-86-2	0.01	9.7	97.0
☐	2-Acetylaminofluorene	53-96-3	0.059	140.0	1400.0
☐	Acrolein	107-02-8	0.29	N/A	N/A
☐	Acrylamide	79-06-1	19.0	23.0	230.0
☐	Acrylonitrile	107-13-1	0.24	84.0	840.0
☐	Aldicarb sulfone	1646-88-4	0.056	0.28	2.8
☐	Aldrin	309-00-2	0.021	0.066	0.66
☐	4-Aminobiphenyl	92-67-1	0.13	N/A	N/A
☐	Aniline	62-53-3	0.81	14.0	140.0
☐	o-Anisidine	90-04-0	0.01	0.66	6.6
☐	Anthracene	120-12-7	0.059	3.4	34.0
☐	Aramite	140-57-8	0.36	N/A	N/A
☐	alpha-BHC	319-84-6	0.00014	0.066	0.66
☐	beta-BHC	319-85-7	0.00014	0.066	0.66
☐	delta-BHC	319-86-8	0.023	0.066	0.66
☐	Barban	101-27-9	0.056	1.4	14.0
☐	Bendiocarb	22781-23-3	0.056	1.4	14.0
☐	Benomyl	17804-35-2	0.056	1.4	14.0
☐	Benz[a]anthracene	56-55-3	0.059	3.4	34.0
☐	Benzal chloride	98-87-3	0.055	6.0	60.0
☐	Benzene	71-43-2	0.14	10.0	100.0
☐	Benzo(b)fluoranthene	205-99-2	0.11	6.8	68.0
☐	Benzo[a]pyrene	50-32-8	0.061	3.4	34.0
☐	Benzo[ghi]perylene	191-24-2	0.0055	1.8	18.0
☐	Benzo[k]fluoranthene	207-08-9	0.11	6.8	68.0
☐	Bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2	72.0
☐	Bis(2-chloroethyl) ether	111-44-4	0.033	6.0	60.0
☐	Bis(2-chloroisopropyl) ether	39638-32-9	0.055	7.2	72.0
☐	Bis(2-ethylhexyl) phthalate	117-81-7	0.28	28.0	280.0
☐	Bromodichloromethane	75-27-4	0.35	15.0	150.0
☐	Bromomethane	74-83-9	0.11	15.0	150.0
☐	4-Bromophenyl phenyl ether	101-55-3	0.055	15.0	150.0
☐	n-Butyl alchohol	71-36-3	5.6	2.6	26.0
☐	Butyl benzyl phthalate	85-68-7	0.017	28.0	280.0
☐	Butylate	2008-41-5	0.042	1.4	14.0
☐	Carbaryl	63-25-2	0.006	0.14	1.4

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Carbendazim	10605-21-7	0.056	1.4	14.0
☐	Carbofuran	1563-66-2	0.006	0.14	1.4
☐	Carbofuran phenol	1563-38-8	0.056	1.4	14.0
☐	Carbon disulfide	75-15-0	3.8	4.8	48.0
☐	Carbon tetrachloride	56-23-5	0.057	6.0	60.0
☐	Carbosulfan	55285-14-8	0.028	1.4	14.0
☐	Chlordane	57-74-9	0.0033	0.26	2.6
☐	p-Chloro-m-cresol	59-50-7	0.018	14.0	140.0
☐	p-Chloroaniline	106-47-8	0.46	16.0	160.0
☐	Chlorobenzene	108-90-7	0.057	6.0	60.0
☐	Chlorobenzilate	510-15-6	0.1	N/A	N/A
☐	Chlorodibromomethane	124-48-1	0.057	15.0	150.0
☐	Chloroethane	75-00-3	0.27	6.0	60.0
☐	2-Chloroethyl vinyl ether	110-75-8	0.062	N/A	N/A
☐	Chloroform	67-66-3	0.046	6.0	60.0
☐	Chloromethane	74-87-3	0.19	30.0	300.0
☐	2-Chloronaphthalene	91-58-7	0.055	5.6	56.0
☐	2-Chlorophenol	95-57-8	0.044	5.7	57.0
☐	Chloroprene	126-99-8	0.057	0.28	2.8
☐	3-Chloropropylene	107-05-1	0.036	30.0	300.0
☐	Chrysene	218-01-9	0.059	3.4	34.0
☐	p-Cresidine	120-71-8	0.01	0.66	6.6
☐	m-Cresol	108-39-4	0.77	5.6	56.0
☐	o-Cresol	95-48-7	0.11	5.6	56.0
☐	p-Cresol	106-44-5	0.77	5.6	56.0
☐	m-Cumenyl methylcarbamate	64-00-6	0.056	1.4	14.0
☐	Cyanide (Amenable)	57-12-5*	0.86	30.0	300.0
☐	Cyanide (Total)	57-12-5	1.2	590.0	5900.0
☐	Cyclohexanone	108-94-1	0.36	0.75	7.5
☐	2,4-D	94-75-7	0.72	10.0	100.0
☐	o,p'-DDD	53-19-0	0.023	0.087	0.87
☐	p,p'-DDD	72-54-8	0.023	0.087	0.87
☐	o,p'-DDE	3424-82-6	0.031	0.087	0.87
☐	p,p'-DDE	72-55-9	0.031	0.087	0.87
☐	o,p'-DDT	789-02-6	0.0039	0.087	0.87
☐	p,p'-DDT	50-29-3	0.0039	0.087	0.87
☐	Di-n-butyl phthalate	84-74-2	0.057	28.0	280.0
☐	Di-n-octyl phthalate	117-84-0	0.017	28.0	280.0
☐	Di-n-propylnitrosamine	621-64-7	0.4	14.0	140.0
☐	Dibenz[a,h]anthracene	53-70-3	0.055	8.2	82.0
☐	Dibenzo[a,e]pyrene	192-65-4	0.061	N/A	N/A
☐	1,2-Dibromo-3-chloropropane	96-12-8	0.11	15.0	150.0
☐	1,2-Dibromoethane	106-93-4	0.028	15.0	150.0
☐	Dibromomethane	74-95-3	0.11	15.0	150.0
☐	1,4-Dichlorobenzene	106-46-7	0.09	6.0	60.0
☐	m-Dichlorobenzene	541-73-1	0.036	6.0	60.0
☐	o-Dichlorobenzene	95-50-1	0.088	6.0	60.0
☐	Dichlorodifluoromethane	75-71-8	0.23	7.2	72.0
☐	1,1-Dichloroethane	75-34-3	0.059	6.0	60.0
☐	1,2-Dichloroethane	107-06-2	0.21	6.0	60.0
☐	1,1-Dichloroethylene	75-35-4	0.025	6.0	60.0
☐	trans-1,2-Dichloroethylene	156-60-5	0.054	30.0	300.0
☐	2,4-Dichlorophenol	120-83-2	0.044	14.0	140.0
☐	2,6-Dichlorophenol	87-65-0	0.044	14.0	140.0
☐	1,2-Dichloropropane	78-87-5	0.85	18.0	180.0
☐	trans-1,3-Dichloropropene	10061-02-6	0.036	18.0	180.0
☐	cis-1,3-Dichloropropylene	10061-01-5	0.036	18.0	180.0
☐	Dieldrin	60-57-1	0.017	0.13	1.3
☐	Diethyl phthalate	84-66-2	0.2	28.0	280.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Dimethyl phthalate	131-11-3	0.047	28.0	280.0
☐	p-Dimethylaminoazobenzene	60-11-7	0.13	N/A	N/A
☐	2,4-Dimethylphenol	105-67-9	0.036	14.0	140.0
☐	4,6-Dinitro-o-cresol	534-52-1	0.28	160.0	1600.0
☐	1,4-Dinitrobenzene	100-25-4	0.32	2.3	23.0
☐	2,4-Dinitrophenol	51-28-5	0.12	160.0	1600.0
☐	2,4-Dinitrotoluene	121-14-2	0.32	140.0	1400.0
☐	2,6-Dinitrotoluene	606-20-2	0.55	28.0	280.0
☐	Dinoseb	88-85-7	0.066	2.5	25.0
☐	1,4-Dioxane	123-91-1	12.0	170.0	1700.0
☐	Diphenylamine	122-39-4	0.92	13.0	130.0
☐	1,2-Diphenylhydrazine	122-66-7	0.087	N/A	N/A
☐	Disulfoton	298-04-4	0.017	6.2	62.0
☐	Dithiocarbamates (total)	WCATS-001	0.028	28.0	280.0
☐	EPTC	759-94-4	0.042	1.4	14.0
☐	Endosulfan I	959-98-8	0.023	0.066	0.66
☐	Endosulfan II	33213-65-9	0.029	0.13	1.3
☐	Endosulfan sulfate	1031-07-8	0.029	0.13	1.3
☐	Endrin	72-20-8	0.0028	0.13	1.3
☐	Endrin aldehyde	7421-93-4	0.025	0.13	1.3
☐	Ethyl acetate	141-78-6	0.34	33.0	330.0
☐	Ethyl benzene	100-41-4	0.057	10.0	100.0
☐	Ethyl ether	60-29-7	0.12	160.0	1600.0
☐	Ethyl methacrylate	97-63-2	0.14	160.0	1600.0
☐	Ethylene oxide	75-21-8	0.12	N/A	N/A
☐	Famphur	52-85-7	0.017	15.0	150.0
☐	Fluoranthene	206-44-0	0.068	3.4	34.0
☐	Fluorene	86-73-7	0.059	3.4	34.0
☐	Fluoride	16984-48-8	35.0	N/A	N/A
☐	Formetanate hydrochloride	23422-53-9	0.056	1.4	14.0
☐	Heptachlor (& its epoxide)	76-44-8	0.0012	0.066	0.66
☐	Heptachlor epoxide	1024-57-3	0.016	0.066	0.66
☐	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	0.000035	0.0025	0.025
☐	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	0.000035	0.0025	0.025
☐	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	0.000035	0.0025	0.025
☐	Hexachlorobenzene	118-74-1	0.055	10.0	100.0
☐	Hexachlorobutadiene	87-68-3	0.055	5.6	56.0
☐	Hexachlorocyclopentadiene	77-47-4	0.057	2.4	24.0
☐	Hexachloroethane	67-72-1	0.055	30.0	300.0
☐	Hexachloropropene	1888-71-7	0.035	30.0	300.0
☐	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063	0.001	0.01
☐	HxCDFs (All Hexachlorodibenzo-furans)	55684-94-1	0.000063	0.001	0.01
☐	Indeno[1,2,3-cd]pyrene	193-39-5	0.0055	3.4	34.0
☐	Iodomethane	74-88-4	0.19	65.0	650.0
☐	Isobutyl alcohol	78-83-1	5.6	170.0	1700.0
☐	Isodrin	465-73-6	0.021	0.066	0.66
☐	Isosafrole	120-58-1	0.081	2.6	26.0
☐	Kepone	143-50-0	0.0011	0.13	1.3
☐	Lindane (gamma-BHC)	58-89-9	0.0017	0.066	0.66
☐	Mercury (Retort Residues)	7439-97-6*	N/A	0.2	2.0
☐	Methacrylonitrile	126-98-7	0.24	84.0	840.0
☐	Methanol	67-56-1	5.6	0.75	7.5
☐	Methapyrilene	91-80-5	0.081	1.5	15.0
☐	Methiocarb	2032-65-7	0.056	1.4	14.0
☐	Methomyl	16752-77-5	0.028	0.14	1.4
☐	Methoxychlor	72-43-5	0.25	0.18	1.8
☐	Methyl ethyl ketone	78-93-3	0.28	36.0	360.0
☐	Methyl isobutyl ketone	108-10-1	0.14	33.0	330.0
☐	Methyl methacrylate	80-62-6	0.14	160.0	1600.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Methyl methanesulfonate	66-27-3	0.018	N/A	N/A
☐	Methyl parathion	298-00-0	0.014	4.6	46.0
☐	3-Methylcholanthrene	56-49-5	0.0055	15.0	150.0
☐	4,4'-Methylene bis(2-chloroaniline)	101-14-4	0.5	30.0	300.0
☐	Methylene chloride	75-09-2	0.089	30.0	300.0
☐	Metolcarb	1129-41-5	0.056	1.4	14.0
☐	Mexacarbate	315-18-4	0.056	1.4	14.0
☐	Molinate	2212-67-1	0.042	1.4	14.0
☐	N-Nitroso-di-n-butylamine	924-16-3	0.4	17.0	170.0
☐	N-Nitrosodiethylamine	55-18-5	0.4	28.0	280.0
☐	N-Nitrosodimethylamine	62-75-9	0.4	2.3	23.0
☐	N-Nitrosodiphenylamine	86-30-6	0.92	13.0	130.0
☐	N-Nitrosomethylethylamine	10595-95-6	0.4	2.3	23.0
☐	N-Nitrosomorpholine	59-89-2	0.4	2.3	23.0
☐	N-Nitrosopiperidine	100-75-4	0.013	35.0	350.0
☐	N-Nitrosopyrrolidine	930-55-2	0.013	35.0	350.0
☐	Naphthalene	91-20-3	0.059	5.6	56.0
☐	2-Naphthylamine	91-59-8	0.52	N/A	N/A
☐	5-Nitro-o-toluidine	99-55-8	0.32	28.0	280.0
☐	o-Nitroaniline	88-74-4	0.27	14.0	140.0
☐	p-Nitroaniline	100-01-6	0.028	28.0	280.0
☐	Nitrobenzene	98-95-3	0.068	14.0	140.0
☐	o-Nitrophenol	88-75-5	0.028	13.0	130.0
☐	p-Nitrophenol	100-02-7	0.12	29.0	290.0
☐	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	0.000063	0.005	0.05
☐	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	0.000063	0.005	0.05
☐	Oxamyl	23135-22-0	0.056	0.28	2.8
☐	Parathion	56-38-2	0.014	4.6	46.0
☐	PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	0.000063	0.001	0.01
☐	PeCDFs (All Pentachlorodibenzo-furans)	30402-15-4	0.000035	0.001	0.01
☐	Pebulate	1114-71-2	0.042	1.4	14.0
☐	Pentachlorobenzene	608-93-5	0.055	10.0	100.0
☐	Pentachloroethane	76-01-7	0.055	6.0	60.0
☐	Pentachloronitrobenzene	82-68-8	0.055	4.8	48.0
☐	Pentachlorophenol	87-86-5	0.089	7.4	74.0
☐	Phenacetin	62-44-2	0.081	16.0	160.0
☐	Phenanthrene	85-01-8	0.059	5.6	56.0
☐	Phenol	108-95-2	0.039	6.2	62.0
☐	o-Phenylenediamine	95-54-5	N/A	N/A	N/A
☐	Phorate	298-02-2	0.021	4.6	46.0
☐	Phthalic acid	100-21-0	0.055	28.0	280.0
☐	Phthalic anhydride	85-44-9	0.055	28.0	280.0
☐	Physostigmine	57-47-6	0.056	1.4	14.0
☐	Physostigmine salicylate	57-64-7	0.056	1.4	14.0
☐	Promecarb	2631-37-0	0.056	1.4	14.0
☐	Pronamide	23950-58-5	0.093	1.5	15.0
☐	Propanenitrile	107-12-0	0.24	360.0	3600.0
☐	Propham	122-42-9	0.056	1.4	14.0
☐	Propoxur	114-26-1	0.056	1.4	14.0
☐	Prosulfocarb	52888-80-9	0.042	1.4	14.0
☐	Pyrene	129-00-0	0.067	8.2	82.0
☐	Pyridine	110-86-1	0.014	16.0	160.0
☐	Safrole	94-59-7	0.081	22.0	220.0
☐	Sulfide	18496-25-8	14.0	N/A	N/A
☐	2,4,5-T	93-76-5	0.72	7.9	79.0
☐	TCDDs (All Tetrachlorodi-benzo-p-dioxins)	41903-57-5	0.000063	0.001	0.01
☐	TCDFs (All Tetrachlorodibenzofurans)	30402-14-3	0.000063	0.001	0.01
☐	2,4,5-TP (Silvex)	93-72-1	0.72	7.9	79.0
☐	1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14.0	140.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0	60.0
☐	1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0	60.0
☐	Tetrachloroethylene	127-18-4	0.056	6.0	60.0
☐	2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4	74.0
☐	Thiodicarb	59669-26-0	0.019	1.4	14.0
☐	Thiophanate-methyl	23564-05-8	0.056	1.4	14.0
☐	Toluene	108-88-3	0.08	10.0	100.0
☐	Total PCBs (Polychlorinated biphenyls)	1336-36-3	0.1	10.0	100.0
☐	Toxaphene	8001-35-2	0.0095	2.6	26.0
☐	Triallate	2303-17-5	0.042	1.4	14.0
☐	Tribromomethane	75-25-2	0.63	15.0	150.0
☐	2,4,6-Tribromophenol	118-79-6	0.035	7.4	74.0
☐	1,1,2-Trichloro-1,2,2,-trifluoroethane	76-13-1	0.057	30.0	300.0
☐	1,2,4-Trichlorobenzene	120-82-1	0.055	19.0	190.0
☐	1,1,1-Trichloroethane	71-55-6	0.054	6.0	60.0
☐	1,1,2-Trichloroethane	79-00-5	0.054	6.0	60.0
☐	Trichloroethylene	79-01-6	0.054	6.0	60.0
☐	Trichloromonofluoromethane (R11)	75-69-4	0.02	30.0	300.0
☐	2,4,5-Trichlorophenol	95-95-4	0.18	7.4	74.0
☐	2,4,6-Trichlorophenol	88-06-2	0.035	7.4	74.0
☐	1,2,3-Trichloropropane	96-18-4	0.85	30.0	300.0
☐	Triethylamine	121-44-8	0.081	1.5	15.0
☐	Tris(2,3-dibromopropyl) phosphate	126-72-7	0.11	0.1	1.0
☐	Vernolate	1929-77-7	0.042	1.4	14.0
☐	Vinyl chloride	75-01-4	0.27	6.0	60.0
☐	Xylene	1330-20-7	0.32	30.0	300.0
☐	2,4-Xylidine	95-68-1	0.01	0.66	6.6
☐	Antimony	7440-36-0	1.9	1.15	11.5
☐	Arsenic	7440-38-2	1.4	5.0	50.0
☐	Barium	7440-39-3	1.2	21.0	210.0
☐	Beryllium	7440-41-7	0.82	1.22	12.2
☐	Cadmium	7440-43-9	0.69	0.11	1.1
☐	Chromium	7440-47-3	2.77	0.6	6.0
☐	Lead	7439-92-1	0.69	0.75	7.5
☐	Mercury	7439-97-6	0.15	0.025	0.25
☐	Nickel	7440-02-0	3.98	11.0	110.0
☐	Selenium	7782-49-2	0.82	5.7	57.0
☐	Silver	7440-22-4	0.43	0.14	1.4
☐	Thallium	7440-28-0	1.4	0.2	2.0
☐	Vanadium	7440-62-2	4.3	1.6	16.0
☐	Zinc	7440-66-6	2.61	4.3	43.0

Attachment 1 - Additional Radionuclides

Please list the supplimentary radionuclides and their concentration values.

CONTAINER PROFILE
SB10157
T-TTRU-TEMP

WS ID: 13944
C ID: 791141
ACTIVE

GENERAL INFORMATION

Container ID:	791141		
Labeled ID:	SB10157		
Optional ID:		**Status:**	ACTIVE
Chemical Barcode:		**Decommissioned:**	YES
Physical State:	SOLID	**Container Type:**	CM: Metal boxes, cartons, cases (including roll-offs)
Waste Stream ID:	13944	**Container Subtype:**	Standard waste box
Work Path:	T-TTRU-TEMP	**Origin Date:**	05-Aug-2013 2:48 pm
Quantity (Univ):		**Accum Start Date:**	27-Feb-2007
Compactible:		**Closed Date:**	05-Aug-2013

Discard Matrix:

TID(s):

Gen Contact: GENEVIEVE S FERNANDEZ (167744)

Insert By: WCATS APPLICATION (000000)

Waste Desc: GENERIC WPF FOR TRU WASTE PROCESSED UNDER THE TRANSURANIC WASTE CERTIFICATION PROGRAM (TWCP). THIS WPF WILL COVER A ...

WEIGHTS AND VOLUMES

Container Volume:	1.90 CM	**Gross Weight:**	1233.00 lb
Waste Volume:	NOT SPECIFIED	**Tare Weight:**	635.00 lb
		Net Weight:	598.00 lb

LOCATION

Pickup (Origin): LANL: 54-G: 000412

Current: WIPP: OPER: RECV

COPY

CONTAINER PROFILE
SB10157
T-TTRU-TEMP

WS ID: 13944
C ID: 791141
ACTIVE

PAYLOAD INFORMATION

Container Procurement

P.O. Number: **Year of Manuf:**

Lot No.: **Serial No:**

Solution Package: NONE

TRUCON Code: NA: EMPTY REPACKED DRUMS

Shipping Category:

CCP AK Report:

WIPP Waste Stream:

Matrix Code:

Defense Waste: YES **Equiv. Comb. Matrix:** Non-combustible/Dispersible

Adeq. Ventilation: YES **Compliant Metal Cont.:** YES

Overpack (1 to 1): NO **Retrievable:** **BIR WS Code:**

Content Code:

COST CODES

Cost Center	Prog Code	Cost Account	Work Package	Percent Allocation	Cost Center Status	Cost Code Status	Recharge Mode
							UNCONSTRAINED

EPA CODES

System Code	Hazardous Waste No.	Waste Description & Treatment Subcategory

FILTERS

Manufacturer	Model	Style	Diffusivity*	Serial Number	Torque Ft-lbs	Mfg Date Mon/Year
Not Specified	NA	NA	0	AN-749		0/0
Not Specified	NA	NA	0	AN730		0/0

** Diffusivity is specified in moles per second per mole fraction*

RADIOLOGICAL SURVEY

Survey Type	Instrument Number	Survey Date	At Contact mrem/hr	At 30 cm mrem/hr	At 1 M mrem/hr	Alpha dpm/100cm2	Beta/Gama dpm/100 cm2
Survey ID: 91989, Status: Active							
B/G Survey			= 0.10	=	=	Not Applicable	
Neutron Survey			= 0.25	=	=	Not Applicable	
Smear Results				Not Applicable		= 2.60	= 1.00

CONTAINER PROFILE
SB10157
T-TTRU-TEMP

WS ID: 13944
C ID: 791141
ACTIVE

RADIONUCLIDES

Nuclide	Amount	Unit	Uncert	MT Derived (Y/N)	Activated (Y/N)	MDA Result (Y/N)	Normal Form (Y/N)	Measurement Code/Comment
Status: Inactive, Assay Page: 376030, Date: 02/27/2007, Derivation: Generator Entered Results (e.g., Offsite Assay)								
Am-241	3.84E-002	Ci	2.65E-003	N			Y	
Am-243	1.82E-009	Ci	0.00E+000	N			Y	
Cm-243	2.88E-007	Ci	8.96E-008	N			Y	
Na-22	3.20E-005	Ci	0.00E+000	N			Y	
Np-237	7.94E-008	Ci	2.41E-008	N			Y	
Pu-238	2.99E-002	Ci	0.00E+000	N			Y	
Pu-239	2.08E-002	Ci	4.29E-003	N			Y	
Pu-240	5.66E-003	Ci	1.00E-003	N			Y	
Pu-241	6.00E+000	Ci	1.03E-002	N			Y	
Status: Active, Assay Page: 414084, Date: 09/24/2013, Derivation: Non-Destructive Assay (NDA)								
Am-241	2.96E-002	Ci	6.22E-003	N	N	N	Y	
Am-243	1.01E-006	Ci	1.38E-007	N	N	N	Y	
Np-237	4.72E-007	Ci	6.62E-008	N	N	N	Y	
Pu-238	5.90E-003	Ci	8.84E-004	N	N	N	Y	
Pu-239	6.11E-002	Ci	8.00E-003	N	N	N	Y	
Pu-240	1.57E-002	Ci	2.11E-003	N	N	N	Y	
Pu-241	1.16E-001	Ci	1.59E-002	N	N	N	Y	
Pu-242	1.54E-006	Ci	2.63E-007	N	N	N	Y	
U-235	0.00E+000	Ci	0.00E+000	N	N	N	Y	

CONTAINER PROFILE
SB10157
T-TTRU-TEMP

WS ID: 13944
C ID: 791141
ACTIVE

RAD CALCULATIONS

Total Activity (nCi/g):	8.41676E+02	**Decay Heat [U] (W):**	3.95105E-03	
Alpha (nCi/g):	4.14033E+02	**DOTFissile Mat (g):**	9.85436E-01	
TRU Alpha (nCi/g):	4.14023E+02	**Transport Index:**		
** **MDA TRU Alpha (nCi/g)**	4.14023E+02	**NRC Class:**	GTCC	
Pu-239 FGE:	9.88607E-01	**DOT Type:**	B	
Pu-239 FGE [2U]:	1.24637E+00	**LSA-I Fraction:**	5.15903E+02	N
Pu-239 Eq-Ci:	1.14579E-01	**LSA-II Fraction:**	1.55825E-01	Y
Pu-239 Eq-Ci [2U]:	1.35499E-01	**LSA-III Fraction:**	7.79127E-03	Y
TRU Pu-239 Eq-Ci:	1.14579E-01	**Reportable Quantity:**	1.13463E+01	Y
TRU Pu-239 Eq-Ci [2U]:	1.35499E-01	* **ALC Ratio:**	9.81301E+05	NE
Tritium (Ci/m3):	0.00000E+00	* **ACM Ratio:**	1.54771E+04	NE
TRU ECW PE-Ci:	1.14579E-01	**Limited Quantity:**	4.22674E+03	N

Weight/Volume Used:

1	Total Item Weight:	2.71248E+02 kg
2	Total Item Volume:	1.28600E+00 m3

**ALC (Activity Limit for Exempt Consignment)*
**ACM (Activity Concentration for Exempt Material)*
*** Use for LL/TRU Determination*
U = 1 Uncertainty, 2U = 2 Uncertainty

Los Alamos NATIONAL LABORATORY EST. 1943

TRU WASTE STORAGE RECORD

LA00000068268

1. Generator's Pre-Use Visual Inspection

Purchase Order # 105832	Inspected Items		
This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.	☑ Ring, Bolt, and Nut	☑ Chime	☑ Dents
	☑ Lid and Gasket	☑ Gouges	☑ Paint

Printed Name	Signature	Sig. Date	Oper. Date
NICKOLAS W RAY POWERS	*WCATS Electronic*	01-28-14	01-26-14

2. Generator's Package Information

Group	Technical Area	Building	Cost Center	Program Code	Cost Account	Work Package
LTP-DDP	50	000069				

Additional Information

☐ DP ☐ Non-DP If Non-DP waste, attach DOE approval doc.

Container	Liner
☐ Steel Drum (55 gal.)	☑ None
☐ Pipe Overpack Type:	☐ 90 mil liner
☐ Steel Drum (85 gal Overpack)	☐ 125 mil liner
☑ Standard Waste Box	☐ Fiberboard Liner
☐ Standard Waste Box Overpack	**Internal Shielding**
☐ RH Canister	☑ None
☐ Other (Call TWCO)	Type / Thickness

Radionuclide Content

Nuclide	Amount	Uncertainty	C= Curie M = Gram
Am-241	6.890E-002	2.490E-002	C
Np-237	4.430E-006	1.390E-006	C
Pu-238	1.220E-002	4.340E-003	C
Pu-239	1.650E-001	5.410E-002	C
Pu-240	3.880E-002	1.290E-002	C
Pu-241	2.410E-001	8.140E-002	C
Pu-242	3.230E-006	1.130E-006	C
U-235	0.000E+000	0.000E+000	C

Filter Serial No.	01 AN-443		
	02 AN-442		
Waste Profile Number	32358 (WS ID 13944)		
Gross Weight (lb.)	1.54E+003		
Net Weight (lb.)	9.05E+002		
Shipping Category			
LANL Waste Stream ID			
TRUCON Code			

Hazardous Materials

Name	EPA Code	Qty (g)
Lead	D008	

Date Closed (MM/DD/YY): 02/06/2014

Accumulation Start Date (MM/DD/YY): 05/14/84

The data in this section were collected, and waste described herein was packaged and labeled according to approved procedures.

Printed Name	Signature	Date:

3. Generator Site Health Physics Information

	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Gamma Dose Rate (mrem/h) (contact)				
Neutron Dose Rate (mrem/h) (contact)				
Total Dose Rate (mrem/h) (contact)				
Total Dose Rate (mrem/h) (1 meter)				
Alpha Contamination (dpm/100cm2)				
Beta-Gamma Cont (dpm/100 cm2)				

The data in this section were collected according to approved procedures.

Printed Name	Date

Signature

COPY

Los Alamos NATIONAL LABORATORY EST. 1943

TRU WASTE STORAGE RECORD

LA00000068268

4. TRU Waste Management Review/Authorization

The data package for this waste has been reviewed. Basedon the information provided, this waste meets the WAC requirements for storage at TA-54.	Printed Name	Date:
	Signature	

5. Preload Visual Inspection

This waste package was visually inspected prior to transport according to approved procedures. It meets WAC packaging and labeling requirements and is free from obvious damage and defects.	Printed Name	Date:

6. Receiving Site Health Physics Information

Gamma Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Neutron Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)				
Total Dose Rate (mrem/h) (1 meter)	*The data in this section were collected according to approved procedures.*			
Alpha Contamination (dpm/100cm2)	Printed Name			Date
Beta-Gamma Cont (dpm/100 cm2)	Signature			

7. Storage Site Information

Received by (Initials)	Date Received	**Original Storage Data**		
This waste package was visually inspected and found to be properly labeled and in good condition. It was accepted and inspected according to approved procedures.		Building Number	Layer	Row Number
		Column Number	Date Stacked (MM/DD/YY)	
Printed Name	Date:	Printed Name	Date:	
Signature		Signature		

8. Waste Acceptance Office

Intials/Date	WE Description

NCR Number	Intials/Date	NCR Description

Los Alamos NATIONAL LABORATORY EST.1943

TRU WASTE STORAGE RECORD

LA00000068268

9. Continuation Sheet for Radionuclide Content (from Page 1, Section 2)

Radionuclide Content - Continued			
Nuclide	**Amount**	**Uncertainty**	**C= Curie M = Gram**
No Additional Radionuclides			

10. Continuation Sheet for Hazardous Materials (from Page 1, Section 2)

Hazardous Materials		
Name	**EPA Code**	**Qty (g)**
No Additional Hazardous Materials		

CONTAINER PROFILE
LA00000068268
T-TTRU-DAUGHTER

WS ID: 13944
C ID: 792833
ACTIVE

GENERAL INFORMATION

Container ID:	792833		
Labeled ID:	LA00000068268		
Optional ID:		**Status:**	ACTIVE
Chemical Barcode:		**Decommissioned:**	NO
Physical State:		**Container Type:**	CM: Metal boxes, cartons, cases (including roll-offs)
Waste Stream ID:	13944	**Container Subtype:**	Standard waste box
Work Path:	T-TTRU-DAUGHTER	**Origin Date:**	26-Jan-2014 2:35 pm
Quantity (Univ):		**Accum Start Date:**	14-May-1984
Compactible:		**Closed Date:**	06-Feb-2014

Discard Matrix:

TID(s):

Gen Contact: ROBERTO F BACA (234078)

Insert By: ROBERTO F BACA (234078)

Waste Desc: GENERIC WPF FOR TRU WASTE PROCESSED UNDER THE TRANSURANIC WASTE CERTIFICATION PROGRAM (TWCP). THIS WPF WILL COVER A ...

WEIGHTS AND VOLUMES

Container Volume:	496.00 gal	**Gross Weight:**	1545.00 lb
Waste Volume:	0.00 gal	**Tare Weight:**	640.00 lb
		Net Weight:	905.00 lb

LOCATION

Pickup (Origin): LANL: 54-G: 000231: STAGE

Current: WCS: OPER: STORAGE

COPY

CONTAINER PROFILE
LA00000068268
T-TTRU-DAUGHTER

WS ID: 13944
C ID: 792833
ACTIVE

PAYLOAD INFORMATION

Container Procurement

P.O. Number: 105832 **Year of Manuf:** 2013

Lot No.: N/A **Serial No:** 130672

Solution Package: NONE

TRUCON Code:

Shipping Category:

CCP AK Report: CCP-AK-LANL-004: LANL TA-50 Mixed Transuranic Waste

WIPP Waste Stream:

Matrix Code:

Defense Waste: **Equiv. Comb. Matrix:** Combustible/Dispersible

Adeq. Ventilation: YES **Compliant Metal Cont.:**

Overpack (1 to 1): **Retrievable:** **BIR WS Code:**

Content Code:

COST CODES

Cost Center	Prog Code	Cost Account	Work Package	Percent Allocation	Cost Center Status	Cost Code Status	Recharge Mode
							UNCONSTRAINED

EPA CODES

System Code	Hazardous Waste No.	Waste Description & Treatment Subcategory
D003H	D003	Reactive: Unspecified
D008A	D008	Lead

FILTERS

Manufacturer	Model	Style	Diffusivity*	Serial Number	Torque Ft-lbs	Mfg Date Mon/Year
NFT	NucFil-019	¾ NPSM - 14	0	AN-443	10	1/2013
NFT	NucFil-019	¾ NPSM - 14	0	AN-442	10	1/2013

** Diffusivity is specified in moles per second per mole fraction*

LAYERS OF CONFINEMENT

Layer No.	Layer Status	Confinement Type: Subtype
1	Active	payload container: SWB overpack containing up to four 55-gallon drums

CONTAINER PROFILE
LA00000068268
T-TTRU-DAUGHTER

WS ID: 13944
C ID: 792833
ACTIVE

RADIOLOGICAL SURVEY

Survey Type	Instrument Number	Survey Date	At Contact mrem/hr	At 30 cm mrem/hr	At 1 M mrem/hr	Alpha dpm/100cm2	Beta/Gama dpm/100 cm2
Survey ID: 99213, Status: Inactive -> Date: 02/06/2014							
B/G Survey		02/06/14	= 0.10	=	=	Not Applicable	
Neutron Survey		02/06/14	= 0.25	=	=	Not Applicable	
Smear Results		02/06/14		Not Applicable		= 3.90	= 2.60

RADIONUCLIDES

Nuclide	Amount	Unit	Uncert	MT Derived (Y/N)	Activated (Y/N)	MDA Result (Y/N)	Normal Form (Y/N)	Measurement Code/Comment
Status: Inactive, Assay Page: 418279, Date: 02/05/2014, Derivation: System Partitioned (e.g., Packaging or Processing)								
Am-241	3.10E-002	Ci	1.55E-002	N			Y	
Cs-137	9.30E-006	Ci	0.00E+000	N			Y	
Np-237	2.60E-006	Ci	1.30E-006	N			Y	
Pu-238	5.32E-003	Ci	2.66E-003	N			Y	
Pu-239	1.24E-001	Ci	6.22E-002	N			Y	
Pu-240	3.50E-002	Ci	1.75E-002	N			Y	
Pu-241	1.75E-001	Ci	8.76E-002	N			Y	
Pu-242	1.68E-006	Ci	0.00E+000	N			Y	
Sr-90	9.30E-006	Ci	0.00E+000	N			Y	
U-234	8.31E-007	Ci	4.15E-007	N			Y	
U-235	4.62E-009	Ci	0.00E+000	N			Y	
Status: Active, Assay Page: 418641, Date: 02/12/2014, Derivation: Non-Destructive Assay (NDA)								
Am-241	6.89E-002	Ci	2.49E-002	N	N	N	Y	
Np-237	4.43E-006	Ci	1.39E-006	N	N	N	Y	
Pu-238	1.22E-002	Ci	4.34E-003	N	N	N	Y	
Pu-239	1.65E-001	Ci	5.41E-002	N	N	N	Y	
Pu-240	3.88E-002	Ci	1.29E-002	N	N	N	Y	
Pu-241	2.41E-001	Ci	8.14E-002	N	N	N	Y	
Pu-242	3.23E-006	Ci	1.13E-006	N	N	N	Y	
U-235	0.00E+000	Ci	0.00E+000	N	N	N	Y	

CONTAINER PROFILE
LA00000068268
T-TTRU-DAUGHTER

WS ID: 13944
C ID: 792833
ACTIVE

RAD CALCULATIONS

Total Activity (nCi/g):	1.28114E+03	**Decay Heat [U] (W):**	1.10950E-02
Alpha (nCi/g):	6.94063E+02	**DOTFissile Mat (g):**	2.66046E+00
TRU Alpha (nCi/g):	6.94048E+02	**Transport Index:**	
** **MDA TRU Alpha (nCi/g)**	6.94048E+02	**NRC Class:**	GTCC
Pu-239 FGE:	2.66778E+00	**DOT Type:**	B
Pu-239 FGE [2U]:	4.41087E+00	**LSA-I Fraction:**	8.63234E+02 N
Pu-239 Eq-Ci:	2.89788E-01	**LSA-II Fraction:**	2.60416E-01 Y
Pu-239 Eq-Ci [2U]:	4.12354E-01	**LSA-III Fraction:**	1.30208E-02 Y
TRU Pu-239 Eq-Ci:	2.89788E-01	**Reportable Quantity:**	2.87318E+01 Y
TRU Pu-239 Eq-Ci [2U]:	4.12354E-01	* **ALC Ratio:**	2.43552E+06 NE
Tritium (Ci/m3):	0.00000E+00	* **ACM Ratio:**	2.58970E+04 NE
TRU ECW PE-Ci:	2.89788E-01	**Limited Quantity:**	1.06901E+04 N

Weight/Volume Used:

1 Container Net Weight: 4.10501E+02 kg
2 Container Volume: 1.87756E+00 m3

**ALC (Activity Limit for Exempt Consignment)*
**ACM (Activity Concentration for Exempt Material)*
*** Use for LL/TRU Determination*
U = 1 Uncertainty, 2U = 2 Uncertainty

PZ010-3701
(53878)

Source Document: M227

TRU Waste Storage Record

Container #:

LA00000053878

20 Pages

Best Available Copy

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

[redacted] WASTE STORAGE RECORD

LA00000053878

WASTE PACKAGE SERIAL NUMBER: LA 8 4 0 3 0 0 5 0 0 0 8

I. GENERATOR'S PACKAGE INFORMATION

ORIGIN OF WASTE	Pit Name (SCC No.)	Additional Information
Group HSE-7	1 2 0 N E	RSWD 581270 ASSAY REQUIRED BEFORE SHIPMENT
TA 54		818710
Building 69		817524
Room		

CONTAINER	CODE
☐ Steel Drum (55 gal.)	01
☐ Steel Overpack (Drums)	02
☒ Steel Box (4 ft. X 4 ft. X 7 ft. 6 in.)	03
☐ Steel Overpack (Box)	04
☐ Other (Specify)	

SS MATERIALS WRITE-OFF

Account	Project Code

RADIONUCLIDE CONTENT

Nuclide	Amount	±	Curie Unit
Pu-238	1.019	E-03	MCi
Pu-239	4.510	E-04	MCi

Drum Mat'l Code: | Year of Mfr.: | Manufacturer's Drum Serial Number: 10036

Process Batch Code: NA

Gross Wt. (kg): 18.3 E+1

Organic Matrl Wt. (kg): 10.7 E+1

Organic Matrl Vol (%): 11.0

Content Code: 10010

Date Closed (MM/DD/YY): 05/14/84

TOXIC OR CORROSIVE MATERIALS

Name	Code	Quantity (g)
1674 lbs		E+
		E+
		E+
		E+

*** Reclassified Waste ***
Container Id: 53878
Storage Date: 08/29/84
EPA Code(s): D008

The data in this section were collected, and the waste ... w procedures defined in the Los Alamos TRU Waste Certification Plan and its appropriate attachment(s). The data are correct and complete to the best of my knowledge.

Printed Name	Signature	Date
Johnny R HARPER	JR Harper	5/14/84

II. GENERATOR-SITE HEALTH PHYSICS INFORMATION

Surface Dose Rate (mrem/h)	0 E+1
Survey Meter Model	PAC-7 PN# 334409
Survey Meter Serial No.	14-C PN# 288682
Alpha Contamination (dpm/100cm²)	0 E+1
Beta-Gamma Cont. (dpm/100cm²)	0 E+1

The data in this section were collected as prescribed in approved procedures. The package is properly closed and is safe to handle and transport.

Printed Name: SHARON UELARDE Date: 8/29/84

Signature: Sharon Uelarde

III. HSE-7 SOLID-WASTE RECORDS OFFICE INFORMATION

The data package for this waste has been reviewed by HSE-7. The generator is authorized to arrange transportation to TA-54 per AR 10-2.

Printed Name: BRUCE L. REICH Date: 8/29/84

Signature: Bruce L. Reich

IV. STORAGE-SITE HEALTH PHYSICS INFORMATION

Surface Dose Rate (mrem/h)	0 E+1
Survey Meter Model	PAC-7 PN# 324404
Survey Meter Serial No.	14-C PN# 288667
Alpha Contamination (dpm/100cm²)	0 E+1
Beta-Gamma Cont. (dpm/100cm²)	0 E+1

The data in this section were collected at the TA-54 waste storage/disposal site as defined in approved procedures. The package is acceptable for handling and storage.

Printed Name: [redacted] MONTOYA Date: 8/29/84

Signature: JMontoya

V. STORAGE SITE INFORMATION

Col 57

This package was visually inspected when received and was found to be properly labeled and in good condition. It was accepted according to approved procedures.

Printed Name: BRIAN MYERS Date: 8/29/84

Signature: Brian P Myers

Pad No. P3 Layer 2nd

Post No. Row 2 Date Stacked 08-29-84

This waste package was stored at this location according to approved procedures.

Printed Name: BRIAN MYERS Date: 8/29/84

Signature: Brian P Myers

HS Form Number 10-28 (12/83)

LOS ALAMOS TRANSURANIC WASTE
SIZE REDUCTION FACILITY
INPUT WASTE BATCH DATA SHEET

Waste Package Serial Number: LA 814013010510018

RADIONUCLIDE CONTENT			C=Curie M=Gram	
Nuclide	Amount		±	
PU239	3.0813	E	+10	M
	.	E		
	.	E		
	.	E		
	.	E		
	.	E		

RSWD No. 581187110
Input Package No. 10031617
Input Package Vol. (ft^3) 1218

WASTE DESCRIPTION

Glove Box

ORGANIC MATERIALS

Item	Volume (ft^3)	Weight (lbs)
Window Gaskets	.14	10.8
Windows (plastic)	.	.
Filters 1. 6"x8"x8"	.22	4.6
Sleeve & Liners	.	.
Gloves 4ea.	.20	3.2
Gloveport Covers 4ea.	.20	0.8
Glove Rings 4ea	.210	0.8
Foams	2.010	3.12
Plastic Bottles	.510	1.0
Circular Gasket 2	.018	5.8
	.	.
	.	.
	.	.

Waste Weight (lbs) 3510

FORBIDDEN MATERIALS

Free Liquids
Free Sludge
Pyrophoric Material
Compressed Gas
Explosives
Toxic/Corrosive Chemicals

This waste was visually inspected before size reduction and during packaging to ensure that none of the above materials were transferred to the output waste package.

OPERATOR'S STATEMENT

The above information was collected according to established procedures and is correct and complete to the best of my knowledge.

Date: 5-14-84
Printed Name: David L. Melton
Signature: David L. Melton

REVIEWER'S STATEMENT

I have reviewed the data herein or witnessed its collection. The data is correct, complete, and was collected according to the approved procedures.

Printed Name:
Date:
Signature:

COMMENTS: Graphite was mixed in a one gallon can of cement.

5/84

WINDOW GASKETS

Measure the window across the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply "B" total by 0.0013 = volume in cubic feet.
Multiply "B" total by 0.1 = weight in pounds.

LENGTH	WIDTH	A	No. of windows	B
19"	11"	30	1	30
9"	23"	32	1	32
25"	6.5"	9	2	18
9"	5"	14	2	28
			108	x 0.0013 = 1404 ft³
			108	x 0.1 = 10.8 lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, by the thickness, by the number of windows, to get "C".
Repeat for each window size.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply "C" total by 0.04 to get weight in pounds.

LENGTH	WIDTH	THICK.	No. of windows	C
				x 0.0006 = ft³
				x 0.04 = lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Multiply "D" by the number of identical doors to get "E".
Repeat for each door size.
Total column E.
Multiply "E" total by 0.0002 = volume in cubic feet.
Multiply "E" total by 0.015 = weight in pounds.

LENGTH	WIDTH	D	No. of Doors	E
				x 0.0002 = ft³
				x 0.015 = lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton.	0.01	1.2
Bag out bag for 55-gal drum.	0.10	3.7
Bag out bag for filters.	0.17	4.4
Bag out sleeve for 4'x4'x7'.	0.25	23.4
Bag out sleeve for truck box.	0.23	18.8
Liner, truck box.	0.15	10.0
PAPER		
Liner for truck box.	0.46	20.0
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12" wood frame	4.0	25.1
metal frame	4.0	10.8
Glove box gloves (each)	0.05	0.8
Glove port covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular passthru gasket	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.0

CERTIFIED WASTE STORAGE RECORD

WASTE PACKAGE SERIAL NO. LA 8H 10 3 0 0 5 0 0 0 8

GENERATOR'S PACKAGE INFORMATION SECTION

ORIGIN OF WASTE		PN Items	
Group	HSE-7	C&D No.	
TA	50		
Bldg.	69		
Room			

[redacted]
LA0000053878

INFORMATION

CONTAINER	CODE
☐ Steel Drum (55 gal.)	001
☐ Steel Overpack (Drums)	002
☒ Steel Box (68 in. x 54 in. x 38.5 in.)	003
☐ Steel Overpack (FRP Box)	004
☐ Other (Describe)	

Drum lot code | Year of Mfgr.

Manufacturer's box serial no.

SS MATERIALS WRITE-OFF	
Account	Project Code

RADIONUCLIDE CONTENT				C=Curie M=Gram
Nuclide	Amount		±	
Pu239	4.50	E	+.0	M
Pu238	0.11	E	-.1	M
		E		
		E		
		E		
		E		

Process batch code

Gross Wt. (kg) 8.5 E+2

Organic Mat'l Wt. (kg) E+

Organic Mat'l Vol (%)

Content Code

Date Closed (MMDDYY)

TOXIC OR CORROSIVE MATERIALS		
Name	Code	Quantity (g)
		E+
		E+
		E+
		E+

The data in this section were collected, and the waste described herein was packaged and labeled according to the procedures defined in the Los Alamos TRU Waste Certification Plan and the appropriate attachment(s) to the plan, and is correct and complete to the best of my knowledge.

Printed Name: | Signature: | Date:

GENERATOR-SITE HEALTH PHYSICS INFORMATION SECTION

Surface Dose Rate (mrem/h) E+

Survey Meter Model

Survey Meter Serial No.

Alpha Contamination (dpm/100cm²) E+

Beta-Gamma Cont. (dpm/100cm²) E+

The data in this section were collected as prescribed in approved procedures. The package is properly closed and is safe to handle and transport.

Printed Name: | Date:

Signature:

HSE-7 SOLID-WASTE RECORDS OFFICE SECTION

The data package for this waste has been reviewed by HSE-7. The generator is authorized to arrange transportation to TA-54 per AR 10-2.

Printed Name: | Date:

Signature:

STORAGE-SITE HEALTH PHYSICS INFORMATION SECTION

Surface Dose Rate (mrem/h) E+

Survey Meter Model

Survey Meter Serial No.

Alpha Contamination (dpm/100cm²) E+

Beta-Gamma Cont. (dpm/100cm²) E+

The data in this section were collected at the TA-54 waste storage/disposal site as defined in approved procedures. The package is acceptable for handling and storage.

Printed Name: | Date:

Signature:

STORAGE SITE INFORMATION SECTION

Pad No. | Layer ☐E ☐C ☐W

Post No. | Date Stacked:

This waste package was stored at this location according to approved procedures.

Printed Name: | Date:

Signature:

This package was visually inspected when received and was found to be properly labeled and in good condition. It was accepted according to approved procedures.

Printed Name: | Date:

Signature:

H-7 WASTE MANAGEMENT LA 8403 0050008

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

RSWD#
5812706

DATE
810812

SERIAL
003607

GROUP
CMB5

TA BLDG
03 3M27

ROOM
2114

W-CODE
A33

WASTE-DESCRIPTION
ONE DRYBOX SECTION

PACKAGES CRATES	VOL (FT3)	GROSS-VOL	PKG-RAD SUR	MET
1	112.000	3.17184 M3	1.00000	1.00000

GROSS-WGT
.000000E+00 G

ADDITIONAL DESCRIPTION

NUCLIDE-ID	GRAM AMOUNT	CURIE AMOUNT
PU239	1.41694	----------
	.000000E+00	----------
8.7E-2C	.000000E+00	----------
	.000000E+00	----------
	.000000E+00	----------
	.000000E+00	----------

DISP DATE
811218

LOCATION AREA	SHAFT	PIT	POST(S)	LAY	POS
G		P2			

5812704 3.4E-1C 5.5-

LH 8403 005 0008

WINDOW GASKETS

Measure the window across the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply "B" total by 0.0013 = volume in cubic feet.
Multiply "B" total by 0.1 = weight in pounds.

LENGTH	WIDTH	A	No. of windows	B
24	15	39	2	78
9	23	32	2	64
9	[illegible]	15	2	30
			172	x 0.0013 = 0.22 ft³
			172	x 0.1 = 17.2 lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, by the thickness, by the number of windows, to get "C".
Repeat for each window size.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply "C" total by 0.04 to get weight in pounds.

LENGTH	WIDTH	THICK.	No. of windows	C
				x 0.0006 = ft³
				x 0.04 = lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Multiply "D" by the number of identical doors to get "E".
Repeat for each door size.
Total column E.
Multiply "E" total by 0.0002 = volume in cubic feet.
Multiply "E" total by 0.015 = weight in pounds.

LENGTH	WIDTH	D	No. of Doors	E
32	46	78	4	312
27	46	73	2	146
30	34	64	1	64
			522	x 0.0002 = 0.10 ft³
			522	x 0.015 = 7.83 lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton.	0.01	1.2
Bag out bag for 55-gal drum.	0.10	3.7
Bag out bag for filters.	0.17	4.4
Bag out sleeve for 4'x4'x7'.	0.25	23.4
Bag out sleeve for truck box.	0.23	18.8
Liner, truck box.	0.15	10.0
PAPER		
Liner for truck box.	0.46	20.0
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.8
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12" wood frame	4.0	25.1
metal frame	4.0	10.8
Glove box gloves (each)	0.05	0.8
Glove port covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular passthru gasket	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.0

LOS ALAMOS TRANSURANIC WASTE
SIZE REDUCTION FACILITY
INPUT WASTE BATCH DATA SHEET

Waste Package Serial Number: LA 840301050108

RADIONUCLIDE CONTENT			C=Curie M=Gram
Nuclide	Amount		±
Pu239	1.417	E	+0 M
	.	E	
	.	E	
	.	E	
	.	E	
	.	E	

RSWD No. 581270 16
Input Package No. 31607
Input Package Vol. (ft^3) 128

WASTE DESCRIPTION
Glove Box, Misc. Items, Tools, Flanges, Metal Cans

ORGANIC MATERIALS

Item	Volume (ft^3)	Weight (lbs)
Window Gaskets	.22	1.7
Windows (plastic)	.	.
Filters 1 EA. 8"x8"x16"	.22	4.6
Sleeve & Liners	.84	48.8
Gloves 4 EA.	.210	3.2
Gloveport Covers	.	.
Glove Liner 1 EA	.05	.2
Door Gaskets	.10	7.8
Misc. Items	1.00	5.0
	.	.
	.	.
	.	.
	.	.

Waste Weight (lbs) 700

FORBIDDEN MATERIALS

Free Liquids
Free Sludge
Pyrophoric Material
Compressed Gas
Explosives
Toxic/Corrosive Chemicals

This waste was visually inspected before size reduction and during packaging to ensure that none of the above materials were transferred to the output waste package.

OPERATOR'S STATEMENT

The above information was collected according to established procedures and is correct and complete to the best of my knowledge.

Date: 5-14-84
Printed Name: David L. McIlton
Signature: David L. McIlton

REVIEWER'S STATEMENT

I have reviewed the data herein or witnessed its collection. The data is correct, complete, and was collected according to the approved procedures.

Printed Name:
Date:
Signature:

COMMENTS: There is a 16oz. Can of Graphite and a 3oz. tube of Vacuum grease

1/84

WINDOW GASKETS

Measure the window acorss the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply the "B" total by 0.1 to get the volume in cubic feet.
Multiply the "B" total by 0.006 to get the weight in pounds.

LENGTH	WIDTH	A	No. of WINDOWS	B
24	15	39	2	78
9	23	32	2	64
9	6	15	2	30

0.0013

172	~~X 0.1 =~~	~~.22~~ ft^3
172	~~X 0.006 =~~ 0.1	1.72 lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, and that product by the thickness to get "C".
Repeat for each window.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply the "C" total by 0.04 to get the weight in pounds.

LENGTH	WIDTH	THICK	C

	X 0.0006 =	ft^3
	X 0.04 =	lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Total column "D".
Multiply the "D" total by 0.0002 to get the volume in cubic feet.
Multiply the "D" total by 0.015 to get the weight in pounds.

	LENGTH	WIDTH	D Total
4 EA.	32	46	312
2 EA.	27	46	146
1 EA.	30	34	64

522	X 0.0002	= ~~.104~~ ft^3
522	X 0.015	= ~~7.83~~ lb.

MISCELLANEOUS

WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton	0.01	1.2
Bagout bag for drum, 55gal.	0.10	3.7
Bagout bag for filters	0.17	4.4
Bagout sleeve for 4'x4'x7'	0.68	23.4
Bagout sleeve for truck box	0.60	18.8
Liner, truck box	0.15	10.0
PAPER		
Liner for truck box	0.46	20.0
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12"		
wood frame	4.0	25.1
metal frame	4.0	10.8
Glovebox gloves (each)	0.05	0.8
Gloveport covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular gasket for passthru	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.

LA 8403 00500 08

WINDOW GASKETS

Measure the window acorss the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply the "B" total by 0.1 to get the volume in cubic feet.
Multiply the "B" total by 0.006 to get the weight in pounds.

LENGTH	WIDTH	A	No. of WINDOWS	B
24	15	39	2	78
9	23	32	2	64
9	6	15	2	30

0.0013

172	~~X 0.1 =~~	~~.223~~ ft^3
172	~~X 0.006 =~~ 0.1	1.72 lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, and that product by the thickness to get "C".
Repeat for each window.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply the "C" total by 0.04 to get the weight in pounds.

LENGTH	WIDTH	THICK	C

	X 0.0006 =	ft^3
	X 0.04 =	lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Total column "D".
Multiply the "D" total by 0.0002 to get the volume in cubic feet.
Multiply the "D" total by 0.015 to get the weight in pounds.

	LENGTH	WIDTH	D Total
4 EA.	32	46	312
2 EA.	27	46	146
1 EA.	30	34	64

522	X 0.0002 =	~~.1044~~ ft^3
522	X 0.015 =	~~7.83~~ lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton	0.01	1.2
Bagout bag for drum, 55gal.	0.10	3.7
Bagout bag for filters	0.17	4.4
Bagout sleeve for 4'x4'x7'	0.68	23.4
Bagout sleeve for truck box	0.60	18.8
Liner, truck box	0.15	10.0
PAPER		
Liner for truck box	0.46	20.0
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12"		
wood frame	4.0	25.1
metal frame	4.0	10.8
Glovebox gloves (each)	0.05	0.8
Gloveport covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular gasket for passthru	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.

LOS ALAMOS TRANSURANIC WASTE
SIZE REDUCTION FACILITY
INPUT WASTE BATCH DATA SHEET

Waste Package Serial Number: LA 84 03 01 05 01 01 8

RADIONUCLIDE CONTENT			C=Curie M=Gram	
Nuclide	Amount		±	
Pu239	1.417	E	+10	M
	.	E		
	.	E		
	.	E		
	.	E		
	.	E		

RSWD No. S81270 6
Input Package No. 3607
Inout Package Vol. (ft^3) 1218

WASTE DESCRIPTION
Glove box, Misc. items, Tools, Flanges, Metal cans.

ORGANIC MATERIALS

Item	Volume (ft^3)	Weight (lbs)
Window Gaskets	0.212	17.2
Windows (plastic)	.	.
Filters	0.212	4.6
Sleeve & Liners	0.814	48.8
Gloves	0.210	3.2
Gloveport Covers	.	.
glove liner	0.05	0.2
Door gaskets	0.110	7.8
Misc items	1.00	5.0
Totals	2.613	86.8
	.	.
	.	.
	.	.

Waste Weight (lbs) 1700

FORBIDDEN MATERIALS

Free Liquids
Free Sludge
Pyrophoric Material
Compressed Gas
Explosives
Toxic/Corrosive Chemicals

This waste was visually inspected before size reduction and during packaging to ensure that none of the above materials were transferred to the output waste package.

OPERATOR'S STATEMENT

The above information was collected according to established procedures and is correct and complete to the best of my knowledge.

Date:
Printed Name:
Signature:

REVIEWER'S STATEMENT

I have reviewed the data herein or witnessed its collection. The data is correct, complete, and was collected according to the approved procedures.

Printed Name:
Date:
Signature:

COMMENTS: one 16oz can of graphite and one 3oz tube of vacuum grease stabilized with portland cement. Re-written on new form. Corrected weight calculations. BTK 8/27/84

5/84

WINDOW GASKETS

Measure the window across the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply "B" total by 0.0013 = volume in cubic feet.
Multiply "B" total by 0.1 = weight in pounds.

LENGTH	WIDTH	A	No. of windows	B
24	15	39	2	78
9	23	32	2	64
9	[illegible]	15	2	30

172	x 0.0013 =	0.22 ft^3
172	x 0.1 =	17.2 lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, by the thickness, by the number of windows, to get "C".
Repeat for each window size.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply "C" total by 0.04 to get weight in pounds.

LENGTH	WIDTH	THICK.	No. of windows	C

	x 0.0006 =	ft^3
	x 0.04 =	lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Multiply "D" by the number of identical doors to get "E".
Repeat for each door size.
Total column E.
Multiply "E" total by 0.0002 = volume in cubic feet.
Multiply "E" total by 0.015 = weight in pounds.

LENGTH	WIDTH	D	No. of Doors	E
32	46	78	4	312
27	46	73	2	146
30	34	64	1	64

522	x 0.0002 =	0.10 ft^3
522	x 0.015 =	7.83 lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton.	0.01	1.2
Bag out bag for 55-gal drum.	0.10	3.7
Bag out bag for filters.	0.17	4.4
Bag out sleeve for 4'x4'x7'.	0.25	23.4
Bag out sleeve for truck box.	0.23	18.8
Liner, truck box.	0.15	10.0
PAPER		
Liner for truck box.	0.46	20.0
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12" wood frame	4.0	25.1
metal frame	4.0	10.8
Glove box gloves (each)	0.05	0.8
Glove port covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular passthru gasket	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.0

H-7 WASTE MANAGEMENT

LA8403005000 8

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

RSWD#
818710

3/29/84

DATE	SERIAL	GROUP	TA	BLDG	ROOM	W-CODE
810513	003617	H1	50	1	36	A33

WASTE-DESCRIPTION
GLOVES BOXES 446C487-1)

PACKAGES			PKG-RAD	
CRATES	VOL (FT3)	GROSS-VOL	SUR	MET
1	112.000	3.17184 M3	1.00000	1.00000

GROSS-WGT	ADDITIONAL DESCRIPTION
302363. G	

NUCLIDE-ID	GRAM AMOUNT	CURIE AMOUNT
PU239	3.08306	2.189 E-1
	.000000E+00	----------
	.000000E+00	----------
	.000000E+00	----------
	.000000E+00	----------
	.000000E+00	----------

DISP DATE	LOCATION AREA	SHAFT	PIT	POST(S)	LAY	POS
811218	G		P2	-		

2 440 mci/g

LA 8403 0050 0008

WINDOW GASKETS

Measure the window across the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply "B" total by 0.0013 = volume in cubic feet.
Multiply "B" total by 0.1 = weight in pounds.

LENGTH	WIDTH	A	No. of windows	B
19"	11"	30	1	30
9"	23"	32	1	32
25"	6.5"	9	2	18
9"	5"	14	2	28
			108	x 0.0013 = 1404 ft^3
			108	x 0.1 = 108 lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, by the thickness, by the number of windows, to get "C".
Repeat for each window size.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply "C" total by 0.04 to get weight in pounds.

LENGTH	WIDTH	THICK.	No. of windows	C
				x 0.0006 = ft^3
				x 0.04 = lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Multiply "D" by the number of identical doors to get "E".
Repeat for each door size.
Total column E.
Multiply "E" total by 0.0002 = volume in cubic feet.
Multiply "E" total by 0.015 = weight in pounds.

LENGTH	WIDTH	D	No. of Doors	E
				x 0.0002 = ft^3
				x 0.015 = lb.

MISCELLANEOUS

WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton.	0.01	1.2
Bag out bag for 55-gal drum.	0.10	3.7
Bag out bag for filters.	0.17	4.4
Bag out sleeve for 4'x4'x7'.	0.25	23.4
Bag out sleeve for truck box.	0.23	18.8
Liner, truck box.	0.15	10.0
PAPER		
Liner for truck box.	0.46	20.0
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12" wood frame	4.0	25.1
metal frame	4.0	10.8
Glove box gloves (each)	0.05	0.8
Glove port covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular passthru gasket	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.0

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

LA8403005000 8

RSWD#
5817524

Pu 3/29/84

DATE	SERIAL	GROUP	TA	BLDG	ROOM	W-CODE
310313	003613	M1	50	1	36	A33

WASTE-DESCRIPTION
GLOVES BOX CODE NO 448C429-3)

PACKAGES			PKG-RAD	
CRATES	VOL (FT3)	GROSS-VOL	SUR	MET
1	112.000	3.17184 M3	.000000E+00	.000000E+00

GROSS-WGT
302454. G

ADDITIONAL DESCRIPTION

NUCLIDE-ID	GRAM AMOUNT	CURIE AMOUNT
PU238	.108793E-01	1.517E-1
	.000000E+00	----------
	.000000E+00	----------
	.000000E+00	----------
	.000000E+00	----------
	.000000E+00	----------

DISP DATE	LOCATION AREA	SHAFT	PIT	POST(S)	LAY	POS
011218	G		P2			

~ 290 mci/g

LOS ALAMOS TRANSURANIC WASTE
SIZE REDUCTION FACILITY
INPUT WASTE BATCH DATA SHEET

Waste Package Serial Number: LA 8 14 0 13 0 1 0 5 1 0 1 0 1 8

RADIONUCLIDE CONTENT (C=Curie M=Gram)

Nuclide	Amount	±	
P 14 12 13 18	~~.108793~~	E	~~-1~~
	1.0 1 8 1 8	E	-12 M
	.	E	
	.	E	
	.	E	
	.	E	

RSWD No. 5 18 1 17 15 12 14 1
Input Package No. 1 0 1 0 13 1 6 1 1 6
Input Package Vol. (ft³) 1 1 2 8

WASTE DESCRIPTION

Glove Box

ORGANIC MATERIALS

Item	Volume (ft³)	Weight (lbs)
Window Gaskets	~~8.137~~	9.0
Windows (plastic)	.	.
Filters	0.212	4.6
Sleeve & Liners		
Gloves	0.21	3.2
Gloveport Covers	0.21	0.8
Glove retaining ring	0.21	0.8
Circular Post-Seat	0.1	5.8
Foam	1.51	12.37
	.	.
	.	.
	.	.
	.	.

Waste Weight (lbs) 1 13510

FORBIDDEN MATERIALS

Free Liquids
Free Sludge
Pyrophoric Material
Compressed Gas
Explosives
Toxic/Corrosive Chemicals

This waste was visually inspected before size reduction and during packaging to ensure that none of the above materials were transferred to the output waste package.

OPERATOR'S STATEMENT

The above information was collected according to established procedures and is correct and complete to the best of my knowledge.

Date: 5/14/84
Printed Name: ROBERT M. CONTRERAS
Signature: Robert M Bogdan

REVIEWER'S STATEMENT

I have reviewed the data herein or witnessed its collection. The data is correct, complete, and was collected according to the approved procedures.

Printed Name:
Date:
Signature:

COMMENTS:

5/84

WINDOW GASKETS

Measure the window across the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply "B" total by 0.0013 = volume in cubic feet.
Multiply "B" total by 0.1 = weight in pounds.

LENGTH	WIDTH	A	No. of windows	B
19	11	30	1	30
9	5	14	2	28
23	9	32	1	32

90	x 0.0013 =	0.117 ft^3
90	x 0.1 =	9.0 lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, by the thickness, by the number of windows, to get "C".
Repeat for each window size.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply "C" total by 0.04 to get weight in pounds.

LENGTH	WIDTH	THICK.	No. of windows	C

	x 0.0006 =	ft^3
	x 0.04 =	lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Multiply "D" by the number of identical doors to get "E".
Repeat for each door size.
Total column E.
Multiply "E" total by 0.0002 = volume in cubic feet.
Multiply "E" total by 0.015 = weight in pounds.

LENGTH	WIDTH	D	No. of Doors	E

	x 0.0002 =	ft^3
	x 0.015 =	lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton.	0.01	1.2
Bag out bag for 55-gal drum.	0.10	3.7
Bag out bag for filters.	0.17	4.4
Bag out sleeve for 4'x4'x7'.	0.25	23.4
Bag out sleeve for truck box.	0.23	18.8
Liner, truck box.	0.15	10.0
PAPER		
Liner for truck box.	0.46	20.0
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12" wood frame	4.0	25.1
metal frame	4.0	10.8
Glove box gloves (each)	0.05	0.8
Glove port covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular passthru gasket	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.0

LA8403005 0008

WINDOW GASKETS
Measure the window across the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply "B" total by 0.0013 = volume in cubic feet.
Multiply "B" total by 0.1 = weight in pounds.

LENGTH	WIDTH	A	No. of windows	B
19	11	30	1	30
9	5	14	2	28
23	9	32	1	32
			90	x 0.0013 = 0.117 ft³
			90	x 0.1 = 9.0 lb.

WINDOWS (PLASTIC)
Measure the overall dimensions of the window in inches.
Multiply the length by the width, by the thickness, by the number of windows, to get "C".
Repeat for each window size.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply "C" total by 0.04 to get weight in pounds.

LENGTH	WIDTH	THICK.	No. of windows	C
				x 0.0006 = ft³
				x 0.04 = lb.

DOOR GASKETS
Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Multiply "D" by the number of identical doors to get "E".
Repeat for each door size.
Total column E.
Multiply "E" total by 0.0002 = volume in cubic feet.
Multiply "E" total by 0.015 = weight in pounds.

LENGTH	WIDTH	D	No. of Doors	E
				x 0.0002 = ft³
				x 0.015 = lb.

MISCELLANEOUS WEIGHTS & VOLUMES

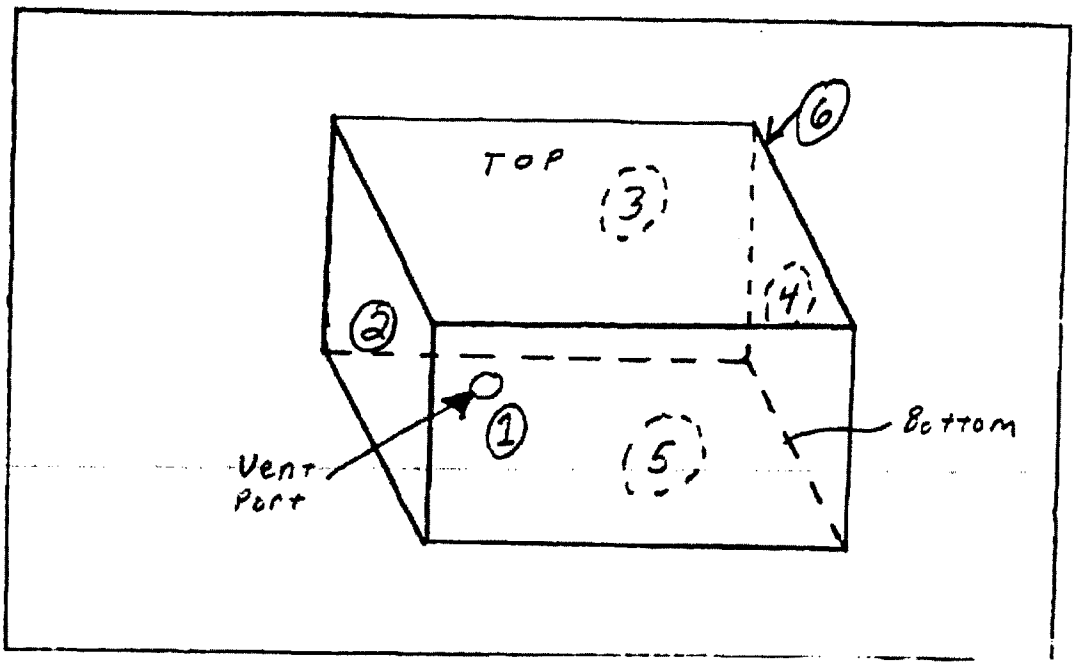
Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton.	0.01	1.2
Bag out bag for 55-gal drum.	0.10	3.7
Bag out bag for filters.	0.17	4.4
Bag out sleeve for 4'x4'x7'.	0.25	23.4
Bag out sleeve for truck box.	0.23	18.8
Liner, truck box.	0.15	10.0
PAPER		
Liner for truck box.	0.46	20.0
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12" wood frame	4.0	25.1
metal frame	4.0	10.8
Glove box gloves (each)	0.05	0.8
Glove port covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular passthru gasket	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.0

WIPP CONTAINER SWIPE SURVEY DATA SHEET

TA - 50 - 69 BUILDING SRF SAMPLE DATE 8/27/84

HPT Sharon Velarde CONTAINER NO. LA 8403005 0008

Maximum Alpha Activity: 110 dpm/100 sq. cm.
Maximum Beta-gamma Activity: 990 dpm/100 sq. cm.



SWIPE NO.	LOCATION	*ALPHA	*BETA-GAMMA
1	Vent Port	NDA	NDA
2	Side	"	"
3	Side	"	"
4	Side	"	"
5	Bottom	"	"
6	Weld Bead	"	"

*d/m/100 sq. cm.
Distribution:

1. Sharon Velarde MSE517
2. Johnny Harper MS E516

Analyzed By R. Montoya

Analysis Date 8/27/84

LANL WSP # 32358

SUBMITTED WITH SB10157

ATTACHMENT 1
Page 1 of 8

TA-54 AREA G TRU CRATE REMEDIATION DATA SHEET

Page 1 of 1

4.3[7] Parent waste container unique identifier: 53878
PE-Ci Value: .797 PE-Ci
PE-Ci Equivalent Combustible Waste Value: .797 PE-Ci
Activity Hazard Category Requirement:
☐ Radiological (< 0.52 PE-Ci)
☑ HC-2/3 (≤ 18 PE-Ci Equivalent Combustible Waste)
Facility ☑ TA-54-231 ☐ TA-54-375 ☐ TA-54-412

4.2.1[4] MultiRAE Monitor information: ☑ N/A
Serial No.:
Cal. Date:

Calibration within 30 days: ☐ SAT ☐ UNSAT
Accuracy verified through Bump Check within ±10%: ☐ SAT ☐ UNSAT

4.3[3] (S) Electrical equipment/tools satisfy the National Electric Code (NEC) or Underwriters Laboratories (UL) requirements (or equivalent) or have been ESO approved: ☐ N/A

~~JM~~ 117631 / 2-3-14	JSO 263500 / 2-5-14	N/A / N/A
Initials / Z# Date	Initials Z# Date	Initials / Z# Date

4.3[6] (S) Combustible/flammable liquids are authorized (i.e., attended and total volume is less than or equal to 100 gal) (LCO 3.3.1)

ST 249210 2/3/14	JM 117631 / 2-3-14	ST 242210 / 2/4/14
Initials / Z# ~~2-4-14~~ Date	Initials Z# Date	Initials / Z# Date
JM ST 117631 / 2-4-14	SP 276700 / 2-5-14	JM 117631 / 2-5-14
Initials Z# Date	Initials Z# Date	Initials / Z# Date
SP 276700 / 2-6-14	N/A / N/A	N/A / N/A
Initials / Z# Date	Initials / Z# Date	Initials / Z# Date

4.3[14] Parent Crate Gross Weight: 1874 lb

COPY

ATTACHMENT 1
Page 2 of 8

Page 1 of 2

4.3[7] Parent waste container unique identifier: 53878

4.3[16] (S) STATIONARY FIRE WATCH established. (SAC 5.7.17)

ST 242210 2/3/14	JM 117631 / 2-3-14	ST 242240 / 2/4/14
Initials / Z# Date	Initials / Z# Date	Initials / Z# Date
JM 117631 / 2-4-14	SP 276700 / 2-5-14	JM 117631 / 2-5-14
Initials / Z# Date	Initials / Z# Date	Initials / Z# Date

5.[7] Date and approximate time crate remediation initiated: 2/2/14 / 1240
Date Time

5.[11][B] No hot work or other spark/flame initiators are being performed in SSSR process area and SSSR process area posted to prevent these activities ☐ SAT ☐ UNSAT ☑ N/A

5.[11][F] Time metal container venting started: _____ min. ☑ N/A

5.[11][G] Time metal container venting stopped: _____ min. ☑ N/A

5.[11][H] Metal container vented for ≥ 30 minutes: ☐ SAT ☐ UNSAT ☑ N/A

5.[11][J] Metal container bunghole %LEL and % Oxygen:
Measured % LEL _____ % ☑ N/A
Measured % Oxygen _____ % ☑ N/A

5.[11][K] Measured %LEL Hydrogen < 25% and % Oxygen ≥ 10% at metal container bunghole: ☐ SAT ☐ UNSAT ☑ N/A

5.[29] Lowest 75% capacity equipment: 825 lb

ATTACHMENT 1
Page 2 of 8

Page 2 of 2

4.3[7] Parent waste container unique identifier: 53878

4.3[16] (S) STATIONARY FIRE WATCH established. (SAC 5.7.17)

SR276700 / 12/6/14	xfa / N/A	xfa / N/A
Initials / Z# Date	Initials / Z# Date	Initials / Z# Date
xfa / N/A	xfa / N/A	xfa / N/A
Initials / Z# Date	Initials / Z# Date	Initials / Z# Date

5.[7] Date and approximate time crate remediation initiated: 2/2/14 / 1240
Date Time

5.[11][B] No hot work or other spark/flame initiators are being performed in SSSR process area and SSSR process area posted to prevent these activities ☐ SAT ☐ UNSAT ☑ N/A

5.[11][F] Time metal container venting started: _____ min. ☑ N/A

5.[11][G] Time metal container venting stopped: _____ min. ☑ N/A

5.[11][H] Metal container vented for ≥ 30 minutes: ☐ SAT ☐ UNSAT ☑ N/A

5.[11][J] Metal container bunghole %LEL and % Oxygen:
Measured % LEL _____ % ☑ N/A
Measured % Oxygen _____ % ☑ N/A

5.[11][K] Measured %LEL Hydrogen < 25% and % Oxygen ≥ 10% at metal container bunghole: ☐ SAT ☐ UNSAT ☑ N/A

5.[29] Lowest 75% capacity equipment: 825 lb

ATTACHMENT 1
Page 3 of 8

Page 1 of 1

4.3[7] Parent waste container unique identifier: 53878

5.[31][M] Glovebox weight: _____ lb ☑ N/A
Calibrated Scale: Cal. File No.: _____
Manufacturer: _____
Model: _____
Last Cal Date: _____
Last Cal Date within 1 yr: ☐ YES ☐ NO

5.[31][P][c] Glovebox Package (glovebox plus container) weight: _____ lb ☑ N/A

5.[32] Liquid is present in crate: ☐ YES ☑ N/A

NOTE *The following containers are considered SAC 5.7.12 compliant:*
- *Plastic container with any lid*
- *Container with a plastic lid*
- *Container without a gasket (e.g., containers with slip lids, paint cans, produce cans, and other similar containers of any volume)*
- *Container with a slip-on lid (with or without a gasket)*
- *Container that does not contain TRU waste*
- *Fiber board containers of any volume*

5.[35] (S) SAC 5.7.12 non-compliant containers are present: ☐ YES ☑ NO

5.[38] Containerized liquids present: ☐ YES ☑ NO

5.[40][D] [F] Containerized liquid: ☑ N/A

Liquid Volume/Unit				
Liquid pH				

5.[43] Potentially pressurized containers present: ☑ YES ☐ NO

5.[47][C] PCB item numbers: N/A

5.[60] (S) STATIONARY FIRE WATCH secured
Initials / # _____ Date

5.[65] Date and approximate time crate remediation completed: 2-6-14 1443
Date Time

ATTACHMENT 1
Page 4 of 8

NOTE *Multiple copies of this Attachment 1 page are used to separately document each LLW Daughter Waste Container generated from the identified parent waste container.*

Page 1 of 1

4.3[7] Parent waste container unique identifier: 53878

5.[71][C] LLW Daughter Waste Container
Serial No.: N/A
WCATS Labeled ID: N/A
Container Type: ☐ B-12 ☐ B-25
☐ Other N/A
☐ SCO N/A

Calibrated Scale:
Cal. File No.: N/A
Manufacturer: N/A
Model: N/A
Last Cal Date: N/A
Last Cal Date within 1 yr: ☐ YES ☐ NO

LLW Daughter Gross Weight: N/A lb

LLW Daughter Tare Weight: N/A lb

LLW Daughter Net Weight: N/A lb

LLW Daughter information: N/A

LLW Daughter contamination description: N/A

Closure Date: N/A

Performed By: Anthony Serna-Sanchez [signature] 29500 2-6-14
Operator (Print) Signature / [illegible] Date

ATTACHMENT 1
Page 5 of 8

NOTE *Multiple copies of this Attachment 1 page are used to separately document each TRU Daughter Waste Container generated from the identified parent waste container.*

2-6-14

Page 1 of ~~5~~ 4

4.3[7] Parent waste container unique identifier: 53878

5.[62] TRU Daughter Waste Container Serial No.: 130665

WCATS Labeled ID: LA000000068269

Container Type: ☐ 55-gal ☑ SWB ☐ Other N/A

Calibrated Scale: Cal. File No.: 042236
Manufacturer: WeighSouth
Model: WS10
Last Cal Date: 12/05/14
Last Cal Date within 1 yr: ☑ YES ☐ NO

Total Confinement Layers (≤ 6): 1

Closure Date: 2/21/14

TRU Daughter Gross Weight: 1140 lb

TRU Daughter Tare Weight: 640 lb

TRU Daughter Net Weight: 500 lb

TRU Daughter information: Sharps & crushed aerosol cans (2)

N/A

TRU Daughter contents/item description: (Day shift) one bag of Lab waste ~~waste~~ 2/1-9-14 cut up CMB lid and one cut up tote, (Night shift) 1 Bag of Bags from container. 2/1/14 Trim & scrap metal added to SWB. Both aerosol cans crushed & put into SWB.

Performed By: Steven Thoren [signature] 124210 2/4/14
Operator (Print) Signature Z # Date

ATTACHMENT 1
Page 5 of 8

NOTE *Multiple copies of this Attachment 1 page are used to separately document each TRU Daughter Waste Container generated from the identified parent waste container.*

Page 2 of 4

4.3[7] Parent waste container unique identifier: 53878

5.[62] TRU Daughter Waste Container
Serial No.: 130672
WCATS Labeled ID: 68268
Container Type: ☐ 55-gal ☑ SWB ☐ Other N/A

Calibrated Scale:
Cal. File No.: 042236
Manufacturer: Weigh South
Model: WS-10
Last Cal Date: 12-5-14
Last Cal Date within 1 yr: ☑ YES ☐ NO

Total Confinement Layers (< 6): 1

Closure Date: 2-5-14

TRU Daughter Gross Weight: 1545 lb

TRU Daughter Tare Weight: 640 lb

TRU Daughter Net Weight: 905 lb

TRU Daughter information: FH 2-5-14 ~~All contents from 53878 container~~ N/A

TRU Daughter contents/item description: 15 Flat metal plates, 2 bags with plastic & foam, one bag with filters, metal rings, foam filters, unistruts, one ~~bag~~ of red waste, and foam filters in swb 130622. One bag of FH 2-4-14

Performed By: Fabian Anaya / Fabian Anaya 174963 / 2-5-14
Operator (Print) Signature Z # Date

ATTACHMENT 1
Page 5 of 8

NOTE *Multiple copies of this Attachment 1 page are used to separately document each TRU Daughter Waste Container generated from the identified parent waste container.*

Page 3 of 4

4.3[7] Parent waste container unique identifier: 53878

5.[62] TRU Daughter Waste Container
Serial No.: 130671
WCATS Labeled ID: LA000000 68272
Container Type: ☐ 55-gal ☑ SWB ☐ Other N/A

Calibrated Scale:
Cal. File No.: 042236
Manufacturer: Weigh South
Model: WS 10
Last Cal Date: 12-5-13
Last Cal Date within 1 yr: ☑ YES ☐ NO

Total Confinement Layers (≤ 6): 1

Closure Date: 2-6-2014

TRU Daughter Gross Weight: 1255 lb

TRU Daughter Tare Weight: 640 lb

TRU Daughter Net Weight: 615 lb

TRU Daughter information: Content from parent container 53878.
~~N/A~~

TRU Daughter contents/item description: 1-bag with 6 sample vials with caps off, 3 Bag out bags with waste from cmB, loose plastic, metal rubber gaskets, cardboard, glass from glovebox, Foam, tubbing and 1 Liner package from cmb.

Performed By: LorenzoMorrison / [signature] 117631 2-6-2014
Operator (Print) Signature Z # Date

ATTACHMENT 1
Page 5 of 8

NOTE *Multiple copies of this Attachment 1 page are used to separately document each TRU Daughter Waste Container generated from the identified parent waste container.*

Page 4 of 4

4.3[7] Parent waste container unique identifier: 53878

5.[62] TRU Daughter Waste Container
Serial No.: 130667
WCATS Labeled ID: LA000000 68274
Container Type: ☐ 55-gal ☑ SWB ☐ Other N/A

Calibrated Scale:
Cal. File No.: 042236
Manufacturer: Weigh South
Model: WS10
Last Cal Date: 12/05/14
Last Cal Date within 1 yr: ☑ YES ☐ NO

Total Confinement Layers (< 6): 1

Closure Date: ~~2-6-14~~ 2-6-14

TRU Daughter Gross Weight: 1167 lb

TRU Daughter Tare Weight: 640 lb

TRU Daughter Net Weight: 527 lb

TRU Daughter information: N/A
N/A

TRU Daughter contents/item description: 3 sides and Bottom of a CMB inside swb 130667, (68274)
N/A

Performed By: Anthony Saenz-Sanchez 283580 12-6-14
Operator (Print) Signature Z # Date

ATTACHMENT 1
Page 6 of 8

Page 1 of 2

4.3[7] Parent waste container unique identifier: 53878

7.[5] ($) One of the following exists: (SAC 5.7.17) ☐ N/A

- Exposed waste material covered by a fire blanket or other fire retardant material
- STATIONARY FIRE WATCH established inside of the SSSR process area

AS 198696 2/3/14 Initials / Z# Date
JM 117631 / 2-4-14 Initials / Z# Date
ST 242210 / 2/4/14 Initials / Z# Date
JM 117631 2-5-14 Initials / Z# Date
SP 276700 2-5-14 Initials / Z# Date
JM 117631 / 2-6-14 Initials / Z# Date

Date/Time (7.[8])	Facility (7.[8])	Air Mover	Required HEPA DP (in. wc)	Air Mover Status (7.[8])	Required HEPA DP (in. wc) (7.[8])
2/3/14/0005	☑ Dome TA-54-231 PermaCon	AM-01/ AM-02/ AM-03/ AM-08	≥ 0.5 to ≤ 2.5	☑ ON ☐ OFF ☐ N/A	☑ SAT ☐ UNSAT ☐ N/A
2-4-14 0533				☑ ON ☐ OFF ☐ N/A	☑ SAT ☐ UNSAT ☐ N/A
2/4/14 1725	☐ Building TA-54-412 Enclosure	AM-01/ AM-02/ AM-03	≥ 0.5 to ≤ 3.5	☑ ON ☐ OFF ☐ N/A	☑ SAT ☐ UNSAT ☐ N/A
2-5-14 0532				☑ ON ☐ OFF ☐ N/A	☑ SAT ☐ UNSAT ☐ N/A
2-5-14 1735	☐ Dome TA-54-375 PermaCon	PDI-003/ PDI-004	≥ 1.0 to ≤ 2.5	☑ ON ☐ OFF ☐ N/A	☑ SAT ☐ UNSAT ☐ N/A
2-6-14 0533				☑ ON ☐ OFF ☐ N/A	☑ SAT ☐ UNSAT ☐ N/A

7.[9] All combustible/flammable liquids removed from SSSR AREA or appended:

AS 198696 / 2/3/14 Initials / Z# Date
JM 117631 2-4-14 Initials / Z# Date
ST 242210 / 2/4/14 Initials / Z# Date
JM 117631 2-5-14 Initials / Z# Date
SP 276700 / 2-5-14 Initials / Z# Date
JM 117631 2-6-14 Initials / Z# Date

ATTACHMENT 1
Page 6 of 8

Page 2 of 2

4.3[7] Parent waste container unique identifier: 53878

7.[5] (S) One of the following exists: (SAC 5.7.17) ☐ N/A

- Exposed waste material covered by a fire blanket or other fire retardant material
- STATIONARY FIRE WATCH established inside of the SSSR process area

SP276700 / 2/5/14	N/A / N/A	N/A / N/A
Initials / Z# Date	Initials / Z# Date	Initials / Z# Date
N/A / N/A	N/A / N/A	N/A / N/A
Initials / Z# Date	Initials / Z# Date	Initials / Z# Date

Date/Time (7.[8])	Facility (7.[8])	Air Mover	Required HEPA DP (in. wc)	Air Mover Status (7.[8])	Required HEPA DP (in. wc) (7.[8])
2/5/14 1735	☑ Dome TA-54-231 PermaCon	AM-01/ AM-02/ AM-03/ AM-08	≥ 0.5 to ≤ 2.5	☑ ON ☐ OFF ☐ N/A	☑ SAT ☐ UNSAT ☐ N/A
				☐ ON ☐ OFF ☐ N/A	☐ SAT ☐ UNSAT ☐ N/A
	☐ Building TA-54-412 Enclosure NA	AM-01/ AM-02/ AM-03	≥ 0.5 to ≤ 3.5	☐ ON ☐ OFF ☐ N/A	☐ SAT ☐ UNSAT ☐ N/A
				☐ ON ☐ OFF ☐ N/A	NA ☐ SAT ☐ UNSAT ☐ N/A
	☐ Dome TA-54-375 PermaCon	PDI-003/ PDI-004	≥ 1.0 to ≤ 2.5	☐ ON ☐ OFF ☐ N/A	☐ SAT ☐ UNSAT ☐ N/A
				☐ ON ☐ OFF ☐ N/A	☐ SAT ☐ UNSAT ☐ N/A

7.[9] All combustible/flammable liquids removed from SSSR AREA or attended:

N/A / N/A	N/A / N/A	N/A / N/A
Initials / Z# Date	Initials / Z# Date	Initials / Z# Date
N/A / N/A	N/A / N/A	N/A / N/A
Initials / Z# Date	Initials / Z# Date	Initials / Z# Date

ATTACHMENT 1
Page 8 of 8

Page 1 of 1

4.3[7] Parent waste container unique identifier: 538778

9.1[1] Performed By: Miguel Montoya (Operator (Print)) Miguel Montoya (Signature) 241631 (Z #) 2/6/14 (Date)

9.1[4] Reviewed By: Roberto Baca (Supervisor Designee (Print)) (Signature) 234078 (Z #) 2/6/14 (Date)

9.1[5][B] Acceptance criteria satisfied: ☑ YES ☐ NO

9.1[5][D] Approved by: Pat O'Grady (SOS/SOM or designee (print)) Pat O'Grady (Signature) 151358 (Z #) 2/8/14 (Date) 0815 (Time)

ATTACHMENT 1
Page 1 of 1

TA-54 AREA G STANDARD WASTE BOX (SWB) PREPARATION DATA SHEET

5.1[19] SWB serial number: 130665

5.1[30] Torque wrench information:
- M&TE No.: 101309
- Cal. Expiration Date: 11-11-14
- Tolerance: +or- 3%

- Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Dean Dudley / [signature] 1280126 1/26/14
Operator (print) Signature Z # Date

5.1[31] Filtered Vent 1 torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

Filtered Vent 2 torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.1[32] WIPP-approved filtered vent information:

	Filtered Vent 1	Filtered Vent 2
Manufacturer:	NUCFIL	NUCFIL
Model No.:	01905	01905
Serial No.:	AN-438	AN-439
Manufacture Date:	1/13	1/13

5.1[38] Plug 1 torque value 120 in-lb (96 to 144 in-lb): 120 in-lb

Plug 2 torque value 120 in-lb (96 to 144 in-lb): 120 in-lb

Comments: None

8.1[1] Performed By: Dean Dudley / [signature] 1280126 1/26/14
Operator (print) Signature Z # Date

8.1[6] Reviewed By: Fabian Arauza / [signature] 1174963 2-2-14
Supervisor or designee (print) Signature Z # Date

LA00000068269

ATTACHMENT 1
Page 1 of 1

TA-54 AREA G STANDARD WASTE BOX (SWB) PREPARATION DATA SHEET

5.1[19] SWB serial number: 130672

5.1[30] Torque wrench information:
- M&TE No.: 101309
- Cal. Expiration Date: 11-11-14
- Tolerance: +or- 3%

- Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Operator (print) / Signature 128126 / 1-26-14 Z # Date

5.1[31] Filtered Vent 1 torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

Filtered Vent 2 torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.1[32] WIPP-approved filtered vent information:

	Filtered Vent 1	Filtered Vent 2
Manufacturer:	NUCFIL	NUCFIL
Model No.:	0190S	0190S
Serial No.:	AM-443	AM 442
Manufacture Date:	1/13	1/13

5.1[38] Plug 1 torque value 120 in-lb (96 to 144 in-lb): 120 in-lb

Plug 2 torque value 120 in-lb (96 to 144 in-lb): 120 in-lb

Comments: None

8.1[1] Performed By: Steven Thoren / Signature 124220 / 2/4/14 Operator (print) Z # Date

8.1[6] Reviewed By: Roberto Baca / Signature 234078 / 2/4/14 Supervisor or designee (print) Z # Date

ATTACHMENT 1
Page 1 of 1

TA-54 AREA G STANDARD WASTE BOX (SWB) PREPARATION DATA SHEET

5.1[19] SWB serial number: 130671

5.1[30] Torque wrench information:
- M&TE No.: 101309
- Cal. Expiration Date: 11/11/14
- Tolerance: +or- 3%
- Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Dean Dudley / [signature] 128012 2/9/14
Operator (print) Signature Z # Date

5.1[31] Filtered Vent 1 torque value [120 in-lb (96 to 144 in-lb)]: 170 in-lb

Filtered Vent 2 torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.1[32] WIPP-approved filtered vent information:

	Filtered Vent 1	Filtered Vent 2
Manufacturer:	NUCFIL	NUCFIL
Model No.:	01905	01905
Serial No.:	KM-54	KM-70
Manufacture Date:	11-12	11-12

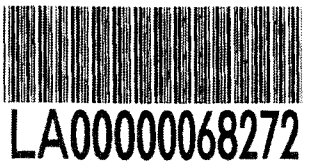
5.1[38] Plug 1 torque value 120 in-lb (96 to 144 in-lb): 120 in-lb

Plug 2 torque value 120 in-lb (96 to 144 in-lb): 120 in-lb

Comments: N/A

8.1[1] Performed By: Dean Dudley / [signature] 128012 2/4/14
Operator (print) Signature Z # Date

8.1[6] Reviewed By: Roberto Baca [signature] 123407 2/4/14
Supervisor or designee (print) Signature Z # Date


LA00000068272

ATTACHMENT 1
Page 1 of 1

TA-54 AREA G STANDARD WASTE BOX (SWB) PREPARATION DATA SHEET

5.1[19] SWB serial number: 130667

5.1[30] Torque wrench information:
- M&TE No.: 101309
- Cal. Expiration Date: 11-11-2014
- Tolerance: + or - 3%

- Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Dean DUDLEY / Dean Dudley 1290126 2/4/14
Operator (print) Signature Z # Date

5.1[31] Filtered Vent 1 torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

Filtered Vent 2 torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.1[32] WIPP-approved filtered vent information:

	Filtered Vent 1	Filtered Vent 2
Manufacturer:	NUCFIL	NUCFIL
Model No.:	01905	01905
Serial No.:	KM-75	KM-60
Manufacture Date:	11-12	11-12

5.1[38] Plug 1 torque value 120 in-lb (96 to 144 in-lb): 120 in-lb

Plug 2 torque value 120 in-lb (96 to 144 in-lb): 120 in-lb

Comments: N/A
N/A

8.1[1] Performed By: Dean DUDLEY / Dean Dudley 1290126 2/4/14
Operator (print) Signature Z # Date

8.1[6] Reviewed By: Roberto Baca / 1234078 2/4/14
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 3
Page 1 of 1

TA-54 AREA G STANDARD WASTE BOX (SWB) CLOSURE DATA SHEET

5.5[3] SWB serial number: 130665

5.5[8] SWB gasket inspection: Capable of sealing: ☑ YES ☐ NO
Expiration Date: 1st Quarter 2016

5.5[31] SWB torque wrench: M&TE No.: 0411770
Cal. Expiration Date: 8/1/14
Tolerance: +/- 3%
Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Steven Thoren / Steven Thoren 124210 / 2/4/14
Operator (print) Signature Z # Date

5.5[33] SFHCS first torque value 30 ft-lb (30 to 40 ft-lb): 30 ft-lb

5.5[34] SFHCS second torque value 50 ft-lb (50 to 60 ft-lb): 50 ft-lb

5.5[37][A]/[B] Total internal waste container or package weight (lb):

N/A lb + N/A lb + N/A lb + N/A lb 500 lb
Container 1 Container 2 Container 3 Container 4 Total Internal Wt. (5.5[38][B])

500 lb + 610 lb = 1140 lb
Total Internal Wt. (5.5[37][B]) SWB Tare Wt. SWB Gross Wt. (5.5[37][I][C]/[38])

5.5[39] SWB Gross Wt. recorded on SWB lid in 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: None

8.1[1] Performed By: Steven Thoren / Steven Thoren 124210 / 2/4/14
Operator (print) Signature Z # Date

Performed By: N/A / / /
Operator (print) Signature Z # Date

Performed By: N/A / / /
Operator (print) Signature Z # Date

Performed By: N/A / / /
Operator (print) Signature Z # Date

8.1[6] Reviewed By: Robert Bace / 234078 / 2/4/14
Supervisor or designee (print) Signature Z # Date

LA00000068269

ATTACHMENT 3
Page 1 of 1

TA-54 AREA G STANDARD WASTE BOX (SWB) CLOSURE DATA SHEET

5.5[3] SWB serial number: 130672

5.5[8] SWB gasket inspection: Capable of sealing: ☑ YES ☐ NO
Expiration Date: ~~1st qt 2013~~ SP 2/5/14 8

5.5[31] SWB torque wrench: M&TE No.: 041770
Cal. Expiration Date: 8-1-14
Tolerance: ±3%
Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Steven Pruiett / [signature] 276700 / 2-5-14
Operator (print) Signature Z # Date

5.5[33] SFHCS first torque value 30 ft-lb (30 to 40 ft-lb): 30 ft-lb

5.5[34] SFHCS second torque value 50 ft-lb (50 to 60 ft-lb): 50 ft-lb

5.5[37][A]/[B] Total internal waste container or package weight (lb):

NA lb (Container 1) + NA lb (Container 2) + NA lb (Container 3) + NA lb (Container 4) = NA lb (Total Internal Wt. (5.5[38][B]))

905 lb (Total Internal Wt. (5.5[37][B])) + 640 lb (SWB Tare Wt.) = 1,545 lb (SWB Gross Wt. (5.5[37][][C]/[38]))

5.5[39] SWB Gross Wt. recorded on SWB lid in 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: NONE

8.1[1] Performed By: Steven Pruiett / [signature] 276700 2-5-14
Operator (print) Signature Z # Date

Performed By: N/A / / /
Operator (print) Signature Z # Date

Performed By: N/A / / /
Operator (print) Signature Z # Date

Performed By: N/A / /
Operator (print) Signature Z # Date

8.1[6] Reviewed By: SP 2-5-14 N/A Omar Sanchez / [signature] 176495 / 2-5-14
Supervisor or designee (print) Signature Z # Date

LA00000068268

ATTACHMENT 3
Page 1 of 1
TA-54 AREA G STANDARD WASTE BOX (SWB) CLOSURE DATA SHEET

5.5[3] SWB serial number: 130671

5.5[8] SWB gasket inspection: Capable of sealing: ☑ YES ☐ NO
Expiration Date: 1st Quarter 2016

5.5[31] SWB torque wrench: M&TE No.: 041770
Cal. Expiration Date: 8-1-14
Tolerance: ± 3%
Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Lorenzo Morrison / Lorenzo Morrison / 117631 / 2-6-14
Operator (print) / Signature / Z # / Date

5.5[33] SFHCS first torque value 30 ft-lb (30 to 40 ft-lb): 30 ft-lb

5.5[34] SFHCS second torque value 50 ft-lb (50 to 60 ft-lb): 50 ft-lb

5.5[37][A]/[B] Total internal waste container or package weight (lb):

N/A lb (Container 1) + N/A lb (Container 2) + N/A lb (Container 3) + N/A lb (Container 4) = N/A lb (Total Internal Wt. (5.5[38][B]))

615 lb (Total Internal Wt. (5.5[37][B])) + 640 lb (SWB Tare Wt.) = 1255 lb (SWB Gross Wt. (5.5[37][][C]/[38]))

5.5[39] SWB Gross Wt. recorded on SWB lid in 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: None

8.1[1] Performed By: Lorenzo Morrison / Lorenzo Morrison / 117631 / 2-6-14
Operator (print) / Signature / Z # / Date

Performed By: N/A / N/A / N/A / N/A
Operator (print) / Signature / Z # / Date

Performed By: N/A / N/A / N/A / N/A
Operator (print) / Signature / Z # / Date

Performed By: N/A / N/A / N/A / N/A
Operator (print) / Signature / Z # / Date

8.1[6] Reviewed By: Kelly L. Cook / ~~N/A~~ 2-6-14 / Kelly L Cook / ~~N/A~~ 2-6-14 / 249295 2-6-14 / ~~N/A~~ ~~N/A~~ 2-6-14
Supervisor or designee (print) / Signature / Z # / Date
2-6-14

LA00000068272

ATTACHMENT 3
Page 1 of 1

TA-54 AREA G STANDARD WASTE BOX (SWB) CLOSURE DATA SHEET

5.5[3] SWB serial number: 130667

5.5[8] SWB gasket inspection: Capable of sealing: ☑ YES ☐ NO
Expiration Date: 1st Quarter 2016

5.5[31] SWB torque wrench: M&TE No.: 041770
Cal. Expiration Date: 8-1-14
Tolerance: +or- 3%
Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Miguel A. Duran / Miguel A. Duran 1178552 2-6-14
Operator (print) Signature Z # Date

5.5[33] SFHCS first torque value 30 ft-lb (30 to 40 ft-lb): 30 ft-lb

5.5[34] SFHCS second torque value 50 ft-lb (50 to 60 ft-lb): 50 ft-lb

5.5[37][A]/[B] Total internal waste container or package weight (lb):

N/A lb + N/A lb + N/A lb + N/A lb = N/A lb
Container 1 Container 2 Container 3 Container 4 Total Internal Wt. (5.5[38][B])

527 lb + 640 lb = 1167 lb
Total Internal Wt. (5.5[37][B]) SWB Tare Wt. SWB Gross Wt. (5.5[37][][C]/[38])

5.5[39] SWB Gross Wt. recorded on SWB lid in 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: None

8.1[1] Performed By: Anthony Serna-Sanchez / Anthony Serna-Sanchez 1283500 12-6-14
Operator (print) Signature Z # Date

Performed By: N/A / / /
Operator (print) Signature Z # Date

Performed By: N/A /
Operator (print) Signature Z # Date

Performed By: N/A / / /
Operator (print) Signature Z # Date

8.1[6] Reviewed By: Dean Sanchez Dean Sanchez 1178445726-11
Supervisor or designee (print) Signature Z # Date

Los Alamos NATIONAL LABORATORY EST. 1943

TRU WASTE STORAGE RECORD

LA00000068268

1. Generator's Pre-Use Visual Inspection

Purchase Order # 105832	Inspected Items		
This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.	☑ Ring, Bolt, and Nut	☑ Chime	☑ Dents
	☑ Lid and Gasket	☑ Gouges	☑ Paint

Printed Name	Signature	Sig. Date	Oper. Date
NICKOLAS W RAY POWERS	*WCATS Electronic*	01-28-14	01-26-14

2. Generator's Package Information

Group	Technical Area	Building	Cost Center	Program Code	Cost Account	Work Package
LTP-DDP	50	000069				

Additional Information

☐ DP ☐ Non-DP If Non-DP waste, attach DOE approval doc.

Container	Liner
☐ Steel Drum (55 gal.)	☑ None
☐ Pipe Overpack Type:	☐ 90 mil liner
☐ Steel Drum (85 gal Overpack)	☐ 125 mil liner
☑ Standard Waste Box	☐ Fiberboard Liner
☐ Standard Waste Box Overpack	**Internal Shielding**
☐ RH Canister	☑ None
☐ Other (Call TWCO)	Type / Thickness

Radionuclide Content

Nuclide	Amount	Uncertainty	C= Curie M = Gram
Am-241	6.890E-002	2.490E-002	C
Np-237	4.430E-006	1.390E-006	C
Pu-238	1.220E-002	4.340E-003	C
Pu-239	1.650E-001	5.410E-002	C
Pu-240	3.880E-002	1.290E-002	C
Pu-241	2.410E-001	8.140E-002	C
Pu-242	3.230E-006	1.130E-006	C
U-235	0.000E+000	0.000E+000	C

Filter Serial No.			
	01 AN-443		
	02 AN-442		

Hazardous Materials

Name	EPA Code	Qty (g)
Lead	D008	

Waste Profile Number	32358 (WS ID 13944)
Gross Weight (lb.)	1.54E+003
Net Weight (lb.)	9.05E+002
Shipping Category	
LANL Waste Stream ID	
TRUCON Code	

Date Closed (MM/DD/YY): 02/06/2014

Accumulation Start Date (MM/DD/YY): 05/14/84

The data in this section were collected, and waste described herein was packaged and labeled according to approved procedures.

Printed Name	Signature	Date:
Philip Quintana	Philip Quintana	8/20/14

3. Generator Site Health Physics Information

		Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Gamma Dose Rate (mrem/h) (contact)	1.00E-001	8/20/14	RO-20	10193	4/10/15
Neutron Dose Rate (mrem/h) (contact)	2.50E-001	8/20/14	SWIRO	013584	11/4/14
Total Dose Rate (mrem/h) (contact)	3.50E-001				
Total Dose Rate (mrem/h) (1 meter)	3.50E-001				
Alpha Contamination (dpm/100cm2)	4.00E+000				
Beta-Gamma Cont (dpm/100 cm2)	5.00E+000				

The data in this section were collected according to approved procedures.

Printed Name	Date
SANTOLOWA	8/20/14

Signature

Modifications to Computer Generated Data Invalidate this Form - R.9

COPY

Los Alamos NATIONAL LABORATORY EST. 1943

TRU WASTE STORAGE RECORD

LA00000068268

4. TRU Waste Management Review/Authorization

The data package for this waste has been reviewed. Basedon the information provided, this waste meets the WAC requirements for storage at TA-54.	Printed Name	Date:
	Signature	

5. Preload Visual Inspection

This waste package was visually inspected prior to transport according to approved procedures. It meets WAC packaging and labeling requirements and is free from obvious damage and defects.	Printed Name	Date:

6. Receiving Site Health Physics Information

Gamma Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Neutron Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)				
Total Dose Rate (mrem/h) (1 meter)	*The data in this section were collected according to approved procedures*			
Alpha Contamination (dpm/100cm2)	Printed Name			Date
Beta-Gamma Cont (dpm/100 cm2)	Signature			

7. Storage Site Information

Received by (Initials)	Date Received	**Original Storage Data**			
This waste package was visually inspected and found to be properly labeled and in good condition. It was accepted and inspected according to approved procedures.		Building Number	Layer	Row Number	
		Column Number	Date Stacked (MM/DD/YY)		
Printed Name	Date:	Printed Name	Date:		
Signature		Signature			

8. Waste Acceptance Office

Intials/Date	WE Description

NCR Number	Intials/Date	NCR Description

Los Alamos NATIONAL LABORATORY EST.1943

TRU WASTE STORAGE RECORD

LA00000068268

9. Continuation Sheet for Radionuclide Content (from Page 1, Section 2)

Radionuclide Content - Continued			
Nuclide	**Amount**	**Uncertainty**	**C= Curie M = Gram**
No Additional Radionuclides			

10. Continuation Sheet for Hazardous Materials (from Page 1, Section 2)

Hazardous Materials		
Name	**EPA Code**	**Qty (g)**
No Additional Hazardous Materials		

Los Alamos NATIONAL LABORATORY EST. 1943

TRU WASTE STORAGE RECORD

53889

1. Generator's Pre-Use Visual Inspection

Purchase Order #	Inspected Items		
This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.	☑ Ring, Bolt, and Nut	☑ Chime	☑ Dents
	☑ Lid and Gasket	☑ Gouges	☑ Paint

Printed Name	Signature	Sig. Date	Oper. Date
WCATS APPLICATION (000000)	*WCATS Electronic*	08-29-84	08-29-84

2. Generator's Package Information

Group	Technical Area	Building	Cost Center	Program Code	Cost Account	Work Package
LTP-PTS	54	000000				

Additional Information

☐ DP ☐ Non-DP If Non-DP waste, attach DOE approval doc.

Container	Liner
☐ Steel Drum (55 gal.)	☑ None
☐ Pipe Overpack Type:	☐ 90 mil liner
☐ Steel Drum (85 gal Overpack)	☐ 125 mil liner
☐ Standard Waste Box	☐ Fiberboard Liner
☐ Standard Waste Box Overpack	**Internal Shielding**
☐ RH Canister	☑ None
☐ Other (Call TWCO)	Type / Thickness

Radionuclide Content

Nuclide	Amount	Uncertainty	C= Curie M = Gram
Ac-228	3.620E-007	1.360E-007	C
Am-241	1.790E-002	6.420E-003	C
Cs-137	5.020E-007	1.780E-007	C
Np-237	3.430E-006	1.210E-006	C
Pu-238	1.340E-002	4.850E-003	C
Pu-239	4.950E-002	1.740E-002	C
Pu-240	1.060E-002	3.870E-003	C
Pu-241	6.030E-002	2.400E-002	C

Filter Serial No.			
	01		
	02		

Waste Profile Number	53393 (WS ID 37017)
Gross Weight (lb.)	7.80E+002
Net Weight (lb.)	7.80E+002
Shipping Category	
LANL Waste Stream ID	TA-50-15
TRUCON Code	

Hazardous Materials

Name	EPA Code	Qty (g)
Lead	D008	

Date Closed (MM/DD/YY):	04/18/1984
Accumulation Start Date (MM/DD/YY):	04/18/84

The data in this section were collected, and waste described herein was packaged and labeled according to approved procedures.

Printed Name	Signature	Date:

3. Generator Site Health Physics Information

	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Gamma Dose Rate (mrem/h) (contact)				
Neutron Dose Rate (mrem/h) (contact)				

Total Dose Rate (mrem/h) (contact)	
Total Dose Rate (mrem/h) (1 meter)	
Alpha Contamination (dpm/100cm2)	0.00E+000
Beta-Gamma Cont (dpm/100 cm2)	0.00E+000

The data in this section were collected according to approved procedures.

Printed Name	Date

Signature

COPY

Los Alamos NATIONAL LABORATORY

TRU WASTE STORAGE RECORD

53889

4. TRU Waste Management Review/Authorization

The data package for this waste has been reviewed. Basedon the information provided, this waste meets the WAC requirements for storage at TA-54.	Printed Name	Date:
	Signature	

5. Preload Visual Inspection

This waste package was visually inspected prior to transport according to approved procedures. It meets WAC packaging and labeling requirements and is free from obvious damage and defects.	Printed Name	Date:

6. Receiving Site Health Physics Information

Gamma Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Neutron Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)	*The data in this section were collected according to approved procedures.*			
Total Dose Rate (mrem/h) (1 meter)				
Alpha Contamination (dpm/100cm2)	Printed Name			Date
Beta-Gamma Cont (dpm/100 cm2)	Signature			

7. Storage Site Information

Received by (Initials)	Date Received	**Original Storage Data**		
This waste package was visually inspected and found to be properly labeled and in good condition. It was accepted and inspected according to approved procedures.		Building Number	Layer	Row Number
		Column Number	Date Stacked (MM/DD/YY)	
Printed Name	Date:	Printed Name	Date:	
Signature		Signature		

8. Waste Acceptance Office

Intials/Date	WE Description

NCR Number	Intials/Date	NCR Description

Los Alamos
NATIONAL LABORATORY
EST. 1943

TRU WASTE STORAGE RECORD

53889

9. Continuation Sheet for Radionuclide Content (from Page 1, Section 2)

Radionuclide Content - Continued			
Nuclide	**Amount**	**Uncertainty**	**C= Curie M = Gram**
Pu-242	9.890E-007	3.780E-007	C
Sr-90	5.020E-007	1.780E-007	C
U-235	0.000E+000	0.000E+000	C

10. Continuation Sheet for Hazardous Materials (from Page 1, Section 2)

Hazardous Materials		
Name	**EPA Code**	**Qty (g)**
No Additional Hazardous Materials		

Los Alamos NATIONAL LABORATORY EST. 1943

WASTE PROFILE FORM

Reference Number

WCATS ID	Legacy WPF ID
37017	53393

Generator's Z Number	Waste Generator's Name *(print)*	WMC's Z Number	WMC's Name *(print)*		Generator's Phone
113199	CHRISTENSEN, DAVIS V	212070	DESOTEL, RONALD R JR		5056658686
Generator's Mail Stop	**Waste Generating Group**	**Waste Stream Technical Area**	**Building**	**Room**	**WMC Phone**
J910	LTP-SSS	54	000000		5056655505

Waste Accumulation *(check only one)*

- ☐ Satellite Accumulation Area — Site No: _____
- ☐ Less-than-90 Days Storage Area — Site No: _____
- ☐ TSDF — Site No: _____
- ☐ Universal Waste Storage Area — Site No: _____
- ☐ Used Oil for Recycle — Site No: _____

ER Use Only

- ☐ ER Site — SWMU/AOC No. _____

- ☐ PCBs Storage Area — Site No: _____
- ☐ NM Special Waste — Site No: _____
- ☐ Rad Staging Area — Site No: _____
- ☐ Rad Storage Area — Site No: _____
- ☑ None of the Above — Site No: _____

Method of Characterization *(check as many as apply)*

☐ Chemical/Physical Analysis	☐ Attached	Sample No: _____
☐ Radiological Analysis	☐ Attached	Sample No: _____
☐ PCB Analysis	☐ Attached	Sample No: _____
☑ Acceptable Knowledge Documentation	☐ Attached	Documentation No: _____
☐ Material Safety Data Sheet (MSDS)	☐ Attached	

Section 1 - Waste Prevention/Minimization *(answer all questions)*

Can hazard segregation, elimination, or material substitution be used?	☐ Yes *(provide comments)*	☑ No	
Can any of the materials in the waste stream be recycled or reused?	☐ Yes *(provide comments)*	☑ No	
Has waste minimization been incorporated into procedures or other process controls?	☑ Yes	☐ No *(provide comments)*	
Can this waste be generated outside a RCA?	☐ Yes *(provide comments)*	☑ No	☐ N/A

Comments:
This WPF is necessary to allow legacy TRU waste containers without a WPF assigned to them in SWOON to be transferred into WCATS.

Section 2 - Chemical and Physical Information

Waste Type *(check only one)*

- ☐ Unused/Unspent Chemical
- ☑ Process Waste/Spent Chemical/Other

Radiological Information

Was Waste generated in a RCA?

- ☑ Yes ☐ No
- ☐ Non-radioactive
- ☐ Radioactive - Low Level
- ☑ Radioactive - Transuranic

Waste Destination *(check one)*

- ☐ SWWS
- ☐ RLWTF
- ☐ RLWTP
- ☐ TA-16/HE
- ☐ NTS

Classified Information

- ☑ Unclassified
- ☐ Classified/Sensitive

Waste Category *(check all that apply)*

- ☐ Inorganic
- ☐ Organic
- ☐ Solvent (see instructions)
- ☐ Degreaser (see instructions)
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated Hazardous Waste or Residue
- ☐ No-Longer Contained-In
- ☐ Explosive Process
- ☐ Infectious/Medical
- ☐ Biological
- ☐ Beryllium
- ☐ Empty Container (see instructions)
- ☐ Battery (see instructions)

Asbestos

- ☐ Friable
- ☐ Non-Friable

PCB Source Concentration

- ☐ PCB < 50 ppm
- ☐ PCB >= 50 - < 500 ppm
- ☐ PCB >= 500 ppm
- ☐ Hazardous Waste Contaminated Soil
- ☐ Untreated Hazardous Debris
- ☐ Commercial Solid Waste
- ☑ Other [Describe]

Other: TBD

Waste Source *(check only one)*

Waste Source A

- ☐ Decon
- ☐ Materials Processing/Production
- ☐ Research/Development/Testing
- ☐ Scheduled Maintenance
- ☐ Housekeeping - Routine
- ☐ Spill Cleanup - Routine
- ☐ Sampling - Routine Monitoring
- ☐ Other (describe)

Waste Source B

- ☐ Abatement
- ☐ Construction/Upgrades
- ☐ Demolition
- ☐ Decon/Decom
- ☐ Investigative Derived
- ☑ Orphan/Legacy
- ☐ Remediation/Restoration
- ☐ Repacking (secondary)
- ☐ Unscheduled Maintenance
- ☐ Housekeeping (non-routine)
- ☐ Spill Cleanup (non-routine)
- ☐ Non-Petroleum Tanks
- ☐ Petroleum Tanks
- ☐ Other (describe)

Other: This WPF is necessary to allow

Waste Matrix *(check only one)*

Gas

- ☐ ≤1.5 Atmospheres Pressure
- ☐ >1.5 Atmospheres Pressure
- ☐ Liquified Compressed Gas

Liquid

- ☐ Aqueous
- ☐ Non-Aqueous
- ☐ Suspended Solids/Aqueous
- ☐ Suspended Solids/Non-Aqueous

Solid

- ☐ Powder/Ash/Dust
- ☐ Solid
- ☐ Sludge
- ☐ Absorbed/Solidified Liquid
- ☐ Debris

Matrix Type *(check only one)*

- ☐ Homogeneous
- ☑ Heterogeneous

Estimate Annual Volume (m^3):

Section 3 - Process and Waste Description

Process Description:
This WPF is necessary to allow legacy TRU waste containers without a WPF assigned to them in SWOON to be transferred into WCATS.

AK for container characterization is documented in SWOON Database.

Waste Description:
This WPF is necessary to allow legacy TRU waste containers without a WPF assigned to them in SWOON to be transferred into WCATS.

AK for container characterization is documented in SWOON Database.

Section 4 - Characteristics

Ignitability *(check only one)*
- ☐ < 73 F (< 22.8 C)
- ☐ 73 - 99 F (22.8 - 37.2 C)
- ☐ 100 - 139 F (37.8 - 59.4 C)
- ☐ 140 - 200 F (60.0 - 99.3 C)
- ☐ > 200 (> 99.3 C)
- ☐ EPA Ignitable - Non-liquid
- ☐ DOT Flammable Gas
- ☐ DOT Oxidizer
- ☐ Not Ignitable

Corrosivity *(check only one)* (pH)
- ☐ <= 2.0
- ☐ 2.1 - 4.0
- ☐ 4.1 - 6.0
- ☐ 6.1 - 9.0
- ☐ 9.1 - 12.4
- ☐ >= 12.5
- ☐ Liquid Corrosive to Steel
- ☐ Non-aqueous

Reactivity *(check as many as apply)*
- ☐ RCRA Unstable
- ☐ Water Reactive
- ☐ Cyanide Bearing
- ☐ Sulfide Bearing
- ☐ Pyrophoric
- ☐ Shock Sensitive
- ☐ Explosive [Specify DOT Div.]
- ☐ Non-Reactive

Boiling Point *(check only one)*
- ☐ <= 95 F (<= 35 C)
- ☐ >95 F (> 35 C)
- ☐ Not Applicable

Identify for all contaminants listed	Characterization Method: AK	TCLP	Total	None or Non-detect	Concentration of Contaminants: Contaminant present at Minimum	Maxiumum	Regulatory Limit
Toxicity Characteristic Metals					(10,000 ppm = 1%)		
Arsenic	☐	☐	☐	☐	to	ppm	5.0 ppm
Barium	☐	☐	☐	☐	to	ppm	100.0 ppm
Cadmium	☐	☐	☐	☐	to	ppm	1.0 ppm
Chromium	☐	☐	☐	☐	to	ppm	5.0 ppm
Lead	☐	☐	☐	☐	to	ppm	5.0 ppm
Mercury	☐	☐	☐	☐	to	ppm	0.2 ppm
Selenium	☐	☐	☐	☐	to	ppm	1.0 ppm
Silver	☐	☐	☐	☐	to	ppm	5.0 ppm
Toxicity Characteristic Organics							
Benzene	☐	☐	☐	☐	to	ppm	0.5 ppm
Carbon tetrachloride	☐	☐	☐	☐	to	ppm	0.5 ppm
Chlorobenzene	☐	☐	☐	☐	to	ppm	100.0 ppm
Chloroform	☐	☐	☐	☐	to	ppm	6.0 ppm
Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
p-Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
m-Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
o-Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
1,4-Dichlorobenzene	☐	☐	☐	☐	to	ppm	7.5 ppm
1,2-Dichloroethane	☐	☐	☐	☐	to	ppm	0.5 ppm
1,1-Dichloroethylene	☐	☐	☐	☐	to	ppm	0.7 ppm
2,4-Dinitrotoluene	☐	☐	☐	☐	to	ppm	0.13 ppm
Hexachlorobenzene	☐	☐	☐	☐	to	ppm	0.13 ppm
Hexachlorobutadiene	☐	☐	☐	☐	to	ppm	0.5 ppm
Hexachloroethane	☐	☐	☐	☐	to	ppm	3.0 ppm
Methyl ethyl ketone	☐	☐	☐	☐	to	ppm	200.0 ppm
Nitrobenzene	☐	☐	☐	☐	to	ppm	2.0 ppm
Pentachlorophenol	☐	☐	☐	☐	to	ppm	100.0 ppm
Pyridine	☐	☐	☐	☐	to	ppm	5.0 ppm
Tetrachloroethylene	☐	☐	☐	☐	to	ppm	0.7 ppm
Trichloroethylene	☐	☐	☐	☐	to	ppm	0.5 ppm
2,4,6-Trichlorophenol	☐	☐	☐	☐	to	ppm	2.0 ppm
2,4,5-Trichlorophenol	☐	☐	☐	☐	to	ppm	400.0 ppm
Vinyl chloride	☐	☐	☐	☐	to	ppm	0.2 ppm
Herbicides and Pesticides							
Chlordane	☐	☐	☐	☐	to	ppm	0.03 ppm
2,4-D	☐	☐	☐	☐	to	ppm	10.0 ppm
Endrin	☐	☐	☐	☐	to	ppm	0.02 ppm
Heptachlor (& its epoxide)	☐	☐	☐	☐	to	ppm	0.008 ppm
Lindane (gamma-BHC)	☐	☐	☐	☐	to	ppm	0.4 ppm
Methoxychlor	☐	☐	☐	☐	to	ppm	10.0 ppm
2,4,5-TP (Silvex)	☐	☐	☐	☐	to	ppm	1.0 ppm
Toxaphene	☐	☐	☐	☐	to	ppm	0.5 ppm

Section 5 - Additional Constituents and Contaminants

Additional Constituents and Contaminants. Please account for 100% of waste. Range should be given within guidelines of individual constituents. List all other constients (including inerts) not identified above and attach any applicable analysis. No chemical formula allowed in this field. Continue in Section 3 Additional information as necessary. CAS numbers are needed for all chemical constituents, for material without a CAS number, enter "No CAS Number".

CAS No.	Name of constituent	Minimum		Maximum
-----	This WPF is necessary to allow legacy TRU waste containers without a WPF as	100	to	100
	Total of max. ranges of this section and page 2			100.00 in %

Additional Information

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below

This WPF is necessary to allow legacy TRU waste containers without a WPF assigned to them in SWOON to be transferred into WCATS.

AK for container characterization is documented in SWOON Database.

Section 6 - Work Control Documentation

Do the procedures for this process cover how to manage this waste? ☑ Yes ☐ No *(provide comments)*

Do the procedures for this process address controls to prevent changes to waste constituents and concentrations or addition or removal of waste to/from containers? ☑ Yes ☐ No *(provide comments)*

Comments:

This WPF is necessary to allow legacy TRU waste containers without a WPF assigned to them in SWOON to be transferred into WCATS.

Section 7 - Packaging and Storage Control

Describe how the waste will be packaged in according to the applicable WAC.

This WPF is necessary to allow legacy TRU waste containers without a WPF assigned to them in SWOON to be transferred into WCATS.

Identify the storage management controls that will be used for this waste stream: *(check all that apply)*

☐ Tamper Indication Devices ☐ Limited use locks with log-in for waste ☐ Locked cabinet or building ☑ Other (describe) within controlled area

Section 8 - Waste Certification Statements

☑ Waste appears to meet WAC attachment for: TBD-TRU

☐ Waste stream needs exception/exemption for treatment, storage, or disposal.

☐ Waste does not meet the criteria for any known TSDF. (DOE approval is required. Contact the office of the Principle Associate Director for Weapons Programs [PADWP] for assistance.)

Waste Generator Certification: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the waste characterization information on this form is correct and that it meets the requirements of the applicable waste acceptance criteria. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature: *RONALD R JR DESOTEL (212070)* Date: *07/25/12 02:45 PM*

Waste Management Coordinator: I have reviewed this form and any associated attachments and the characterization information provided appears to be complete and accurate. I certify, to the best of my knowledge, that the waste characterization information provided by the waste generator meets the requirements of the applicable WAC.

Signature: *RONALD R JR DESOTEL (212070)* Date: *07/25/12 02:46 PM*

Attachment 4 - LDR and UHC

Identify category and presence of any constituents listed below *(equal to or above limit)*.

Non-Wastewater/Wastewater Category *(check only one)*

☐ Non Wastewater ☐ Wastewater [as defined by 40 CFR 268.2(f)] ☐ Lab Pack [40 CFR 268.2(f)] **Sign Certification #1**

Notifications and Certifications - Check the appilcable boxes

Generator Requirements:

☐ This shipment contains hazardous waste contaminated soil that does not meet treatment standards **Sign Certification #2**
☐ This shipment contains untreated hazardous debris to be treated to 40 CFR 268.45 treatment standards **(No certification)**
☐ Hazardous wastes (except soil) meeting treatment standards at point of generation **Sign Certification #3**
☐ Hazardous wastes contaminated soil meeting treatment standards at point of generation **Sign Certification #4**

TSDF or Generator Treatment:

☐ TSDF treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #5**
☐ Generator treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #6**
☐ Hazardous wastes contaminated soil treated to 40 CFR 268.49 **Sign Certification #7**
☐ Wastes or residues from characteristic hazardous waste treatment meeting treatment standards and UTS **Sign Certification #8**
☐ Wastes or residues from characteristic hazardous waste treatment not meeting UTS **Sign Certification #9**
☐ Other TSDF wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #10**
☐ Other generator wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #11**

Notification of Underlying Hazardous Constituents

(Check the applicable underlying constituents above the concentration levels for D001 through D043 characterstic wastes only)

☐ ***No Underlying Hazardous Constituents in this waste stream.***

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Acenaphthene	83-32-9	0.059	3.4	34.0
☐	Acenaphthylene	208-96-8	0.059	3.4	34.0
☐	Acetone	67-64-1	0.28	160.0	1600.0
☐	Acetonitrile	75-05-8	5.6	38.0	380.0
☐	Acetophenone	98-86-2	0.01	9.7	97.0
☐	2-Acetylaminofluorene	53-96-3	0.059	140.0	1400.0
☐	Acrolein	107-02-8	0.29	N/A	N/A
☐	Acrylamide	79-06-1	19.0	23.0	230.0
☐	Acrylonitrile	107-13-1	0.24	84.0	840.0
☐	Aldicarb sulfone	1646-88-4	0.056	0.28	2.8
☐	Aldrin	309-00-2	0.021	0.066	0.66
☐	4-Aminobiphenyl	92-67-1	0.13	N/A	N/A
☐	Aniline	62-53-3	0.81	14.0	140.0
☐	o-Anisidine	90-04-0	0.01	0.66	6.6
☐	Anthracene	120-12-7	0.059	3.4	34.0
☐	Aramite	140-57-8	0.36	N/A	N/A
☐	alpha-BHC	319-84-6	0.00014	0.066	0.66
☐	beta-BHC	319-85-7	0.00014	0.066	0.66
☐	delta-BHC	319-86-8	0.023	0.066	0.66
☐	Barban	101-27-9	0.056	1.4	14.0
☐	Bendiocarb	22781-23-3	0.056	1.4	14.0
☐	Benomyl	17804-35-2	0.056	1.4	14.0
☐	Benz[a]anthracene	56-55-3	0.059	3.4	34.0
☐	Benzal chloride	98-87-3	0.055	6.0	60.0
☐	Benzene	71-43-2	0.14	10.0	100.0
☐	Benzo(b)fluoranthene	205-99-2	0.11	6.8	68.0
☐	Benzo[a]pyrene	50-32-8	0.061	3.4	34.0
☐	Benzo[ghi]perylene	191-24-2	0.0055	1.8	18.0
☐	Benzo[k]fluoranthene	207-08-9	0.11	6.8	68.0
☐	Bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2	72.0
☐	Bis(2-chloroethyl) ether	111-44-4	0.033	6.0	60.0
☐	Bis(2-chloroisopropyl) ether	39638-32-9	0.055	7.2	72.0
☐	Bis(2-ethylhexyl) phthalate	117-81-7	0.28	28.0	280.0
☐	Bromodichloromethane	75-27-4	0.35	15.0	150.0
☐	Bromomethane	74-83-9	0.11	15.0	150.0
☐	4-Bromophenyl phenyl ether	101-55-3	0.055	15.0	150.0
☐	n-Butyl alchohol	71-36-3	5.6	2.6	26.0
☐	Butyl benzyl phthalate	85-68-7	0.017	28.0	280.0
☐	Butylate	2008-41-5	0.042	1.4	14.0
☐	Carbaryl	63-25-2	0.006	0.14	1.4

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Carbendazim	10605-21-7	0.056	1.4	14.0
☐	Carbofuran	1563-66-2	0.006	0.14	1.4
☐	Carbofuran phenol	1563-38-8	0.056	1.4	14.0
☐	Carbon disulfide	75-15-0	3.8	4.8	48.0
☐	Carbon tetrachloride	56-23-5	0.057	6.0	60.0
☐	Carbosulfan	55285-14-8	0.028	1.4	14.0
☐	Chlordane	57-74-9	0.0033	0.26	2.6
☐	p-Chloro-m-cresol	59-50-7	0.018	14.0	140.0
☐	p-Chloroaniline	106-47-8	0.46	16.0	160.0
☐	Chlorobenzene	108-90-7	0.057	6.0	60.0
☐	Chlorobenzilate	510-15-6	0.1	N/A	N/A
☐	Chlorodibromomethane	124-48-1	0.057	15.0	150.0
☐	Chloroethane	75-00-3	0.27	6.0	60.0
☐	2-Chloroethyl vinyl ether	110-75-8	0.062	N/A	N/A
☐	Chloroform	67-66-3	0.046	6.0	60.0
☐	Chloromethane	74-87-3	0.19	30.0	300.0
☐	2-Chloronaphthalene	91-58-7	0.055	5.6	56.0
☐	2-Chlorophenol	95-57-8	0.044	5.7	57.0
☐	Chloroprene	126-99-8	0.057	0.28	2.8
☐	3-Chloropropylene	107-05-1	0.036	30.0	300.0
☐	Chrysene	218-01-9	0.059	3.4	34.0
☐	p-Cresidine	120-71-8	0.01	0.66	6.6
☐	m-Cresol	108-39-4	0.77	5.6	56.0
☐	o-Cresol	95-48-7	0.11	5.6	56.0
☐	p-Cresol	106-44-5	0.77	5.6	56.0
☐	m-Cumenyl methylcarbamate	64-00-6	0.056	1.4	14.0
☐	Cyanide (Amenable)	57-12-5*	0.86	30.0	300.0
☐	Cyanide (Total)	57-12-5	1.2	590.0	5900.0
☐	Cyclohexanone	108-94-1	0.36	0.75	7.5
☐	2,4-D	94-75-7	0.72	10.0	100.0
☐	o,p'-DDD	53-19-0	0.023	0.087	0.87
☐	p,p'-DDD	72-54-8	0.023	0.087	0.87
☐	o,p'-DDE	3424-82-6	0.031	0.087	0.87
☐	p,p'-DDE	72-55-9	0.031	0.087	0.87
☐	o,p'-DDT	789-02-6	0.0039	0.087	0.87
☐	p,p'-DDT	50-29-3	0.0039	0.087	0.87
☐	Di-n-butyl phthalate	84-74-2	0.057	28.0	280.0
☐	Di-n-octyl phthalate	117-84-0	0.017	28.0	280.0
☐	Di-n-propylnitrosamine	621-64-7	0.4	14.0	140.0
☐	Dibenz[a,h]anthracene	53-70-3	0.055	8.2	82.0
☐	Dibenzo[a,e]pyrene	192-65-4	0.061	N/A	N/A
☐	1,2-Dibromo-3-chloropropane	96-12-8	0.11	15.0	150.0
☐	1,2-Dibromoethane	106-93-4	0.028	15.0	150.0
☐	Dibromomethane	74-95-3	0.11	15.0	150.0
☐	1,4-Dichlorobenzene	106-46-7	0.09	6.0	60.0
☐	m-Dichlorobenzene	541-73-1	0.036	6.0	60.0
☐	o-Dichlorobenzene	95-50-1	0.088	6.0	60.0
☐	Dichlorodifluoromethane	75-71-8	0.23	7.2	72.0
☐	1,1-Dichloroethane	75-34-3	0.059	6.0	60.0
☐	1,2-Dichloroethane	107-06-2	0.21	6.0	60.0
☐	1,1-Dichloroethylene	75-35-4	0.025	6.0	60.0
☐	trans-1,2-Dichloroethylene	156-60-5	0.054	30.0	300.0
☐	2,4-Dichlorophenol	120-83-2	0.044	14.0	140.0
☐	2,6-Dichlorophenol	87-65-0	0.044	14.0	140.0
☐	1,2-Dichloropropane	78-87-5	0.85	18.0	180.0
☐	trans-1,3-Dichloropropene	10061-02-6	0.036	18.0	180.0
☐	cis-1,3-Dichloropropylene	10061-01-5	0.036	18.0	180.0
☐	Dieldrin	60-57-1	0.017	0.13	1.3
☐	Diethyl phthalate	84-66-2	0.2	28.0	280.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Dimethyl phthalate	131-11-3	0.047	28.0	280.0
☐	p-Dimethylaminoazobenzene	60-11-7	0.13	N/A	N/A
☐	2,4-Dimethylphenol	105-67-9	0.036	14.0	140.0
☐	4,6-Dinitro-o-cresol	534-52-1	0.28	160.0	1600.0
☐	1,4-Dinitrobenzene	100-25-4	0.32	2.3	23.0
☐	2,4-Dinitrophenol	51-28-5	0.12	160.0	1600.0
☐	2,4-Dinitrotoluene	121-14-2	0.32	140.0	1400.0
☐	2,6-Dinitrotoluene	606-20-2	0.55	28.0	280.0
☐	Dinoseb	88-85-7	0.066	2.5	25.0
☐	1,4-Dioxane	123-91-1	12.0	170.0	1700.0
☐	Diphenylamine	122-39-4	0.92	13.0	130.0
☐	1,2-Diphenylhydrazine	122-66-7	0.087	N/A	N/A
☐	Disulfoton	298-04-4	0.017	6.2	62.0
☐	Dithiocarbamates (total)	WCATS-001	0.028	28.0	280.0
☐	EPTC	759-94-4	0.042	1.4	14.0
☐	Endosulfan I	959-98-8	0.023	0.066	0.66
☐	Endosulfan II	33213-65-9	0.029	0.13	1.3
☐	Endosulfan sulfate	1031-07-8	0.029	0.13	1.3
☐	Endrin	72-20-8	0.0028	0.13	1.3
☐	Endrin aldehyde	7421-93-4	0.025	0.13	1.3
☐	Ethyl acetate	141-78-6	0.34	33.0	330.0
☐	Ethyl benzene	100-41-4	0.057	10.0	100.0
☐	Ethyl ether	60-29-7	0.12	160.0	1600.0
☐	Ethyl methacrylate	97-63-2	0.14	160.0	1600.0
☐	Ethylene oxide	75-21-8	0.12	N/A	N/A
☐	Famphur	52-85-7	0.017	15.0	150.0
☐	Fluoranthene	206-44-0	0.068	3.4	34.0
☐	Fluorene	86-73-7	0.059	3.4	34.0
☐	Fluoride	16984-48-8	35.0	N/A	N/A
☐	Formetanate hydrochloride	23422-53-9	0.056	1.4	14.0
☐	Heptachlor (& its epoxide)	76-44-8	0.0012	0.066	0.66
☐	Heptachlor epoxide	1024-57-3	0.016	0.066	0.66
☐	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	0.000035	0.0025	0.025
☐	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	0.000035	0.0025	0.025
☐	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	0.000035	0.0025	0.025
☐	Hexachlorobenzene	118-74-1	0.055	10.0	100.0
☐	Hexachlorobutadiene	87-68-3	0.055	5.6	56.0
☐	Hexachlorocyclopentadiene	77-47-4	0.057	2.4	24.0
☐	Hexachloroethane	67-72-1	0.055	30.0	300.0
☐	Hexachloropropene	1888-71-7	0.035	30.0	300.0
☐	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063	0.001	0.01
☐	HxCDFs (All Hexachlorodibenzo-furans)	55684-94-1	0.000063	0.001	0.01
☐	Indeno[1,2,3-cd]pyrene	193-39-5	0.0055	3.4	34.0
☐	Iodomethane	74-88-4	0.19	65.0	650.0
☐	Isobutyl alcohol	78-83-1	5.6	170.0	1700.0
☐	Isodrin	465-73-6	0.021	0.066	0.66
☐	Isosafrole	120-58-1	0.081	2.6	26.0
☐	Kepone	143-50-0	0.0011	0.13	1.3
☐	Lindane (gamma-BHC)	58-89-9	0.0017	0.066	0.66
☐	Mercury (Retort Residues)	7439-97-6*	N/A	0.2	2.0
☐	Methacrylonitrile	126-98-7	0.24	84.0	840.0
☐	Methanol	67-56-1	5.6	0.75	7.5
☐	Methapyrilene	91-80-5	0.081	1.5	15.0
☐	Methiocarb	2032-65-7	0.056	1.4	14.0
☐	Methomyl	16752-77-5	0.028	0.14	1.4
☐	Methoxychlor	72-43-5	0.25	0.18	1.8
☐	Methyl ethyl ketone	78-93-3	0.28	36.0	360.0
☐	Methyl isobutyl ketone	108-10-1	0.14	33.0	330.0
☐	Methyl methacrylate	80-62-6	0.14	160.0	1600.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Methyl methanesulfonate	66-27-3	0.018	N/A	N/A
☐	Methyl parathion	298-00-0	0.014	4.6	46.0
☐	3-Methylcholanthrene	56-49-5	0.0055	15.0	150.0
☐	4,4'-Methylene bis(2-chloroaniline)	101-14-4	0.5	30.0	300.0
☐	Methylene chloride	75-09-2	0.089	30.0	300.0
☐	Metolcarb	1129-41-5	0.056	1.4	14.0
☐	Mexacarbate	315-18-4	0.056	1.4	14.0
☐	Molinate	2212-67-1	0.042	1.4	14.0
☐	N-Nitroso-di-n-butylamine	924-16-3	0.4	17.0	170.0
☐	N-Nitrosodiethylamine	55-18-5	0.4	28.0	280.0
☐	N-Nitrosodimethylamine	62-75-9	0.4	2.3	23.0
☐	N-Nitrosodiphenylamine	86-30-6	0.92	13.0	130.0
☐	N-Nitrosomethylethylamine	10595-95-6	0.4	2.3	23.0
☐	N-Nitrosomorpholine	59-89-2	0.4	2.3	23.0
☐	N-Nitrosopiperidine	100-75-4	0.013	35.0	350.0
☐	N-Nitrosopyrrolidine	930-55-2	0.013	35.0	350.0
☐	Naphthalene	91-20-3	0.059	5.6	56.0
☐	2-Naphthylamine	91-59-8	0.52	N/A	N/A
☐	5-Nitro-o-toluidine	99-55-8	0.32	28.0	280.0
☐	o-Nitroaniline	88-74-4	0.27	14.0	140.0
☐	p-Nitroaniline	100-01-6	0.028	28.0	280.0
☐	Nitrobenzene	98-95-3	0.068	14.0	140.0
☐	o-Nitrophenol	88-75-5	0.028	13.0	130.0
☐	p-Nitrophenol	100-02-7	0.12	29.0	290.0
☐	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	0.000063	0.005	0.05
☐	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	0.000063	0.005	0.05
☐	Oxamyl	23135-22-0	0.056	0.28	2.8
☐	Parathion	56-38-2	0.014	4.6	46.0
☐	PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	0.000063	0.001	0.01
☐	PeCDFs (All Pentachlorodibenzo-furans)	30402-15-4	0.000035	0.001	0.01
☐	Pebulate	1114-71-2	0.042	1.4	14.0
☐	Pentachlorobenzene	608-93-5	0.055	10.0	100.0
☐	Pentachloroethane	76-01-7	0.055	6.0	60.0
☐	Pentachloronitrobenzene	82-68-8	0.055	4.8	48.0
☐	Pentachlorophenol	87-86-5	0.089	7.4	74.0
☐	Phenacetin	62-44-2	0.081	16.0	160.0
☐	Phenanthrene	85-01-8	0.059	5.6	56.0
☐	Phenol	108-95-2	0.039	6.2	62.0
☐	o-Phenylenediamine	95-54-5	N/A	N/A	N/A
☐	Phorate	298-02-2	0.021	4.6	46.0
☐	Phthalic acid	100-21-0	0.055	28.0	280.0
☐	Phthalic anhydride	85-44-9	0.055	28.0	280.0
☐	Physostigmine	57-47-6	0.056	1.4	14.0
☐	Physostigmine salicylate	57-64-7	0.056	1.4	14.0
☐	Promecarb	2631-37-0	0.056	1.4	14.0
☐	Pronamide	23950-58-5	0.093	1.5	15.0
☐	Propanenitrile	107-12-0	0.24	360.0	3600.0
☐	Propham	122-42-9	0.056	1.4	14.0
☐	Propoxur	114-26-1	0.056	1.4	14.0
☐	Prosulfocarb	52888-80-9	0.042	1.4	14.0
☐	Pyrene	129-00-0	0.067	8.2	82.0
☐	Pyridine	110-86-1	0.014	16.0	160.0
☐	Safrole	94-59-7	0.081	22.0	220.0
☐	Sulfide	18496-25-8	14.0	N/A	N/A
☐	2,4,5-T	93-76-5	0.72	7.9	79.0
☐	TCDDs (All Tetrachlorodi-benzo-p-dioxins)	41903-57-5	0.000063	0.001	0.01
☐	TCDFs (All Tetrachlorodibenzofurans)	30402-14-3	0.000063	0.001	0.01
☐	2,4,5-TP (Silvex)	93-72-1	0.72	7.9	79.0
☐	1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14.0	140.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0	60.0
☐	1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0	60.0
☐	Tetrachloroethylene	127-18-4	0.056	6.0	60.0
☐	2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4	74.0
☐	Thiodicarb	59669-26-0	0.019	1.4	14.0
☐	Thiophanate-methyl	23564-05-8	0.056	1.4	14.0
☐	Toluene	108-88-3	0.08	10.0	100.0
☐	Total PCBs (Polychlorinated biphenyls)	1336-36-3	0.1	10.0	100.0
☐	Toxaphene	8001-35-2	0.0095	2.6	26.0
☐	Triallate	2303-17-5	0.042	1.4	14.0
☐	Tribromomethane	75-25-2	0.63	15.0	150.0
☐	2,4,6-Tribromophenol	118-79-6	0.035	7.4	74.0
☐	1,1,2-Trichloro-1,2,2,-trifluoroethane	76-13-1	0.057	30.0	300.0
☐	1,2,4-Trichlorobenzene	120-82-1	0.055	19.0	190.0
☐	1,1,1-Trichloroethane	71-55-6	0.054	6.0	60.0
☐	1,1,2-Trichloroethane	79-00-5	0.054	6.0	60.0
☐	Trichloroethylene	79-01-6	0.054	6.0	60.0
☐	Trichloromonofluoromethane (R11)	75-69-4	0.02	30.0	300.0
☐	2,4,5-Trichlorophenol	95-95-4	0.18	7.4	74.0
☐	2,4,6-Trichlorophenol	88-06-2	0.035	7.4	74.0
☐	1,2,3-Trichloropropane	96-18-4	0.85	30.0	300.0
☐	Triethylamine	121-44-8	0.081	1.5	15.0
☐	Tris(2,3-dibromopropyl) phosphate	126-72-7	0.11	0.1	1.0
☐	Vernolate	1929-77-7	0.042	1.4	14.0
☐	Vinyl chloride	75-01-4	0.27	6.0	60.0
☐	Xylene	1330-20-7	0.32	30.0	300.0
☐	2,4-Xylidine	95-68-1	0.01	0.66	6.6
☐	Antimony	7440-36-0	1.9	1.15	11.5
☐	Arsenic	7440-38-2	1.4	5.0	50.0
☐	Barium	7440-39-3	1.2	21.0	210.0
☐	Beryllium	7440-41-7	0.82	1.22	12.2
☐	Cadmium	7440-43-9	0.69	0.11	1.1
☐	Chromium	7440-47-3	2.77	0.6	6.0
☐	Lead	7439-92-1	0.69	0.75	7.5
☐	Mercury	7439-97-6	0.15	0.025	0.25
☐	Nickel	7440-02-0	3.98	11.0	110.0
☐	Selenium	7782-49-2	0.82	5.7	57.0
☐	Silver	7440-22-4	0.43	0.14	1.4
☐	Thallium	7440-28-0	1.4	0.2	2.0
☐	Vanadium	7440-62-2	4.3	1.6	16.0
☐	Zinc	7440-66-6	2.61	4.3	43.0

Attachment 1 - Additional Radionuclides

Please list the supplimentary radionuclides and their concentration values.

CONTAINER PROFILE
53889
T-TTRU-R-54-231R

WS ID: 37017
C ID: 772728
Opt ID: 050005
ACTIVE

GENERAL INFORMATION

Container ID:	772728		
Labeled ID:	53889		
Optional ID:	050005	**Status:**	ACTIVE
Chemical Barcode:		**Decommissioned:**	NO
Physical State:	SOLID	**Container Type:**	OT: Other (WCATS Specific)
Waste Stream ID:	37017	**Container Subtype:**	Unspecified
Work Path:	T-TTRU-R-54-231R	**Origin Date:**	18-Apr-1984 12:00 am
Quantity (Univ):		**Accum Start Date:**	18-Apr-1984
Compactible:		**Closed Date:**	18-Apr-1984

Discard Matrix:

TID(s):

Gen Contact:

Insert By: WCATS APPLICATION (000000)

Waste Desc: GENERATED AT 50-00069

WEIGHTS AND VOLUMES

Container Volume:	2.56 CM	**Gross Weight:**	780.00 lb
Waste Volume:	NOT SPECIFIED	**Tare Weight:**	0.00 lb
		Net Weight:	780.00 lb

LOCATION

Pickup (Origin): LANL: 50: 000069

Current: LANL: 54-G: 000230: C001: L01: R02

COPY

CONTAINER PROFILE
53889
T-TTRU-R-54-231R

WS ID: 37017
C ID: 772728
Opt ID: 050005
ACTIVE

PAYLOAD INFORMATION

Container Procurement

P.O. Number: **Year of Manuf:**

Lot No.: **Serial No:**

Solution Package: 11: SP Corrugated Metal Boxes 4x4x6 (#11)

TRUCON Code:

Shipping Category:

CCP AK Report: CCP-AK-LANL-004: LANL TA-50 Mixed Transuranic Waste

WIPP Waste Stream: TA-50-15: COMBINED COMBUSTIBLE AND NONCOMBUSTIBLE

Matrix Code: S5400 - DEBRIS WASTE: HETEROGENEOUS DEBRIS

Defense Waste: **Equiv. Comb. Matrix:** Combustible/Dispersible

Adeq. Ventilation: YES **Compliant Metal Cont.:** NO

Overpack (1 to 1): NO **Retrievable:** **BIR WS Code:** LA-M14

Content Code: 001: Mixed metal scrap and combustibles primarily from operations at the TRU Waste Size Reduction Facility. Contains primarily metals or metal equipment, either whole or sectioned, along with its combustible components and the combustibles generated during decommissioning, sectioning, and packaging.

COST CODES

Cost Center	Prog Code	Cost Account	Work Package	Percent Allocation	Cost Center Status	Cost Code Status	Recharge Mode
							SELECTION LIST

EPA CODES

System Code	Hazardous Waste No.	Waste Description & Treatment Subcategory
D008A	D008	Lead

RADIOLOGICAL SURVEY

Survey Type	Instrument Number	Survey Date	At Contact mrem/hr	At 30 cm mrem/hr	At 1 M mrem/hr	Alpha dpm/100cm2	Beta/Gama dpm/100 cm2
Survey ID: 74632, Status: Active							
Smear Results				Not Applicable		= 0.00	= 0.00

CONTAINER PROFILE
53889
T-TTRU-R-54-231R

WS ID: 37017
C ID: 772728
Opt ID: 050005
ACTIVE

RADIONUCLIDES

Nuclide	Amount	Unit	Uncert	MT Derived (Y/N)	Activated (Y/N)	MDA Result (Y/N)	Normal Form (Y/N)	Measurement Code/Comment
Status: Inactive, Assay Page: 349118, Date: 04/18/1984, Derivation: Generator Entered Results (e.g., Offsite Assay)								
52	2.61E-001	g	0.00E+000	N				NONE
83	1.09E-002	g	0.00E+000	N				NONE
Am-241	1.90E-003	Ci	0.00E+000	Y			Y	
Pu-238	1.57E-001	Ci	0.00E+000	Y			Y	
Pu-239	1.53E-002	Ci	0.00E+000	Y			Y	
Pu-240	3.60E-003	Ci	0.00E+000	Y			Y	
Pu-241	5.76E-002	Ci	0.00E+000	Y			Y	
Pu-242	2.44E-007	Ci	0.00E+000	Y			Y	
U-234	1.77E-005	Ci	0.00E+000	Y			Y	
U-235	5.69E-010	Ci	0.00E+000	Y			Y	
Status: Inactive, Assay Page: 399415, Date: 01/09/2013, Derivation: Non-Destructive Assay (NDA)								
Ac-227	2.06E-006	Ci	1.03E-006	N			Y	
Am-241	2.18E-002	Ci	1.09E-002	N			Y	
Cs-137	3.22E-006	Ci	0.00E+000	N		Y	Y	
Np-237	3.28E-006	Ci	1.64E-006	N			Y	
Pu-238	1.29E-002	Ci	6.45E-003	N			Y	
Pu-239	4.31E-002	Ci	2.16E-002	N			Y	
Pu-240	1.01E-002	Ci	5.04E-003	N			Y	
Pu-241	6.63E-002	Ci	3.32E-002	N			Y	
Pu-242	5.80E-007	Ci	0.00E+000	N		Y	Y	
Sr-90	3.22E-006	Ci	0.00E+000	N		Y	Y	
U-234	2.01E-006	Ci	1.01E-006	N			Y	
U-235	1.60E-009	Ci	0.00E+000	N		Y	Y	

CONTAINER PROFILE
53889
T-TTRU-R-54-231R

WS ID: 37017
C ID: 772728
Opt ID: 050005
ACTIVE

RADIONUCLIDES

Nuclide	Amount	Unit	Uncert	MT Derived (Y/N)	Activated (Y/N)	MDA Result (Y/N)	Normal Form (Y/N)	Measurement Code/Comment
Status: Inactive, Assay Page: 416684, Date: 12/19/2013, Derivation: Non-Destructive Assay (NDA)								
Ac-228	9.25E-007	Ci	1.22E-007	N	N	N	Y	
Am-241	7.95E-002	Ci	4.08E-003	N	N	N	Y	
Cs-137	1.32E-006	Ci	7.72E-008	N	N	N	Y	
Np-237	1.21E-005	Ci	2.85E-007	N	N	N	Y	
Pu-238	4.77E-002	Ci	6.46E-003	N	N	N	Y	
Pu-239	1.79E-001	Ci	1.78E-002	N	N	N	Y	
Pu-240	3.55E-002	Ci	5.19E-003	N	N	N	Y	
Pu-241	2.22E-001	Ci	4.65E-002	N	N	N	Y	
Pu-242	3.33E-006	Ci	6.27E-007	N	N	N	Y	
Sr-90	1.32E-006	Ci	7.72E-008	N	N	N	Y	
U-235	0.00E+000	Ci	0.00E+000	N	N	N	Y	
Status: Active, Assay Page: 420939, Date: 12/19/2013, Derivation: Non-Destructive Assay (NDA)								
Ac-228	3.62E-007	Ci	1.36E-007	N	N	N	Y	
Am-241	1.79E-002	Ci	6.42E-003	N	N	N	Y	
Cs-137	5.02E-007	Ci	1.78E-007	N	N	N	Y	
Np-237	3.43E-006	Ci	1.21E-006	N	N	N	Y	
Pu-238	1.34E-002	Ci	4.85E-003	N	N	N	Y	
Pu-239	4.95E-002	Ci	1.74E-002	N	N	N	Y	
Pu-240	1.06E-002	Ci	3.87E-003	N	N	N	Y	
Pu-241	6.03E-002	Ci	2.40E-002	N	N	N	Y	
Pu-242	9.89E-007	Ci	3.78E-007	N	N	N	Y	
Sr-90	5.02E-007	Ci	1.78E-007	N	N	N	Y	
U-235	0.00E+000	Ci	0.00E+000	N	N	N	Y	

CONTAINER PROFILE
53889
T-TTRU-R-54-231R

WS ID: 37017
C ID: 772728
Opt ID: 050005
ACTIVE

RAD CALCULATIONS

Total Activity (nCi/g):	4.28787E+02	**Decay Heat [U] (W):**	3.56615E-03
Alpha (nCi/g):	2.58353E+02	**DOTFissile Mat (g):**	7.98023E-01
TRU Alpha (nCi/g):	2.58349E+02	**Transport Index:**	
** **MDA TRU Alpha (nCi/g)**	2.58349E+02	**NRC Class:**	GTCC
Pu-239 FGE:	8.00063E-01	**DOT Type:**	B
Pu-239 FGE [2U]:	1.36069E+00	**LSA-I Fraction:**	3.20733E+02 N
Pu-239 Eq-Ci:	9.16238E-02	**LSA-II Fraction:**	9.66384E-02 Y
Pu-239 Eq-Ci [2U]:	1.30608E-01	**LSA-III Fraction:**	4.83192E-03 Y
TRU Pu-239 Eq-Ci:	9.16238E-02	**Reportable Quantity:**	9.20075E+00 Y
TRU Pu-239 Eq-Ci [2U]:	1.30608E-01	* **ALC Ratio:**	7.13605E+05 NE
Tritium (Ci/m3):	0.00000E+00	* **ACM Ratio:**	9.62198E+03 NE
TRU ECW PE-Ci:	9.16238E-02	**Limited Quantity:**	3.41909E+03 N

Weight/Volume Used:

1	Container Net Weight:	3.53802E+02 kg
2	Container Volume:	2.56000E+00 m3

**ALC (Activity Limit for Exempt Consignment)*
**ACM (Activity Concentration for Exempt Material)*
*** Use for LL/TRU Determination*
U = 1 Uncertainty, 2U = 2 Uncertainty

Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

LA00000053889

WASTE STORAGE RECORD

WASTE PACKAGE SERIAL NUMBER: LA|8|4|0|3|0|0|5|0|0|0|5

I. GENERATOR'S PACKAGE INFORMATION

ORIGIN OF WASTE	PN Items C&D No.	Additional Information
Group HSE-7	NONE	RSWD 818713 WASTE PACKAGE TO BE RESHARED OR REPACKAGED PRIOR TO SHIPMENT
TA 50		810705 TO WIPP
Building 69		HALO-TRU 00330
Room		ASSAY REQUIRED BEFORE SHIPMENT DUE 10/04/88

CONTAINER	CODE	SS MATERIALS WRITE-OFF Account	SS MATERIALS WRITE-OFF Project Code	RADIONUCLIDE CONTENT Nuclide	Amount			C=Curie M=Gram
☐ Steel Drum (55 gal.)	01							
☐ Steel Overpack (Drums)	02							
☒ Steel Box (68 in. X 54 in. X 38.5 in.)	03			Pu-~~238~~	1.019	E	-12	M
☐ Steel Overpack (FRP Box)	04			Pu-~~239~~	2.611	E	-1	M
☐ Other (Describe)				Sr-90	0	E		
					0	E		
Drum Lot Code	Year of Mfr.				0	E		
Manufacturer's Box Serial Number 0102 10					0	E		

Process Batch Code	NA
Gross Wt. (kg)	7.8 E+2
Organic Mat'l Wt. (kg)	3.2 E+1
Organic Mat'l Vol (%)	10
Content Code	E001
Date Closed (MMDDYY)	041884

TOXIC OR CORROSIVE MATERIALS

Name	Code	Quantity (g)
		0 E+
		0 E+
		0 E+
		0 E+

*** Reclassified Waste ***
Container Id: 53889
Storage Date: 08/29/84
EPA Code(s): D008

The data in this section were collected, and the waste d… procedures defined in the Los Alamos TRU Waste Certification Plan and its appropriate attachment(s). The data are correct and complete to the best of my knowledge.

Printed Name	Signature	Date
Johnny R. HARPER	J R Harper	4/18/84

II. GENERATOR-SITE HEALTH PHYSICS INFORMATION

Surface Dose Rate (mrem/h)	0 E+
Survey Meter Model	Alpha-PAC-7-PN 334409
Survey Meter Serial No.	14-C-PN 288682
Alpha Contamination (dpm/100cm²)	0 E+
Beta-Gamma Cont. (dpm/100cm²)	0 E+

The data in this section were collected as prescribed in approved procedures. The package is properly closed and is safe to handle and transport.

Printed Name	Date
SHARON DELARDE	8/29/84

Signature: Sharon Delarde

III. HSE-7 SOLID-WASTE RECORDS OFFICE INFORMATION

The data package for this waste has been reviewed by HSE-7. The generator is authorized to arrange transportation to TA-54 per AR 10-2.

Printed Name	Date
BRUCE T. REICH	8/29/84

Signature: Bruce T. Reich

IV. STORAGE-SITE HEALTH PHYSICS INFORMATION

Surface Dose Rate (mrem/h)	0 E+
Survey Meter Model	Pac-7 PN 324404
Survey Meter Serial No.	14-C DN 288667
Alpha Contamination (dpm/100cm²)	0 E+
Beta-Gamma Cont. (dpm/100cm²)	0 E+

The data in this section were collected at the TA-54 waste storage/disposal site as defined in approved procedures. The package is acceptable for handling and storage.

Printed Name	Date
GENE M. MONTOYA	8/29/84

Signature: Gene M. Montoya

V. STORAGE SITE INFORMATION

This package was visually inspected when received and was found to be properly labeled and in good condition. It was accepted according to approved procedures.

Printed Name	Date
BRIAN MYERS	8/29/84

Signature: Brian R Myers

Pad No. P3 | Layer 1 | ☐E ☐C ☒W
Post No. 1 | Date Stacked 08-29-84

This waste package was stored at this location according to approved procedures.

Printed Name	Date
BRIAN MYERS	8/29/84

Signature: Brian R Myers

HS Form Number 10-28 (12/83)

COPY

LOS ALAMOS TRANSURANIC WASTE
SIZE REDUCTION FACILITY
INPUT WASTE BATCH DATA SHEET

Waste Package Serial Number: LA 814 019 (BTC 3) 0101510101015

RADIONUCLIDE CONTENT (C=Curie, M=Gram)

Nuclide	Amount		±	
P 14 2 3 8	0.109	E	-1	M
	.	E		
	.	E		
	.	E		
	.	E		
	.	E		

RSWD No. 1S181181711 3
Input Package No. 1 10 10 13 16 11 5
Input Package Vol. (ft^3) 1 128

WASTE DESCRIPTION
Glove Box

ORGANIC MATERIALS

Item	Volume (ft^3)	Weight (lbs)
Window Gaskets	9.12 9.0 10	9 0.54
Windows (plastic)	.	.
Filters	0.212	4.6
Sleeve & Liners	.	.
Glove Box Gloves	0.210	3.2
Glove Port Covers	0.210	0.8
Glove Retaining Rings	0.210	0.8
Circular Gasket	0.116	11.6 2.9

Waste Weight (lbs) 1 1410 10

FORBIDDEN MATERIALS

Free Liquids
Free Sludge
Pyrophoric Material
Compressed Gas
Explosives
Toxic/Corrosive Chemical

This waste was visually inspected before size reduction and during packaging to ensure that none of the above materials were transferred to the output waste package.

OPERATOR'S STATEMENT

The above information was collected according to established procedures and is correct and complete to the best of my knowledge.

Printed Name: Bobby M Gonzales Date: 4/18/84
Signature: Bobby M Gonzales

REVIEWER'S STATEMENT

I have reviewed the data herein or witnessed its collection. The data is correct, complete, and was collected according to the approved procedures.

Printed Name: Date:
Signature:

COMMENTS:

6/83

WINDOW GASKETS

Measure the window acorss the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply the "B" total by 0.1 to get the volume in cubic feet.
Multiply the "B" total by 0.006 to get the weight in pounds.

LENGTH	WIDTH	A	No. of WINDOWS	B
19	11	30	1	30
9	5	14	2	28
23	9	32	1	32

0.12

90	X 0.1 =	9. ft^3
90	X 0.006=	0.54 lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, and that product by the thickness to get "C".
Repeat for each window.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply the "C" total by 0.04 to get the weight in pounds.

LENGTH	WIDTH	THICK	C

	X 0.0006=	ft^3
	X 0.04 =	lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Total column "D".
Multiply the "D" total by 0.0002 to get the volume in cubic feet.
Multiply the "D" total by 0.015 to get the weight in pounds.

LENGTH	WIDTH	D

	X 0.0002	=	ft^3
	X 0.015	=	lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton	0.01	1.2
Bagout bag for drum, 55gal.	0.10	3.7
Bagout bag for filters	0.17	4.4
Bagout sleeve for 4'x4'x7'	0.68	23.4
Bagout sleeve for truck box	0.60	18.8
Liner, truck box		
PAPER		
Liner for truck box		
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12"		
wood frame	4.0	25.1
metal frame	4.0	10.8
Glovebox gloves (each)	0.05	0.8
Gloveport covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular gasket for passthru	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.

LOS ALAMOS TRANSURANIC WASTE
SIZE REDUCTION FACILITY
INPUT WASTE BATCH DATA SHEET

Waste Package Serial Number: LA 84 03 0105 0005

RADIONUCLIDE CONTENT (C=Curie, M=Gram)

Nuclide	Amount		±	
Pu238	1.0188	E	-12	M
		E		
		E		
		E		
		E		
		E		

RSWD No. 881873

Input Package No. 3615

Input Package Vol. (ft^3) 128

WASTE DESCRIPTION

Glove box

ORGANIC MATERIALS

Item	Volume (ft^3)	Weight (lbs)
Window Gaskets	0.12	9.0
Windows (plastic)	.	.
Filters	0.22	4.6
Sleeve & Liners	.	.
Gloves	0.210	3.2
Gloveport Covers	0.210	0.8
Retaining Rings	0.210	0.8
Circular Gasket	0.16	11.6
Totals	1.10	30.0
	.	.
	.	.
	.	.
	.	.

Waste Weight (lbs) 1410

FORBIDDEN MATERIALS

Free Liquids
Free Sludge
Pyrophoric Material
Compressed Gas
Explosives
Toxic/Corrosive Chemicals

This waste was visually inspected before size reduction and during packaging to ensure that none of the above materials were transferred to the output waste package.

OPERATOR'S STATEMENT

The above information was collected according to established procedures and is correct and complete to the best of my knowledge.

Date:

Printed Name:

Signature:

REVIEWER'S STATEMENT

I have reviewed the data herein or witnessed its collection. The data is correct, complete, and was collected according to the approved procedures.

Printed Name:

Date:

Signature:

COMMENTS:

5/84

WINDOW GASKETS

Measure the window across the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply "B" total by 0.0013 = volume in cubic feet.
Multiply "B" total by 0.1 = weight in pounds.

LENGTH	WIDTH	A	No. of windows	B
19	11	30	1	30
9	5	14	2	28
23	9	32	1	32

90	x 0.0013 =	0.117 ft^3
90	x 0.1 =	9.0 lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, by the thickness, by the number of windows, to get "C".
Repeat for each window size.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply "C" total by 0.04 to get weight in pounds.

LENGTH	WIDTH	THICK.	No. of windows	C

	x 0.0006 =	ft^3
	x 0.04 =	lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Multiply "D" by the number of identical doors to get "E".
Repeat for each door size.
Total column E.
Multiply "E" total by 0.0002 = volume in cubic feet.
Multiply "E" total by 0.015 = weight in pounds.

LENGTH	WIDTH	D	No. of Doors	E

	x 0.0002 =	ft^3
	x 0.015 =	lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton.	0.01	1.2
Bag out bag for 55-gal drum.	0.10	3.7
Bag out bag for filters.	0.17	4.4
Bag out sleeve for 4'x4'x7'.	0.25	23.4
Bag out sleeve for truck box.	0.23	18.8
Liner, truck box.	0.15	10.0
PAPER		
Liner for truck box.	0.46	20.0
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12" wood frame	4.0	25.1
metal frame	4.0	10.8
Glove box gloves (each)	0.05	0.8
Glove port covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular passthru gasket	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.0

LOS ALAMOS TRANSURANIC WASTE
SIZE REDUCTION FACILITY
INPUT WASTE BATCH DATA SHEET

Waste Package Serial Number: LA 814 BJR 3 017 0 1 0 1 5 1 0 1 0 1 5

RADIONUCLIDE CONTENT			C=Curie M=Gram
Nuclide	Amount		±
P 14 12 13 19	.	E	
	.	E	
	.	E	
	.	E	
	.	E	
	.	E	

RSWD No. 15 8 1 1 2 1 7 0 1 5

Input Package No. 1 0 1 0 3 1 6 1 0 1 6

Input Package Vol. (ft³)

WASTE DESCRIPTION
Glove Box

ORGANIC MATERIALS

Item	Volume (ft³)	Weight (lbs)
Window Gaskets	.	.
Windows (plastic)	BJR 0.17 ~~0.121~~	17.4 ~~14.14~~ BJR
Filters	.	.
Sleeve & Liners	.	.
Door Gaskets	BJR 0.09 ~~0.082~~	6.45 BJR
Totals	0.26	18.0
	.	.
	.	.

Waste Weight (lbs) 340

FORBIDDEN MATERIALS

Free Liquids
Free Sludge
Pyrophoric Material
Compressed Gas
Explosives
Toxic/Corrosive Chemical

BJR This waste was visually inspected before size reduction and during packaging to ensure that none of the above materials were transferred to the output waste package.

OPERATOR'S STATEMENT

The above information was collected according to established procedures and is correct and complete to the best of my knowledge.

Printed Name: Bobby M Gonzales Date: 4/18/84

Signature: Bobby M Gonzales

REVIEWER'S STATEMENT

I have reviewed the data herein or witnessed its collection. The data is correct, complete, and was collected according to the approved procedures.

Printed Name: Date:

Signature:

COMMENTS: Nuclide content of combined input gloveboxes is listed on attached data sheet. 4/20/84 BJR

6/83

WINDOW GASKETS

Measure the window acorss the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply the "B" total by 0.1 to get the volume in cubic feet.
Multiply the "B" total by 0.006 to get the weight in pounds.

LENGTH	WIDTH	A	No. of WINDOWS	B		
					X 0.1 =	ft^3
					X 0.006=	lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, and that product by the thickness to get "C".
Repeat for each window.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply the "C" total by 0.04 to get the weight in pounds.

LENGTH	WIDTH	THICK	C		
15	24	.500	180		
9	23	.500	104		
			284		
284	~~103.5~~			X 0.0006=	~~0.171~~ 0.170 BTR ft^3
284	~~103.5~~			X 0.04 =	~~4.14~~ 11.36 BTR lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Total column "D".
Multiply the "D" total by 0.0002 to get the volume in cubic feet.
Multiply the "D" total by 0.015 to get the weight in pounds.

	LENGTH	WIDTH	D		
2ea	24	45	138		
2ea	45	32	154		
2ea	10	10	40		
	15	24	393 BTR		0.088 BTR
	9	24	~~39~~ 36	X 0.0002	~~0.0078~~ ft^3
	18	18	441	X 0.015	=6.615 lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton	0.01	1.2
Bagout bag for drum, 55gal.	0.10	3.7
Bagout bag for filters	0.17	4.4
Bagout sleeve for 4'x4'x7'	0.68	23.4
Bagout sleeve for truck box	0.60	18.8
Liner, truck box		
PAPER		
Liner for truck box		
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12"		
wood frame	4.0	25.1
metal frame	4.0	10.8
Glovebox gloves (each)	0.05	0.8
Gloveport covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular gasket for passthru	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.

LOS ALAMOS TRANSURANIC WASTE
SIZE REDUCTION FACILITY
INPUT WASTE BATCH DATA SHEET

Waste Package Serial Number: LA | 8 | 4 | 0 | 3 (BTR) | 4 | 0 | 1 | 5 | 0 | 1 | 0 | 1 | 5

RADIONUCLIDE CONTENT — C=Curie M=Gram

Nuclide	Amount		±	
Pu-239	0.261	E	+0	M
		E		
		E		
		E		
		E		
		E		

RSWD No. | S | 8 | 1 | 2 | 7 | 0 | 5

Input Package No. | 1 | 0 | 0 | 3 | 6 | 0 | 6

Input Package Vol. (ft³) | 1 | 2 | 8

WASTE DESCRIPTION
Small Glove Box
stove Pipes & feet of it

ORGANIC MATERIALS

Item	Volume (ft³)	Weight (lbs)
Window Gaskets		
Windows (plastic)	.216 (BTR)	17.4 ~~+1.74~~ (BTR)
Filters		
Paper Sleeve ~~& Liners~~	(BTR) 0.416	120.0
Door Gaskets	~~0.05~~ .0418	~~13.0~~ (BTR)
Totals	10.717	213.0

Waste Weight (lbs) | 1 | 2 | 7 | 0

FORBIDDEN MATERIALS

Free Liquids
Free Sludge
Pyrophoric Material
Compressed Gas
Explosives
Toxic/Corrosive Chemical

(BTR) This waste was visually inspected before size reduction and during packaging to ensure that none of the above materials were transferred to the output waste package.

OPERATOR'S STATEMENT

The above information was collected according to established procedures and is correct and complete to the best of my knowledge.

Printed Name: Bobby M Gonzales | Date: 4/18/84
Signature: Bobby M Gonzales

REVIEWER'S STATEMENT

I have reviewed the data herein or witnessed its collection. The data is correct, complete, and was collected according to the approved procedures.

Printed Name: | Date:
Signature:

COMMENTS: Contains total nuclide loading of both gloveboxes. 5/25/84 BTR

6/83

WINDOW GASKETS

Measure the window acorss the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply the "B" total by 0.1 to get the volume in cubic feet.
Multiply the "B" total by 0.006 to get the weight in pounds.

LENGTH	WIDTH	A	No. of WINDOWS	B

	X 0.1 =	ft^3
	X 0.006=	lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, and that product by the thickness to get "C".
Repeat for each window.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply the "C" total by 0.04 to get the weight in pounds.

LENGTH	WIDTH	THICK	C
29	30	.500	435

435	X 0.0006=	$.261 ft^3$
	X 0.04 =	17.40 lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Total column "D".
Multiply the "D" total by 0.0002 to get the volume in cubic feet.
Multiply the "D" total by 0.015 to get the weight in pounds.

	LENGTH	WIDTH	D
	29	30	59
2x	29	34	126
	28	30	58

243	X 0.0002	$=.0486 ft^3$
	X 0.015	=3.645 lb.

MISCELLANEOUS

WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton	0.01	1.2
Bagout bag for drum, 55gal.	0.10	3.7
Bagout bag for filters	0.17	4.4
Bagout sleeve for 4'x4'x7'	0.68	23.4
Bagout sleeve for truck box	0.60	18.8
Liner, truck box		
PAPER		20.0
Liner for truck box		
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12"		
wood frame	4.0	25.1
metal frame	4.0	10.8
Glovebox gloves (each)	0.05	0.8
Gloveport covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular gasket for passthru	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.

LA8403005000 5

WINDOW GASKETS

Measure the window acorss the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply the "B" total by 0.1 to get the volume in cubic feet.
Multiply the "B" total by 0.006 to get the weight in pounds.

LENGTH	WIDTH	A	No. of WINDOWS	B

	X 0.1 =	ft^3
	X 0.006=	lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, and that product by the thickness to get "C".
Repeat for each window.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply the "C" total by 0.04 to get the weight in pounds.

LENGTH	WIDTH	THICK	C
29	30	.500	435

435	X 0.0006=	.26 ft^3
	X 0.04 =	17.4 lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Total column "D".
Multiply the "D" total by 0.0002 to get the volume in cubic feet.
Multiply the "D" total by 0.015 to get the weight in pounds.

	LENGTH	WIDTH	D
	29	30	59
2 ea	29	34	126
	28	30	58

243	X 0.0002	= .0486 ft^3
	X 0.015	= 3.645 lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton	0.01	1.2
Bagout bag for drum, 55gal.	0.10	3.7
Bagout bag for filters	0.17	4.4
Bagout sleeve for 4'x4'x7'	0.68	23.4
Bagout sleeve for truck box	0.60	18.8
Liner, truck box		
PAPER		20.0
Liner for truck box		
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12"		
wood frame	4.0	25.1
metal frame	4.0	10.8
Glovebox gloves (each)	0.05	0.8
Gloveport covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular gasket for passthru	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.

LAB403 0050005

WINDOW GASKETS

Measure the window acorss the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply the "B" total by 0.1 to get the volume in cubic feet.
Multiply the "B" total by 0.006 to get the weight in pounds.

LENGTH	WIDTH	A	No. of WINDOWS	B

	X 0.1 =	ft^3
	X 0.006=	lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, and that product by the thickness to get "C".
Repeat for each window.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply the "C" total by 0.04 to get the weight in pounds.

LENGTH	WIDTH	THICK	C
15	24	.500	180
9	23	.500	104
			284

0.170 BTR

284	~~109.5~~	X 0.0006=	~~0.1644~~ ft^3
284	~~109.5~~	X 0.04 =	~~4.144~~ lb.

11.36 BTR

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Total column "D".
Multiply the "D" total by 0.0002 to get the volume in cubic feet.
Multiply the "D" total by 0.015 to get the weight in pounds.

	LENGTH	WIDTH	D
2ea	24	45	138
2ea	45	32	154
2ea	10	10	40
	15	24	39
	9	24	~~39~~ 36
	18	18	441

BTR 0.088 BTR

	X 0.0002	~~0.0078~~ ft^3
	X 0.015	=6.615 lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton	0.01	1.2
Bagout bag for drum, 55gal.	0.10	3.7
Bagout bag for filters	0.17	4.4
Bagout sleeve for 4'x4'x7'	0.68	23.4
Bagout sleeve for truck box	0.60	18.8
Liner, truck box		
PAPER		
Liner for truck box		
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12"		
wood frame	4.0	25.1
metal frame	4.0	10.8
Glovebox gloves (each)	0.05	0.8
Gloveport covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular gasket for passthru	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.

LA8403005 0005

WINDOW GASKETS

Measure the window across the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply "B" total by 0.0013 = volume in cubic feet.
Multiply "B" total by 0.1 = weight in pounds.

LENGTH	WIDTH	A	No. of windows	B
19	11	30	1	30
9	5	14	2	28
23	9	32	1	32

90	x 0.0013 =	0.117 ft^3
90	x 0.1 =	9.0 lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, by the thickness, by the number of windows, to get "C".
Repeat for each window size.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply "C" total by 0.04 to get weight in pounds.

LENGTH	WIDTH	THICK.	No. of windows	C

	x 0.0006 =	ft^3
	x 0.04 =	lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Multiply "D" by the number of identical doors to get "E".
Repeat for each door size.
Total column E.
Multiply "E" total by 0.0002 = volume in cubic feet.
Multiply "E" total by 0.015 = weight in pounds.

LENGTH	WIDTH	D	No. of Doors	E

	x 0.0002 =	ft^3
	x 0.015 =	lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton.	0.01	1.2
Bag out bag for 55-gal drum.	0.10	3.7
Bag out bag for filters.	0.17	4.4
Bag out sleeve for 4'x4'x7'.	0.25	23.4
Bag out sleeve for truck box.	0.23	18.8
Liner, truck box.	0.15	10.0
PAPER		
Liner for truck box.	0.46	20.0
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12" wood frame	4.0	25.1
metal frame	4.0	10.8
Glove box gloves (each)	0.05	0.8
Glove port covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular passthru gasket	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.0

LA8403005000S

WINDOW GASKETS

Measure the window acorss the open glass, in inches.
Add the length and width to get "A".
Multiply "A" by the number of identical windows to get "B".
Repeat for each window size.
Total column "B".
Multiply the "B" total by 0.1 to get the volume in cubic feet.
Multiply the "B" total by 0.006 to get the weight in pounds.

LENGTH	WIDTH	A	No. of WINDOWS	B
19	11	30	1	30
9	5	14	2	28
23	9	32	1	32

0.12

90	X 0.1 =	9. ft^3
90	X 0.006=	0.54 lb.

WINDOWS (PLASTIC)

Measure the overall dimensions of the window in inches.
Multiply the length by the width, and that product by the thickness to get "C".
Repeat for each window.
Total column "C".
Multiply the "C" total by 0.0006 to get the volume in cubic feet.
Multiply the "C" total by 0.04 to get the weight in pounds.

LENGTH	WIDTH	THICK	C

	X 0.0006=	ft^3
	X 0.04 =	lb.

DOOR GASKETS

Measure the overall length and width of each door or bolt-on panel, in inches.
Add the length and width of each to get "D".
Total column "D".
Multiply the "D" total by 0.0002 to get the volume in cubic feet.
Multiply the "D" total by 0.015 to get the weight in pounds.

LENGTH	WIDTH	D

	X 0.0002	=	ft^3
	X 0.015	=	lb.

MISCELLANEOUS WEIGHTS & VOLUMES

Item	Volume cu-ft	Weight lb.
PLASTIC		
Liner for 1'x1'x2' carton	0.01	1.2
Bagout bag for drum, 55gal.	0.10	3.7
Bagout bag for filters	0.17	4.4
Bagout sleeve for 4'x4'x7'	0.68	23.4
Bagout sleeve for truck box	0.60	18.8
Liner, truck box		
PAPER		
Liner for truck box		
Carton, 1'x1'x2'	0.13	1.6
FILTERS		
8"x8"x4"	0.15	3.0
8"x8"x6"	0.22	4.6
8"x8"x8"	0.3	6.1
24"x24"x6"	2.0	12.4
24"x24"x12"		
wood frame	4.0	25.1
metal frame	4.0	10.8
Glovebox gloves (each)	0.05	0.8
Gloveport covers (each)	0.05	0.2
Glove retaining ring (each)	0.05	0.2
Circular gasket for passthru	0.04	2.9
FRP Box 4'x4'x7' complete	13.56	670.

TRU WASTE CERTIFICATION PROGRAM
NON-CONFORMANCE REPORT

Log No. 00054

ORIGINATOR'S SECTION

Location: TA-54, AREA G, PAD #3 | Hold Tag No.: 0003

Waste Pkg. Serial No: WASTE BOX #50005

Description of Non-Conformance:

SEE ATTACHED AUDIT FINDING!
(AUDIT 88-2, FINDING #2)

Print Name: B. LeBRUN	Signature: D L Brun	Date: 10 MAY 88

DISPOSITION SECTION

Instructions for Disposition:

PLACED HOLD-TAG 0003 WITH DATA PACKAGE.

INSERT THE FOLLOWING STATEMENT IN THE ADDITIONAL INFORMATION SECTION OF DATA PACKAGE:

WASTE PACKAGE TO BE REPAIRED OR REPACKAGED PRIOR TO SHIPMENT TO WIPP.

SEE NCR 00054

Print Name: D. LeBRUN	Signature: D L Brun	Date: 10 MAY 88

The above instructions have been completed as specified.

Printed Name: D L Brun	Signature: D L Brun	Date: 10 MAY 88

LOS ALAMOS NATIONAL LABORATORY
QUALITY ASSURANCE
AUDIT FINDING REPORT

Audit No. 88-2 Date May 2, 1988

Audited Organization HSE-7/TRU Waste

Auditors W. M. Davis (Lead Auditor); L. G. Quintana; A. Straquadine

Finding No. 2

Discussion

Requirement: SWD-HSE7-OI-02, R1, Section 6.0. Any problems with the CWP container including physical damage .... etc., is considered a nonconformance.

Finding: Waste box #50005 on storage pad #3 had indication of gouge type damage which could have significantly reduced the wall thickness. Monitoring for radiation indicated no leakage however, this type of damage should be reported and dispositioned on an NCR.

Finding Correction Response Due QA Within 30 Days

John L. Quintana — Technical Management — 5/9/88 Date

William M. Davis — Audit Team Leader — 5/9/88 Date

Finding Correction (Basic cause of condition, action to correct observed condition, action to locate/correct any similar condition in order to prevent recurrence).

Technical Management — Date — Quality Assurance — Date

Finding Correction Verified By

- ☐ Surveillance
- ☐ Audit Team Leader
- ☐ ReAudit

Quality Assurance — Date

Comments

FORM-LANL-QA-05-REV.-0

LA8403005 0005

H-7 WASTE MANAGEMENT

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

RSWD#
S818713

DATE	SERIAL	GROUP	TA	BLDG	ROOM	W-CODL
810515	003615 (2nd?)	H1	50	1	36	A3.5

WASTE-DESCRIPTION
GLOVEBOX CODE NO 443C429-2)

PACKAGES			PKG-RAD	
CRATES	VOL (FT3)	GROSS-VOL	SUR	MET
1	112.000	3.17184 M3	.000000E+00	.000000E+00

GROSS-WGT
302363. G

ADDITIONAL DESCRIPTION

NUCLIDE-ID	GRAM AMOUNT	CURIE AMOUNT
PU238	.108793E-01	1.5[illegible]E-1
	.000000E+00	
	.000000E+00	
	.000000E+00	
	.000000E+00	
	.000000E+00	

DISP DATE	LOCATION AREA	SHAFT	PIT	POST(S)	LAY	POS
811218	G		P2			

H-7 WASTE MANAGEMENT

LA8403005 0005

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

RSWD#
812705

Picked up 3/30/84

DATE	SERIAL	GROUP	TA	BLDG	ROOM	W-CODE
810312	003606	CMB3	03	SM27	2114	A33

WASTE-DESCRIPTION
TWO DRYBOX SECTIONS, ONE DUCT, ONE...

PACKAGES			PKG RAD	
CRATES	VOL (FT3)	GROSS-VOL	SUR	MET
1	112.000	3.17184 M3	1.00000	1.00000

GROSS-WGT	ADDITIONAL DESCRIPTION
.000000E+00 G	DRYBOX WINDOW WITH TWO GLOVES

NUCLIDE-ID	GRAM AMOUNT	CURIE AMOUNT
PU[redacted] 53	.260586	----------
	.000000E+00	----------
1.6 E-2 C	.000000E+00	----------
	.000000E+00	----------
	.000000E+00	----------
	.000000E+00	----------

DISP DATE	LOCATION AREA	SHAFT	PIT	POST(S)	LAY	POS
811218	G		P2			

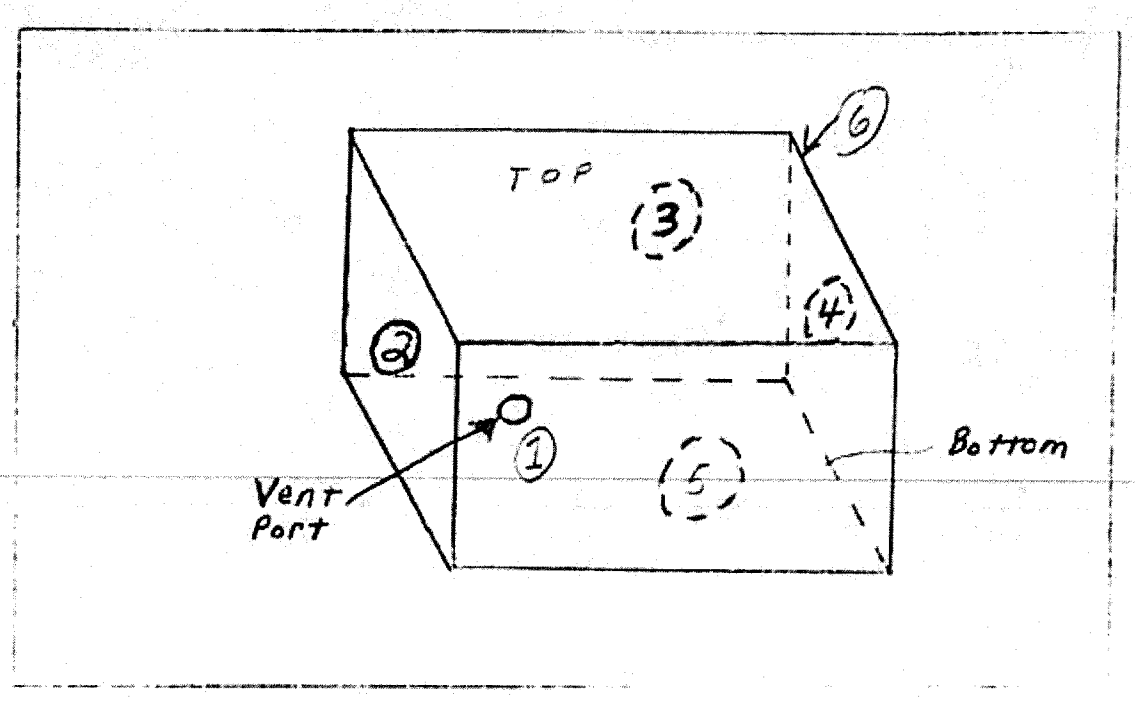
2.61

WIPP CONTAINER SWIPE SURVEY DATA SHEET

TA-50-69 BUILDING SRR SAMPLE DATE 8/27/84

HPT Sharon Velarde CONTAINER NO. LA-840300508S

Maximum Alpha Activity: 110 dpm/100 sq. cm.
Maximum Beta-gamma Activity: 990 dpm/100 sq. cm.



SWIPE NO.	LOCATION	*ALPHA	*BETA-GAMMA
1	Vent Port	NDA	NDA
2	Side	"	"
3	Side	"	"
4	Side	"	"
5	Bottom	"	"
6	Weld Bead	9.45	"

*d/m/100 sq. cm.
Distribution:

1. Sharon Velarde MS E517
2. Johnny Harper MS E516

Analyzed By A. Montoya

Analysis Date 8/27/84

Los Alamos NATIONAL LABORATORY EST.1943

TRU WASTE STORAGE RECORD

56537

1. Generator's Pre-Use Visual Inspection

Purchase Order #	Inspected Items		
This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.	☑ Ring, Bolt, and Nut	☑ Chime	☑ Dents
	☑ Lid and Gasket	☑ Gouges	☑ Paint

Printed Name	Signature	Sig. Date	Oper. Date
WCATS APPLICATION (000000)	*WCATS Electronic*	01-30-97	01-30-97

2. Generator's Package Information

Group	Technical Area	Building	Cost Center	Program Code	Cost Account	Work Package
NWIS-TP	21	000000				

Additional Information

☐ DP ☐ Non-DP If Non-DP waste, attach DOE approval doc.

Container	Liner
☑ Steel Drum (55 gal.)	☑ None
☐ Pipe Overpack Type:	☐ 90 mil liner
☐ Steel Drum (85 gal Overpack)	☐ 125 mil liner
☐ Standard Waste Box	☐ Fiberboard Liner
☐ Standard Waste Box Overpack	**Internal Shielding**
☐ RH Canister	☑ None
☐ Other (Call TWCO)	Type / Thickness

Radionuclide Content

Nuclide	Amount	Uncertainty	C= Curie M = Gram
Am-241	1.760E-002	6.420E-003	C
Np-237	0.000E+000	0.000E+000	C
Pu-241	0.000E+000	0.000E+000	C
U-235	0.000E+000	0.000E+000	C

Filter Serial No.			
	01 1921		
	02		

Waste Profile Number	26286 (WS ID 8462)
Gross Weight (lb.)	4.10E+002
Net Weight (lb.)	3.50E+002
Shipping Category	
LANL Waste Stream ID	
TRUCON Code	

Hazardous Materials

Name	EPA Code	Qty (g)

Date Closed (MM/DD/YY): 05/08/1997

Accumulation Start Date (MM/DD/YY): 01/30/97

The data in this section were collected, and waste described herein was packaged and labeled according to approved procedures.

Printed Name	Signature	Date:

3. Generator Site Health Physics Information

		Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Gamma Dose Rate (mrem/h) (contact)	2.00E-001				
Neutron Dose Rate (mrem/h) (contact)	1.20E+000	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)	1.40E+000				
Total Dose Rate (mrem/h) (1 meter)		*The data in this section were collected according to approved procedures.*			
Alpha Contamination (dpm/100cm2)	0.00E+000	Printed Name		Date	
Beta-Gamma Cont (dpm/100 cm2)	0.00E+000	Signature			

COPY

Los Alamos NATIONAL LABORATORY EST.1943

TRU WASTE STORAGE RECORD

56537

4. TRU Waste Management Review/Authorization

The data package for this waste has been reviewed. Basedon the information provided, this waste meets the WAC requirements for storage at TA-54.	Printed Name	Date:
	Signature	

5. Preload Visual Inspection

This waste package was visually inspected prior to transport according to approved procedures. It meets WAC packaging and labeling requirements and is free from obvious damage and defects.	Printed Name	Date:

6. Receiving Site Health Physics Information

Gamma Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Neutron Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)	*The data in this section were collected according to approved procedures.*			
Total Dose Rate (mrem/h) (1 meter)				
Alpha Contamination (dpm/100cm2)	Printed Name			Date
Beta-Gamma Cont (dpm/100 cm2)	Signature			

7. Storage Site Information

Received by (Initials)	Date Received		**Original Storage Data**		
This waste package was visually inspected and found to be properly labeled and in good condition. It was accepted and inspected according to approved procedures.			Building Number	Layer	Row Number
			Column Number		Date Stacked (MM/DD/YY)
Printed Name	Date:		Printed Name		Date:
Signature			Signature		

8. Waste Acceptance Office

Intials/Date	WE Description

NCR Number	Intials/Date	NCR Description

Los Alamos NATIONAL LABORATORY EST.1943

TRU WASTE STORAGE RECORD

56537

9. Continuation Sheet for Radionuclide Content (from Page 1, Section 2)

Radionuclide Content - Continued			
Nuclide	**Amount**	**Uncertainty**	**C= Curie M = Gram**
No Additional Radionuclides			

10. Continuation Sheet for Hazardous Materials (from Page 1, Section 2)

Hazardous Materials		
Name	**EPA Code**	**Qty (g)**
No Additional Hazardous Materials		

Los Alamos NATIONAL LABORATORY EST. 1943

WASTE PROFILE FORM

Reference Number

WCATS ID	Legacy WPF ID
8462	26286

Generator's Z Number	Waste Generator's Name *(print)*	WMC's Z Number	WMC's Name *(print)*		Generator's Phone
082766	BAYHURST, GREGORY K	082766	BAYHURST, GREGORY K		5056654156
Generator's Mail Stop	**Waste Generating Group**	**Waste Stream Technical Area**	**Building**	**Room**	**WMC Phone**
M319	EMER	21	000000	N/A	5056654156

Waste Accumulation *(check only one)*

- ☐ Satellite Accumulation Area — Site No: _____
- ☐ Less-than-90 Days Storage Area — Site No: _____
- ☐ TSDF — Site No: _____
- ☐ Universal Waste Storage Area — Site No: _____
- ☐ Used Oil for Recycle — Site No: _____
- ☐ PCBs Storage Area — Site No: _____
- ☐ NM Special Waste — Site No: _____
- ☐ Rad Staging Area — Site No: _____
- ☐ Rad Storage Area — Site No: _____
- ☑ None of the Above — Site No: _____

ER Use Only

☐ ER Site SWMU/AOC No. _____

Method of Characterization *(check as many as apply)*

☑ Analysis/Documents Attached	☐ Attached	Sample No: _____
☐ Chemical/Physical Analysis	☐ Attached	Sample No: _____
☐ Radiological Analysis	☐ Attached	Sample No: _____
☐ PCB Analysis	☐ Attached	Sample No: _____
☐ Acceptable Knowledge Documentation	☐ Attached	Documentation No: _____
☐ Material Safety Data Sheet (MSDS)	☐ Attached	
☑ Knowledge of Process	☐ Attached	Sample No: _____

Section 1 - Waste Prevention/Minimization *(answer all questions)*

Can hazard segregation, elimination, or material substitution be used?	☐ Yes *(provide comments)*	☐ No	
Can any of the materials in the waste stream be recycled or reused?	☐ Yes *(provide comments)*	☐ No	
Has waste minimization been incorporated into procedures or other process controls?	☐ Yes	☐ No *(provide comments)*	
Can this waste be generated outside a RCA?	☐ Yes *(provide comments)*	☐ No	☐ N/A

Comments:

Section 2 - Chemical and Physical Information

Waste Type *(check only one)*

- ☐ Unused/Unspent Chemical
- ☑ Process Waste/Spent Chemical/Other

Radiological Information

Was Waste generated in a RCA?

☑ Yes ☐ No

- ☐ Non-radioactive
- ☐ Radioactive - Low Level
- ☑ Radioactive - Transuranic

Waste Destination *(check one)*

- ☐ SWWS
- ☐ RLWTF
- ☐ RLWTP
- ☐ TA-16/HE
- ☐ NTS

Classified Information

- ☐ Unclassified
- ☐ Classified/Sensitive

Waste Category *(check all that apply)*

- ☐ Inorganic
- ☐ Organic
- ☐ Solvent (see instructions)
- ☐ Degreaser (see instructions)
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated Hazardous Waste or Residue
- ☐ No-Longer Contained-In
- ☐ Explosive Process
- ☐ Infectious/Medical
- ☐ Biological
- ☐ Beryllium
- ☐ Empty Container (see instructions)
- ☐ Battery (see instructions)

Asbestos

- ☐ Friable
- ☐ Non-Friable

PCB Source Concentration

- ☐ PCB < 50 ppm
- ☐ PCB >= 50 - < 500 ppm
- ☐ PCB >= 500 ppm
- ☐ Hazardous Waste Contaminated Soil
- ☐ Untreated Hazardous Debris
- ☐ Commercial Solid Waste
- ☐ Other [Describe]

Other:

Waste Source *(check only one)*

Waste Source A

- ☐ Decon
- ☐ Materials Processing/Production
- ☐ Research/Development/Testing
- ☐ Scheduled Maintenance
- ☐ Housekeeping - Routine
- ☐ Spill Cleanup - Routine
- ☐ Sampling - Routine Monitoring
- ☐ Other (describe)

Waste Source B

- ☐ Abatement
- ☐ Construction/Upgrades
- ☐ Demolition
- ☐ Decon/Decom
- ☑ Investigative Derived
- ☐ Orphan/Legacy
- ☐ Remediation/Restoration
- ☐ Repacking (secondary)
- ☐ Unscheduled Maintenance
- ☐ Housekeeping (non-routine)
- ☐ Spill Cleanup (non-routine)
- ☐ Non-Petroleum Tanks
- ☐ Petroleum Tanks
- ☐ Other (describe)

Other:

Waste Matrix *(check only one)*

Gas

- ☐ ≤1.5 Atmospheres Pressure
- ☐ >1.5 Atmospheres Pressure
- ☐ Liquified Compressed Gas

Liquid

- ☐ Aqueous
- ☐ Non-Aqueous
- ☐ Suspended Solids/Aqueous
- ☐ Suspended Solids/Non-Aqueous

Solid

- ☐ Powder/Ash/Dust
- ☑ Solid
- ☐ Sludge
- ☐ Absorbed/Solidified Liquid
- ☐ Debris

Matrix Type *(check only one)*

- ☑ Homogeneous
- ☐ Heterogeneous

Estimate Annual Volume (m^3):

Section 3 - Process and Waste Description

Process Description:
BOREHOLE CUTTINGS, CORE, AND RETURNED SAMPLES GENERATED DURING DRILLING AND SAMPLING RFI ACTIVITIES FOR THE LANL ER PROJECT. RFI CONDUCTED AT TA-21, MDA-T. ALL MATERIAL IS CHARACTERIZED BASED UPON LAB SAMPLE ANALYTICAL RESULTS. BASED ON HISTORICAL DOCUMENTS AND PERSONAL INTERVIEWS, THERE IS NO DOCUMENTED SOLVENT USE AT THIS SITE, OR PERSONS KNOWLEDGEABLE OF SOLVENT USE AT THIS SITE.

Waste Description:

Section 4 - Characteristics

Ignitability *(check only one)*	**Corrosivity** *(check only one)* (pH)	**Reactivity** *(check as many as apply)*	**Boiling Point** *(check only one)*
☐ < 73 F (< 22.8 C)	☐ <= 2.0	☐ RCRA Unstable	☐ <= 95 F (<= 35 C)
☐ 73 - 99 F (22.8 - 37.2 C)	☐ 2.1 - 4.0	☐ Water Reactive	☐ >95 F (> 35 C)
☐ 100 - 139 F (37.8 - 59.4 C)	☐ 4.1 - 6.0	☐ Cyanide Bearing	☑ Not Applicable
☐ 140 - 200 F (60.0 - 99.3 C)	☐ 6.1 - 9.0	☐ Sulfide Bearing	
☐ > 200 (> 99.3 C)	☐ 9.1 - 12.4	☐ Pyrophoric	
☐ EPA Ignitable - Non-liquid	☐ >= 12.5	☐ Shock Sensitive	
☐ DOT Flammable Gas	☐ Liquid Corrosive to Steel	☐ Explosive [Specify DOT Div.]	
☐ DOT Oxidizer	☑ Non-aqueous	☑ Non-Reactive	
☑ Not Ignitable			

	Characterization Method				Concentration of Contaminants		
Identify for all contaminants listed	**AK**	**TCLP**	**Total**	**None or Non-detect**	**Contaminant present at Minimum**	**Maxiumum**	**Regulatory Limit**
Toxicity Characteristic Metals					(10,000 ppm = 1%)		
Arsenic	☐	☐	☑	☐	0 to	6 ppm	5.0 ppm
Barium	☐	☐	☑	☐	70 to	500 ppm	100.0 ppm
Cadmium	☐	☐	☑	☐	0 to	6 ppm	1.0 ppm
Chromium	☐	☑	☐	☐	to	ppm	5.0 ppm
Lead	☐	☐	☑	☐	15 to	40 ppm	5.0 ppm
Mercury	☐	☑	☐	☐	to	ppm	0.2 ppm
Selenium	☐	☐	☑	☐	to	ppm	1.0 ppm
Silver	☐	☐	☑	☐	0 to	10 ppm	5.0 ppm
Toxicity Characteristic Organics							
Benzene	☐	☐	☐	☐	to	ppm	0.5 ppm
Carbon tetrachloride	☐	☐	☐	☐	to	ppm	0.5 ppm
Chlorobenzene	☐	☐	☐	☐	to	ppm	100.0 ppm
Chloroform	☐	☐	☐	☐	to	ppm	6.0 ppm
Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
p-Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
m-Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
o-Cresol	☐	☐	☐	☐	to	ppm	200.0 ppm
1,4-Dichlorobenzene	☐	☐	☐	☐	to	ppm	7.5 ppm
1,2-Dichloroethane	☐	☐	☐	☐	to	ppm	0.5 ppm
1,1-Dichloroethylene	☐	☐	☐	☐	to	ppm	0.7 ppm
2,4-Dinitrotoluene	☐	☐	☐	☐	to	ppm	0.13 ppm
Hexachlorobenzene	☐	☐	☐	☐	to	ppm	0.13 ppm
Hexachlorobutadiene	☐	☐	☐	☐	to	ppm	0.5 ppm
Hexachloroethane	☐	☐	☐	☐	to	ppm	3.0 ppm
Methyl ethyl ketone	☐	☐	☐	☐	to	ppm	200.0 ppm
Nitrobenzene	☐	☐	☐	☐	to	ppm	2.0 ppm
Pentachlorophenol	☐	☐	☐	☐	to	ppm	100.0 ppm
Pyridine	☐	☐	☐	☐	to	ppm	5.0 ppm
Tetrachloroethylene	☐	☐	☑	☐	to	ppm	0.7 ppm
Trichloroethylene	☐	☐	☑	☐	to	ppm	0.5 ppm
2,4,6-Trichlorophenol	☐	☐	☐	☐	to	ppm	2.0 ppm
2,4,5-Trichlorophenol	☐	☐	☐	☐	to	ppm	400.0 ppm
Vinyl chloride	☐	☐	☐	☐	to	ppm	0.2 ppm
Herbicides and Pesticides							
Chlordane	☐	☐	☐	☐	to	ppm	0.03 ppm
2,4-D	☐	☐	☐	☐	to	ppm	10.0 ppm
Endrin	☐	☐	☐	☐	to	ppm	0.02 ppm
Heptachlor (& its epoxide)	☐	☐	☐	☐	to	ppm	0.008 ppm
Lindane (gamma-BHC)	☐	☐	☐	☐	to	ppm	0.4 ppm
Methoxychlor	☐	☐	☐	☐	to	ppm	10.0 ppm
2,4,5-TP (Silvex)	☐	☐	☐	☐	to	ppm	1.0 ppm
Toxaphene	☐	☐	☐	☐	to	ppm	0.5 ppm

Section 5 - Additional Constituents and Contaminants

Additional Constituents and Contaminants. Please account for 100% of waste. Range should be given within guidelines of individual constituents. List all other constients (including inerts) not identified above and attach any applicable analysis. No chemical formula allowed in this field. Continue in Section 3 Additional information as necessary. CAS numbers are needed for all chemical constituents, for material without a CAS number, enter "No CAS Number".

CAS No.	Name of constituent	Minimum		Maximum
-----	BOREHOLE CUTIINGS, CORE, RETURNED SAMPLES	98	to	100
-----	SAMPLE CONTAINERS (GLASS, JARS, PLASTIC JARS)	1	to	2
-----	ACETONE	0	to	0.13
-----	METHYLENE CHLORIDE	0	to	0.04
-----	TOLUENE	0	to	0.14
-----	4-ISOPROPYLTOLUENE	0	to	0.006
-----	PHENANTHRENE	0	to	0.047
-----	DI-N-BUTYLPHTHALATE	0	to	0.21
-----	FLUORANTHENE	0	to	0.085
-----	PYRENE	0	to	0.065
-----	BENZO (A) ANTHRACENE	0	to	0.04
-----	CHRYSENE	0	to	0.06
-----	BIS (2-ETHYLHEXYL) PHTHALATE	0		0.12
-----	INDENO (1,2,3-CD) PYRENE	0	to	0.05
-----	BENZO (G,H,I) PERYLENE	0	to	0.05
	Total of max. ranges of this section and page 2			102.06 in %

Additional Information

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below

Section 6 - Work Control Documentation

Do the procedures for this process cover how to manage this waste? ☐ Yes ☐ No *(provide comments)*

Do the procedures for this process address controls to prevent changes to waste constituents and concentrations or addition or removal of waste to/from containers? ☐ Yes ☐ No *(provide comments)*

Comments:

Section 7 - Packaging and Storage Control

Describe how the waste will be packaged in according to the applicable WAC.

Identify the storage management controls that will be used for this waste stream: *(check all that apply)*

☐ Tamper Indication Devices ☐ Limited use locks with log-in for waste ☐ Locked cabinet or building ☐ Other (describe)

Section 8 - Waste Certification Statements

☐ Waste appears to meet WAC attachment for: TRU

☐ Waste stream needs exception/exemption for treatment, storage, or disposal.

☐ Waste does not meet the criteria for any known TSDF. (DOE approval is required. Contact the office of the Principle Associate Director for Weapons Programs [PADWP] for assistance.)

Waste Generator Certification: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the waste characterization information on this form is correct and that it meets the requirements of the applicable waste acceptance criteria. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature: *WCATS APPLICATION (000000)* Date: *05/28/97 12:00 AM*

Waste Management Coordinator: I have reviewed this form and any associated attachments and the characterization information provided appears to be complete and accurate. I certify, to the best of my knowledge, that the waste characterization information provided by the waste generator meets the requirements of the applicable WAC.

Signature: *WCATS APPLICATION (000000)* Date: *05/28/97 12:00 AM*

Attachment 4 - LDR and UHC

Identify category and presence of any constituents listed below *(equal to or above limit)*.

Non-Wastewater/Wastewater Category *(check only one)*

☐ Non Wastewater ☐ Wastewater [as defined by 40 CFR 268.2(f)] ☐ Lab Pack [40 CFR 268.2(f)] **Sign Certification #1**

Notifications and Certifications - Check the appilcable boxes

Generator Requirements:

☐ This shipment contains hazardous waste contaminated soil that does not meet treatment standards **Sign Certification #2**
☐ This shipment contains untreated hazardous debris to be treated to 40 CFR 268.45 treatment standards **(No certification)**
☐ Hazardous wastes (except soil) meeting treatment standards at point of generation **Sign Certification #3**
☐ Hazardous wastes contaminated soil meeting treatment standards at point of generation **Sign Certification #4**

TSDF or Generator Treatment:

☐ TSDF treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #5**
☐ Generator treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #6**
☐ Hazardous wastes contaminated soil treated to 40 CFR 268.49 **Sign Certification #7**
☐ Wastes or residues from characteristic hazardous waste treatment meeting treatment standards and UTS **Sign Certification #8**
☐ Wastes or residues from characteristic hazardous waste treatment not meeting UTS **Sign Certification #9**
☐ Other TSDF wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #10**
☐ Other generator wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #11**

Notification of Underlying Hazardous Constituents

(Check the applicable underlying constituents above the concentration levels for D001 through D043 characterstic wastes only)

☐ ***No Underlying Hazardous Constituents in this waste stream.***

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Acenaphthene	83-32-9	0.059	3.4	34.0
☐	Acenaphthylene	208-96-8	0.059	3.4	34.0
☐	Acetone	67-64-1	0.28	160.0	1600.0
☐	Acetonitrile	75-05-8	5.6	38.0	380.0
☐	Acetophenone	98-86-2	0.01	9.7	97.0
☐	2-Acetylaminofluorene	53-96-3	0.059	140.0	1400.0
☐	Acrolein	107-02-8	0.29	N/A	N/A
☐	Acrylamide	79-06-1	19.0	23.0	230.0
☐	Acrylonitrile	107-13-1	0.24	84.0	840.0
☐	Aldicarb sulfone	1646-88-4	0.056	0.28	2.8
☐	Aldrin	309-00-2	0.021	0.066	0.66
☐	4-Aminobiphenyl	92-67-1	0.13	N/A	N/A
☐	Aniline	62-53-3	0.81	14.0	140.0
☐	o-Anisidine	90-04-0	0.01	0.66	6.6
☐	Anthracene	120-12-7	0.059	3.4	34.0
☐	Aramite	140-57-8	0.36	N/A	N/A
☐	alpha-BHC	319-84-6	0.00014	0.066	0.66
☐	beta-BHC	319-85-7	0.00014	0.066	0.66
☐	delta-BHC	319-86-8	0.023	0.066	0.66
☐	Barban	101-27-9	0.056	1.4	14.0
☐	Bendiocarb	22781-23-3	0.056	1.4	14.0
☐	Benomyl	17804-35-2	0.056	1.4	14.0
☐	Benz[a]anthracene	56-55-3	0.059	3.4	34.0
☐	Benzal chloride	98-87-3	0.055	6.0	60.0
☐	Benzene	71-43-2	0.14	10.0	100.0
☐	Benzo(b)fluoranthene	205-99-2	0.11	6.8	68.0
☐	Benzo[a]pyrene	50-32-8	0.061	3.4	34.0
☐	Benzo[ghi]perylene	191-24-2	0.0055	1.8	18.0
☐	Benzo[k]fluoranthene	207-08-9	0.11	6.8	68.0
☐	Bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2	72.0
☐	Bis(2-chloroethyl) ether	111-44-4	0.033	6.0	60.0
☐	Bis(2-chloroisopropyl) ether	39638-32-9	0.055	7.2	72.0
☐	Bis(2-ethylhexyl) phthalate	117-81-7	0.28	28.0	280.0
☐	Bromodichloromethane	75-27-4	0.35	15.0	150.0
☐	Bromomethane	74-83-9	0.11	15.0	150.0
☐	4-Bromophenyl phenyl ether	101-55-3	0.055	15.0	150.0
☐	n-Butyl alchohol	71-36-3	5.6	2.6	26.0
☐	Butyl benzyl phthalate	85-68-7	0.017	28.0	280.0
☐	Butylate	2008-41-5	0.042	1.4	14.0
☐	Carbaryl	63-25-2	0.006	0.14	1.4

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Carbendazim	10605-21-7	0.056	1.4	14.0
☐	Carbofuran	1563-66-2	0.006	0.14	1.4
☐	Carbofuran phenol	1563-38-8	0.056	1.4	14.0
☐	Carbon disulfide	75-15-0	3.8	4.8	48.0
☐	Carbon tetrachloride	56-23-5	0.057	6.0	60.0
☐	Carbosulfan	55285-14-8	0.028	1.4	14.0
☐	Chlordane	57-74-9	0.0033	0.26	2.6
☐	p-Chloro-m-cresol	59-50-7	0.018	14.0	140.0
☐	p-Chloroaniline	106-47-8	0.46	16.0	160.0
☐	Chlorobenzene	108-90-7	0.057	6.0	60.0
☐	Chlorobenzilate	510-15-6	0.1	N/A	N/A
☐	Chlorodibromomethane	124-48-1	0.057	15.0	150.0
☐	Chloroethane	75-00-3	0.27	6.0	60.0
☐	2-Chloroethyl vinyl ether	110-75-8	0.062	N/A	N/A
☐	Chloroform	67-66-3	0.046	6.0	60.0
☐	Chloromethane	74-87-3	0.19	30.0	300.0
☐	2-Chloronaphthalene	91-58-7	0.055	5.6	56.0
☐	2-Chlorophenol	95-57-8	0.044	5.7	57.0
☐	Chloroprene	126-99-8	0.057	0.28	2.8
☐	3-Chloropropylene	107-05-1	0.036	30.0	300.0
☐	Chrysene	218-01-9	0.059	3.4	34.0
☐	p-Cresidine	120-71-8	0.01	0.66	6.6
☐	m-Cresol	108-39-4	0.77	5.6	56.0
☐	o-Cresol	95-48-7	0.11	5.6	56.0
☐	p-Cresol	106-44-5	0.77	5.6	56.0
☐	m-Cumenyl methylcarbamate	64-00-6	0.056	1.4	14.0
☐	Cyanide (Amenable)	57-12-5*	0.86	30.0	300.0
☐	Cyanide (Total)	57-12-5	1.2	590.0	5900.0
☐	Cyclohexanone	108-94-1	0.36	0.75	7.5
☐	2,4-D	94-75-7	0.72	10.0	100.0
☐	o,p'-DDD	53-19-0	0.023	0.087	0.87
☐	p,p'-DDD	72-54-8	0.023	0.087	0.87
☐	o,p'-DDE	3424-82-6	0.031	0.087	0.87
☐	p,p'-DDE	72-55-9	0.031	0.087	0.87
☐	o,p'-DDT	789-02-6	0.0039	0.087	0.87
☐	p,p'-DDT	50-29-3	0.0039	0.087	0.87
☐	Di-n-butyl phthalate	84-74-2	0.057	28.0	280.0
☐	Di-n-octyl phthalate	117-84-0	0.017	28.0	280.0
☐	Di-n-propylnitrosamine	621-64-7	0.4	14.0	140.0
☐	Dibenz[a,h]anthracene	53-70-3	0.055	8.2	82.0
☐	Dibenzo[a,e]pyrene	192-65-4	0.061	N/A	N/A
☐	1,2-Dibromo-3-chloropropane	96-12-8	0.11	15.0	150.0
☐	1,2-Dibromoethane	106-93-4	0.028	15.0	150.0
☐	Dibromomethane	74-95-3	0.11	15.0	150.0
☐	1,4-Dichlorobenzene	106-46-7	0.09	6.0	60.0
☐	m-Dichlorobenzene	541-73-1	0.036	6.0	60.0
☐	o-Dichlorobenzene	95-50-1	0.088	6.0	60.0
☐	Dichlorodifluoromethane	75-71-8	0.23	7.2	72.0
☐	1,1-Dichloroethane	75-34-3	0.059	6.0	60.0
☐	1,2-Dichloroethane	107-06-2	0.21	6.0	60.0
☐	1,1-Dichloroethylene	75-35-4	0.025	6.0	60.0
☐	trans-1,2-Dichloroethylene	156-60-5	0.054	30.0	300.0
☐	2,4-Dichlorophenol	120-83-2	0.044	14.0	140.0
☐	2,6-Dichlorophenol	87-65-0	0.044	14.0	140.0
☐	1,2-Dichloropropane	78-87-5	0.85	18.0	180.0
☐	trans-1,3-Dichloropropene	10061-02-6	0.036	18.0	180.0
☐	cis-1,3-Dichloropropylene	10061-01-5	0.036	18.0	180.0
☐	Dieldrin	60-57-1	0.017	0.13	1.3
☐	Diethyl phthalate	84-66-2	0.2	28.0	280.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Dimethyl phthalate	131-11-3	0.047	28.0	280.0
☐	p-Dimethylaminoazobenzene	60-11-7	0.13	N/A	N/A
☐	2,4-Dimethylphenol	105-67-9	0.036	14.0	140.0
☐	4,6-Dinitro-o-cresol	534-52-1	0.28	160.0	1600.0
☐	1,4-Dinitrobenzene	100-25-4	0.32	2.3	23.0
☐	2,4-Dinitrophenol	51-28-5	0.12	160.0	1600.0
☐	2,4-Dinitrotoluene	121-14-2	0.32	140.0	1400.0
☐	2,6-Dinitrotoluene	606-20-2	0.55	28.0	280.0
☐	Dinoseb	88-85-7	0.066	2.5	25.0
☐	1,4-Dioxane	123-91-1	12.0	170.0	1700.0
☐	Diphenylamine	122-39-4	0.92	13.0	130.0
☐	1,2-Diphenylhydrazine	122-66-7	0.087	N/A	N/A
☐	Disulfoton	298-04-4	0.017	6.2	62.0
☐	Dithiocarbamates (total)	WCATS-001	0.028	28.0	280.0
☐	EPTC	759-94-4	0.042	1.4	14.0
☐	Endosulfan I	959-98-8	0.023	0.066	0.66
☐	Endosulfan II	33213-65-9	0.029	0.13	1.3
☐	Endosulfan sulfate	1031-07-8	0.029	0.13	1.3
☐	Endrin	72-20-8	0.0028	0.13	1.3
☐	Endrin aldehyde	7421-93-4	0.025	0.13	1.3
☐	Ethyl acetate	141-78-6	0.34	33.0	330.0
☐	Ethyl benzene	100-41-4	0.057	10.0	100.0
☐	Ethyl ether	60-29-7	0.12	160.0	1600.0
☐	Ethyl methacrylate	97-63-2	0.14	160.0	1600.0
☐	Ethylene oxide	75-21-8	0.12	N/A	N/A
☐	Famphur	52-85-7	0.017	15.0	150.0
☐	Fluoranthene	206-44-0	0.068	3.4	34.0
☐	Fluorene	86-73-7	0.059	3.4	34.0
☐	Fluoride	16984-48-8	35.0	N/A	N/A
☐	Formetanate hydrochloride	23422-53-9	0.056	1.4	14.0
☐	Heptachlor (& its epoxide)	76-44-8	0.0012	0.066	0.66
☐	Heptachlor epoxide	1024-57-3	0.016	0.066	0.66
☐	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	0.000035	0.0025	0.025
☐	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	0.000035	0.0025	0.025
☐	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	0.000035	0.0025	0.025
☐	Hexachlorobenzene	118-74-1	0.055	10.0	100.0
☐	Hexachlorobutadiene	87-68-3	0.055	5.6	56.0
☐	Hexachlorocyclopentadiene	77-47-4	0.057	2.4	24.0
☐	Hexachloroethane	67-72-1	0.055	30.0	300.0
☐	Hexachloropropene	1888-71-7	0.035	30.0	300.0
☐	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063	0.001	0.01
☐	HxCDFs (All Hexachlorodibenzo-furans)	55684-94-1	0.000063	0.001	0.01
☐	Indeno[1,2,3-cd]pyrene	193-39-5	0.0055	3.4	34.0
☐	Iodomethane	74-88-4	0.19	65.0	650.0
☐	Isobutyl alcohol	78-83-1	5.6	170.0	1700.0
☐	Isodrin	465-73-6	0.021	0.066	0.66
☐	Isosafrole	120-58-1	0.081	2.6	26.0
☐	Kepone	143-50-0	0.0011	0.13	1.3
☐	Lindane (gamma-BHC)	58-89-9	0.0017	0.066	0.66
☐	Mercury (Retort Residues)	7439-97-6*	N/A	0.2	2.0
☐	Methacrylonitrile	126-98-7	0.24	84.0	840.0
☐	Methanol	67-56-1	5.6	0.75	7.5
☐	Methapyrilene	91-80-5	0.081	1.5	15.0
☐	Methiocarb	2032-65-7	0.056	1.4	14.0
☐	Methomyl	16752-77-5	0.028	0.14	1.4
☐	Methoxychlor	72-43-5	0.25	0.18	1.8
☐	Methyl ethyl ketone	78-93-3	0.28	36.0	360.0
☐	Methyl isobutyl ketone	108-10-1	0.14	33.0	330.0
☐	Methyl methacrylate	80-62-6	0.14	160.0	1600.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Methyl methanesulfonate	66-27-3	0.018	N/A	N/A
☐	Methyl parathion	298-00-0	0.014	4.6	46.0
☐	3-Methylcholanthrene	56-49-5	0.0055	15.0	150.0
☐	4,4'-Methylene bis(2-chloroaniline)	101-14-4	0.5	30.0	300.0
☐	Methylene chloride	75-09-2	0.089	30.0	300.0
☐	Metolcarb	1129-41-5	0.056	1.4	14.0
☐	Mexacarbate	315-18-4	0.056	1.4	14.0
☐	Molinate	2212-67-1	0.042	1.4	14.0
☐	N-Nitroso-di-n-butylamine	924-16-3	0.4	17.0	170.0
☐	N-Nitrosodiethylamine	55-18-5	0.4	28.0	280.0
☐	N-Nitrosodimethylamine	62-75-9	0.4	2.3	23.0
☐	N-Nitrosodiphenylamine	86-30-6	0.92	13.0	130.0
☐	N-Nitrosomethylethylamine	10595-95-6	0.4	2.3	23.0
☐	N-Nitrosomorpholine	59-89-2	0.4	2.3	23.0
☐	N-Nitrosopiperidine	100-75-4	0.013	35.0	350.0
☐	N-Nitrosopyrrolidine	930-55-2	0.013	35.0	350.0
☐	Naphthalene	91-20-3	0.059	5.6	56.0
☐	2-Naphthylamine	91-59-8	0.52	N/A	N/A
☐	5-Nitro-o-toluidine	99-55-8	0.32	28.0	280.0
☐	o-Nitroaniline	88-74-4	0.27	14.0	140.0
☐	p-Nitroaniline	100-01-6	0.028	28.0	280.0
☐	Nitrobenzene	98-95-3	0.068	14.0	140.0
☐	o-Nitrophenol	88-75-5	0.028	13.0	130.0
☐	p-Nitrophenol	100-02-7	0.12	29.0	290.0
☐	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	0.000063	0.005	0.05
☐	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	0.000063	0.005	0.05
☐	Oxamyl	23135-22-0	0.056	0.28	2.8
☐	Parathion	56-38-2	0.014	4.6	46.0
☐	PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	0.000063	0.001	0.01
☐	PeCDFs (All Pentachlorodibenzo-furans)	30402-15-4	0.000035	0.001	0.01
☐	Pebulate	1114-71-2	0.042	1.4	14.0
☐	Pentachlorobenzene	608-93-5	0.055	10.0	100.0
☐	Pentachloroethane	76-01-7	0.055	6.0	60.0
☐	Pentachloronitrobenzene	82-68-8	0.055	4.8	48.0
☐	Pentachlorophenol	87-86-5	0.089	7.4	74.0
☐	Phenacetin	62-44-2	0.081	16.0	160.0
☐	Phenanthrene	85-01-8	0.059	5.6	56.0
☐	Phenol	108-95-2	0.039	6.2	62.0
☐	o-Phenylenediamine	95-54-5	N/A	N/A	N/A
☐	Phorate	298-02-2	0.021	4.6	46.0
☐	Phthalic acid	100-21-0	0.055	28.0	280.0
☐	Phthalic anhydride	85-44-9	0.055	28.0	280.0
☐	Physostigmine	57-47-6	0.056	1.4	14.0
☐	Physostigmine salicylate	57-64-7	0.056	1.4	14.0
☐	Promecarb	2631-37-0	0.056	1.4	14.0
☐	Pronamide	23950-58-5	0.093	1.5	15.0
☐	Propanenitrile	107-12-0	0.24	360.0	3600.0
☐	Propham	122-42-9	0.056	1.4	14.0
☐	Propoxur	114-26-1	0.056	1.4	14.0
☐	Prosulfocarb	52888-80-9	0.042	1.4	14.0
☐	Pyrene	129-00-0	0.067	8.2	82.0
☐	Pyridine	110-86-1	0.014	16.0	160.0
☐	Safrole	94-59-7	0.081	22.0	220.0
☐	Sulfide	18496-25-8	14.0	N/A	N/A
☐	2,4,5-T	93-76-5	0.72	7.9	79.0
☐	TCDDs (All Tetrachlorodi-benzo-p-dioxins)	41903-57-5	0.000063	0.001	0.01
☐	TCDFs (All Tetrachlorodibenzofurans)	30402-14-3	0.000063	0.001	0.01
☐	2,4,5-TP (Silvex)	93-72-1	0.72	7.9	79.0
☐	1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14.0	140.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0	60.0
☐	1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0	60.0
☐	Tetrachloroethylene	127-18-4	0.056	6.0	60.0
☐	2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4	74.0
☐	Thiodicarb	59669-26-0	0.019	1.4	14.0
☐	Thiophanate-methyl	23564-05-8	0.056	1.4	14.0
☐	Toluene	108-88-3	0.08	10.0	100.0
☐	Total PCBs (Polychlorinated biphenyls)	1336-36-3	0.1	10.0	100.0
☐	Toxaphene	8001-35-2	0.0095	2.6	26.0
☐	Triallate	2303-17-5	0.042	1.4	14.0
☐	Tribromomethane	75-25-2	0.63	15.0	150.0
☐	2,4,6-Tribromophenol	118-79-6	0.035	7.4	74.0
☐	1,1,2-Trichloro-1,2,2,-trifluoroethane	76-13-1	0.057	30.0	300.0
☐	1,2,4-Trichlorobenzene	120-82-1	0.055	19.0	190.0
☐	1,1,1-Trichloroethane	71-55-6	0.054	6.0	60.0
☐	1,1,2-Trichloroethane	79-00-5	0.054	6.0	60.0
☐	Trichloroethylene	79-01-6	0.054	6.0	60.0
☐	Trichloromonofluoromethane (R11)	75-69-4	0.02	30.0	300.0
☐	2,4,5-Trichlorophenol	95-95-4	0.18	7.4	74.0
☐	2,4,6-Trichlorophenol	88-06-2	0.035	7.4	74.0
☐	1,2,3-Trichloropropane	96-18-4	0.85	30.0	300.0
☐	Triethylamine	121-44-8	0.081	1.5	15.0
☐	Tris(2,3-dibromopropyl) phosphate	126-72-7	0.11	0.1	1.0
☐	Vernolate	1929-77-7	0.042	1.4	14.0
☐	Vinyl chloride	75-01-4	0.27	6.0	60.0
☐	Xylene	1330-20-7	0.32	30.0	300.0
☐	2,4-Xylidine	95-68-1	0.01	0.66	6.6
☐	Antimony	7440-36-0	1.9	1.15	11.5
☐	Arsenic	7440-38-2	1.4	5.0	50.0
☐	Barium	7440-39-3	1.2	21.0	210.0
☐	Beryllium	7440-41-7	0.82	1.22	12.2
☐	Cadmium	7440-43-9	0.69	0.11	1.1
☐	Chromium	7440-47-3	2.77	0.6	6.0
☐	Lead	7439-92-1	0.69	0.75	7.5
☐	Mercury	7439-97-6	0.15	0.025	0.25
☐	Nickel	7440-02-0	3.98	11.0	110.0
☐	Selenium	7782-49-2	0.82	5.7	57.0
☐	Silver	7440-22-4	0.43	0.14	1.4
☐	Thallium	7440-28-0	1.4	0.2	2.0
☐	Vanadium	7440-62-2	4.3	1.6	16.0
☐	Zinc	7440-66-6	2.61	4.3	43.0

Attachment 1 - Additional Radionuclides

Please list the supplimentary radionuclides and their concentration values.

Nuclear Abbr.	Concentration			Unit
	Low	Typical	High	
Am-241	5.000E-012		2.100E-007	Ci/g
Ba-133	0.000E+000		1.000E-011	Ci/g
Cd-109	0.000E+000		5.000E-012	Ci/g
Co-57	0.000E+000		2.000E-012	Ci/g
Cs-137	0.000E+000		2.100E-011	Ci/g
H-3	0.000E+000		3.000E-009	Ci/L
I-125	0.000E+000		9.000E-011	Ci/g
I-129	0.000E+000		2.000E-011	Ci/g
Np-237	0.000E+000		2.200E-010	Ci/g
Pb-210	0.000E+000		5.200E-009	Ci/g
Pu-238	0.000E+000		3.800E-009	Ci/g
Pu-239	0.000E+000		2.850E-007	Ci/g
Pu-240	0.000E+000		2.850E-007	Ci/g
Pu-242	0.000E+000		4.000E-010	Ci/g
Pu-244	0.000E+000		3.000E-009	Ci/g
Ra-226	0.000E+000		3.000E-011	Ci/g
Sn-113	0.000E+000		1.000E-012	Ci/g
Sr-90	0.000E+000		1.350E-010	Ci/g
Th-234	0.000E+000		3.300E-008	Ci/g
U-232	0.000E+000		6.000E-012	Ci/g
U-233	0.000E+000		1.000E-010	Ci/g
U-234	0.000E+000		1.000E-010	Ci/g
U-235	0.000E+000		3.000E-012	Ci/g
U-238	0.000E+000		5.500E-011	Ci/g

CONTAINER PROFILE
56537
T-TRU-TEMP

WS ID: 8462
C ID: 768591
ACTIVE

GENERAL INFORMATION

Container ID:	768591		
Labeled ID:	56537		
Optional ID:		**Status:**	ACTIVE
Chemical Barcode:		**Decommissioned:**	YES
Physical State:	SOLID	**Container Type:**	DM: Metal drums, barrels, kegs
Waste Stream ID:	8462	**Container Subtype:**	55-gallon steel drum
Work Path:	T-TRU-TEMP	**Origin Date:**	30-Jan-1997 12:00 am
Quantity (Univ):		**Accum Start Date:**	30-Jan-1997
Compactible:		**Closed Date:**	08-May-1997

Discard Matrix:

TID(s):

Gen Contact: GREGORY K BAYHURST (082766)

Insert By: WCATS APPLICATION (000000)

Waste Desc: BOREHOLE CUTTINGS, CORE, AND RETURNED SAMPLES GENERATED DURING DRILLING AND SAMPLING RFI ACTIVITIES FOR THE LANL ER P...

WEIGHTS AND VOLUMES

Container Volume:	0.21 CM	**Gross Weight:**	410.00 lb
Waste Volume:	NOT SPECIFIED	**Tare Weight:**	60.00 lb
		Net Weight:	350.00 lb

LOCATION

Pickup (Origin): LANL: 21: GEN-AREAS

Current: LANL: 54-G: 049-PACK

COPY

CONTAINER PROFILE
56537
T-TRU-TEMP

WS ID: 8462
C ID: 768591
ACTIVE

PAYLOAD INFORMATION

Container Procurement

P.O. Number: **Year of Manuf:**

Lot No.: **Serial No:**

Solution Package: 19: SP Tritium (AG Debris)

TRUCON Code:

Shipping Category:

CCP AK Report: CCP-AK-LANL-010: LANL TA-21 DP West Facility

WIPP Waste Stream:

Matrix Code: S4200 - SOIL/GRAVEL: SOIL/DEBRIS

Defense Waste: **Equiv. Comb. Matrix:** Non-combustible/Dispersible

Adeq. Ventilation: YES **Compliant Metal Cont.:** YES

Overpack (1 to 1): NO **Retrievable:** **BIR WS Code:**

Content Code: 005: Noncombustible Scrap - Small tools, cans, small equipment items, broken glass, etc., which may contain some small fraction of combustible solids.

COST CODES

Cost Center	Prog Code	Cost Account	Work Package	Percent Allocation	Cost Center Status	Cost Code Status	Recharge Mode
------	MA13	----	----	100.00			*UNCONSTRAINED*

FILTERS

Manufacturer	Model	Style	Diffusivity*	Serial Number	Torque Ft-lbs	Mfg Date Mon/Year
Not Specified	NA	Carbon Composite	0	1921		0/0

** Diffusivity is specified in moles per second per mole fraction*

RADIOLOGICAL SURVEY

Survey Type	Instrument Number	Survey Date	At Contact mrem/hr	At 30 cm mrem/hr	At 1 M mrem/hr	Alpha dpm/100cm2	Beta/Gama dpm/100 cm2
Survey ID: 74288, Status: Active							
B/G Survey			= 0.20	=	=	Not Applicable	
Neutron Survey			= 1.20	=	=	Not Applicable	
Smear Results			Not Applicable			= 0.00	= 0.00

CONTAINER PROFILE
56537
T-TRU-TEMP

WS ID: 8462
C ID: 768591
ACTIVE

RADIONUCLIDES

Nuclide	Amount	Unit	Uncert	MT Derived (Y/N)	Activated (Y/N)	MDA Result (Y/N)	Normal Form (Y/N)	Measurement Code/Comment
Status: Inactive, Assay Page: 347873, Date: 01/30/1997, Derivation: Generator Entered Results (e.g., Offsite Assay)								
Am-241	6.30E-003	Ci	0.00E+000	N			Y	
Cs-137	1.04E-006	Ci	0.00E+000	N			Y	
H-3	7.60E-007	Ci	0.00E+000	N			Y	
I-125	5.65E-006	Ci	0.00E+000	N			Y	
I-129	1.20E-006	Ci	0.00E+000	N			Y	
Np-237	1.30E-005	Ci	0.00E+000	N			Y	
Pb-210	1.75E-004	Ci	0.00E+000	N			Y	
Pu-238	2.10E-004	Ci	0.00E+000	N			Y	
Pu-239	1.40E-002	Ci	0.00E+000	N			Y	
Pu-240	1.40E-002	Ci	0.00E+000	N			Y	
Pu-242	2.99E-005	Ci	0.00E+000	N			Y	
Pu-244	1.75E-004	Ci	0.00E+000	N			Y	
Ra-226	1.38E-006	Ci	0.00E+000	N			Y	
Sr-90	6.70E-006	Ci	0.00E+000	N			Y	
Th-234	1.70E-003	Ci	0.00E+000	N			Y	
U-233	5.18E-006	Ci	0.00E+000	N			Y	
U-234	5.18E-006	Ci	0.00E+000	N			Y	
U-238	1.36E-006	Ci	0.00E+000	N			Y	
Status: Active, Assay Page: 413788, Date: 09/05/2013, Derivation: Non-Destructive Assay (NDA)								
Am-241	1.76E-002	Ci	6.42E-003	N	N	N	Y	
Np-237	0.00E+000	Ci	0.00E+000	N	N	N	Y	
Pu-241	0.00E+000	Ci	0.00E+000	N	N	N	Y	
U-235	0.00E+000	Ci	0.00E+000	N	N	N	Y	

CONTAINER PROFILE
56537
T-TRU-TEMP

WS ID: 8462
C ID: 768591
ACTIVE

RAD CALCULATIONS

Total Activity (nCi/g):	1.10861E+02	**Decay Heat [U] (W):**	8.11391E-04	
Alpha (nCi/g):	1.10861E+02	**DOTFissile Mat (g):**	0.00000E+00	
TRU Alpha (nCi/g):	1.10861E+02	**Transport Index:**		
** **MDA TRU Alpha (nCi/g)**	1.10861E+02	**NRC Class:**	GTCC	
Pu-239 FGE:	9.58415E-05	**DOT Type:**	A	
Pu-239 FGE [2U]:	1.65762E-04	**LSA-I Fraction:**	1.36729E+02	N
Pu-239 Eq-Ci:	1.79451E-02	**LSA-II Fraction:**	4.10186E-02	Y
Pu-239 Eq-Ci [2U]:	3.10369E-02	**LSA-III Fraction:**	2.05093E-03	Y
TRU Pu-239 Eq-Ci:	1.79451E-02	**Reportable Quantity:**	1.76000E+00	Y
TRU Pu-239 Eq-Ci [2U]:	3.10369E-02	* **ALC Ratio:**	6.51200E+04	NE
Tritium (Ci/m3):	0.00000E+00	* **ACM Ratio:**	4.10186E+03	NE
TRU ECW PE-Ci:	1.09465E-04	**Limited Quantity:**	6.51200E+02	N

Weight/Volume Used:

1 Container Net Weight: 1.58757E+02 kg
2 Container Volume: 2.08000E-01 m3

**ALC (Activity Limit for Exempt Consignment)*
**ACM (Activity Concentration for Exempt Material)*
*** Use for LL/TRU Determination*
U = 1 Uncertainty, 2U = 2 Uncertainty

Los Alamos
NATIONAL LABORATORY

TRU WASTE STORAGE RECORD

LA00000056537

1. GENERATOR'S PRE-USE VISUAL INSPECTION

Purchase Order # N/A DGS 09/11/97	Inspected Items		
This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.	☒ Ring, Bolt, and Nut	☒ Chime	☒ Dents
	☒ Lid and Gasket	☒ Gouges	☒ Paint
Signature Greg Bayhurst	Printed Name Greg BAYHURST	Date 1-30-97	

2. GENERATOR'S PACKAGE INFORMATION

Group EM/ER	Technical Area 21	Building N/A	Program Code MA13	☒ Off-Normal

Additional Information: Borehole cuttings, cement and external sample material (crushed tuff) in 6-mil bags. All placed inside another 6-mil bag.

CONTAINER	LINER
☒ Steel Drum (55 gal.)	☒ None
☐ Steel Drum (85 gal.)	☐ 90 mil liner
☐ Standard Waste Box	☐ 125 mil liner
☐ RH Canister	INTERNAL SHIELDING
☐ Other (Call TWCO)	☒ None
☐ Overpack	Type / Thickness (in.)
Carbon Filter ID 01 LANL 19211	. E ±
Carbon Filter ID 02	. E ±

Waste Profile Number	216216
Process Batch Code	
Gross Weight (lb.)	14.10E+2
Net Weight (lb.)	13.50E+2
Shipping Category	N/A DGS 09/11/97
LANL Waste Stream ID	N/A DGS 09/11/97
TRUCON Code	N/A
Date Closed (MMDDYY)	050897

RADIONUCLIDE CONTENT

Nuclide	Amount	Uncertainty	C = Curie M = Gram
Am241	6.31E+3	.E±	C
Pu239	1.41E+2	.E±	C
Pu240	1.41E+2	.E±	C
Pu238	2.11E+4	.E±	C
Pu242	2.919E+5	.E±	C
Th234	1.71E+3	.E±	C
H3	7.61E+7	.E±	C
Cs137	1.014E+6	.E±	C
I129	1.21E+6	.E±	C
Sr90	6.71E+6	.E±	C
Pb210	1.715E+4	.E±	C

PDP Program ☐ Yes ☒ No Tracking No: _____

NONRADIOACTIVE HAZARDOUS MATERIALS

Name	EPA Code	Quantity (g)
None		.E±
		.E±
		.E±

Accumulation Start Date

The data in this section were collected, and the waste described herein was packaged and labeled according to approved procedures.

Printed Name Greg BAYHURST | Signature Greg Bayhurst | Date 9.10.97

3. GENERATOR SITE HEALTH PHYSICS INFORMATION

Gamma Dose Rate (mrem/h) (contact)	2.0E+1	Survey Meter Model	RO-3C	Property Number 2683	Calibration Void Date 2-26-98	Survey Date 9-9-97
Neutron Dose Rate (mrem/h) (contact)	<5.0E+1	Survey Meter Model	PNR-4	Property Number DGS 9/11/97 516 5210	Calibration Void Date 9-17-97	Survey Date 9-9-97

Total Dose Rate (mrem/h) (contact)	2.0E+1
Total Dose Rate (mrem/h) (1 meter)	1 DGS 9/11/97 26.0E+1
Alpha Contamination (dpm/100cm²)	10.4E+1
Beta-Gamma Cont. (dpm/100cm²)	10.5E+1

The data in this section were collected according to approved procedures.

Printed Name Greg Bayhurst | Date 9-10-97

Signature Greg Bayhurst

COPY

4. TRU WASTE MANAGEMENT REVIEW/AUTHORIZATION

The data package for this waste has been reviewed by TRU Waste Management. The generator is authorized to arrange transportation to TA-54.	Printed Name Darrik G. Stafford	Date 09/11/97
	Signature Darrik G. Stafford	

5. PRELOAD VISUAL INSPECTION

This waste package was visually inspected prior to pickup according to approved procedures and was found to be free of obvious damage or defects.	Inspector's Stamp Number TRU 1 INSPECTOR GW	Date (*Inspection Valid for 30 Days*) 9-17-97

6. RECEIVING SITE HEALTH PHYSICS INFORMATION

Gamma Dose Rate (*mrem/h*) 0.2 E ± 0	Survey Meter Model ESP-1	Property Number 8031	Calibration Void Date 2-22-98
Neutron Dose Rate (*mrem/h*) 1.2 E ± 0	Survey Meter Model RO20	Property Number 3449	Calibration Void Date 1-23-98
Total Dose Rate (*mrem/h*) 1.4 E ± 0	*The data in this section were collected according to approved procedures.*		
Alpha Contamination (*dpm/100cm²*) 0.0 E + 0	Printed Name Marie Medina		Date 9-18-97
Beta-Gamma Cont. (*dpm/100cm²*) 0.0 E + 0	Signature Marie Medina		

7. STORAGE SITE INFORMATION

Received By (*Initials*) GW	Date Received 9-18-97	**ORIGINAL STORAGE DATA**	
This waste package was visually inspected and found to be properly labeled and in good condition. It was accepted and inspected according to approved procedures.		Building Number 283	Layer Holding Area / Row Number
		Column Number	Date Stacked (*MM,DD,YY*)
Printed Name Gail M. Welsh	Date 9-18-97	Printed Name Rick Martinez	Date 10-6-97
Signature Gail M. Welsh		Signature Rick Martz	

8. WASTE ACCEPTANCE OFFICE

NCR Number	Initials/Date	NCR Description
WE Number	**Initials/Date**	**WE Description**

9. DATA MANAGEMENT INFORMATION

	M M D D Y Y		
Date Entered In Database	11 06 97	Printed Name Charlotte Fernandez	Signature Charlotte Fernandez
Date Entry Verified	11 06 97	Printed Name ~~Tammy Lash~~	Signature Tammy Lash

10. DUPLICATE COPY

	M M D D Y Y		
Date Duplicate Filed	11 13 97	Printed Name Charlotte Fernandez	Signature Charlotte Fernandez

TRU WASTE STORAGE RECORD
SUPPLEMENTAL RADIONUCLIDE CONTENT DATA
(Curies)

~~For~~ DGS

Analytical Results on file with Janet Newlin

DGS ~~5-9144~~ 5-9194

DGS Per Derek Faulk 9/10/97

Ra-226	1.38E-06
U-233	5.18E-06
U-234	5.18E-06
U-238	1.36E-06
I-125	5.65E-06
Np-237	1.30E-05
Pu-244	1.75E-04

Los Alamos NATIONAL LABORATORY

TRU WASTE STORAGE RECORD

66140

1. Generator's Pre-Use Visual Inspection

Purchase Order #		Inspected Items		
This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.		☑ Ring, Bolt, and Nut	☑ Chime	☑ Dents
		☑ Lid and Gasket	☑ Gouges	☑ Paint
Printed Name: WCATS APPLICATION (000000)	Signature: *WCATS Electronic*	Sig. Date: 04-14-11	Oper. Date: 04-14-11	

2. Generator's Package Information

Group	Technical Area	Building	Cost Center	Program Code	Cost Account	Work Package
TA21	21	000000				

Additional Information

☑ DP ☐ Non-DP If Non-DP waste, attach DOE approval doc.

Container	Liner
☐ Steel Drum (55 gal.)	☑ None
☐ Pipe Overpack Type:	☐ 90 mil liner
☐ Steel Drum (85 gal Overpack)	☐ 125 mil liner
☑ Standard Waste Box	☐ Fiberboard Liner
☐ Standard Waste Box Overpack	**Internal Shielding**
☐ RH Canister	☑ None
☐ Other (Call TWCO)	Type / Thickness

Radionuclide Content

Nuclide	Amount	Uncertainty	C= Curie M = Gram
Ac-228	1.060E-006	1.700E-007	C
Am-241	2.810E-002	2.170E-002	C
Np-237	0.000E+000	0.000E+000	C
Pu-238	6.030E-003	4.670E-003	C
Pu-239	2.100E-001	1.600E-001	C
Pu-240	4.920E-002	3.820E-002	C
Pu-241	6.400E-001	4.960E-001	C
Pu-242	2.830E-006	2.200E-006	C

Filter Serial No.			
	01 JK-208		
	02 JK-213		

Waste Profile Number	50932 (WS ID 23358)
Gross Weight (lb.)	2.82E+003
Net Weight (lb.)	2.18E+003
Shipping Category	1001300034
LANL Waste Stream ID	LA-MSG04.001
TRUCON Code	LA111B

Hazardous Materials

Name	EPA Code	Qty (g)

Date Closed (MM/DD/YY): 04/14/2011

Accumulation Start Date (MM/DD/YY): 04/14/11

The data in this section were collected, and waste described herein was packaged and labeled according to approved procedures.

Printed Name	Signature	Date:

3. Generator Site Health Physics Information

		Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Gamma Dose Rate (mrem/h) (contact)	1.00E-001				
Neutron Dose Rate (mrem/h) (contact)	2.50E-001	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)	3.50E-001				
Total Dose Rate (mrem/h) (1 meter)					
Alpha Contamination (dpm/100cm2)	4.00E+000				
Beta-Gamma Cont (dpm/100 cm2)	6.80E+000				

The data in this section were collected according to approved procedures.

Printed Name	Date

Signature

COPY

Los Alamos NATIONAL LABORATORY

TRU WASTE STORAGE RECORD

66140

4. TRU Waste Management Review/Authorization

The data package for this waste has been reviewed. Basedon the information provided, this waste meets the WAC requirements for storage at TA-54.	Printed Name	Date:
	Signature	

5. Preload Visual Inspection

This waste package was visually inspected prior to transport according to approved procedures. It meets WAC packaging and labeling requirements and is free from obvious damage and defects.	Printed Name	Date:

6. Receiving Site Health Physics Information

Gamma Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Neutron Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)				
Total Dose Rate (mrem/h) (1 meter)	*The data in this section were collected according to approved procedures.*			
Alpha Contamination (dpm/100cm2)	Printed Name			Date
Beta-Gamma Cont (dpm/100 cm2)	Signature			

7. Storage Site Information

Received by (Initials)	Date Received	**Original Storage Data**		
This waste package was visually inspected and found to be properly labeled and in good condition. It was accepted and inspected according to approved procedures.		Building Number	Layer	Row Number
		Column Number	Date Stacked (MM/DD/YY)	
Printed Name	Date:	Printed Name	Date:	
Signature		Signature		

8. Waste Acceptance Office

Intials/Date	WE Description

NCR Number	Intials/Date	NCR Description

Los Alamos NATIONAL LABORATORY

TRU WASTE STORAGE RECORD

66140

9. Continuation Sheet for Radionuclide Content (from Page 1, Section 2)

Radionuclide Content - Continued			
Nuclide	**Amount**	**Uncertainty**	**C= Curie M = Gram**
U-234	6.300E-005	9.230E-006	C
U-235	1.560E-006	2.290E-007	C

10. Continuation Sheet for Hazardous Materials (from Page 1, Section 2)

Hazardous Materials		
Name	**EPA Code**	**Qty (g)**
No Additional Hazardous Materials		

66140

LANL WASTE STREAM PROFILE #50932
SUBMITTED WITH CONTAINER #66178

CONTAINER PROFILE
66140
T-TRU-TEMP

WS ID: 23358
C ID: 784828
ACTIVE

GENERAL INFORMATION

Container ID:	784828		
Labeled ID:	66140		
Optional ID:		**Status:**	ACTIVE
Chemical Barcode:		**Decommissioned:**	NO
Physical State:	SOLID	**Container Type:**	CM: Metal boxes, cartons, cases (including roll-off)
Waste Stream ID:	23358	**Container Subtype:**	Standard waste box
Work Path:	T-TRU-TEMP	**Origin Date:**	14-Apr-2011 12:00 am
Quantity (Univ):		**Accum Start Date:**	14-Apr-2011
Compactible:		**Closed Date:**	14-Apr-2011

Discard Matrix:

TID(s):

Gen Contact: MICHAEL L POPE (195161)

Insert By: WCATS APPLICATION (000000)

Waste Desc: SOIL FROM MDA-B ENCLOSURE #2

WEIGHTS AND VOLUMES

Container Volume:	1.90 CM	**Gross Weight:**	2820.00 lb
Waste Volume:	NOT SPECIFIED	**Tare Weight:**	635.00 lb
		Net Weight:	2180.00 lb

LOCATION

Pickup (Origin): LANL: 21: GEN-AREAS

Current: LANL: 54-G: 000232: C001: L01: R01

COPY

CONTAINER PROFILE
66140
T-TRU-TEMP

WS ID: 23358
C ID: 784828
ACTIVE

PAYLOAD INFORMATION

Container Procurement

P.O. Number: **Year of Manuf:** 2011

Lot No.: UN **Serial No:**

Solution Package: X03: FY11 NNG TA-21 Soil

TRUCON Code: LA111B: DE-WATERED SLUDGE

Shipping Category: 1001300034

CCP AK Report: CCP-AK-LANL-010: LANL TA-21 DP West Facility

WIPP Waste Stream: LA-MSG04.001: CONTAMINATED SOIL

Matrix Code: S4200 - SOIL/GRAVEL: SOIL/DEBRIS

Defense Waste: YES **Equiv. Comb. Matrix:** Non-combustible/Dispersible

Adeq. Ventilation: YES **Compliant Metal Cont.:** YES

Overpack (1 to 1): NO **Retrievable:** **BIR WS Code:**

Content Code:

COST CODES

Cost Center	Prog Code	Cost Account	Work Package	Percent Allocation	Cost Center Status	Cost Code Status	Recharge Mode
6M010A	ARDB	032R	LT00	100.00	INACTIVE	INACTIVE	*SELECTION LIST*

FILTERS

Manufacturer	Model	Style	Diffusivity*	Serial Number	Torque Ft-lbs	Mfg Date Mon/Year
Not Specified	NA	Carbon Composite	0	JK-208		0/0
Not Specified	NA	Carbon Composite	0	JK-213		0/0

** Diffusivity is specified in moles per second per mole fraction*

RADIOLOGICAL SURVEY

Survey Type	Instrument Number	Survey Date	At Contact mrem/hr	At 30 cm mrem/hr	At 1 M mrem/hr	Alpha dpm/100cm2	Beta/Gama dpm/100 cm2
Survey ID: 85800, Status: Active							
B/G Survey			= 0.10	=	=	Not Applicable	
Neutron Survey			= 0.25	=	=	Not Applicable	
Smear Results				Not Applicable		= 4.00	= 6.80

CONTAINER PROFILE
66140
T-TRU-TEMP

WS ID: 23358
C ID: 784828
ACTIVE

RADIONUCLIDES

Nuclide	Amount	Unit	Uncert	MT Derived (Y/N)	Activated (Y/N)	MDA Result (Y/N)	Normal Form (Y/N)	Measurement Code/Comment
Status: Inactive, Assay Page: 352396, Date: 04/14/2011, Derivation: Generator Entered Results (e.g., Offsite Assay)								
Am-241	7.62E-003	Ci	4.09E-002	N			Y	
Cs-137	4.12E-003	Ci	0.00E+000	N			Y	
H-3	1.48E-006	Ci	0.00E+000	N			Y	
Pu-238	1.68E-003	Ci	0.00E+000	N			Y	
Pu-239	3.15E-001	Ci	1.24E+000	N			Y	
Sr-90	6.10E-004	Ci	0.00E+000	N			Y	
U-234	1.50E-004	Ci	0.00E+000	N			Y	
U-235	2.46E-006	Ci	9.21E-006	N			Y	
U-238	1.68E-005	Ci	8.74E-005	N			Y	
Status: Active, Assay Page: 424426, Date: 05/15/2014, Derivation: Non-Destructive Assay (NDA)								
Ac-228	1.06E-006	Ci	1.70E-007	N	N	N	Y	
Am-241	2.81E-002	Ci	2.17E-002	N	N	N	Y	
Np-237	0.00E+000	Ci	0.00E+000	N	N	N	Y	
Pu-238	6.03E-003	Ci	4.67E-003	N	N	N	Y	
Pu-239	2.10E-001	Ci	1.60E-001	N	N	N	Y	
Pu-240	4.92E-002	Ci	3.82E-002	N	N	N	Y	
Pu-241	6.40E-001	Ci	4.96E-001	N	N	N	Y	
Pu-242	2.83E-006	Ci	2.20E-006	N	N	N	Y	
U-234	6.30E-005	Ci	9.23E-006	N	N	N	Y	
U-235	1.56E-006	Ci	2.29E-007	N	N	N	Y	

CONTAINER PROFILE
66140
T-TRU-TEMP

WS ID: 23358
C ID: 784828
ACTIVE

RAD CALCULATIONS

Total Activity (nCi/g):	9.43941E+02		**Decay Heat [U] (W):**	1.45445E-02	
Alpha (nCi/g):	2.96727E+02		**DOTFissile Mat (g):**	4.11081E+00	
TRU Alpha (nCi/g):	2.96646E+02		**Transport Index:**		
** **MDA TRU Alpha (nCi/g)**	2.96646E+02		**NRC Class:**	GTCC	
Pu-239 FGE:	3.86603E+00		**DOT Type:**	B	
Pu-239 FGE [2U]:	9.02304E+00		**LSA-I Fraction:**	3.73854E+02	N
Pu-239 Eq-Ci:	3.05858E-01		**LSA-II Fraction:**	1.13754E-01	Y
Pu-239 Eq-Ci [2U]:	6.38490E-01		**LSA-III Fraction:**	5.68771E-03	Y
TRU Pu-239 Eq-Ci:	3.05841E-01		**Reportable Quantity:**	2.99739E+01	Y
TRU Pu-239 Eq-Ci [2U]:	6.38474E-01	*	**ALC Ratio:**	2.96073E+06	NE
Tritium (Ci/m3):	0.00000E+00	*	**ACM Ratio:**	1.12156E+04	NE
TRU ECW PE-Ci:	1.86563E-03		**Limited Quantity:**	1.12484E+04	N

Weight/Volume Used:

1	Container Net Weight:	9.88831E+02 kg
2	Container Volume:	1.90000E+00 m3

**ALC (Activity Limit for Exempt Consignment)*
**ACM (Activity Concentration for Exempt Material)*
*** Use for LL/TRU Determination*
U = 1 Uncertainty, 2U = 2 Uncertainty

Los Alamos NATIONAL LABORATORY EST 1943

10161156

TRU Waste Storage Record

LA00000066140

1. Generator's Pre-Use Visual Inspection

Click here for instruction in completing the form.

Purchase Order # 404007-33-05	Inspected Items		
This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.	☐ Ring, Bolt, and Nut	☐ Chime	☒ Dents
	☒ Lid and Gasket	☒ Gouges	☒ Paint

Printed Name	Signature	Date
Michael L. Pope	Michael L. Pope	4-14-11

2. Generator's Package Information

Group	Technical Area	Building	Cost Center	Program Code	Cost Account	Work Package
REG-WS	TA 21	00	6M010A	ARDB	032R	LT00

Additional Information

☒ DP ☐ Non-DP If Non-DP waste, attach DOE approval documentation.

Container	Liner
☐ Steel Drum (55 gal.)	☒ None
☐ Pipe Overpack Type:	☐ 90 mil liner
☐ Steel Drum (85 gal. Overpack)	☐ 125 mil liner
☒ Standard Waste Box	☐ Fiberboard liner
☐ Standard Waste Box Overpack	Internal Shielding
☐ RH Canister	☒ None
☐ Other (Call TWCO)	Type / Thickness (in.)

Filter Serial No.: 01 JK-208; 02 JK-213

Radionuclide Content

Nuclide	Amount	Uncertainty	C=Curie M=Gram
Am 241	7.62 E-03	4.09E-02	C
Cs 137	4.12 E-03	0.00E00	C
H 3	1.48 E-06	0.00E00	C
Pu 238	1.68 E-03	0.00E00	C
Pu 239	3.15E-01	1.24E00	C
SR 90	6.10E-04	0.00E00	C
U 234	1.50E-04	0.00E00	C
U 235	2.46E-06	9.21E-06	C
U 238	1.68E-05	Hazardous Materials 8.74E-05	C

Name	EPA Code	Quantity (g)

Waste Profile Number: 50932
Gross Weight (lb.): 2.82 E+03
Net Weight (lb.): 2.18 E03
Shipping Category: 1001300024
LANL Waste Stream ID: LA-MS604.001
TRUCON Code: LA111B

Date Closed (MM/DD/YY): 4/14/11
Accumulation Start Date (MM/DD/YY):

The data in this section were collected, and waste described herein was packaged and labeled according to approved procedures.

Printed Name	Signature	Date
Michael L. Pope	Michael L. Pope	4-14-11

3. Generator Site Health Physics Information

		Survey Date	Survey Meter Model	Property Number	Calibration Void Date
1E-01	Gamma Dose Rate (mrem/h) (contact)	4.5.11	R020	12657	7.14.11
2.5E-01	Neutron Dose Rate (mrem/h) (contact)	4.5.11	SNRD	14707	7.20.11
3.5E-01	Total Dose Rate (mrem/h) (contact)				
3.5E-01	Total Dose Rate (mrem/h) (1 meter)				
NDA	Alpha Contamination (dpm/100cm²)				
NDA	Beta-Gamma Cont. (dpm/100cm²)				

The data in this section were collected according to approved procedures.

Printed Name	Date
STEVEN R HORN	4-5-11

Signature: Steven R Horn

COPY

Los Alamos NATIONAL LABORATORY EST. 1943

10161156

TRU Waste Storage Record

LA00000066140

1. Generator's Pre-Use Visual Inspection — Click here for instruction in completing the form.

Purchase Order # 404007-33-05

This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.

Inspected Items: ☐ Ring, Bolt, and Nut ☐ Chime ☑ Dents ☒ Lid and Gasket ☒ Gouges ☑ Paint

Printed Name	Signature	Date
Michael L Pope	Michael L Pope	4-14-11

2. Generator's Package Information

Group	Technical Area	Building	Cost Center	Program Code	Cost Account	Work Package
RER-WS	TA21	00	6M010A	APDB	032R	LT00

Additional Information

☒ DP ☐ Non-DP — If Non-DP waste, attach DOE approval documentation.

Container	Liner
☐ Steel Drum (55 gal.)	☒ None
☐ Pipe Overpack Type:	☐ 90 mil liner
☐ Steel Drum (85 gal. Overpack)	☐ 125 mil liner
☒ Standard Waste Box	☐ Fiberboard liner
☐ Standard Waste Box Overpack	Internal Shielding
☐ RH Canister	☒ None
☐ Other (Call TWCO)	Type / Thickness (in.)

Filter Serial No.: 01 JK-208; 02 JK-213

Radionuclide Content

Nuclide	Amount	Uncertainty	C=Curie M=Gram
Am241	7.62 E-03	4.09 E-02	C
Cs137	4.12 E-03	0.00E00	C
H3	1.48 E-06	0.00E00	C
Pu238	1.65 E-03	0.00E00	C
Pu239	3.15E-01	1.24E00	C
SR90	6.10E-04	0.00E00	C
U234	1.50E-04	0.00E00	C
U235	2.46E-06	9.21E-06	C
U238	1.68E-05	Hazardous Materials 8.74E-05	C

Name	EPA Code	Quantity (g)

Waste Profile Number: 50932

Gross Weight (lb.): 2.22E+03

Net Weight (lb.): 2.18E03

Shipping Category: 1001700024

LANL Waste Stream ID: LA-MS604.001

TRUCON Code: LA111B

Date Closed (MM/DD/YY): 4/14/11

Accumulation Start Date (MM/DD/YY):

The data in this section were collected, and waste described herein was packaged and labeled according to approved procedures.

Printed Name	Signature	Date
Michael L Pope	Michael L Pope	4-14-11

3. Generator Site Health Physics Information

		Survey Date	Survey Meter Model	Property Number	Calibration Void Date
1E-01	Gamma Dose Rate (mrem/h) (contact)	4.5.11	RO20	12659	7.14.11
2.5E-01	Neutron Dose Rate (mrem/h) (contact)	4.5.11	SNRD	14709	7.20.11
3.5E-01	Total Dose Rate (mrem/h) (contact)				
3.5E-01	Total Dose Rate (mrem/h) (1 meter)				
NDA	Alpha Contamination (dpm/100cm²)				
NDA	Beta-Gamma Cont. (dpm/100cm²)				

The data in this section were collected according to approved procedures.

Printed Name	Date
STEVEN R HORN	4-5-11

Signature: S R Horn

4. TRU Waste Management Review/Authorization

The data package for this waste has been reviewed. Based on the information provided, this waste meets the WAC requirements for storage at TA-54.	Printed Name: Lori Mullen	Date: 4-14-11
	Signature: Lori Mullen	

5. Prestaged Visual Inspection

This waste package was visually inspected prior to transport according to approved procedures. It meets WAC packaging and labeling requirements and is free from obvious damage and defects	Printed Name: Lori Mullen	Date: 4-26-11
	Signature: Lori Mullen	

6. Receiving Site Health Physics Information

Gamma Dose Rate (mrem/h) (contact): 1.0E-1	Survey Date: 4-26-11	Survey Meter Model: RO20	Property Number: 9871	Calibration Void Date: 11-25-11
Neutron Dose Rate (mrem/h) (contact): 2.5E-1	Survey Date: 4-26-11	Survey Meter Model: SNRD	Property Number: 13595	Calibration Void Date: 9-15-11
Total Dose Rate (mrem/h) (contact): 3.5E-1				
Total Dose Rate (mrem/h) (1 meter): 3.5E-1	*The data in this section were collected according to approved procedures*			
Alpha Contamination (dpm/100cm²): 4.0E0	Printed Name: Jessica Bustos			
Beta-Gamma Cont. (dpm/100cm²): 6.8E0	Signature: Jessica Bustos			Date: 4-26-11

7. Storage Site Information

Received By (Initials): [illegible]	Date Received: 4/26/11	**Original Storage Data**	
This waste package was visually inspected and found to be properly labeled and in good condition. It was accepted and inspected according to approved procedures.		Building Number: 901	Layer: N/A
		Row Number: N/A	Column Number: N/A
		Date Stacked (MM/DD/YY): 4/26/11	
Printed Name: Alfredo Duran	Date: 4/26/11	Printed Name: Alfredo Duran	Date: 4/26/11
Signature: [signature]		Signature: [signature]	

8. Waste Acceptance Office

Initials/Date	WE Description

NCR Number	Initials/Date	NCR Description

[illegible] 4/26/2011

[illegible] 4/26/2011

LANS, LLC SHIPPING FORM	1. Generator ID Number NM0890010515	2. Page 1	3. Emergency Response Phone (505) 667-6211	4. Manifest ID Number 86265

5. Generator's Name and Mailing Address
LANS, LLC for US DOE
P.O. Box 1663, MS J598, Tamer Amin
Los Alamos, NM 87545
Generator's Phone: (505) 665-6528

Generator's Site Address (if different than mailing address)
LANS, LLC FOR US DOE
MICHAEL POPE, TA-21, MS: J595
LOS ALAMOS, NM 87545

6. Transporter Company Name
LANS, LLC for US DOE

U.S. EPA ID Number
NM0890010515

7. Designated Facility Name and Site Address
LANS, LLC for US DOE
Mesita Del Buey Rd. TA-54 Area G
Los Alamos, NM 87545
Facility's Phone: (505) 665-6158

U.S. EPA ID Number
NM0890010515

8a HM	8b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	9. Containers No	9. Containers Type	10. Total Quantity	11. Unit Wt./Vol.	12. Waste Codes
RQ	1. UN3321, RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II) FISSILE-EXCEPTED, 7, Solid, ELEMENTAL, AM241, CS137, H3, PU238, PU239, SR90, U234 U235, U238, 1.218E-02 TBq, TJ.=0.4, RADIOACTIVE YELLOW II	1		2820	P	

13. Special Handling Instructions and Additional Information
8b(1) ERGNO: 162
PKGID: 86140

HMTF#:

"This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation."

14. Generator's Printed/Typed Name	Signature	Month	Day	Year
Sondra Zerbee		4	26	11
15. Transporter Printed/Typed Name	Signature	Month	Day	Year
Kirby Hamad		04	26	11

P2010-3200

AK4-M219 CONCERT Database

Waste Stream LA-MHD09.001 Excerpt

Container_ID	MT 52	MT 83	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242
LA00000053878	1.26	0.1635	0.169086	0.262161	0.061394	0.930566	3.56E-06
LA00000053889	0.07308	0.1635	0.161822	0.015282	0.003591	0.055806	2.28E-07

COPY

Los Alamos NATIONAL LABORATORY

TRU WASTE STORAGE RECORD

66128

1. Generator's Pre-Use Visual Inspection

Purchase Order #	Inspected Items		
This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.	☑ Ring, Bolt, and Nut	☑ Chime	☑ Dents
	☑ Lid and Gasket	☑ Gouges	☑ Paint

Printed Name	Signature	Sig. Date	Oper. Date
WCATS APPLICATION (000000)	*WCATS Electronic*	04-14-11	04-14-11

2. Generator's Package Information

Group	Technical Area	Building	Cost Center	Program Code	Cost Account	Work Package
TA21	21	000000				

Additional Information

☑ DP ☐ Non-DP If Non-DP waste, attach DOE approval doc.

Container	Liner
☐ Steel Drum (55 gal.)	☑ None
☐ Pipe Overpack Type:	☐ 90 mil liner
☐ Steel Drum (85 gal Overpack)	☐ 125 mil liner
☑ Standard Waste Box	☐ Fiberboard Liner
☐ Standard Waste Box Overpack	**Internal Shielding**
☐ RH Canister	☑ None
☐ Other (Call TWCO)	Type / Thickness

Radionuclide Content

Nuclide	Amount	Uncertainty	C= Curie M = Gram
Ac-228	1.940E-006	3.060E-007	C
Am-241	3.010E-002	2.630E-002	C
Np-237	0.000E+000	0.000E+000	C
Pu-238	6.500E-003	5.680E-003	C
Pu-239	2.260E-001	1.960E-001	C
Pu-240	5.300E-002	4.660E-002	C
Pu-241	6.960E-001	6.120E-001	C
Pu-242	3.070E-006	2.700E-006	C

Filter Serial No.			
	01 LK-56		
	02 LK-51		

Waste Profile Number	50932 (WS ID 23358)
Gross Weight (lb.)	3.90E+003
Net Weight (lb.)	3.26E+003
Shipping Category	1001300034
LANL Waste Stream ID	LA-MSG04.001
TRUCON Code	LA111B

Hazardous Materials

Name	EPA Code	Qty (g)

Date Closed (MM/DD/YY): 04/14/2011

Accumulation Start Date (MM/DD/YY): 04/14/11

The data in this section were collected, and waste described herein was packaged and labeled according to approved procedures.

Printed Name	Signature	Date:

3. Generator Site Health Physics Information

		Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Gamma Dose Rate (mrem/h) (contact)	1.00E-001				
Neutron Dose Rate (mrem/h) (contact)	2.50E-001	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)	3.50E-001				
Total Dose Rate (mrem/h) (1 meter)		*The data in this section were collected according to approved procedures.*			
Alpha Contamination (dpm/100cm2)	5.20E+000	Printed Name		Date	
Beta-Gamma Cont (dpm/100 cm2)	6.40E+000	Signature			

Los Alamos NATIONAL LABORATORY EST. 1943

TRU WASTE STORAGE RECORD

66128

4. TRU Waste Management Review/Authorization

The data package for this waste has been reviewed. Basedon the information provided, this waste meets the WAC requirements for storage at TA-54.	Printed Name	Date:
	Signature	

5. Preload Visual Inspection

This waste package was visually inspected prior to transport according to approved procedures. It meets WAC packaging and labeling requirements and is free from obvious damage and defects.	Printed Name	Date:

6. Receiving Site Health Physics Information

Gamma Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Neutron Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)				
Total Dose Rate (mrem/h) (1 meter)	*The data in this section were collected according to approved procedures.*			
Alpha Contamination (dpm/100cm2)	Printed Name			Date
Beta-Gamma Cont (dpm/100 cm2)	Signature			

7. Storage Site Information

Received by (Initials)	Date Received	**Original Storage Data**		
This waste package was visually inspected and found to be properly labeled and in good condition. It was accepted and inspected according to approved procedures.		Building Number	Layer	Row Number
		Column Number		Date Stacked (MM/DD/YY)
Printed Name	Date:	Printed Name		Date:
Signature		Signature		

8. Waste Acceptance Office

Intials/Date	WE Description

NCR Number	Intials/Date	NCR Description

Los Alamos NATIONAL LABORATORY

TRU WASTE STORAGE RECORD

66128

9. Continuation Sheet for Radionuclide Content (from Page 1, Section 2)

Radionuclide Content - Continued			
Nuclide	**Amount**	**Uncertainty**	**C= Curie M = Gram**
U-234	2.280E-004	3.090E-005	C
U-235	5.660E-006	7.640E-007	C
U-238	4.070E-005	6.520E-006	C

10. Continuation Sheet for Hazardous Materials (from Page 1, Section 2)

Hazardous Materials		
Name	**EPA Code**	**Qty (g)**
No Additional Hazardous Materials		

Los Alamos NATIONAL LABORATORY EST. 1943

WASTE PROFILE FORM

Reference Number

WCATS ID	Legacy WPF ID
23358	50932

Generator's Z Number	Waste Generator's Name *(print)*	WMC's Z Number	WMC's Name *(print)*		Generator's Phone
218682	FINN, KEVIN P	195161	POPE, MICHAEL L		5056607189
Generator's Mail Stop	**Waste Generating Group**	**Waste Stream Technical Area**	**Building**	**Room**	**WMC Phone**
C349	TA21	21	000000	Enclos#3	5055006810

Waste Accumulation *(check only one)*

- ☐ Satellite Accumulation Area — Site No: _____
- ☐ Less-than-90 Days Storage Area — Site No: _____
- ☐ TSDF — Site No: _____
- ☐ Universal Waste Storage Area — Site No: _____
- ☐ Used Oil for Recycle — Site No: _____

ER Use Only

- ☑ ER Site — SWMU/AOC No. 21-015

- ☐ PCBs Storage Area — Site No: _____
- ☐ NM Special Waste — Site No: _____
- ☐ Rad Staging Area — Site No: _____
- ☐ Rad Storage Area — Site No: _____
- ☑ None of the Above — Site No: _____

Method of Characterization *(check as many as apply)*

☐ Chemical/Physical Analysis	☐ Attached	Sample No: _____
☑ Radiological Analysis	☑ Attached	Sample No: doc#1 & 3
☐ PCB Analysis	☐ Attached	Sample No: _____
☑ Acceptable Knowledge Documentation	☑ Attached	Documentation No: doc. #1
☐ Material Safety Data Sheet (MSDS)	☐ Attached	

Section 1 - Waste Prevention/Minimization *(answer all questions)*

Can hazard segregation, elimination, or material substitution be used?	☐ Yes *(provide comments)*	☑ No	
Can any of the materials in the waste stream be recycled or reused?	☐ Yes *(provide comments)*	☑ No	
Has waste minimization been incorporated into procedures or other process controls?	☑ Yes	☐ No *(provide comments)*	
Can this waste be generated outside a RCA?	☐ Yes *(provide comments)*	☑ No	☐ N/A

Comments:

Section 2 - Chemical and Physical Information

Waste Type *(check only one)*

- ☐ Unused/Unspent Chemical
- ☑ Process Waste/Spent Chemical/Other

Radiological Information

Was Waste generated in a RCA?

- ☑ Yes ☐ No
- ☐ Non-radioactive
- ☐ Radioactive - Low Level
- ☑ Radioactive - Transuranic

Waste Destination *(check one)*

- ☐ SWWS
- ☐ RLWTF
- ☐ RLWTP
- ☐ TA-16/HE
- ☐ NTS

Classified Information

- ☑ Unclassified
- ☐ Classified/Sensitive

Waste Category *(check all that apply)*

- ☐ Inorganic
- ☑ Organic
- ☐ Solvent (see instructions)
- ☐ Degreaser (see instructions)
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated Hazardous Waste or Residue
- ☐ No-Longer Contained-In
- ☐ Explosive Process
- ☐ Infectious/Medical
- ☐ Biological
- ☐ Beryllium
- ☐ Empty Container (see instructions)
- ☐ Battery (see instructions)

Asbestos

- ☐ Friable
- ☐ Non-Friable

PCB Source Concentration

- ☑ PCB < 50 ppm
- ☐ PCB >= 50 - < 500 ppm
- ☐ PCB >= 500 ppm
- ☐ Hazardous Waste Contaminated Soil
- ☐ Untreated Hazardous Debris
- ☐ Commercial Solid Waste
- ☑ Other [Describe]

Other: Transuranic Waste

Waste Source *(check only one)*

Waste Source A

- ☐ Decon
- ☐ Materials Processing/Production
- ☐ Research/Development/Testing
- ☐ Scheduled Maintenance
- ☐ Housekeeping - Routine
- ☐ Spill Cleanup - Routine
- ☐ Sampling - Routine Monitoring
- ☐ Other (describe)

Waste Source B

- ☐ Abatement
- ☐ Construction/Upgrades
- ☐ Demolition
- ☐ Decon/Decom
- ☐ Investigative Derived
- ☐ Orphan/Legacy
- ☑ Remediation/Restoration
- ☐ Repacking (secondary)
- ☐ Unscheduled Maintenance
- ☐ Housekeeping (non-routine)
- ☐ Spill Cleanup (non-routine)
- ☐ Non-Petroleum Tanks
- ☐ Petroleum Tanks
- ☐ Other (describe)

Other:

Waste Matrix *(check only one)*

Gas

- ☐ ≤1.5 Atmospheres Pressure
- ☐ >1.5 Atmospheres Pressure
- ☐ Liquified Compressed Gas

Liquid

- ☐ Aqueous
- ☐ Non-Aqueous
- ☐ Suspended Solids/Aqueous
- ☐ Suspended Solids/Non-Aqueous

Solid

- ☐ Powder/Ash/Dust
- ☑ Solid
- ☐ Sludge
- ☐ Absorbed/Solidified Liquid
- ☐ Debris

Matrix Type *(check only one)*

- ☑ Homogeneous
- ☐ Heterogeneous

Estimate Annual Volume (m^3):

39.0000

Section 3 - Process and Waste Description

Process Description:
This contaminated soil was generated from a leaking tank that was excavated in the MDA-B, TA21, Enclosure#2.

Waste Description:
Contaminated soil caused from leaking tank that was excavated in Enclosure #2, TA-21, MDA-B. This waste is packaged in SWB'S lined with polyethylene sheeting.

Section 4 - Characteristics

Ignitability *(check only one)*
- ☐ < 73 F (< 22.8 C)
- ☐ 73 - 99 F (22.8 - 37.2 C)
- ☐ 100 - 139 F (37.8 - 59.4 C)
- ☐ 140 - 200 F (60.0 - 99.3 C)
- ☐ > 200 (> 99.3 C)
- ☐ EPA Ignitable - Non-liquid
- ☐ DOT Flammable Gas
- ☐ DOT Oxidizer
- ☑ Not Ignitable

Corrosivity *(check only one)* (pH)
- ☐ <= 2.0
- ☐ 2.1 - 4.0
- ☐ 4.1 - 6.0
- ☐ 6.1 - 9.0
- ☐ 9.1 - 12.4
- ☐ >= 12.5
- ☐ Liquid Corrosive to Steel
- ☑ Non-aqueous

Reactivity *(check as many as apply)*
- ☐ RCRA Unstable
- ☐ Water Reactive
- ☐ Cyanide Bearing
- ☐ Sulfide Bearing
- ☐ Pyrophoric
- ☐ Shock Sensitive
- ☐ Explosive [Specify DOT Div.]
- ☑ Non-Reactive

Boiling Point *(check only one)*
- ☐ <= 95 F (<= 35 C)
- ☐ >95 F (> 35 C)
- ☑ Not Applicable

Identify for all contaminants listed	Characterization Method: AK	TCLP	Total	None or Non-detect	Concentration of Contaminants: Contaminant present at Minimum	Maxiumum	Regulatory Limit
Toxicity Characteristic Metals					(10,000 ppm = 1%)		
Arsenic	☑	☐	☐	☐	0.038 to	0.08 ppm	5.0 ppm
Barium	☑	☐	☐	☐	2.01 to	7.95 ppm	100.0 ppm
Cadmium	☑	☐	☐	☐	0.005 to	0.033 ppm	1.0 ppm
Chromium	☑	☐	☐	☐	0.1 to	0.575 ppm	5.0 ppm
Lead	☑	☐	☐	☐	0.2 to	1.04 ppm	5.0 ppm
Mercury	☑	☐	☐	☐	0.004 to	0.1 ppm	0.2 ppm
Selenium	☑	☐	☐	☐	0.04 to	0.05 ppm	1.0 ppm
Silver	☑	☐	☐	☐	0.005 to	0.036 ppm	5.0 ppm
Toxicity Characteristic Organics							
Benzene	☑	☐	☐	☑	to	ppm	0.5 ppm
Carbon tetrachloride	☑	☐	☐	☑	to	ppm	0.5 ppm
Chlorobenzene	☑	☐	☐	☑	to	ppm	100.0 ppm
Chloroform	☑	☐	☐	☑	to	ppm	6.0 ppm
Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
p-Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
m-Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
o-Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
1,4-Dichlorobenzene	☑	☐	☐	☑	to	ppm	7.5 ppm
1,2-Dichloroethane	☑	☐	☐	☑	to	ppm	0.5 ppm
1,1-Dichloroethylene	☑	☐	☐	☑	to	ppm	0.7 ppm
2,4-Dinitrotoluene	☑	☐	☐	☑	to	ppm	0.13 ppm
Hexachlorobenzene	☑	☐	☐	☑	to	ppm	0.13 ppm
Hexachlorobutadiene	☑	☐	☐	☑	to	ppm	0.5 ppm
Hexachloroethane	☑	☐	☐	☑	to	ppm	3.0 ppm
Methyl ethyl ketone	☑	☐	☐	☑	to	ppm	200.0 ppm
Nitrobenzene	☑	☐	☐	☑	to	ppm	2.0 ppm
Pentachlorophenol	☑	☐	☐	☑	to	ppm	100.0 ppm
Pyridine	☑	☐	☐	☑	to	ppm	5.0 ppm
Tetrachloroethylene	☑	☐	☐	☑	to	ppm	0.7 ppm
Trichloroethylene	☑	☐	☐	☑	to	ppm	0.5 ppm
2,4,6-Trichlorophenol	☑	☐	☐	☑	to	ppm	2.0 ppm
2,4,5-Trichlorophenol	☑	☐	☐	☑	to	ppm	400.0 ppm
Vinyl chloride	☑	☐	☐	☑	to	ppm	0.2 ppm
Herbicides and Pesticides							
Chlordane	☑	☐	☐	☐	0.000035 to	0.0001 ppm	0.03 ppm
2,4-D	☑	☐	☐	☑	to	ppm	10.0 ppm
Endrin	☑	☐	☐	☑	to	ppm	0.02 ppm
Heptachlor (& its epoxide)	☑	☐	☐	☑	to	ppm	0.008 ppm
Lindane (gamma-BHC)	☑	☐	☐	☑	to	ppm	0.4 ppm
Methoxychlor	☑	☐	☐	☑	to	ppm	10.0 ppm
2,4,5-TP (Silvex)	☑	☐	☐	☑	to	ppm	1.0 ppm
Toxaphene	☑	☐	☐	☑	to	ppm	0.5 ppm

Section 5 - Additional Constituents and Contaminants

Additional Constituents and Contaminants. Please account for 100% of waste. Range should be given within guidelines of individual constituents. List all other constients (including inerts) not identified above and attach any applicable analysis. No chemical formula allowed in this field. Continue in Section 3 Additional information as necessary. CAS numbers are needed for all chemical constituents, for material without a CAS number, enter "No CAS Number".

CAS No.	Name of constituent	Minimum		Maximum
-----	Polyethylene Sheeting	1	to	2
-----	Soil	98	to	99
	Total of max. ranges of this section and page 2			101.00 in %

Additional Information

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below

Transuranic waste removed during excavation of MDA-B, TA-21 enclosures characterized per the Waste Characterization Strategy Form# EP2010-0207.

The AK for this waste profile is the Due Diligence, dated October 2010, which is attached in the Document section of this WPF.

The min/max values listed in the Toxicity Characteristics section are derived from the 20 times rule. These values are below toxicity characteristic leaching procedure limits.

SWB characterization (document#3) is also part of AK.

Section 6 - Work Control Documentation

Do the procedures for this process cover how to manage this waste? ☑ Yes ☐ No *(provide comments)*

Do the procedures for this process address controls to prevent changes to waste constituents and concentrations or addition or removal of waste to/from containers? ☑ Yes ☐ No *(provide comments)*

Comments:

Section 7 - Packaging and Storage Control

Describe how the waste will be packaged in according to the applicable WAC.

Waste will be packaged according to Attachment 2, Section 2.3 of the LANL WAC.

Identify the storage management controls that will be used for this waste stream: *(check all that apply)*

☑ Tamper Indication Devices ☐ Limited use locks with log-in for waste ☐ Locked cabinet or building ☑ Other (describe) Keep in AOC - WCSA#10

Section 8 - Waste Certification Statements

☑ Waste appears to meet WAC attachment for: TRU

☐ Waste stream needs exception/exemption for treatment, storage, or disposal.

☐ Waste does not meet the criteria for any known TSDF. (DOE approval is required. Contact the office of the Principle Associate Director for Weapons Programs [PADWP] for assistance.)

Waste Generator Certification: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the waste characterization information on this form is correct and that it meets the requirements of the applicable waste acceptance criteria. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature: *MICHAEL L POPE (195161)* Date: *04/05/11 11:45 AM*

Waste Management Coordinator: I have reviewed this form and any associated attachments and the characterization information provided appears to be complete and accurate. I certify, to the best of my knowledge, that the waste characterization information provided by the waste generator meets the requirements of the applicable WAC.

Signature: *MICHAEL L POPE (195161)* Date: *04/05/11 11:45 AM*

Attachment 4 - LDR and UHC

Identify category and presence of any constituents listed below *(equal to or above limit)*.

Non-Wastewater/Wastewater Category *(check only one)*

☐ Non Wastewater ☐ Wastewater [as defined by 40 CFR 268.2(f)] ☐ Lab Pack [40 CFR 268.2(f)] **Sign Certification #1**

Notifications and Certifications - Check the appilcable boxes

Generator Requirements:

☐ This shipment contains hazardous waste contaminated soil that does not meet treatment standards **Sign Certification #2**
☐ This shipment contains untreated hazardous debris to be treated to 40 CFR 268.45 treatment standards **(No certification)**
☐ Hazardous wastes (except soil) meeting treatment standards at point of generation **Sign Certification #3**
☐ Hazardous wastes contaminated soil meeting treatment standards at point of generation **Sign Certification #4**

TSDF or Generator Treatment:

☐ TSDF treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #5**
☐ Generator treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #6**
☐ Hazardous wastes contaminated soil treated to 40 CFR 268.49 **Sign Certification #7**
☐ Wastes or residues from characteristic hazardous waste treatment meeting treatment standards and UTS **Sign Certification #8**
☐ Wastes or residues from characteristic hazardous waste treatment not meeting UTS **Sign Certification #9**
☐ Other TSDF wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #10**
☐ Other generator wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #11**

Notification of Underlying Hazardous Constituents

(Check the applicable underlying constituents above the concentration levels for D001 through D043 characterstic wastes only)

☐ ***No Underlying Hazardous Constituents in this waste stream.***

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Acenaphthene	83-32-9	0.059	3.4	34.0
☐	Acenaphthylene	208-96-8	0.059	3.4	34.0
☐	Acetone	67-64-1	0.28	160.0	1600.0
☐	Acetonitrile	75-05-8	5.6	38.0	380.0
☐	Acetophenone	98-86-2	0.01	9.7	97.0
☐	2-Acetylaminofluorene	53-96-3	0.059	140.0	1400.0
☐	Acrolein	107-02-8	0.29	N/A	N/A
☐	Acrylamide	79-06-1	19.0	23.0	230.0
☐	Acrylonitrile	107-13-1	0.24	84.0	840.0
☐	Aldicarb sulfone	1646-88-4	0.056	0.28	2.8
☐	Aldrin	309-00-2	0.021	0.066	0.66
☐	4-Aminobiphenyl	92-67-1	0.13	N/A	N/A
☐	Aniline	62-53-3	0.81	14.0	140.0
☐	o-Anisidine	90-04-0	0.01	0.66	6.6
☐	Anthracene	120-12-7	0.059	3.4	34.0
☐	Aramite	140-57-8	0.36	N/A	N/A
☐	alpha-BHC	319-84-6	0.00014	0.066	0.66
☐	beta-BHC	319-85-7	0.00014	0.066	0.66
☐	delta-BHC	319-86-8	0.023	0.066	0.66
☐	Barban	101-27-9	0.056	1.4	14.0
☐	Bendiocarb	22781-23-3	0.056	1.4	14.0
☐	Benomyl	17804-35-2	0.056	1.4	14.0
☐	Benz[a]anthracene	56-55-3	0.059	3.4	34.0
☐	Benzal chloride	98-87-3	0.055	6.0	60.0
☐	Benzene	71-43-2	0.14	10.0	100.0
☐	Benzo(b)fluoranthene	205-99-2	0.11	6.8	68.0
☐	Benzo[a]pyrene	50-32-8	0.061	3.4	34.0
☐	Benzo[ghi]perylene	191-24-2	0.0055	1.8	18.0
☐	Benzo[k]fluoranthene	207-08-9	0.11	6.8	68.0
☐	Bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2	72.0
☐	Bis(2-chloroethyl) ether	111-44-4	0.033	6.0	60.0
☐	Bis(2-chloroisopropyl) ether	39638-32-9	0.055	7.2	72.0
☐	Bis(2-ethylhexyl) phthalate	117-81-7	0.28	28.0	280.0
☐	Bromodichloromethane	75-27-4	0.35	15.0	150.0
☐	Bromomethane	74-83-9	0.11	15.0	150.0
☐	4-Bromophenyl phenyl ether	101-55-3	0.055	15.0	150.0
☐	n-Butyl alchohol	71-36-3	5.6	2.6	26.0
☐	Butyl benzyl phthalate	85-68-7	0.017	28.0	280.0
☐	Butylate	2008-41-5	0.042	1.4	14.0
☐	Carbaryl	63-25-2	0.006	0.14	1.4

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Carbendazim	10605-21-7	0.056	1.4	14.0
☐	Carbofuran	1563-66-2	0.006	0.14	1.4
☐	Carbofuran phenol	1563-38-8	0.056	1.4	14.0
☐	Carbon disulfide	75-15-0	3.8	4.8	48.0
☐	Carbon tetrachloride	56-23-5	0.057	6.0	60.0
☐	Carbosulfan	55285-14-8	0.028	1.4	14.0
☐	Chlordane	57-74-9	0.0033	0.26	2.6
☐	p-Chloro-m-cresol	59-50-7	0.018	14.0	140.0
☐	p-Chloroaniline	106-47-8	0.46	16.0	160.0
☐	Chlorobenzene	108-90-7	0.057	6.0	60.0
☐	Chlorobenzilate	510-15-6	0.1	N/A	N/A
☐	Chlorodibromomethane	124-48-1	0.057	15.0	150.0
☐	Chloroethane	75-00-3	0.27	6.0	60.0
☐	2-Chloroethyl vinyl ether	110-75-8	0.062	N/A	N/A
☐	Chloroform	67-66-3	0.046	6.0	60.0
☐	Chloromethane	74-87-3	0.19	30.0	300.0
☐	2-Chloronaphthalene	91-58-7	0.055	5.6	56.0
☐	2-Chlorophenol	95-57-8	0.044	5.7	57.0
☐	Chloroprene	126-99-8	0.057	0.28	2.8
☐	3-Chloropropylene	107-05-1	0.036	30.0	300.0
☐	Chrysene	218-01-9	0.059	3.4	34.0
☐	p-Cresidine	120-71-8	0.01	0.66	6.6
☐	m-Cresol	108-39-4	0.77	5.6	56.0
☐	o-Cresol	95-48-7	0.11	5.6	56.0
☐	p-Cresol	106-44-5	0.77	5.6	56.0
☐	m-Cumenyl methylcarbamate	64-00-6	0.056	1.4	14.0
☐	Cyanide (Amenable)	57-12-5*	0.86	30.0	300.0
☐	Cyanide (Total)	57-12-5	1.2	590.0	5900.0
☐	Cyclohexanone	108-94-1	0.36	0.75	7.5
☐	2,4-D	94-75-7	0.72	10.0	100.0
☐	o,p'-DDD	53-19-0	0.023	0.087	0.87
☐	p,p'-DDD	72-54-8	0.023	0.087	0.87
☐	o,p'-DDE	3424-82-6	0.031	0.087	0.87
☐	p,p'-DDE	72-55-9	0.031	0.087	0.87
☐	o,p'-DDT	789-02-6	0.0039	0.087	0.87
☐	p,p'-DDT	50-29-3	0.0039	0.087	0.87
☐	Di-n-butyl phthalate	84-74-2	0.057	28.0	280.0
☐	Di-n-octyl phthalate	117-84-0	0.017	28.0	280.0
☐	Di-n-propylnitrosamine	621-64-7	0.4	14.0	140.0
☐	Dibenz[a,h]anthracene	53-70-3	0.055	8.2	82.0
☐	Dibenzo[a,e]pyrene	192-65-4	0.061	N/A	N/A
☐	1,2-Dibromo-3-chloropropane	96-12-8	0.11	15.0	150.0
☐	1,2-Dibromoethane	106-93-4	0.028	15.0	150.0
☐	Dibromomethane	74-95-3	0.11	15.0	150.0
☐	1,4-Dichlorobenzene	106-46-7	0.09	6.0	60.0
☐	m-Dichlorobenzene	541-73-1	0.036	6.0	60.0
☐	o-Dichlorobenzene	95-50-1	0.088	6.0	60.0
☐	Dichlorodifluoromethane	75-71-8	0.23	7.2	72.0
☐	1,1-Dichloroethane	75-34-3	0.059	6.0	60.0
☐	1,2-Dichloroethane	107-06-2	0.21	6.0	60.0
☐	1,1-Dichloroethylene	75-35-4	0.025	6.0	60.0
☐	trans-1,2-Dichloroethylene	156-60-5	0.054	30.0	300.0
☐	2,4-Dichlorophenol	120-83-2	0.044	14.0	140.0
☐	2,6-Dichlorophenol	87-65-0	0.044	14.0	140.0
☐	1,2-Dichloropropane	78-87-5	0.85	18.0	180.0
☐	trans-1,3-Dichloropropene	10061-02-6	0.036	18.0	180.0
☐	cis-1,3-Dichloropropylene	10061-01-5	0.036	18.0	180.0
☐	Dieldrin	60-57-1	0.017	0.13	1.3
☐	Diethyl phthalate	84-66-2	0.2	28.0	280.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Dimethyl phthalate	131-11-3	0.047	28.0	280.0
☐	p-Dimethylaminoazobenzene	60-11-7	0.13	N/A	N/A
☐	2,4-Dimethylphenol	105-67-9	0.036	14.0	140.0
☐	4,6-Dinitro-o-cresol	534-52-1	0.28	160.0	1600.0
☐	1,4-Dinitrobenzene	100-25-4	0.32	2.3	23.0
☐	2,4-Dinitrophenol	51-28-5	0.12	160.0	1600.0
☐	2,4-Dinitrotoluene	121-14-2	0.32	140.0	1400.0
☐	2,6-Dinitrotoluene	606-20-2	0.55	28.0	280.0
☐	Dinoseb	88-85-7	0.066	2.5	25.0
☐	1,4-Dioxane	123-91-1	12.0	170.0	1700.0
☐	Diphenylamine	122-39-4	0.92	13.0	130.0
☐	1,2-Diphenylhydrazine	122-66-7	0.087	N/A	N/A
☐	Disulfoton	298-04-4	0.017	6.2	62.0
☐	Dithiocarbamates (total)	WCATS-001	0.028	28.0	280.0
☐	EPTC	759-94-4	0.042	1.4	14.0
☐	Endosulfan I	959-98-8	0.023	0.066	0.66
☐	Endosulfan II	33213-65-9	0.029	0.13	1.3
☐	Endosulfan sulfate	1031-07-8	0.029	0.13	1.3
☐	Endrin	72-20-8	0.0028	0.13	1.3
☐	Endrin aldehyde	7421-93-4	0.025	0.13	1.3
☐	Ethyl acetate	141-78-6	0.34	33.0	330.0
☐	Ethyl benzene	100-41-4	0.057	10.0	100.0
☐	Ethyl ether	60-29-7	0.12	160.0	1600.0
☐	Ethyl methacrylate	97-63-2	0.14	160.0	1600.0
☐	Ethylene oxide	75-21-8	0.12	N/A	N/A
☐	Famphur	52-85-7	0.017	15.0	150.0
☐	Fluoranthene	206-44-0	0.068	3.4	34.0
☐	Fluorene	86-73-7	0.059	3.4	34.0
☐	Fluoride	16984-48-8	35.0	N/A	N/A
☐	Formetanate hydrochloride	23422-53-9	0.056	1.4	14.0
☐	Heptachlor (& its epoxide)	76-44-8	0.0012	0.066	0.66
☐	Heptachlor epoxide	1024-57-3	0.016	0.066	0.66
☐	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	0.000035	0.0025	0.025
☐	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	0.000035	0.0025	0.025
☐	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	0.000035	0.0025	0.025
☐	Hexachlorobenzene	118-74-1	0.055	10.0	100.0
☐	Hexachlorobutadiene	87-68-3	0.055	5.6	56.0
☐	Hexachlorocyclopentadiene	77-47-4	0.057	2.4	24.0
☐	Hexachloroethane	67-72-1	0.055	30.0	300.0
☐	Hexachloropropene	1888-71-7	0.035	30.0	300.0
☐	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063	0.001	0.01
☐	HxCDFs (All Hexachlorodibenzo-furans)	55684-94-1	0.000063	0.001	0.01
☐	Indeno[1,2,3-cd]pyrene	193-39-5	0.0055	3.4	34.0
☐	Iodomethane	74-88-4	0.19	65.0	650.0
☐	Isobutyl alcohol	78-83-1	5.6	170.0	1700.0
☐	Isodrin	465-73-6	0.021	0.066	0.66
☐	Isosafrole	120-58-1	0.081	2.6	26.0
☐	Kepone	143-50-0	0.0011	0.13	1.3
☐	Lindane (gamma-BHC)	58-89-9	0.0017	0.066	0.66
☐	Mercury (Retort Residues)	7439-97-6*	N/A	0.2	2.0
☐	Methacrylonitrile	126-98-7	0.24	84.0	840.0
☐	Methanol	67-56-1	5.6	0.75	7.5
☐	Methapyrilene	91-80-5	0.081	1.5	15.0
☐	Methiocarb	2032-65-7	0.056	1.4	14.0
☐	Methomyl	16752-77-5	0.028	0.14	1.4
☐	Methoxychlor	72-43-5	0.25	0.18	1.8
☐	Methyl ethyl ketone	78-93-3	0.28	36.0	360.0
☐	Methyl isobutyl ketone	108-10-1	0.14	33.0	330.0
☐	Methyl methacrylate	80-62-6	0.14	160.0	1600.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Methyl methanesulfonate	66-27-3	0.018	N/A	N/A
☐	Methyl parathion	298-00-0	0.014	4.6	46.0
☐	3-Methylcholanthrene	56-49-5	0.0055	15.0	150.0
☐	4,4'-Methylene bis(2-chloroaniline)	101-14-4	0.5	30.0	300.0
☐	Methylene chloride	75-09-2	0.089	30.0	300.0
☐	Metolcarb	1129-41-5	0.056	1.4	14.0
☐	Mexacarbate	315-18-4	0.056	1.4	14.0
☐	Molinate	2212-67-1	0.042	1.4	14.0
☐	N-Nitroso-di-n-butylamine	924-16-3	0.4	17.0	170.0
☐	N-Nitrosodiethylamine	55-18-5	0.4	28.0	280.0
☐	N-Nitrosodimethylamine	62-75-9	0.4	2.3	23.0
☐	N-Nitrosodiphenylamine	86-30-6	0.92	13.0	130.0
☐	N-Nitrosomethylethylamine	10595-95-6	0.4	2.3	23.0
☐	N-Nitrosomorpholine	59-89-2	0.4	2.3	23.0
☐	N-Nitrosopiperidine	100-75-4	0.013	35.0	350.0
☐	N-Nitrosopyrrolidine	930-55-2	0.013	35.0	350.0
☐	Naphthalene	91-20-3	0.059	5.6	56.0
☐	2-Naphthylamine	91-59-8	0.52	N/A	N/A
☐	5-Nitro-o-toluidine	99-55-8	0.32	28.0	280.0
☐	o-Nitroaniline	88-74-4	0.27	14.0	140.0
☐	p-Nitroaniline	100-01-6	0.028	28.0	280.0
☐	Nitrobenzene	98-95-3	0.068	14.0	140.0
☐	o-Nitrophenol	88-75-5	0.028	13.0	130.0
☐	p-Nitrophenol	100-02-7	0.12	29.0	290.0
☐	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	0.000063	0.005	0.05
☐	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	0.000063	0.005	0.05
☐	Oxamyl	23135-22-0	0.056	0.28	2.8
☐	Parathion	56-38-2	0.014	4.6	46.0
☐	PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	0.000063	0.001	0.01
☐	PeCDFs (All Pentachlorodibenzo-furans)	30402-15-4	0.000035	0.001	0.01
☐	Pebulate	1114-71-2	0.042	1.4	14.0
☐	Pentachlorobenzene	608-93-5	0.055	10.0	100.0
☐	Pentachloroethane	76-01-7	0.055	6.0	60.0
☐	Pentachloronitrobenzene	82-68-8	0.055	4.8	48.0
☐	Pentachlorophenol	87-86-5	0.089	7.4	74.0
☐	Phenacetin	62-44-2	0.081	16.0	160.0
☐	Phenanthrene	85-01-8	0.059	5.6	56.0
☐	Phenol	108-95-2	0.039	6.2	62.0
☐	o-Phenylenediamine	95-54-5	N/A	N/A	N/A
☐	Phorate	298-02-2	0.021	4.6	46.0
☐	Phthalic acid	100-21-0	0.055	28.0	280.0
☐	Phthalic anhydride	85-44-9	0.055	28.0	280.0
☐	Physostigmine	57-47-6	0.056	1.4	14.0
☐	Physostigmine salicylate	57-64-7	0.056	1.4	14.0
☐	Promecarb	2631-37-0	0.056	1.4	14.0
☐	Pronamide	23950-58-5	0.093	1.5	15.0
☐	Propanenitrile	107-12-0	0.24	360.0	3600.0
☐	Propham	122-42-9	0.056	1.4	14.0
☐	Propoxur	114-26-1	0.056	1.4	14.0
☐	Prosulfocarb	52888-80-9	0.042	1.4	14.0
☐	Pyrene	129-00-0	0.067	8.2	82.0
☐	Pyridine	110-86-1	0.014	16.0	160.0
☐	Safrole	94-59-7	0.081	22.0	220.0
☐	Sulfide	18496-25-8	14.0	N/A	N/A
☐	2,4,5-T	93-76-5	0.72	7.9	79.0
☐	TCDDs (All Tetrachlorodi-benzo-p-dioxins)	41903-57-5	0.000063	0.001	0.01
☐	TCDFs (All Tetrachlorodibenzofurans)	30402-14-3	0.000063	0.001	0.01
☐	2,4,5-TP (Silvex)	93-72-1	0.72	7.9	79.0
☐	1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14.0	140.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0	60.0
☐	1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0	60.0
☐	Tetrachloroethylene	127-18-4	0.056	6.0	60.0
☐	2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4	74.0
☐	Thiodicarb	59669-26-0	0.019	1.4	14.0
☐	Thiophanate-methyl	23564-05-8	0.056	1.4	14.0
☐	Toluene	108-88-3	0.08	10.0	100.0
☐	Total PCBs (Polychlorinated biphenyls)	1336-36-3	0.1	10.0	100.0
☐	Toxaphene	8001-35-2	0.0095	2.6	26.0
☐	Triallate	2303-17-5	0.042	1.4	14.0
☐	Tribromomethane	75-25-2	0.63	15.0	150.0
☐	2,4,6-Tribromophenol	118-79-6	0.035	7.4	74.0
☐	1,1,2-Trichloro-1,2,2,-trifluoroethane	76-13-1	0.057	30.0	300.0
☐	1,2,4-Trichlorobenzene	120-82-1	0.055	19.0	190.0
☐	1,1,1-Trichloroethane	71-55-6	0.054	6.0	60.0
☐	1,1,2-Trichloroethane	79-00-5	0.054	6.0	60.0
☐	Trichloroethylene	79-01-6	0.054	6.0	60.0
☐	Trichloromonofluoromethane (R11)	75-69-4	0.02	30.0	300.0
☐	2,4,5-Trichlorophenol	95-95-4	0.18	7.4	74.0
☐	2,4,6-Trichlorophenol	88-06-2	0.035	7.4	74.0
☐	1,2,3-Trichloropropane	96-18-4	0.85	30.0	300.0
☐	Triethylamine	121-44-8	0.081	1.5	15.0
☐	Tris(2,3-dibromopropyl) phosphate	126-72-7	0.11	0.1	1.0
☐	Vernolate	1929-77-7	0.042	1.4	14.0
☐	Vinyl chloride	75-01-4	0.27	6.0	60.0
☐	Xylene	1330-20-7	0.32	30.0	300.0
☐	2,4-Xylidine	95-68-1	0.01	0.66	6.6
☐	Antimony	7440-36-0	1.9	1.15	11.5
☐	Arsenic	7440-38-2	1.4	5.0	50.0
☐	Barium	7440-39-3	1.2	21.0	210.0
☐	Beryllium	7440-41-7	0.82	1.22	12.2
☐	Cadmium	7440-43-9	0.69	0.11	1.1
☐	Chromium	7440-47-3	2.77	0.6	6.0
☐	Lead	7439-92-1	0.69	0.75	7.5
☐	Mercury	7439-97-6	0.15	0.025	0.25
☐	Nickel	7440-02-0	3.98	11.0	110.0
☐	Selenium	7782-49-2	0.82	5.7	57.0
☐	Silver	7440-22-4	0.43	0.14	1.4
☐	Thallium	7440-28-0	1.4	0.2	2.0
☐	Vanadium	7440-62-2	4.3	1.6	16.0
☐	Zinc	7440-66-6	2.61	4.3	43.0

Attachment 1 - Additional Radionuclides

Please list the supplimentary radionuclides and their concentration values.

CONTAINER PROFILE
66128
T-TRU-TEMP

WS ID: 23358
C ID: 784826
ACTIVE

GENERAL INFORMATION

Container ID:	784826		
Labeled ID:	66128		
Optional ID:		**Status:**	ACTIVE
Chemical Barcode:		**Decommissioned:**	NO
Physical State:	SOLID	**Container Type:**	CM: Metal boxes, cartons, cases (including roll-offs)
Waste Stream ID:	23358	**Container Subtype:**	Standard waste box
Work Path:	T-TRU-TEMP	**Origin Date:**	14-Apr-2011 12:00 am
Quantity (Univ):		**Accum Start Date:**	14-Apr-2011
Compactible:		**Closed Date:**	14-Apr-2011

Discard Matrix:

TID(s):

Gen Contact: MICHAEL L POPE (195161)

Insert By: WCATS APPLICATION (000000)

Waste Desc: SOIL FROM MDA-B ENCLOSURE #2

WEIGHTS AND VOLUMES

Container Volume:	1.90 CM	**Gross Weight:**	3900.00 lb
Waste Volume:	NOT SPECIFIED	**Tare Weight:**	635.00 lb
		Net Weight:	3260.00 lb

LOCATION

Pickup (Origin): LANL: 21: GEN-AREAS

Current: LANL: 54-G: 000049: STAGE: L02: R30

COPY

CONTAINER PROFILE
66128
T-TRU-TEMP

WS ID: 23358
C ID: 784826
ACTIVE

PAYLOAD INFORMATION

Container Procurement

P.O. Number: **Year of Manuf:** 2011

Lot No.: UN **Serial No:**

Solution Package: X03: FY11 NNG TA-21 Soil

TRUCON Code: LA111B: DE-WATERED SLUDGE

Shipping Category: 1001300034

CCP AK Report: CCP-AK-LANL-010: LANL TA-21 DP West Facility

WIPP Waste Stream: LA-MSG04.001: CONTAMINATED SOIL

Matrix Code: S4200 - SOIL/GRAVEL: SOIL/DEBRIS

Defense Waste: YES **Equiv. Comb. Matrix:** Non-combustible/Dispersible

Adeq. Ventilation: YES **Compliant Metal Cont.:** YES

Overpack (1 to 1): NO **Retrievable:** **BIR WS Code:**

Content Code:

COST CODES

Cost Center	Prog Code	Cost Account	Work Package	Percent Allocation	Cost Center Status	Cost Code Status	Recharge Mode
6M010A	ARDB	032R	LT00	100.00	INACTIVE	INACTIVE	*SELECTION LIST*

FILTERS

Manufacturer	Model	Style	Diffusivity*	Serial Number	Torque Ft-lbs	Mfg Date Mon/Year
Not Specified	NA	Carbon Composite	0	LK-56		0/0
Not Specified	NA	Carbon Composite	0	LK-51		0/0

** Diffusivity is specified in moles per second per mole fraction*

RADIOLOGICAL SURVEY

Survey Type	Instrument Number	Survey Date	At Contact mrem/hr	At 30 cm mrem/hr	At 1 M mrem/hr	Alpha dpm/100cm2	Beta/Gama dpm/100 cm2
Survey ID: 85798, Status: Active							
B/G Survey			= 0.10	=	=	Not Applicable	
Neutron Survey			= 0.25	=	=	Not Applicable	
Smear Results				Not Applicable		= 5.20	= 6.40

CONTAINER PROFILE
66128
T-TRU-TEMP

WS ID: 23358
C ID: 784826
ACTIVE

RADIONUCLIDES

Nuclide	Amount	Unit	Uncert	MT Derived (Y/N)	Activated (Y/N)	MDA Result (Y/N)	Normal Form (Y/N)	Measurement Code/Comment
Status: Inactive, Assay Page: 352394, Date: 04/14/2011, Derivation: Generator Entered Results (e.g., Offsite Assay)								
Am-241	4.73E-003	Ci	2.92E-002	N			Y	
Cs-137	6.44E-008	Ci	3.85E-007	N			Y	
H-3	2.22E-006	Ci	0.00E+000	N			Y	
Pu-238	1.04E-003	Ci	0.00E+000	N			Y	
Pu-239	1.61E-001	Ci	6.81E-001	N			Y	
Sr-90	3.79E-004	Ci	0.00E+000	N			Y	
U-234	2.25E-004	Ci	0.00E+000	N			Y	
U-235	2.97E-006	Ci	1.17E-005	N			Y	
U-238	3.24E-005	Ci	1.51E-004	N			Y	
Status: Active, Assay Page: 420360, Date: 03/27/2014, Derivation: Non-Destructive Assay (NDA)								
Ac-228	1.94E-006	Ci	3.06E-007	N	N	N	Y	
Am-241	3.01E-002	Ci	2.63E-002	N	N	N	Y	
Np-237	0.00E+000	Ci	0.00E+000	N	N	N	Y	
Pu-238	6.50E-003	Ci	5.68E-003	N	N	N	Y	
Pu-239	2.26E-001	Ci	1.96E-001	N	N	N	Y	
Pu-240	5.30E-002	Ci	4.66E-002	N	N	N	Y	
Pu-241	6.96E-001	Ci	6.12E-001	N	N	N	Y	
Pu-242	3.07E-006	Ci	2.70E-006	N	N	N	Y	
U-234	2.28E-004	Ci	3.09E-005	N	N	N	Y	
U-235	5.66E-006	Ci	7.64E-007	N	N	N	Y	
U-238	4.07E-005	Ci	6.52E-006	N	N	N	Y	

CONTAINER PROFILE
66128
T-TRU-TEMP

WS ID: 23358
C ID: 784826
ACTIVE

RAD CALCULATIONS

Total Activity (nCi/g):	6.84298E+02	**Decay Heat [U] (W):**	1.64304E-02	
Alpha (nCi/g):	2.13628E+02	**DOTFissile Mat (g):**	6.26547E+00	
TRU Alpha (nCi/g):	2.13431E+02	**Transport Index:**		
** **MDA TRU Alpha (nCi/g)**	2.13431E+02	**NRC Class:**	GTCC	
Pu-239 FGE:	5.34476E+00	**DOT Type:**	B	
Pu-239 FGE [2U]:	1.16762E+01	**LSA-I Fraction:**	2.69060E+02	N
Pu-239 Eq-Ci:	3.29272E-01	**LSA-II Fraction:**	8.18816E-02	Y
Pu-239 Eq-Ci [2U]:	7.36589E-01	**LSA-III Fraction:**	4.09408E-03	Y
TRU Pu-239 Eq-Ci:	3.29203E-01	**Reportable Quantity:**	3.22591E+01	Y
TRU Pu-239 Eq-Ci [2U]:	7.36520E-01	* **ALC Ratio:**	3.19117E+06	NE
Tritium (Ci/m3):	0.00000E+00	* **ACM Ratio:**	8.07180E+03	NE
TRU ECW PE-Ci:	2.00814E-03	**Limited Quantity:**	1.21079E+04	N

Weight/Volume Used:

1	Container Net Weight:	1.47871E+03 kg
2	Container Volume:	1.90000E+00 m3

**ALC (Activity Limit for Exempt Consignment)*
**ACM (Activity Concentration for Exempt Material)*
*** Use for LL/TRU Determination*
U = 1 Uncertainty, 2U = 2 Uncertainty

Los Alamos NATIONAL LABORATORY EST. 1943

10161083

TRU Waste Storage Record

LA0000066128

1. Generator's Pre-Use Visual Inspection

Click here for instruction in completing the form.

Purchase Order # 404007-49-06

This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.

Inspected Items: ☐ Ring, Bolt, and Nut ☐ Chime ☑ Dents ☑ Lid and Gasket ☑ Gouges ☑ Paint

Printed Name	Signature	Date
Michael L. Pope	Michael L. Pope	4-14-11

2. Generator's Package Information

Group	Technical Area	Building	Cost Center	Program Code	Cost Account	Work Package
RLG-WS	TA21	00	6M010A	ARDB	032R	LT00

Additional Information

☒ DP ☐ Non-DP If Non-DP waste, attach DOE approval documentation.

Container	Liner
☐ Steel Drum (55 gal.)	☒ None
☐ Pipe Overpack Type:	☐ 90 mil liner
☐ Steel Drum (85 gal. Overpack)	☐ 125 mil liner
☒ Standard Waste Box	☐ Fiberboard liner
☐ Standard Waste Box Overpack	Internal Shielding
☐ RH Canister	☒ None
☐ Other (Call TWCO)	Type / Thickness (in.)

Filter Serial No.: 01 LL-56; 02 LL-51

Radionuclide Content

Nuclide	Amount	Uncertainty	C=Curie M=Gram
Am 241	4.73E-03	2.92E-02	C
Cs 137	6.44E-08	3.85E-07	C
H 3	2.22E-06	0.00E00	C
Pu 238	1.04E-03	0.00E00	C
Pu 239	1.61E-01	6.81E-01	C
Sr 90	3.79E-04	0.00E00	C
U 234	2.25E-04	0.00E00	C
U 235	2.97E-06	1.17E-05	C
U 238	3.24E-05	Hazardous Materials 1.51E-04	C

Name	EPA Code	Quantity (g)

Waste Profile Number: 50932

Gross Weight (lb.): 3.9E03

Net Weight (lb.): 3.26E03

Shipping Category: 1001300024

LANL Waste Stream ID: LA-MSG04.001

TRUCON Code: LA111B

Date Closed (MM/DD/YY): 4/14/11

Accumulation Start Date (MM/DD/YY):

The data in this section were collected, and waste described herein was packaged and labeled according to approved procedures.

Printed Name	Signature	Date
Michael L. Pope	Michael L. Pope	4-14-11

3. Generator Site Health Physics Information

		Survey Date	Survey Meter Model	Property Number	Calibration Void Date
1E-01	Gamma Dose Rate (mrem/h) (contact)	4-5-11	RO20	12657	7-14-11
2.5E-01	Neutron Dose Rate (mrem/h) (contact)	4-5-11	SNRD	14707	7-20-11
3.5E-01	Total Dose Rate (mrem/h) (contact)				
3.5E-01	Total Dose Rate (mrem/h) (1 meter)				
NDA	Alpha Contamination (dpm/100cm²)				
NDA	Beta-Gamma Cont. (dpm/100cm²)				

The data in this section were collected according to approved procedures.

Printed Name	Date
STEVEN R. HORN	4-5-11

Signature: Steven R. Horn

COPY

4. TRU Waste Management Review/Authorization

The data package for this waste has been reviewed. Based on the information provided, this waste meets the WAC requirements for storage at TA-54.	Printed Name: Lori Muller	Date 4-14-11
	Signature: Lori Muller	

5. Preload Visual Inspection

This waste package was visually inspected prior to transport according to approved procedures. It meets WAC packaging and labeling requirements and is free from obvious damage and defects	Printed Name: Lori Muller	Date 4-25-11
	Signature: Lori Muller	

6. Receiving Site Health Physics Information

Gamma Dose Rate (mrem/h) (contact) 1.0E-1	Survey Date 4-25-11	Survey Meter Model RO20	Property Number 9871	Calibration Void Date 11-25-11
Neutron Dose Rate (mrem/h) (contact) 2.5E-1	Survey Date 4-25-11	Survey Meter Model SNRD	Property Number 13595	Calibration Void Date 9-15-11
Total Dose Rate (mrem/h) (contact) 3.5E-1				
Total Dose Rate (mrem/h) (1 meter) 3.5E-1	*The data in this section were collected according to approved procedures.*			
Alpha Contamination (dpm/100cm²) 5.2E0	Printed Name: Jessica Bustos			
Beta-Gamma Cont. (dpm/100cm²) 10.4E0	Signature: Jessica Bustos			Date 4-25-11

7. Storage Site Information

Received By (Initials)	Date Received 4/25/11	**Original Storage Data**	
This waste package was visually inspected and found to be properly labeled and in good condition. It was accepted and inspected according to approved procedures.		Building Number 401	Layer 4/4	Row Number N/A
		Column Number N15	Date Stacked (MM/DD/YY) 4/25/4
Printed Name: Alfred D. Vallo	Date 4/25/11	Printed Name: Alfred D. Vallo	Date 4/25/11
Signature		Signature	

8. Waste Acceptance Office

Initials/Date	WE Description

NCR Number	Initials/Date	NCR Description

LANS, LLC SHIPPING FORM	1. Generator ID Number	2. Page	3. Emergency Response Phone	4. Manifest ID Number
	NM0890010515	1	(505) 667-6211	86256

5. Generator's Name and Mailing Address	Generator's Site Address (if different than mailing address)
LANS, LLC for US DOE P.O. Box 1663, MS J598, Tamer Amin Los Alamos, NM 87545 Generator's Phone: (505) 665-6528	LANS, LLC FOR US DOE MICHAEL POPE, TA-21, MS: J595 LOS ALAMOS, NM 87545

6. Transporter Company Name	U.S. EPA ID Number
LANS, LLC for US DOE	NM0890010515

7. Designated Facility Name and Site Address	U.S. EPA ID Number
LANS, LLC for US DOE Mesita Del Buey Rd. TA-54 Area G Los Alamos, NM 87545 Facility's Phone: (505) 665-6158	NM0890010515

8a. HM	8b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	9. Containers No.	9. Containers Type	10. Total Quantity	11. Unit Wt./Vol.	12. Waste Codes
RQ	1 UN3321, RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II) FISSILE-EXCEPTED, 7, Solid, ELEMENTAL, AM241, CS137, H3, PU238, PU239, SR90, U234, U235, U238, 6.194E-03 TBq, T.I.=0.4, RADIOACTIVE YELLOW II	1		3900	P	

13 Special Handling Instructions and Additional Information

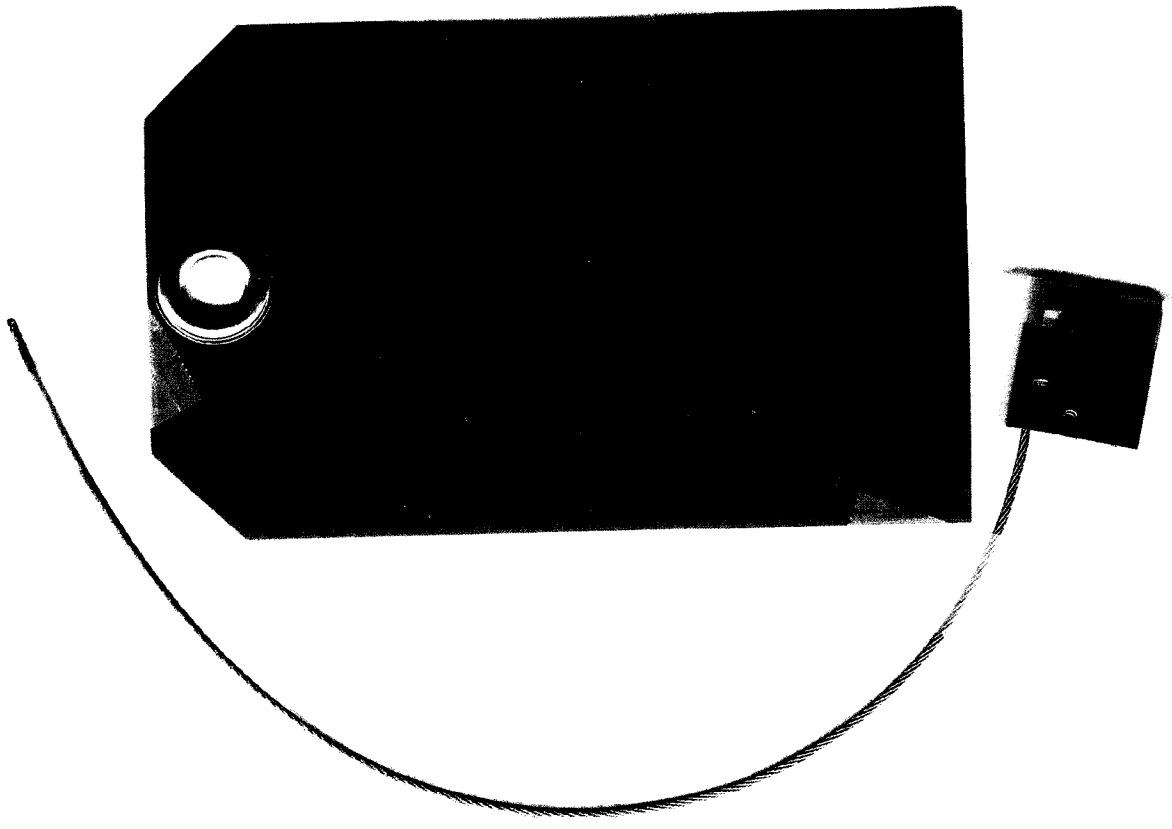
8b(1) ERGNO: 162

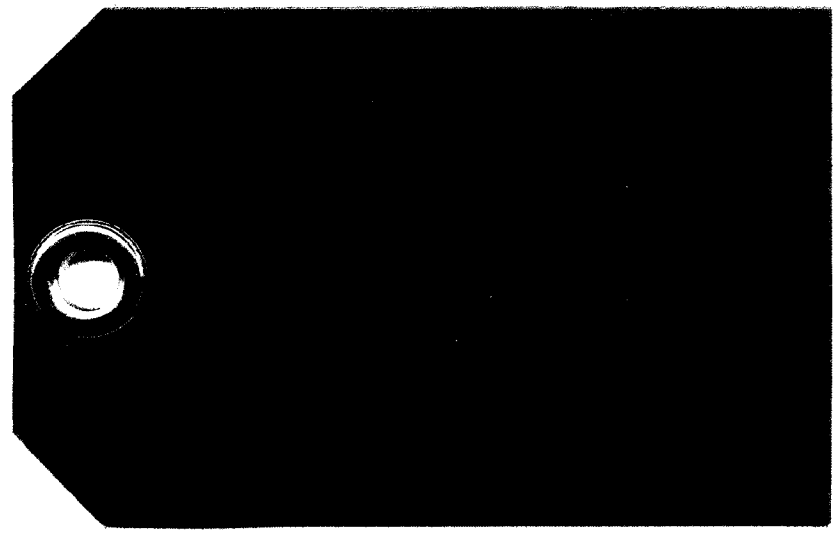
PKGID: 66128

HMTF#:

"This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation."

14. Generator's Printed/Typed Name	Signature	Month	Day	Year
Jaretta Zerbee		4	25	11
15. Transporter's Printed/Type Name	**Signature**	**Month**	**Day**	**Year**
Aaron Herrera		4	25	11





Best Available Copy

AK20

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

QA:13:00200
UFC:2300.00

INTER-OFFICE CORRESPONDENCE

DATE: October 17, 2013

FROM: J. E. Hoff LOCATION: Quality Assurance

TO: Distribution LOCATION: Various

SUBJECT: TRANSMITTAL AND CLOSURE OF NWP QUALITY ASSURANCE AUDIT I13-06, CENTRAL CHARACTERIZATION PROGRAM QUALITY ASSURANCE PROGRAM

Nuclear Waste Partnership, LLC (NWP), Quality Assurance (QA) internal audit I13-06, *Central Characterization Program Quality Assurance Program*, was performed in two segments (on July 15 through 18 and August 21 through 26, 2013, at the project office in Carlsbad and on August 13 through15, 2013, at Los Alamos National Laboratory), to evaluate the adequacy and effective implementation of the Central Characterization Program (CCP) QA Program for compliance with DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document;* WIPP Procedure (WP) 13-1, *NWP Quality Assurance Program Description,* and associated implementing procedure requirements as applicable.

This audit evaluated one half of the CCP QA Program as well as activities associated with Acceptable Knowledge (AK) which are assessed every year. On alternate years, opposite halves of the QA Program are evaluated. The program criteria evaluated during the project office portion of this audit included:

- Qualification and Training
- Document Control (follow up to previous audit, only)
- Identification and Control of Material, Parts, and Components
- Work Processes
- Inspection and Testing
- Control of Measuring and Test Equipment
- Handling, Storage, and Shipping
- Inspection, Test, and Operating Status
- Quality Improvement

Additionally, each year's audit includes a site visit to one of the waste generating sites at which CCP is active. This audit included an evaluation of the activities at Los Alamos National Laboratory (LANL). During this portion of the audit, all applicable criteria of the CCP QA Program were evaluated.

The results of this audit indicate that the required activities related to the CCP QA Program are adequately and effectively implemented to ensure that program requirements are met, with the exceptions documented in the audit findings. This audit resulted in two findings, two conditions corrected during the audit (CDA), and three observations. The findings will be documented on WIPP Form (WF) 13-299 and WF13-300 and resultant corrective actions will be tracked and closed through the WIPP Issues Management Process. The CDAs and observations require no response. Therefore, this audit is considered closed with the issuance of this report.

If you have any questions or require additional information concerning this audit, please contact Mr. D. Hood at (575) 234-8754.

TDH:ses

Attachment

Distribution October 17, 2012 QA:13:00200

A. J. Fisher	ED
D. E. Gulbransen	ED
M. W. Pearcy	ED
D. K. Ploetz	ED
T. R. Reynolds	ED
M. L. Sensibaugh	ED
C. E. Simmons	ED
M. R. Walentine	ED

cc:	W. W. Allen	ED
	V. K. Cannon	ED
	M. S. Hendrickson	ED
	L. E. Hernandez	ED
	F. M. Ito	ED
	S. A. Punchios	451-27
	T. L. Proctor	ED
	Quality Assurance Audit I13-06 File	

NUCLEAR WASTE PARTNERSHIP
QUALITY ASSURANCE AUDIT REPORT
Central Characterization Program Quality Assurance Program
I13-06

I. EXECUTIVE SUMMARY:

Nuclear Waste Partnership, LLC (NWP), Quality Assurance (QA) Audit I13-06, *Central Characterization Program Quality Assurance Program*, was performed in two segments (on July 15 through 18 and August 21 through 26, 2013 at the project office in Carlsbad and on August 13 through15, 2013 at Los Alamos National Laboratory), to evaluate the adequacy and effective implementation of the Central Characterization Program (CCP) QA Program for compliance with DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document;* WIPP Procedure (WP) 13-1, *NWP Quality Assurance Program Description*; and associated implementing procedure requirements as applicable.

The previous audit of the CCP QA Program resulted in one finding related to Document Control. A review for effectiveness of corrective actions was performed during this audit with satisfactory results.

The results of this audit indicate that the required activities related to the CCP QA Program are adequately and effectively implemented to ensure that program requirements are met, with the exceptions documented in the audit findings. This audit resulted in two findings, two conditions corrected during the audit (CDA), and three observations. The findings will be documented on WIPP Forms (WF) 13-299 and 13-300 and resultant corrective actions will be tracked and closed through the WIPP Issues Management Process. The CDAs and observations require no response. Therefore, this audit is considered closed with the issuance of this report.

II. AUDIT DETAILS:

Purpose and Scope:

The purpose of this audit was to evaluate the adequacy and effective implementation of one half of the CCP QA Program as well as activities associated with Acceptable Knowledge (AK) which are assessed every year. On alternate years, opposite halves of the QA Program are evaluated. The program criteria evaluated during the project office portion of this audit included:

- Qualification and Training
- Document Control (follow up to previous audit, only)
- Identification and Control of Material, Parts, and Components
- Work Processes
- Inspection and Testing
- Control of Measuring and Test Equipment
- Handling, Storage, and Shipping
- Inspection, Test, and Operating Status
- Quality Improvement

Additionally, each year's audit includes a site visit to one of the waste generating sites at which CCP is active. This audit included an evaluation of the activities at Los Alamos National Laboratory (LANL). During this portion of the audit, all applicable criteria of the CCP QA Program were evaluated.

The approach to this audit included observation of processes, documentation reviews, personnel interviews, and evaluations of associated procedures in order to determine the adequacy and effective implementation of the related program requirements. Where deemed appropriate, elements of the Integrated Safety Management System (ISMS) and Conduct of Operations were also evaluated.

A technical specialist was not required for the scope of this audit.

Criteria Used:

- DOE/CBFO-94-1012, Revision 11, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document*
- ASME/NQA-1-1989
- WIPP Procedure (WP) 13-1, Revision 33, *Washington TRU Solutions LLC Quality Assurance Program Description*
- WP 15-GM.03, Revision 6, *Integrated Safety Management System Description*
- WP 04-CO.01, Revision 2, *Conduct of Operations*

NWP Audit Team:

Lead Auditor:
Mr. T. D. Hood, QA, Oversight Programs

Auditors:
Ms. T. L. Proctor, QA, Assurance Programs

Auditor-In-Training:
Ms. L. E. Hernandez, QA, Assurance Programs

Inclusive Dates of Audit:

July 15 through 18 and August 21 through 26, 2013 (CCP offices in Carlsbad)
August 13 through 15, 2013 (LANL)

Location of Audit:

Skeen-Whitlock Building, Carlsbad, New Mexico
Los Alamos National Laboratory, Los Alamos, New Mexico

Safety and Security:

The audit in Carlsbad took place in an office environment, with no personal protection equipment being necessary. Audit activities at LANL involved the NWP Audit Team's presence in areas where steel-toed footwear and eye protection were required; team members complied with all safety requirements. Additionally, access to certain areas required use of a personal dosimeter and an escort; the NWP Audit Team complied with these requirements.

Access to all areas of LANL required badging; the NWP Audit Team maintained compliance.

During the audit, records storage locations were observed to be adequately designated and their access controlled via authorized-access signs and/or locked cabinets/areas.

Conclusions:

In addition to CCP activities assessed at the Carlsbad project office, the NWP Audit Team traveled to LANL to assess the CCP activities conducted at LANL. For the LANL portion of the assessment, the NWP Audit Team evaluated applicable facets of personnel qualification; instructions and procedures; document control; control of purchased product; material identification and control; work processes; inspection and testing; control of measuring and test equipment; handling, storage, and shipping; inspection and test status; nonconforming item control; corrective action; records; and assessments.

The NWP Audit Team concluded that the portions of the CCP QA Program subject to this audit are satisfactorily implemented, with the exceptions documented in the audit findings. The audit findings are not considered a significant hindrance to overall implementation of the QA Program. The NWP Audit Team

commends the professionalism, knowledge, competence, and courtesy displayed by all personnel contacted during the audit.

The NWP Audit Team confirmed that applicable higher-tier requirements from DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document* and WP 13-1, *Quality Assurance Program Description* are adequately addressed in implementing procedures.

The NWP Audit Team observed a number of personnel in the process of conducting activities requiring qualification and specialized training while at LANL. Additionally, documents reviewed during the audit revealed additional names of qualified personnel. A sample of the aforementioned personnel was selected and their qualification and training records were verified to be adequate for the applicable processes. The NWP Audit Team verified that a list of qualified individuals (LOQI) is maintained for personnel performing work at the mobile loading unit area and in the waste characterization processing areas at LANL. Additionally, training and qualification was confirmed for personnel responsible for tracking and controlling measuring and test equipment (M&TE).

The NWP Audit Team verified that activities observed in process at LANL were conducted using guidance from established instructions, procedures, standing orders, and/or drawings. Logbooks were verified to be used and completed properly at each inspection/examination station visited. One issue was found related to compliance with a nondestructive assay (NDA) procedure; this issue is identified in audit finding I13-06-F-01. The NWP Audit Team verified implementation of various requirements from the interface agreement between CCP and LANL. One issue was identified with regards to distribution of surveillance reports; this issue is identified in audit finding I13-06-F-02.

During the previous audit, the NWP Audit Team assessed the Document Control activities conducted by Document Services personnel at the Skeen Whitlock Building (SWB). It was noted that during the review process for proposed changes to controlled documents, the review and approval was not always conducted in accordance with procedural requirements (refer to Finding I12-12-F-01). During audit I13-06, corrective actions were evaluated and found to be effective in preventing similar occurrences.

While at LANL, the NWP Audit Team took note of the revision levels of documents (e.g., procedures, standing orders, work instructions, etc) in use. The NWP Audit Team also took note of the document/procedure revisions referenced/recorded in various documents reviewed during the audit (e.g., batch data reports [BDRs], etc). The listed revision levels were compared to the document revisions found on the sftp site (the on-line site set up for CCP personnel to access controlled documents) and in the Quality and Manufacturing Integrated System (Q&MIS) and were found to be the documents current at the time of use, with one exception. Three obsolete standing orders were observed to be posted at one location, these were promptly removed; refer to condition corrected during the audit I13-06-CDA-01.

The NWP Audit Team assessed the control of purchased material while at LANL. The NWP Audit Team witnessed receipt inspection of two different items (drums and filter vents) and verified that the procured items were received and inspected according to procedural requirements and that nonconforming items were placed on hold and a nonconformance report (NCR) was issued.

Identification and control of materials, parts, and components was verified by review of BDRs, observation of receipt inspection, and observation of various items (e.g., drums, spare parts, filter vents) in storage at LANL.

The NWP Audit Team verified that work processes are adequately controlled by CCP. Work processes such as NDA, headspace gas analysis, radiographic examination, visual examination (VE), mobile loading and leak testing of Type B Packaging, and waste certification / entry into WIPP Waste Information System (WWIS)/Waste Data System (WDS) were verified to be performed by qualified personnel, in accordance with established and current procedures, and when applicable, using proper equipment.

Inspection and testing activities witnessed by the NWP Audit Team while at LANL included real time radiography (RTR), NDA, and headspace gas (hydrogen/methane) analysis. No leak testing (TRUPACT-II/HalfPACT) or VE were in process during the audit. Personnel qualifications were verified for all personnel observed performing inspection/testing, as well as several persons whose names were selected from BDRs reviewed for all examination processes in use at LANL. Current procedures were verified to be on-site and in use at each station visited by the NWP Audit Team. Processes were being conducted in accordance with the procedures, with one exception. Refer to audit finding I13-06-F-01 for details.

Adequate control of measuring and test equipment (M&TE) was verified by the NWP Audit Team. One person responsible for tracking and ensuring calibration of M&TE in the project office in Carlsbad was interviewed and calibration data records and an M&TE log were reviewed. Several instruments observed at the mobile loading area at LANL were included in the instruments whose records were reviewed.

Controls related to handling, storage, and shipping were assessed for CCP activities. The NWP Audit Team verified that items in storage at LANL (e.g., drums, filter vents, spare parts for Type B Packaging, etc) were identified and controlled adequately. No items requiring special environments or controls were observed.

The NWP Audit Team verified via review of BDRs that inspection and test results are identified in the reports and the reports are traceable to applicable containers. Nonconforming items were observed to be marked with NCR tags. Suspect items were observed to be marked with administrative hold tags.

The NWP Audit Team verified through review of a sample of NCRs that nonconforming items are identified, their conditions evaluated, and remedial action is taken. While at LANL, the NWP Audit Team verified that containers related to the reviewed LANL NCRs that were "open" had NCR tags applied. Semi-annual trending reports were reviewed and their distribution to affected and interested parties was confirmed.

Programmatic conditions adverse to quality were verified to be identified via corrective action requests (CARs). The NWP Audit Team reviewed a sample of CARs and verified the CARs are processed in a manner to identify corrective actions, assign responsible parties, determine if adverse conditions are significant, assign root cause analyses when applicable, verify completion of corrective actions, and close the CARs. CARs were observed to be included in the semi-annual trending reports.

While at LANL, the NWP Audit Team verified that quality assurance records are adequately identified, classified, generated and completed, validated, collected, stored, maintained, protected, and transmitted as necessary. This includes hard copy records as well as electronic records. Corrections that were seen to have been made to all quality records reviewed during the audit were confirmed to have been made properly. Records requested for review during the project office portion of the audit were observed to be properly stored and were readily retrievable.

While at LANL, the NWP Audit Team verified that assessments, i.e., surveillances and management assessments, are scheduled; conducted by independent, qualified personnel; and reported to interested parties. The process was verified to produce identification of conditions adverse to quality and their resolution, when applicable. It was noted that audits are not conducted, other than an annual internal audit (which is this audit). It was verified that the combination of the surveillances, management assessments, and annual internal audits provide an adequate assessment of the QA Program's implementation.

The NWP Audit Team reviewed various documents related to AK processes to verify compliance with requirements from CCP-TP-005, Revision 25, *CCP Acceptable Knowledge Documentation* and the WIPP Hazardous Waste Facility Permit. One issue was noted regarding an AK related NCR that had one trend code annotated on the NCR whereas a different trend code was listed in the database; the error was corrected promptly – refer to condition corrected during the audit I13-06-CDA-02.

The audit also included evaluations for the appropriate application of the Integrated Safety Management System (ISMS). Evidence was observed during the course of the audit that supports the positive application of three ISMS Core Functions. Specifically, the NWP Audit Team was able to confirm the application of the following ISMS Core Functions:

- Core Function Number 1, *Define the Scope of Work* – Procedures are established for the CCP QA Program,
- Core Function Number 4, *Perform Work Within Controls* - Procedures are established to assure processes are conducted appropriately, and
- Core Function Number 5, *Provide Feedback and Continuous Improvement* – Periodic assessments of the CCP QA Program are conducted, and necessary corrective actions are taken when adverse conditions are identified.

This audit resulted in the identification of two findings, two CDAs, and three observations. The findings will be documented on WF 13-299 and 13-300 and resultant corrective actions will be tracked and closed through the WIPP Issues Management Process. The CDAs and observations require no response. Therefore, this audit is considered closed with the issuance of this report.

FINDING:

I13-06-F-01

Condition(s) Noted:

RTR was being conducted in accordance with CCP-TP-053, *Standard Real-Time Radiography (RTR) Inspection Procedure,* Revision 13, on several containers from a batch identified with BDR number LA-RTR2-13-0099. One of the containers (number 94122) failed due to the contents not matching the waste stream description. The RTR technician completed a VPM [Vendor Project Manager] Administrative Hold Tag and applied it to the container, but he did not complete an NCR.

Requirement(s) Not Met:

CCP-TP-053, *Standard Real-Time Radiography (RTR) Inspection Procedure,* Revision 13, Section 4.4.2.H.1 states, "IF any hazardous waste(s) NOT identified in the AK Summary Report(s) for the waste stream being characterized...are noted during the RTR examination, THEN perform the following: Initiate an NCR in accordance with CCP-QP-005."

I13-06-F-02

Condition(s) Noted:

Surveillance Reports SUR-LANL-0004-13 and SUR-LANL-0005-13 were not sent to the LANL TRU Program (LTP) Project Director (identified as Ms. Kathy Johns-Hughes), as required.

Requirement(s) Not Met:

CCP-PO-012, *CCP / Los Alamos National Laboratory (LANL) Interface Document,* Revision 13, Section 3.3.5 states, "NWP Assurance Programs Manager...ensures surveillances of waste characterization activities at LANL are performed on a periodic basis and surveillance reports are provided to the CCP SPM, the CCP LANL Project Manager/Designee, and the LANL TRU Program (LTP) Project Director."

CONDITIONS CORRECTED DURING THE AUDIT (CDAs):

I13-06-CDA-01

Condition(s) Noted:

Three obsolete standing orders were observed posted in the headspace gas analysis area at LANL:

- CCP-SO-072, cancelled July 25, 2013
- CCP-SO-088, cancelled July 25, 2013
- CCP-SO-089, cancelled April 30, 2013

Requirement(s) Not Met:

DOE/CBFO-94-1012, *Quality Assurance Program Document,* Revision 11, section 1.4.2 states, "The distribution and use of controlled documents and forms that document or prescribe work, including changes and editorial corrections to documents, shall be controlled to meet the following requirements:

C. The disposition of obsolete or superseded documents and forms shall be controlled to avoid their inadvertent use."

Action(s) Taken and Verification of Completion:

The standing orders were removed. Removal was verified by the site CCP QA representative.

I13-06-CDA-02

Condition(s) Noted:

NCR-LANL-1369-12, dated July 26, 2012, was annotated with trend code K, whereas the Integrated Data Center (IDC) database showed trend code H.

Requirement(s) Not Met:

WP 13-1, *Quality Assurance Program Description*, Revision 33, Section 1.4.1 states, "Documents that specify or prescribe work shall be reviewed for adequacy, **correctness**, and completeness prior to approval and issuance as controlled documents."

Action(s) Taken and Verification of Completion:

A Change Control Board (CCB) was requested to change the trend code for NCR-LANL1369-12 from H to K. An email from IDCADmin@wipp.ws was sent statusing the IDC CCB Request #DCR-2013-1198 from open to closed (meaning the action was complete). These actions were verified by the NWP Audit Team.

OBSERVATION(S):

I13-06-O-01

Condition(s) Noted:

At the time the condition annotated in finding I13-06-F-01 was discovered, the technician stated that CCP-TP-066 allows the failed scan to be designated a Fast Scan and for the condition to be documented on Attachment 2 to CCP-TP-066 and referred to the SPM [Site Project Manager] for resolution (without an NCR being initiated). However, CCP-TP-066, *CCP Radiography Screening Procedure for Prohibited items,* Section 4.6.10 addresses only prohibited items (there are no provisions in CCP-TP-066 for using a Fast Scan to reject a container with contents that do not match the designated waste steam).

I13-06-O-02

Condition(s) Noted:

Surveillance Reports SUR-LANL-0004-13 and SUR-LANL-0005-13 do not include the dates the surveillances were performed in the body of the report; however, the dates of performance are documented in each line item in the Checklist (Attachment 1) to the reports.

I13-06-O-03

Condition(s) Noted:

The following are not listed in CCP-PO-012, *CCP / Los Alamos National Laboratory (LANL) Interface Document,* Revision 13, Attachment 1, *Acronyms and Key Definitions*

- LTP (LANL TRU Program)
- SSS-PM (Shipping and Safe Storage Manager)
- VOCs (Volatile Organic Compound)
- EA (Expert Analyst)
- CPP (Central Procurement Program)

III. ATTACHMENTS:

Attachment 1, *Table of Personnel Contacted*
Attachment 2, *Table of Documents Reviewed*

IV. SIGNATURES:

Prepared by: _____ 10-16-13
T. D. Hood, Lead Auditor — Date
Oversight Programs

Approved by: _____ 10-17-13
V. K. Cannon, Manager — Date
Assurance Programs

Attachment 1, *Table of Personnel Contacted*

[A] Attended Audit Entrance Meeting [B] Contacted During the Audit [C] Attended Audit Exit Meeting

Name	A	B	C
Nuclear Waste Partnership			
Val Cannon	X	X	X
Antonio Chavarria	X*	X	
Jim Eastham		X	
Ed Gulbransen	X		
A.J. Fisher	X	X	
Laura Jones		X	
Creta Kirkes		X	
Tommy Mojica	X*	X	
Robbie Morrison		X	
Terry Mueller	X	X	
Leon Navarrete		X	
Jose Payanes		X	
Mark Pearcy			X
Mike Ramirez	X	X	
Nick Roberts		X	
Mike Rogers		X	
Mike Sensibaugh		X	
Chris Sexton		X	
Craig Simmons	X*	X	
Veronica Waldram		X	
Mak Walker	X	X	
Los Alamos National Laboratory			
Ed Anaya		X	
Sara Aragon		X	
Tim Barton		X	
Cathy Buffington		X	
Davis Christensen		X	
Aaron Elliott		X	
Maria Escarega		X	
Terri-Anne Groover		X	
Thad Hasselstrom		X	
Dave Hemsing		X	
Bob Houdashelt		X	
Erik Loechell		X	
Benito Maestas		X	
Kevin McTaggart		X	
Floyd Ortiz		X	
Mary Reed		X	
Eddie Rios		X	
Robert Rios		X	
David Sager		X	
Mike Simmons		X	
Nathan Wales		X	
S.M. Stoller Corporation			
Cheryl Armijo		X	
Ranada Baca		X	
Michele Billet		X	
Paulette Henry		X	
Leon Navarrete		X	
Sheila Pearcy		X	

X* - entrance meeting at LANL

Attachment 2, *Table of Documents Reviewed*

Document Identification	Document Title or Description
DOE/CBFO-94-1012, Revision 11	*U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document*
DOE/CBFO-94-1012, Revision 11	*U.S. Department of Energy Carlsbad Field Office Quality Assurance (QA) Program Document*
DOE/WIPP-02-3183, Revision 8	*CH [Contact-Handled] Packaging Program Guidance*
DOE/WIPP-02-3184, Revision 13	*CH Packaging Operations Manual*
DOE/WIPP-02-3185, Revision 2	*CH Packaging Maintenance Manual*
DOE/WIPP-02-3220, Revision 13	*CH Packaging Operations for High-Wattage Waste*
DOE/WIPP-06-3345, Revision 5	*Waste Isolation Pilot Plant Flammable Gas Analysis*
CCP-AK-LANL-010, Revision 6	*Central Characterization Program Acceptable Knowledge Summary Report for Los Alamos National Laboratory TA-21 DP West Facility*
CCP-AK-LANL-014, Revision 1	*Central Characterization Program Acceptable Knowledge Summary Report for Los Alamos National Laboratory TA-39 Two-Stage Gas Fun Facility*
CCP-CM-003, Revision 3	*Central Characterization Program High Efficiency Neutron Counter (HENC-01) (Equipment #NDA-HENC-01) Equipment Description*
CCP-CM-029, Revision 1	*Central Characterization Program High Energy Real-Time Radiography System HE-RTR*
CCP-PO-001, Revision 21	*Central Characterization Program TRU Waste Characterization Quality Assurance Project Plan*
CCP-PO-002, Revision 27	*Central Characterization Program Transuranic Waste Certification Plan*
CCP-PO-005, Revision 23	*Central Characterization Program Conduct of Operations*
CCP-PO-012, Revision 12 and 13	*Central Characterization Program/Los Alamos National Laboratory (LANL) Interface Document*
CCP-QP-002, Revision 35	*Central Characterization Program Training and Qualification Plan*
CCP-QP-005, Revision 23	*Central Characterization Program TRU Nonconforming Item Reporting and Control*
CCP-QP-008, Revision 21	*Central Characterization Program Records Management*
CCP-QP-010, Revision 24	*Central Characterization Program Document Preparation, Approval, and Control*
CCP-QP-014, Revision 5	*Central Characterization Program QA Trend Analysis and Reporting*
CCP-QP-015, Revision 12	*Central Characterization Program Procurement*
CCP-QP-016, Revision 18	*Central Characterization Program Control of Measuring and Testing Equipment*
CCP-QP-017, Revision 3	*Central Characterization Program Identification and Control of Items*
CCP-QP-018, Revision 10	*Central Characterization Program Management Assessment*
CCP-QP-019, Revision 7	*Central Characterization Program Quality Assurance Reporting to Management*
CCP-QP-021, Revision 8	*Central Characterization Program Surveillance Program*
CCP-QP-023, Revision 4	*Central Characterization Program Handling, Storage and Shipping*
CCP-QP-026, Revision 14	*Central Characterization Program Inspection Control*
CCP-QP-027, Revision 6	*Central Characterization Program Test Control*
CCP-QP-029, Revision 0	*Central Characterization Program Corrective Action Management*
CCP-QP-030, Revision 9	*Central Characterization Program Written Practice for the Qualification of CCP Helium Leak Detection Personnel*
CCP-TP-001, Revision 21	*Central Characterization Program Project Level Data Validation and Verification*
CCP-TP-002, Revision 26	*Central Characterization Program Reconciliation of DQOs and Reporting Characterization Data*
CCP-TP-005, Revision 24 and 25	*Central Characterization Program Acceptable Knowledge Documentation*
CCP-TP-011, Revision 17	*Central Characterization Program Radiography Inspection Operating Procedure*
CCP-TP-030, Revision 32	*Central Characterization Program CH TRU Waste Certification and WWIS/WDS Data Entry*
CCP-TP-033, Revision 20	*Central Characterization Program Shipping of CH TRU Waste*
CCP-TP-053, Revision 13	*Central Characterization Program Standard Real-Time Radiography (RTR) Inspection Procedure*
CCP-TP-054, Revision 3	*Central Characterization Program Adjustable Center of Gravity Lift Fixture*

Document Identification	Document Title or Description
	Preoperational Checks and Shutdown
CCP-TP-055, Revision 5	*Central Characterization Program Varian Porta-Test Leak Detector Operations*
CCP-TP-059, Revision 1	*Central Characterization Program Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000*
CCP-TP-063, Revision 14	*Central Characterization Program Operating the High Efficiency Neutron Counter Using NDA 2000*
CCP-TP-064, Revision 7	*Central Characterization Program Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000*
CCP-TP-066, Revision 13	*Central Characterization Program Radiography Screening Procedure for Prohibited Items*
CCP-TP-069, Revision 6	*Central Characterization Program Sealed Source Visual Examination and Packaging*
CCP-TP-076, Revision 0	*Central Characterization Program Operating the Mobile ISOCS Large Container Counter Using NDA 2000*
CCP-TP-082, Revision 9	*Central Characterization Program Waste Container Filter Vent Operation*
CCP-TP-083, Revision 7 and 8	*Central Characterization Program Gas Generation Testing*
CCP-TP-086, Revision 18	*Central Characterization Program CH Packaging Payload Assembly*
CCP-TP-101, Revision 6	*Central Characterization Program Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000*
CCP-TP-103, Revision 11	*Central Characterization Program Operating the High Efficiency Neutron Counter Using NDA 2000*
CCP-TP-113, Revision 17	*Central Characterization Program Standard Contact-Handled Waste Visual Examination*
CCP-TP-120, Revision 16	*Central Characterization Program Container Management*
CCP-TP-121, Revision 4	*Central Characterization Program RTR #1 Operating Procedure*
CCP-TP-122, Revision 3	*Central Characterization Program RTR #2 Operating Procedure*
CCP-TP-198, Revision 7	*Central Characterization Program HE-RTR Operating Procedure*
CCP-TP-508, Revision 8	*Central Characterization Program Standard Real-Time Radiography Inspection Procedure*
CCP-TP-530, Revision 11	*Central Characterization Program RH TRU Waste Certification and WWIS/WDS Data Entry*
WP 04-CO.01-1 through -18	*Conduct of Operations Series*
WP 13-1, Revision 33	*Nuclear Waste Partnership LLC Quality Assurance Program Description*
WP 15-GM.03, Revision 6	*Integrated Safety Management System Description*
NM4890139088-TSDF	*WIPP Hazardous Waste Facility Permit*
CCP Standing Order (SO) CCP-SO-104, Revision 0	*Use of WIPP Form in concert with CCP CAR* [Corrective Action Report]
Audit Report I11-05	Washington TRU Solutions LLC, Quality Assurance Audit Report, *Central Characterization Project Quality Assurance Program*
Audit Report I12-12	Nuclear Waste Partnership LLC, Quality Assurance Audit Report, *Central Characterization Project Quality Assurance Program*
Surveillance Report S11-18	Washington TRU Solutions Quality Assurance *Acceptable Knowledge*
	Email from A. Chavarria, to T. Proctor, dated July 25, 2013, subject: NCR-LANL-1369-12
	Email from IDCAdmin@wipp.ws to A. Chavarria, dated July 25, 2013, subject: Status on your IDC CCB Request #DCR-2013-1198 Has Changed
Waste Stream LA-MSG04.001 files contained:	CCP-TP-005 Attachment 1, Attachment 3, Attachment 4, Attachment 5, Attachment 6, Attachment 7, Attachment 8, Attachment 10 and Attachment 11 Memorandum dated January 16, 2013 (did not contain number) and Memorandum P2010-3324 Source Documents: C002, C003, C022, C031, D009, D058, D060, DR001, DR002, DR003, DR005, DR007 and P012
Waste Stream LA-MHD04.001	CCP-TP-005 Attachment 1, Attachment 3, Attachment 4, Attachment 5, Attachment

Document Identification	Document Title or Description
files contained:	6, Attachment 7, Attachment 8, Attachment 10, Attachment 11, Attachment 13 and Attachment 14 Memorandum P2010-2316, Memorandum P2010-2555, Memorandum P2010-3316, Memorandum P2010-3285, Memorandum P2010-3279, Memorandum P2010-3278 and Memorandum CP:13:01260 Source Documents: C002, C003, C022, C031, D009, D058, D060, DR001, DR002, DR003, DR005, DR007 and P012
Waste Stream LA-MHD10.001 files contained.	CCP-TP-005 Attachment 1, Attachment 3, Attachment 4, Attachment 5, Attachment 6, Attachment 7, Attachment 8, Attachment 11, Attachment 13 and Attachment 14 Memorandum P2010-3293, Memorandum P2010-3323 and Memorandum CP:13:01269 Source Documents: C011, D003, D011, D012, DR001, M005 and P015
	CCP Mobile Loading Unit (MLU) Transportation Personnel List of Qualified Individuals (LOQI), August 6, 2013
	RH WDS Master Template.xls, Revision 4, Addendum #4, SCO #1066 Excel 2003/2007 Microsoft Windows XP printout
	CH WDS Master Template.xls, Revision 8, Addendum #8, SCO #1065, Excel 2003/2007 Microsoft Windows XP printout
	Interoffice Correspondence QA:13:01050, from V. K. Cannon to D. E. Gulbransen, dated June 27, 2013, subject: Information Copy of Completed Central Characterization Program Surveillance Report SUR-LANL-0005-13, Tagging and Segregation of Drums and Mover Verification at Los Alamos National Laboratory
	Interoffice Correspondence QA:13:01045, from V. K. Cannon to D. E. Gulbransen, dated June 5, 2013, subject: Information Copy of Completed Central Characterization Program Surveillance Report SUR-LANL-0004-13, Flammable Gas Analysis at Los Alamos National Laboratory
	Interoffice Correspondence QA:13:01003, from V. K. Cannon to M. L. Sensibaugh, dated January 21, 2013, subject: Central Characterization Program Surveillance/Assessment Schedule for Calendar Year 2013; with schedule
	Interoffice Correspondence QA:13:01046, from V. K. Cannon to D. E. Gulbransen, dated June 12, 2013, subject: Notification of Quality Assurance Surveillance SUR-LANL-0005-13, Tagging and Segregation of Drums and Mover Verification; with Surveillance Plan SUR-LANL-0005-13
	Interoffice Correspondence QA:13:01041, from V. K. Cannon to D. E. Gulbransen, dated May 15, 2013, subject: Notification of Quality Assurance Surveillance SUR-LANL-0004-13, Flammable Gas Analysis; with Surveillance Plan SUR-LANL-0004-13
	Letter Number CP:13:01034, from D. E. Gulbransen to C. G. Fesmire, dated January 22, 2013, subject: Semiannual Report on the National Waste Partnership (NWP) Quality Assurance Program Second Half of Calendar Year 2012 (July 1 through December 31, 2012)
	CCP 2013 Assessment Schedule Audits and Assessments Attachment, revised June 12, 2013
	Software Change Order Numbers 455, 1148, 1198 and 1141
CH-TRUCON, Revision 48, April 2013	Table 2B (Continued), *Summary of Approved Content Codes and Corresponding Shipping Categories for Close-Proximity Shipments (20-Day Shipping Period)*
	Email from L. Dominguez to Distribution, dated July 12, 2013, subject: NCR/CAR Request LANL AK6 LA-MHD01.001 Lot 389
	WWIS Data Entry Completed Record Documentation for CH LANL AK6 LA-MHD01.001, Lots 358, 359, 360, 361, 362, and 363 for Batch #3635-026, -028, -030, -032, -035, -037, and -039
	WWIS Data Entry Completed Record Documentation for RH INL ID-EFEF-S5400, Lots 16, 19, and 20 for Batch #RH081-005, -007, and -009
	LANL AK Tracking Spreadsheet, AKTSS-7/23/13
	PO Number 501578 Attachment 1 – CCP Receipt Inspection Verification Sheet

Document Identification	Document Title or Description
	Open CAR Status Report, dated 7/15/13
	CCP Corrective Action Reports (CARs): CAR-LANL0001110 CAR-LANL0002110 CAR-LANL0003110 CAR-LANL0004110 CAR-LANL0001120 CAR-LANL0002120 CAR-LANL0003120 CAR-LANL0004120 CAR-LANL0005120 CAR-LANL0006120 CAR-LANL0007120 CAR-LANL0001130 CAR-LANL0002130 CAR-LANL0003130
	CCP Nonconformance Reports (NCRs): NCR-LANL0050130 NCR-LANL0085120 NCR-LANL0187131 NCR-LANL0197130 NCR-LANL0199130 NCR-LANL0552130 NCR-LANL0561130 NCR-LANL0585130 NCR-LANL0586130 NCR-LANL0587130 NCR-LANL0588130 NCR-LANL0594130 NCR-LANL0608130 NCR-LANL0609130 NCR-LANL0660130 NCR-LANL0661130 NCR-LANL0704080 NCR-LANL0737130 NCR-LANL1005120 NCR-LANL1010120 NCR-LANL1019120 NCR-LANL1020120 NCR-LANL1025120 NCR-LANL1026120 NCR-LANL1369120 NCR-LANL1532120 NCR-LANL1546120 NCR-LANL1548120 NCR-LANL1624120 NCR-LANL1791120 NCR-LANL1970120 NCR-LANL1971120 NCR-LANL2051120 NCR-LANL3636110 NCR-LANL3637110 NCR-LANL3967110 NCR-SRS0541120
	Attachment 2 – CCP Records Transmittal/Receiving Form: Document Number: 2013-05517, Contamination Radiation Survey Report, August 9, 2013; Document Number: N/A, NDE Daily Pre-Operational Checklist, August 7, 2013
MA-CCP-0013-13	Management Assessment, signed June 11, 2013
	Certificate of Conformance for NucFil-072 Filter, dated July 29, 2013
	Certificate of Conformance for NucFil-013 Carbon Filters
	Document Action Request for Document Number: DOE/WIPP 06-3345, Revision 5, Title: *Waste Isolation Pilot Plant Flammable Gas Analysis*
	http://swoosh.lanl.gov/trucks website
	Certificate of Calibration File for the following: XC0052, XC0350, XC0365, XC0424, XC0425, XC0822, XC0882
	WIPP Records Inventory and Disposition Schedule (RIDS) for NWP/CCP/NTPC/CH for All Sites, dated August 1, 2013
	Back-up file reports for the following servers: Churchrock.PNG, Duran.PNG, Dixon. PNG, Garrison.PNG, Dunken.PNG, Whiterock.PNG
	CCP – *Los Alamos National Labs (LANL) List of Qualified Individuals*, July 12, 2013, 3:29pm
	CCP – *Los Alamos National Labs (LANL) List of Qualified Individuals*, August 8, 2013, 3:30pm
QCard-001	*WIPP Procurement Q-Card User Qualification Card,* (and it's supporting documentation of CON-008, *Graded Approach to the Application of QA Controls to Purchase Requisitions*; CON-010, *Credit Card Program*; and SCI-101, *Suspect/ Counterfeit Items*; examination results) for the following: Chris Sexton
VE-01	*Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card,* (and its supporting documentation of the WAP [Waste Analysis Plan]/QAPjP [QA Project Plan] Briefing and Test, and CCP VE Comprehensive Examination results) for the following: Levie Archuleta Duane Clemons Robert Geyer Anthony Harley Tommy Mojica Kenneth Salazar Joseph Stepzinski Michael Trujillo
RTR-02	*Real-Time Radiography (RTR) Operator/ITR Qualification Card,* (and its supporting documentation of the WAP/QAPjP and RTR Examination Results; Level II SNT-TC-1A Certification, and current Eye Examination) results for the following:

Document Identification	Document Title or Description
	Aaron Elliott Thaddeus Hasselstrom Benito Maestas Michael Simmons Kenneth Simpson
NDA-02	*Non-Destructive Assay (NDA) Operator/ITR for the High Efficiency Neutron Counter (HENC) 1 and 2 Systems Qualification Card,* for the following: NDA Dominic Archuleta Richard Baumann Maria Escarcega
	Blank Qualification Cards: • VE-01, Revision 4; • VE-OSRP-01, Revision 6, *Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) – Off Site Source Recovery Program (OSRP)*; • RTR-02, Revision 4; • NDA-02, Revision 3; • NDA-13, Revision 2, *Non-Destructive Assay (NDA) Operator/ITR for the LANL Super High Efficiency Neutron Counter (HENC) System Qualification Card*; and • NDA-16, Revision 0, *Non-Destructive Assay (NDA) Operator/ITR for the Mobile ISOCS* [In-Situ Object Counting System] *Large Container Counter (MILCC) System Qualification Card*
	National TRU Program Certification for JA-101, Revision 1, *Analysis of Positions for Qualification*
	RCT [Retrieval, Characterization and Transportation]/CCP/CH Records Inventory and Disposition Schedule (RIDS), dated August 2, 2012
	Integrated Data Center CCP Nonconformance Report (NCR) Database
	WIPP Forms (WFs): WF13-101 and WF13-103
	Semi-annual Trend Reports for Calendar Year (CY) 2011 and CY2012: CP:12:01128 (January – June) CP:12:01115 (July – December) CP:12:01451 (January – June) CP:13:01034 (July – December)
	30 day list for LANL (shows M&TE due in next 30 days)
	60 day list for LANL (shows M&TE due in next 60 days)
	Print-out list of CCP controlled M&TE
	Integrated Data Center on-line database of M&TE information
	Certificates of Calibration for: • Mettler Toledo balance, file number 032799 • Torque wrench, file number 039953 • Torque wrench, file number 037909 • Torque wrench, file number 023342 • Torque wrench , file number 027332 • Electronic scale, identification number XC0987
	Shipping Authorization, dated 7/16/13 (for sending Barometer with identification number XC0903 out for calibration). Attached were *Quotation for Metrology Services* from Edison ESI, Attachment 1 – *Quality Credit Card Purchase Log* (WP 15-PC3044), *Q-Card Authorization*, *Inspection Plan*, and *Requirements for NWP/CCP M&TE Calibration.*
CCP-LANL- Standing Order (SO) -021, Revision 3	*CCP-TP-120 Rev 12, Section 4.1.7 [B.3] Clarification*
CCP- SO-036, Revision 1	*NCR/VPM Hold Tag Guidance*
CCP-SO-037, Revision none	*Additional Review and Approval of ICALs for Flammable Gas Analysis*
CCP-SO-052, Revision 0	*CCP Operations Work Schedules*
CCP-SO-072, Revision 0	*Guidance to Apply RTV-732 to Filter Vents*
CCP-SO-080, Revision 1	*Designation of Packaging Weights*
CCP-SO-088, Revision 0	*Drum Aspiration Time Requirements for Containers Sampled in the Flammable Gas Analysis (FGA) Process When Using Sampling Scenario 2*
CCP-SO-089, Revision 0	*Number of Filters Required on an SWB, TDOP, or SLB2 Before Headspace Gas*

Document Identification	Document Title or Description
	Sampling Can Be Performed
CCP-SO-104, Revision 0	*Use of WIPP Form in concert with CCP CAR*
CCP-SO-LANL-32, Revision 2	*Pipe Overpack Component (POC) Percent Fill and Weight Guidance*
CCP-SO-LANL-47, Revision 1	*CCP RTR2 Operational and Intermittent E11 and/or E12 Error Code Occurrences*
CCP-SO-LANL-49, Revision 4	*Controlling High FGE Containers*
CCP-SO-LANL-50, Revision 0	*Handling of High Americium (AM-241) Activity Debris Drums*
CCP-SO-LANL-51, Revision 0	*High Energy RTR Key Control*
CCP-SO-LANL-59, Revision 0	*Additional Filter Information for CIN-01 Containers Through FGA*
CCP-LANL-Operator Aid (OA)-2012-01, Revision 2	*LANL Standard Packaging Weights for RTR*
OA-NDA-002, Revision none	No title
OA-NDA-004, Revision 3	No title
OA-NDA-005, Revision 2	*Container Parameters*
LANL-NDE-RTR2-010	Logbook (for 2013)
LANL-NDE-HERTR02-003	Logbook (for 2013)
LANL-NDA-HENC-02-013	Logbook (for 2013)
LANL-NDA-HENC-014	Logbook (for 2013)
LANL-NDA-SHENC-004	Logbook (for 2013)
NTPC-MILCC-002	Logbook (for 2013)
LANL-HSG-TRANS-017	Logbook (for 2013)
LAVE500333	BDR for VE of container S835304
3LANDA0149	BDR for NDA of containers 93213, 93214, 93215, 93232, 93163
3LANDA0167	BDR for NDA of containers 93209, 93269, 93478, 93501, 93535
LA-RTR2-13-0086	BDR for real-time radiography (RTR) of containers 67198, 67182, 67181, 67178, 67179, 66986, 67304, 67180, 67187, 67185, 66945, 67183, 67186
LA-RTR2-13-0088	BDR for RTR of containers 93866, 93863, 93856, 93859, 93871, 93861, 93880, 93877
LA-HERTR-13-0078	BDR for RTR of containers S811731, 93081
LA-HERTR-13-0072	BDR for RTR of containers 53885, 54211, 52304, 53877, 93756, 93809, 93810, 93777, 93770, 93769, 93771
LAVE550115	BDR for VE of containers 67210, 67366
LAVE550116	BDR for VE of containers 67216, 67301
1LANDA1795	BDR for NDA of containers 93834, 93833, 93838, 93839, 93827, 93192, 93153, 92559, 92561, 62025
1LANDA1796	BDR for NDA of containers 93080, 67186, 66882, S800594, 66657, 67187, 67185
2LANDA1182	BDR for NDA of containers 93819, 93092, 93201, 93203, 93205, 91504, S850246, 93347, 93226
2LANDA1183	BDR for NDA of containers 67179, 67304, 67180, 67198, 67182, 67178, 67181, 67344
	Reviewed the following BDRs in-process (while observing examination being performed on the container[s] listed below) – not all related documents were completed at time of review: • LA-RTR2-13-0099, containers 94128, 94122, 94138 • LAHERTR-13-0092, container 94154 • 2LANDA1210, container 57333 • 1LANDA1827, container 94108
	Email from T. A. Groover, dated 5/1/13, delegating Dave Hemsing as Visual Examination Expert (VEE)
	Reviewed training/qualification/documentation files for the following personnel (persons involved with the CCP Mobile Loading Unit [MLU] area): • Ed Anaya

Document Identification	Document Title or Description
	○ CH Packaging Operator SME/OJT [Subject Matter Expert/On-the-Job-Trainer] ○ RH Packaging Operator SME/OJT ○ TRUPACT-III Packaging Operator SME/OJT ○ HLD [Helium Leak Detection] Level II ○ PCLT [Pressure Change Leak Detection] Level II ○ Eye examination • Bob Houdashelt ○ CH Packaging Operator SME/OJT ○ RH Packaging Operator SME/OJT ○ HLD Level II ○ Eye examination • Kevin McTaggart ○ CH Packaging Operator SME/OJT ○ HLD Level II ○ Eye examination • Wade Weyerman ○ HLD Level III (including TRUPACT-III)

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
AURS-led partnership with B&W and AREVA

QA:14:01025
UFC:2300.00

INTEROFFICE CORRESPONDENCE

DATE: April 17, 2014

FROM: V. K. Cannon V. K. Cannon LOCATION: Assurance Programs

TO: D. E. Gulbransen ED LOCATION: National TRU Program Certification

SUBJECT: INFORMATION COPY OF COMPLETED CENTRAL CHARACTERIZATION PROGRAM SURVEILLANCE REPORT SUR-LANL-01-14, VERIFICATION OF NONDESTRUCTIVE EXAMINATION AT LANL

Attached is the subject surveillance report. There were two WIPP Forms issued, one issue Corrected During the Surveillance, no Observations, and two Recommendations.

If you have any questions, please contact me at Extension 8112.

VMW:jmc

Attachment

cc: NWP

W. W. Cameron	ED
A. D. Chavarria	ED
A. J. Fisher	ED
T. A. Groover	ED
M. S. Hendrickson	ED
J. E. Hoff	ED
L. R. Jones	ED
T. Mojica	ED
M. L. Sensibaugh	ED
C. E. Simmons	ED
V. M. Waldram	ED
M. A. Walker	ED
NTPC Records Custodian	GSA-212

LANL

S. A. Miller	ED

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 4/24/14 SN

SURVEILLANCE REPORT

SUR-LANL-01-14

CENTRAL CHARACTERIZATION PROGRAM

Verification of Nondestructive Examination Operations at LANL

Surveillance Team Lead:	A. D. Chavarria		4/3/2014
	print name	signature	date
Assurance Programs Manager:	V. K. Cannon		4/14/14
	print name	signature	date

I. Summary of Results

In performing the surveillance of Nondestructive Examination Operations at Los Alamos National Labs, personnel training, independent reviews, and other VE and RTR operations were verified as being adequately implemented.

In total, there were two findings, one issue corrected during the surveillance, and two recommendations identified during the performance of the surveillance. Details of the issues are documented in Sections *VI Findings*, *VIII Issues Corrected During the Surveillance* and *XI Recommendations*. Except as noted in Sections *VI Findings* and *VIII Issues Corrected During the Surveillance* the areas assessed were determined to be adequate and satisfactorily meet the requirements.

Refer to *Attachment 1 Surveillance Checklist* for further details of this surveillance.

Records/Documents Reviewed or Utilized

- NDE Batch Data Reports: VE: LAVE550119, LAVE500504; RTR: LA-RTR2-14-0015, LA-RTR2-14-0016, LA-RTR2-14-0019, LA-HERTR-14-0016, LA-HERTR-14-0017
- Operational Logbooks: LANL-NDE-RTR2-011, LANL-NDE-HERTR2-004
- CCP-SO-LANL-47, CCP RTR 2 Operational Testing and Intermittent E11 and/or E12 Error Code Occurrences, Revision 1
- CCP-TP-198, *CCP HE-RTR Operating Procedure*, Revision 7, Attachment 1 – NDE Daily Pre-Operational Checklist as documented on 2/6/2014
- NTPC - Los Alamos National Labs (LANL) List of Qualified Individuals 2/19/2014 2:49 PM

II. Surveillance Scope

This surveillance was intended to verify that the requirements for the operations of NDE (VE/RTR) are being adequately met by NDE personnel. The scope of this surveillance included training verification, verification of independent reviews, and verification of procedural compliance for NDE operations.

III. Criteria

The criteria from CCP-TP-053 *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, Revision 14; CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination*, Revision 18; CCP-TP-122, *CCP RTR #2 Operating Procedure*, Revision 4 and CCP-TP-198, *CCP HE-RTR Operating Procedure*, Revision 7, were used for this surveillance. A checklist based on the procedural requirements was used to verify compliance, and to document specific details of the surveillance activities. The completed checklist is provided as an attachment to this surveillance report.

IV. Personnel Contacted During the Surveillance

A. Elliott, RTR Subject Matter Expert (SME)
T.A. Groover, Site Project Manager
T. Hasselstrom, RTR Operator
T. Mojica, Vendor Project Manager (VPM)
B. Maestas, RTR Operator
E. Rios, RTR Operator
C. Simmons, Project Manager
M. Simmons, RTR Operator
K. Simpson, RTR Subject Matter Expert (SME)
J. Thompson, Visual Examination Expert

V. Details

In total, there two findings, one issue corrected during the surveillance, and two recommendations identified during the performance of the surveillance. Details of the issues are documented in Sections *VI Findings*, *VIII Issues Corrected During the Surveillance* and *XI Recommendations*. Except as noted in Sections *VI Findings* and *VIII Issues Corrected During the Surveillance* the areas assessed were determined to be adequate and satisfactorily meet the requirements.

It was verified that NDE personnel are adequately trained and qualified to perform VE and RTR operations. This was performed by verifying that individuals performing Visual Examination (VE) and Real-Time Radiography (RTR) operators were documented as being qualified on the List of Qualified Individuals (LOQI) and be attending plan-of-the-day meetings where the Vendor Project Manager reviews qualifications daily.

It was verified that Independent Reviews are being adequately performed for both VE and RTR operations. Independence of the individual performing the reviews was verified by comparing approval signatures documented on the batch data reports (BDRs) that were reviewed. Thus no operator was documented as reviewing their own work.

Except as stated in Sections *VI Findings* and *VIII Issues Corrected During the Surveillance*, it was verified that VE and RTR operations are performed according to procedural requirements. VE operations were verified as being adequately performed by reviewing BDRs generated as a result of characterization activities. RTR operations were verified as being adequately performed by directly observing personnel perform start-up activities and operate the RTR2 and High Energy-RTR characterization units.

Thus, except where stated otherwise, the areas assessed were determined to be adequate and satisfactorily meet the requirements.

VI. Findings (NCR/WIPP FORM)

There were two findings in performing this surveillance. Details of each finding are listed below.

Finding 1 (submitted as WF14-084):

Issue:

-While performing the video/audio recorded media system startup/image test for, the operator did not label the primary video/audio recording media.

-Information was entered onto CCP-TP-053 *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, Revision 14, Attachment 2 – CCP Radiography Data Sheet before the container was loaded onto the HE-RTR unit.

-For RTR2 operations the operator did not perform shut down steps in order and closed x-ray shutter after turning Control Panel Power key switch to off position and removing control panel key.

-For HERTR operations the operator started the imaging and control/archive computer before obtaining the power and LINAC enable keys.

Requirement not met:

Per CCP-PO-005, CCP Conduct of Operations, Revision 24, Section 18.7

"Numbered procedure steps will be performed in the order written unless specifically stated otherwise."

Finding 2 (submitted as WF14-050):

Issue:

-While performing drum scans for LA-RTR2-14-0016, container 69332, the operator had entered the incorrect waste stream onto CCP-TP-053 *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, Revision 14, Attachment 2 – CCP Radiography Data Sheet. To correct the item, the operator reentered the missing information and reprinted the page containing correction.

-While reviewing information entered onto CCP-TP-053 *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, Revision 14, Attachment 2 – CCP Radiography Data Sheet for BDR LA-RTR2-14-0019, the assessor identified an entry error for packaging materials for container 69372. To correct the entry error the operator reentered the information and reprinted the page in question.

-While reviewing information entered onto CCP-TP-053 *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, Revision 14, Attachment 2 – CCP Radiography Data Sheet, the assessor identified that the operator did not complete the box "NCR(s) associated with the container?" The operator was notified of the misstep, but the operator reentered the missing information and reprinted the data sheet.

Requirement not met:

Per CCP-QP-008, CCP Records Management, Revision 21, Section 4.7 and 4.7.1[A.1]:

"**NOTE** When in-process record/records intended to become QA Records are being generated they shall be maintained (do not remove or destroy) and if corrections are required, then perform this by proper correction, superceding, or voiding as directed in the following sections of this procedure."

"[A.1] Correct errors by drawing a single line through the incorrect information (leaving the original text readable), entering the correct information, **AND** initialing and dating each correction made."

VII. Other Conditions Requiring Resolution

There were no other conditions resolution identified while performing this surveillance.

VIII. Issues Corrected During Surveillance (CDS)

During the surveillance one issue was discovered and corrected during the surveillance (CDS). The issue, the pertinent requirement and the resolution are listed below.

CDS 1 (submitted as WF14-085):

Issue:

A prefilled version of CCP-TP-053 *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, Revision 14, Attachment 5 – CCP Radiography Batch Data Report Cover Sheet was to be used for documenting containers on the BDR.

Requirement not met:

Per CCP-PO-005, CCP Conduct of Operations, Revision 24, Section 18.8:

"Fields in fillable forms must be blank each time the forms are opened. No pre-filled-in data, information, or checks may be present in any data field when these forms are opened."

Correction Verification:

The assessor verified by observation that the operator removed all entries from the form before being used for operations.

IX. Concerns Previously Identified

The following observation was previously identified during surveillance SUR-LANL-0001-13. The determinations for the issue is documented in bold below.

Review of – *Observation 1:*

The following BDRs contained corrected data entries but Question #12 on the ITR checklist was incorrectly answered: LA-RTR2-13-0020, LA-RTR2-13-0021, LA-RTR2-13-0022, LA-RTR2-13-0023, LA-RTR2-13-0025, LA-RTR2-13-0027 and LA-RTR2-13-0029. No clear direction is given in the procedure as to how the question should be answered.

The Nondestructive examination (NDE) cognizant engineer addressed this observation by providing RTR lead operators with a directive as to how the question will be answered.

This observation will be reviewed during the next surveillance to determine the effectiveness of the directive provided by the NDE cognizant engineer

This item did not recur during the performance of this surveillance. Thus the directive provided can be deemed as effective.

X. Observations

There were no observations in performing this surveillance.

XI. Recommendations

There were two recommendations in performing this surveillance.

Recommendation 1:

The assessor recommends that the RTR Lead Operator perform a review of NDE procedures, including input from operators, to improve procedures to better support process flow and efficiency.

Recommendation 2:

The assessor recommends creating an operator aid for guidance on percent-fill determinations for Pipe Overpack Containers.

XII. Noteworthy Practice

There were no noteworthy practices observed in performing this surveillance.

Attachment 1 SURVEILLANCE CHECKLIST

Surveillance number: SUR-LANL-01-14		Checklist approved by: Antonio D. Chavarria		Date: 1/29/2014
No.	**Reference**	**Criterion**	**Notes (NCR = Nonconformance Report; WF = WIPP Form; CDS = Corrected During the Surveillance; OBS = Observation; OCRR = Other Condition Requiring Resolution))**	**SATISFACTORY (S); UNSATISFACTORY (U); or N/A**
1	CCP-TP-113 CCP Standard Contact-Handled Waste Visual Examination, Revision 18	3.3 Visual Examination Operator (VEO) 3.3.2 Assembles, paginates, and reviews the BDR.	No current VE operations were available for the surveillance. This item was verified by the assessor by reviewing BDRs LAVE550119 and LAVE500504 on 2/12/2014. The BDRs were verified as being satisfactorily assembled, paginated and reviewed. No issues were identified by the assessor	S
2	CCP-TP-113 CCP Standard Contact-Handled Waste Visual Examination, Revision 18	Verify adequate performance of Section: 4.1.3 Scale Operational Check Part [B] Container Scale	No current VE operations were available for the surveillance. This item was verified by the assessor by reviewing BDRs LAVE550119 and LAVE500504 on 2/12/2014. The scale operational check was verified as being adequately performed by reviewing the entries made on Attachment 1 – CCP Waste Visual Examination General Information Form for the listed BDRs. The container scale was identified as being calibrated and fit for use.	S
3	CCP-TP-113 CCP Standard Contact-Handled Waste Visual Examination, Revision 18	Verify adequate performance of Section: 4.6 Batch Data Report Preparation	No current VE operations were available for the surveillance. This item was verified by the assessor by reviewing BDRs LAVE550119 and LAVE500504 on 2/12/2014. All required entries were made and any errors were corrected. The pages were correctly assembled and paginated. Thus, the reviewed BDRs were identified as being satisfactorily prepared.	S
4	CCP-TP-113 CCP Standard Contact-Handled Waste Visual Examination, Revision 18	Verify adequate performance of Section: 4.7 VE Independent Technical Review	No current VE operations were available for the surveillance. This item was verified by the assessor by reviewing BDRs LAVE550119 and LAVE500504 on 2/12/2014. The Independent technical reviews were verified as being satisfactorily performed.	S
5	CCP-TP-053, CCP Standard Real-Time Radiography (RTR) Inspection Procedure, Revision 14	Verify adequate performance of Section: 4.3 Video/Audio Recorded Media System Startup/Image Test	This was verified by the assessor by observing operations of the RTR2 unit in TA-54 Area G, PAD10 on 2/5/2014. This was observed for BDR LA-RTR2-14-0015. In addition to the Section 4.3 the assessor also observed steps for Section 4.1 Waste Container Preparation. Waste container preparation and loading were safely performed in conjunction with fork lift operators. The proper PPE was worn.	U

Surveillance number: SUR-LANL-01-14		Checklist approved by: Antonio D. Chavarria		Date: 1/29/2014
No.	**Reference**	**Criterion**	**Notes (NCR = Nonconformance Report; WF = WIPP Form; CDS = Corrected During the Surveillance; OBS = Observation; OCRR = Other Condition Requiring Resolution))**	**SATISFACTORY (S); UNSATISFACTORY (U); or N/A**
			Except as stated below, the startup image test was verified as being satisfactorily performed and documented by the operator. *Finding 1 (submitted as WF14-084):* *Issue:* -While performing the video/audio recorded media system startup/image test for, the operator did not label the primary video/audio recording media. -Information was entered onto CCP-TP-053 *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, Revision 14, Attachment 2 – CCP Radiography Data Sheet before the container was loaded onto the HE-RTR unit. -For RTR2 operations the operator did not perform shut down steps in order and closed x-ray shutter after turning Control Panel Power key switch to off position and removing control panel key. -For HERTR operations the operator started the imaging and control/archive computer before obtaining the power and LINAC enable keys. *Requirement not met:* Per CCP-PO-005, CCP Conduct of Operations, Revision 24, Section 18.7 "Numbered procedure steps will be performed in the order written unless specifically stated otherwise."	
6	CCP-TP-053, CCP Standard Real-Time Radiography (RTR) Inspection Procedure, Revision 14	Verify adequate performance of Section: 4.4 RTR System Operation	This was verified by the assessor by observing operations of the RTR2 and HE-RTR units in TA-54 Area G, PAD10 on 2/5/2014 (RTR2), 2/6/2014 (HE-RTR) and 2/13/2014 (RTR2). The RTR2 BDRs being prepared were LA-RTR2-14-0015 and LA-RTR2-14-0019. The HE-RTR BDR being prepared was LA-HERTR-14-0017. The assessor verified RTR Data Sheet, SCO 1189 version 2 was approved and listed on the software inventory list on the sftp site. The assessor observed steps 4.4.1 Waste Container Scanning and 4.4.2 Data Entry for the following containers scanned on the RTR2 unit 68871, 69191, 69086, 69268,	U

Surveillance number: SUR-LANL-01-14			Checklist approved by: Antonio D. Chavarria	Date: 1/29/2014
No.	Reference	Criterion	Notes (NCR = Nonconformance Report; WF = WIPP Form; CDS = Corrected During the Surveillance; OBS = Observation; OCRR = Other Condition Requiring Resolution))	SATISFACTORY (S); UNSATISFACTORY (U); or N/A
			69326 and 69267 for LA-RTR2-14-0015 and 69380, 69382 and 69372 for LA-RTR2-14-0019. The following containers scanned on the HE-RTR unit 68139, 68138 and 68137. Except as stated in CDS 1 and Findings 1 and 2, RTR system operation was verified as being satisfactorily performed. *CDS 1 (submitted as WF14-085):* *Issue:* A prefilled version of CCP-TP-053 *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, Revision 14, Attachment 5 – CCP Radiography Batch Data Report Cover Sheet was to be used for documenting containers on the BDR. *Requirement not met:* Per CCP-PO-005, CCP Conduct of Operations, Revision 24, Section 18.8: "Fields in fillable forms must be blank each time the forms are opened. No pre-filled-in data, information, or checks may be present in any data field when these forms are opened." *Correction Verification:* The assessor verified by observation that the operator removed all entries from the form before being used for operations. *Finding 2 (submitted as WF14-050):* *Issue:* -While performing drum scans for LA-RTR2-14-0016, container 69332, the operator had entered the incorrect waste stream onto CCP-TP-053 *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, Revision 14, Attachment 2 – CCP Radiography Data Sheet. To correct the item, the operator reentered the missing information and reprinted the page containing correction. -While reviewing information entered onto CCP-TP-053 *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, Revision 14, Attachment 2 – CCP Radiography Data Sheet for BDR LA-RTR2-14-0019, the assessor identified an entry error for packaging materials for container 69372. To correct	

Surveillance number: SUR-LANL-01-14			Checklist approved by: Antonio D. Chavarria	Date: 1/29/2014
No.	**Reference**	**Criterion**	**Notes (NCR = Nonconformance Report; WF = WIPP Form; CDS = Corrected During the Surveillance; OBS = Observation; OCRR = Other Condition Requiring Resolution))**	**SATISFACTORY (S); UNSATISFACTORY (U); or N/A**
			the entry error the operator reentered the information and reprinted the page in question. -While reviewing information entered onto CCP-TP-053 *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, Revision 14, Attachment 2 – CCP Radiography Data Sheet, the assessor identified that the operator did not complete the box "NCR(s) associated with the container?" The operator was notified of the misstep, but the operator reentered the missing information and reprinted the data sheet. *Requirement not met:* Per CCP-QP-008, CCP Records Management, Revision 21, Section 4.7 and 4.7.1[A.1]: "**NOTE** When in-process record/records intended to become QA Records are being generated they shall be maintained (do not remove or destroy) and if corrections are required, then perform this by proper correction, superceding, or voiding as directed in the following sections of this procedure." "[A.1] Correct errors by drawing a single line through the incorrect information (leaving the original text readable), entering the correct information, **AND** initialing and dating each correction made." Recommendation 1: The assessor recommends that the RTR Lead Operator perform a review of NDE procedures, including input from operators, to improve procedures to better support process flow and efficiency. Recommendation 2: The assessor recommends creating an operator aid for guidance on percent-fill determinations for Pipe Overpack Containers.	
7	CCP-TP-053, CCP Standard Real-Time Radiography (RTR) Inspection Procedure, Revision 14	Verify adequate performance of Section: 4.5 Replicate Scan	This was verified by the assessor by observing operations of the RTR2 unit in TA-54 Area G, PAD10 on 2/5/2014. This was observed for BDR LA-RTR2-14-0015. In addition to the replicate scan the assessor also observed the independent observation as performed by the second,	S

Surveillance number: SUR-LANL-01-14		Checklist approved by: Antonio D. Chavarria		Date: 1/29/2014
No.	**Reference**	**Criterion**	**Notes (NCR = Nonconformance Report; WF = WIPP Form; CDS = Corrected During the Surveillance; OBS = Observation; OCRR = Other Condition Requiring Resolution))**	**SATISFACTORY (S); UNSATISFACTORY (U); or N/A**
			independent operator. The replicate container observed was 69326. While performing the scan of the container, the RTR unit displayed an E11 – E12 error code. The operator performed the required notifications and cleared the error code as directed in CCP-SO-LANL-47, revision 1. The operator documented the replicate results and compared to the original drum data sheet. Thus, the replicate scan was verified as being satisfactorily performed. The independent observation container was 69267. The operator documented the independent observation results and compared to the original drum data sheet. Thus, the independent observation was verified as being satisfactorily performed.	
8	CCP-TP-053, CCP Standard Real-Time Radiography (RTR) Inspection Procedure, Revision 14	Verify adequate performance of Section: 4.9 Batch Data Report Preparation	This was verified by the assessor by observing operations of the RTR2 on 2/5/2014 and HE-RTR on 2/6 and 2/7/2014. The RTR2 BDR being prepared was LA-RTR2-14-0015. The HE-RTR BDR being prepared was LA-HERTR-14-0017. An additional portion of the BDR preparation is review and verification of the data by the operator: this is performed in the RTR office. Of the observed steps, BDRs were verified as being satisfactorily prepared.	S
9	CCP-TP-053, CCP Standard Real-Time Radiography (RTR) Inspection Procedure, Revision 14	Verify the adequate performance of the following Section: 4.10 RTR Independent Technical Review	This was verified by the assessor by observing the independent technical review (ITR) performed in the RTR office on 2/6/2014 for BDR LA-HERTR-14-0016. The operator performed a thorough review of all attachments, all data entries and video recordings. No issues were discovered by the ITR. The operator completed the required attachments. Thus, it was verified that the RTR ITR was satisfactorily performed.	S
10	CCP-TP-122, CCP RTR #2 Operating Procedure, Revision 4	Verify the adequate performance of the following Section: 2.6 Prerequisite Actions	This was verified by the assessor by observing RTR2 prerequisite operations on 2/13/2014. Prerequisite actions for BDR LA-RTR2-14-0019 were observed. This was also verified by the assessor by observing plan-of-the-day meeting on	S

Surveillance number: SUR-LANL-01-14		Checklist approved by: Antonio D. Chavarria		Date: 1/29/2014
No.	Reference	Criterion	Notes (NCR = Nonconformance Report; WF = WIPP Form; CDS = Corrected During the Surveillance; OBS = Observation; OCRR = Other Condition Requiring Resolution))	SATISFACTORY (S); UNSATISFACTORY (U); or N/A
			2/19/2014 and reviewing NTPC - Los Alamos National Labs (I ANL) List of Qualified Individuals 2/19/2014 2:49 PM. Prerequisite actions were verified as being performed by the RTR2 operator including performing a safety walkdown, VPM ensuring qualifications (performed daily) and verification of the RP-3 compliance label. All items were deemed satisfactory and were documented in logbook LANL-NDE-RTR2-011. Additional training verification was verified by reviewing Thus, all prerequisite actions were verified as being satisfactorily performed.	
11	CCP-TP-122, CCP RTR #2 Operating Procedure, Revision 4	Verify the adequate performance of the following Section: 4.1 RTR System Start-up	This was verified by the assessor by observing RTR2 prerequisite operations on 2/13/2014. Start-up operations for BDR LA-RTR2-14-0019 were observed. The aseessor observed that all start-up operations were safely performed: radiation surveys were satisfactory, all lights and indicators were functional, no errors were encountered, and the operation center was notified of system readiness for operation.	S
12	CCP-TP-122, CCP RTR #2 Operating Procedure, Revision 4	Verify the adequate performance of the following Section: 4.2 RTR System Operations	This was verified by the assessor by observing RTR2 drum loading activities, by observing image intensifier/drum scanning and by observing drum unloading activities on 2/13/2014. RTR system operations for BDR LA-RTR2-14-0019 were observed. The assessor verified that drum loading and unloading activities were safely and adequately performed. Waste container preparation and loading were safely performed in conjunction with fork lift operators. The proper PPE was worn. Drum scanning was observed for containers 69380, 69382 and 69372. Thus, RTR2 system operations were verified as being satisfactorily performed.	S
13	CCP-TP-122, CCP RTR #2 Operating Procedure, Revision 4	Verify the adequate performance of the following Section: 4.6 RTR System Shut-down	This was verified by the assessor by observing operations of the RTR2 unit in TA-54 Area G, PAD10 on 2/5/2014. Except as stated in Finding 1, the operator adequately shut down the RTR2 unit.	S

Surveillance number: SUR-LANL-01-14		Checklist approved by: Antonio D. Chavarria		Date: 1/29/2014
No.	Reference	Criterion	Notes (NCR = Nonconformance Report; WF = WIPP Form; CDS = Corrected During the Surveillance; OBS = Observation; OCRR = Other Condition Requiring Resolution))	SATISFACTORY (S); UNSATISFACTORY (U); or N/A
14	CCP-TP-122, CCP RTR #2 Operating Procedure, Revision 4	Verify the adequate performance of the following Section: 4.7 Radiological Surveys Record the date, time, and any abnormal results of the RCT's daily surveys in the NDE Operational Logbook.	This was verified by the assessor by observing operations of the RTR2 unit in TA-54 Area G, PAD10 on 2/5/2014. A radiological survey was performed by a LANL operator. The survey was deemed satisfactory and documented in logbook LANL-NDE-RTR2-011 by the operator. Thus, radiological survey documentation was verified as being adequately performed.	S
15	CCP-TP-198, CCP HE-RTR Operating Procedure, Revision 7	Verify the adequate performance of the following Sections: 4.1 HE-RTR Equipment Start-Up 4.2 LINAC Warm Up 4.3 Detector Calibration	This was verified by the assessor by observing operations of the HE-RTR unit in TA-54 Area G for BDR LA-HERTR-14-0017 on 2/6/2014. The operator was observed performing equipment start-up, LINAC warm up and detector calibration. This included completing Attachment 1 – NDE Daily Pre-Operational Checklist. Except as stated below, it was verified that start-up, warm-up and calibration activities were satisfactorily performed for HE-RTR operations.	S
16	CCP-TP-198, CCP HE-RTR Operating Procedure, Revision 7	Verify the adequate performance of the following Sections: 4.4 System Operation	This was verified by the assessor by observing operations of the HE-RTR unit in TA-54 Area G for BDR LA-HERTR-14-0017on 2/6/2014. The assessor observed operation of the HE-RTR unit for containers 68139, 68138 and 68137. Thus, it was verified that system operation of the HE-RTR is satisfactorily performed.	S
17	CCP-TP-198, CCP HE-RTR Operating Procedure, Revision 7	Verify the adequate performance of the following Sections: Section 4.5 HE-RTR Shut-Down	This was verified by the assessor by observing operations of the HE-RTR unit in TA-54 Area G on 2/6/2014. Final entries were verified as being entered into the logbook: LANL-NDE-HERTR2-004. All shut down steps were verified as being satisfactorily performed.	S
18	SUR-LANL-0001-13	One observation was identified during the performance of this surveillance. Observation 1 – The following BDRs contained	This item did not recur during the performance of this surveillance.	S

Surveillance number: SUR-LANL-01-14		Checklist approved by: Antonio D. Chavarria		Date: 1/29/2014
No.	Reference	Criterion	Notes (NCR = Nonconformance Report; WF = WIPP Form; CDS = Corrected During the Surveillance; OBS = Observation; OCRR = Other Condition Requiring Resolution))	SATISFACTORY (S); UNSATISFACTORY (U); or N/A
		corrected data entries but Question #12 on the ITR checklist was incorrectly answered: LA-RTR2-13-0020, LA-RTR2-13-0021, LA-RTR2-13-0022, LA-RTR2-13-0023, LA-RTR2-13-0025, LA-RTR2-13-0027 and LA-RTR2-13-0029. No clear direction is given in the procedure as to how the question should be answered. The Nondestructive examination (NDE) cognizant engineer addressed this observation by providing RTR lead operators with a directive as to how the question will be answered. This observation will be reviewed during the next surveillance to determine the effectiveness of the directive provided by the NDE cognizant engineer.		

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:14:01146
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: May 29, 2014

FROM: T. Groover TG Groover LOCATION: CCP Certification

TO: C.E. Simmons ED LOCATION: CCP Operations
Los Alamos National Laboratory

SUBJECT: ACCEPTABLE KNOWLEDGE ACCURACY REPORT CCP-AK-LANL-010: LOS ALAMOS NATIONAL LABORATORY WASTE STREAM NUMBER LA-MSG04.001, CONTAMINATED SOIL FROM TA-21, LOTS 1 THROUGH 3

Purpose

CCP-TP-005, *CCP Acceptable Knowledge Documentation*, requires that Acceptable Knowledge (AK) accuracy be evaluated and documented, either on a lot or waste stream basis. The purpose of this correspondence is to document the results of the AK accuracy evaluation for containers in waste stream LA-MSG04.001, Contaminated Soil from TA-21, lots 1 - 3.

Methodology

In accordance with CCP-TP-005, the CCP Acceptable Knowledge Characterization Checklists (Attachment 13) for each lot in waste stream LA-MSG04.001 subject to this AK accuracy review were evaluated. Acceptable Knowledge Re-Evaluation Checklists (Attachment 10), as applicable, were also reviewed as part of the AK accuracy determination.

The results of the AK accuracy evaluation for waste stream LA-MSG04.001, lots 1 - 3, are documented on the attached AK Accuracy Report Form, Attachment 14 (See attachment 1). A total of 11 containers have been evaluated for AK accuracy and are provided as attachment 2. Containers that had the Waste Matrix Code (WMC) reassigned, Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWNs) reassigned, or were found to have radiological data inconsistent with AK, are identified on the AK Accuracy Report Form. The results of the AK Accuracy determination for waste stream LA-MSG04.001, lots 1 - 3, are addressed in the following sections of this correspondence.

Results of AK Accuracy Determination

Acceptable Knowledge Re-Evaluation and Confirmation for Waste Stream LA-MSG04.001

No AK Re-evaluation Checklists were prepared and reviewed for waste containers in waste stream LA-MSG04.001, lots 1 - 3. A review of CCP Waste Stream Characterization Checklists indicates the following:

NTPC RECORDS ORIGINAL
DATE REC'D 6/11/14

- No containers were reassigned to a different WMC. Consistent with AK, the waste reviewed during this evaluation period is greater than 50 percent soil and gravel.

- No new EPA HWNs were assigned to this waste stream.

- AK identifies U-238 and Pu-239 as the two most prevalent isotopes by weight percent. The two most prevalent nuclides in each lot were not always consistent with AK, but this was not considered significant because the isotopes identified were anticipated in the waste (e.g., Am-241, and Pu-240).

The waste material parameters, EPA HWNs and radionuclides are, within reasonable error, as predicted in the AK.

Containers Requiring Special Consideration

No AK re-evaluation occurred during this AK accuracy evaluation period.

Summary

There are a total of 11 waste containers in lots 1 - 3 for waste stream LA-MSG04.001. Of these containers, all were determined to be consistent with AK.

The percent of waste containers found to be consistent with AK is therefore:

11/11 x 100% = 100%

This AK Accuracy Report has been prepared in accordance with CCP-TP-005. The original Attachment 14, AK Accuracy Report, and the supporting list of waste containers in lots 1 - 3 for waste stream LA-MSG04.001 are provided to the Site Project Manager for review, in accordance with CCP-TP-005 requirements.

If you have any questions, or if you would like more information about the contents of this AK Accuracy Report, please contact Ms. T. Groover at (505) 606-2344.

TG:jmc

Enclosures
1 – CCP-TP-005 Attachment 14, CCP AK Accuracy Report
2 – CCP Correlation of Container Identification Numbers to Batch Data Report Numbers, Lots 1 - 3

cc: NWP
(without enclosures)
M. F. Ramirez ED

(with enclosures)
NTPC Records Custodian GSA-212

TechSpecs
(without enclosures)
M. Papp ED

Attachment 14 – CCP Acceptable Knowledge Accuracy Report

CCP Acceptable Knowledge Accuracy Report

Site(s): LANL

Waste Stream Number(s): LA-MSG04.001, LOTS 1 - 3

Waste Stream Description: SOILS FROM TA-21

Waste Containers:	Waste Matrix Code Reassigned? (Y/N)	EPA Hazardous Waste Number Reassigned? (Y/N)	Radiological Data Consistent with AK? (Y/N)
NA	N	N	Y
	5 29 14		

Total containers in this report: 11
Total containers consistent with AK: 11
Percent containers consistent with AK: 100

Site Project Manager:

T. Groover / [signature]
Print Sign

Date: 5-29-14

CCP-TP-002 Rev. 25
Effective Date: 2/11/2013
CCP Reporting of DQO's and Reporting Characterization Data

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MSG04.001 Lot # 1

Container ID Number	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDRs	Load Management/ Overpack Yes
LA00000089891	2LANDA0878	LA-RTR2-11-0116	NA	SSG12-00006	ALD12028M ALD12028N ALD12028S ALD12028V	
LA00000089892	2LANDA0878	LA-RTR2-11-0116	NA	SSG12-00006	ALD12028M ALD12028N ALD12028S ALD12028V	
LA00000089983	1LANDA1470	LA-RTR2-11-0116	NA	SSG12-00006	ALD12028M ALD12028N ALD12028S ALD12028V	
LA00000089984	1LANDA1470	LA-RTR2-11-0116	NA	SSG12-00006	ALD12028M ALD12028N ALD12028S ALD12028V	
LA00000089987	1LANDA1470	LA-RTR2-11-0116	NA	SSG12-00006	ALD12028M ALD12028N ALD12028S ALD12028V	

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

6/4/2013
Date

CIS003

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MSG04.001 2

Container ID Number	NDA BDR	RTR BDR	VE BDR	Load Management/ Overpack Yes	Transportation Headspace Gas BDR
89982	2LANDA0878	LA-RTR2-11-0116	N/A		LA11FG2086
89985	1LANDA1470	LA-RTR2-11-0116	N/A		LA11FG2086
89986	2LANDA0878	LA-RTR2-11-0116	N/A		LA11FG2086
89988	2LANDA0878	LA-RTR2-11-0116	N/A		LA11FG2086

Signature of Site Project Manager

Jim Eastham — Printed Name

6/27/2013 — Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MSG04.001

Lot # 3

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
56537	LA0000005	1LANDA1836	LA-HERTR-12-0111	N/A	No	LA13FG2127	N/A
66147	LA0000006	3LANDA0239	LA-HERTR-12-0109	N/A	No	LA14FG12014	N/A

Rick Whiteley
Signature of Site Project Manager

Rick Whiteley
Printed Name

02/03/2014
Date

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:14:01155
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: May 29, 2014

FROM: T. Groover LOCATION: CCP Certification

TO: C.E. Simmons ED LOCATION: CCP Operations
Los Alamos National Laboratory

SUBJECT: ACCEPTABLE KNOWLEDGE ACCURACY REPORT CCP-AK-LANL-004: LOS ALAMOS NATIONAL LABORATORY WASTE STREAM NUMBER LA-MHD09.001, HETEROGENEOUS DEBRIS WASTE FROM TA-50, LOTS 11 THROUGH 24

Purpose

CCP-TP-005, *CCP Acceptable Knowledge Documentation*, requires that Acceptable Knowledge (AK) accuracy is evaluated and documented, either on a lot or waste stream basis. The purpose of this correspondence is to document the results of the AK accuracy evaluation for containers in waste stream LA-MHD09.001, Heterogeneous Debris Waste from TA-50, lots 11 - 24.

Methodology

In accordance with CCP-TP-005, the CCP Acceptable Knowledge Characterization Checklists (Attachment 13) for each lot in waste stream LA-MHD09.001 subject to this AK accuracy review were evaluated. Acceptable Knowledge Re-Evaluation Checklists (Attachment 10), as applicable, were also reviewed as part of the AK accuracy determination.

The results of the AK accuracy evaluation for waste stream LA-MHD09.001, lots 11 - 24, are documented on the attached AK Accuracy Report Form, Attachment 14 (See attachment 1). A total of 51 containers have been evaluated for AK accuracy and are provided as attachment 2. Containers that had the waste matrix code (WMC) reassigned, Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWNs) reassigned, or were found to have radiological data inconsistent with AK, are identified on the AK Accuracy Report Form. The results of the AK Accuracy determination for waste stream LA-MHD09.001, lots 11 - 24, are addressed in the following sections of this correspondence.

Results of AK Accuracy Determination

Acceptable Knowledge Re-Evaluation and Confirmation for Waste Stream LA-MHD09.001

Two AK Re-evaluation Checklists were prepared for waste containers in waste stream LA-MHD09.001, lots 11 - 24. A review of CCP Waste Stream Characterization Checklists indicates the following:

- Three containers (91479, 91988 and 91989) were reassigned to a different WMC. Consistent with AK, the waste is greater than 50 percent heterogeneous debris.
- No new EPA HWNs were assigned to this waste stream.

NTPC RECORDS ORIGINAL
DATE REC'D 06/11/14

- The AK identifies Pu-239 and U-238 as the two most prevalent isotopes by weight percent. The two most prevalent nuclides in each lot were not always consistent with AK, but this was not considered significant because the isotopes identified were anticipated in the waste (e.g. Am-241, Pu-240) and the two most predominant isotopes for the waste stream remain consistent with AK.

The waste material parameters, EPA HWNs and radionuclides are, within reasonable error, as predicted in the AK.

Containers Requiring Special Consideration

Two AK re-evaluations occurred during this AK accuracy evaluation period resulting in the reassignment of containers 91479, 91988 and 91989 to a different WMC (homogeneous solids).

Summary

There are a total of 51 waste containers in lots 11 - 24 for waste stream LA-MHD09.001. Of these containers, 48 were determined to be consistent with AK.

The percent of waste containers found to be consistent with AK is therefore:

48/51 x 100% = 94.1%

This AK Accuracy Report has been prepared in accordance with CCP-TP-005. The original Attachment 14, AK Accuracy Report, and the supporting list of waste containers in lots 11 - 24 for waste stream LA-MHD09.001 are provided to the Site Project Manager for review, in accordance with CCP-TP-005 requirements.

If you have any questions, or if you would like more information about the contents of this AK Accuracy Report, please contact Ms. T. Groover at (505) 606-2344.

TG:jmc

Enclosures
1 – CCP-TP-005 Attachment 14, CCP AK Accuracy Report
2 – CCP Correlation of Container Identification Numbers to Batch Data Report Numbers, Lots 11 - 24

cc: NWP
(without enclosures)
M. F. Ramirez ED

(with enclosures)
NTPC Records Custodian GSA-212

TechSpecs
(without enclosures)
M. Papp ED

Attachment 14 – CCP Acceptable Knowledge Accuracy Report

CCP Acceptable Knowledge Accuracy Report

Site(s): LANL

Waste Stream Number(s): LA-MHD09.001; LOTS 11 - 24

Waste Stream Description: HETEROGENEOUS DEBRIS WASTE FROM TA-50

Waste Containers:	Waste Matrix Code Reassigned? (Y/N)	EPA Hazardous Waste Number Reassigned? (Y/N)	Radiological Data Consistent with AK? (Y/N)
91479	Y	N	Y
91988	Y	N	Y
91989	Y	N	Y
	5.29.14		

Total containers in this report: 51
Total containers consistent with AK: 48
Percent containers consistent with AK: 94.1

Site Project Manager:

T. Groover / [signature]
Print Sign

Date: 5.29.14

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 11

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Load Management/ Overpack Yes	Transportation
52316	LA00000052316	4LANDA0016	LA-HERTR-12-0031	N/A	No	LA12FG8031
56500	LA00000056500	4LANDA0003	LA-HERTR-12-0033	N/A	No	LA12FG8027

ROGER WHITEAKER Roger Whiteaker 4/30/2014
Signature of Site Project Manager

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 12

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
53877	LA00000053877	4LANDA0012	LA-HERTR-13-0072	N/A	No	LA13FG12090	N/A
54205	LA00000054205	4LANDA0013	LA-HERTR-13-0069	N/A	No	LA13FG2099	N/A
91862	LA00000091862	2LANDA1032	LA-RTR2-12-0093	N/A	No	LA12FG8067	N/A
91863	LA00000091863	2LANDA1032	LA-RTR2-12-0093	N/A	No	LA12FG12030	N/A
91864	LA00000091864	2LANDA1032	LA-RTR2-12-0093	N/A	No	LA12FG8058	N/A
91865	LA00000091865	2LANDA1032	LA-RTR2-12-0093	N/A	No	LA12FG12030	N/A

Veronica Waldram
Signature of Site Project Manager

Veronica Waldram
Printed Name

09/17/2013
Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 13

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
53879	LA00000053879	4LANDA0013	LA-HERTR-13-0070	N/A	No	LA13FG2101	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
10/01/2013 — Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001

Lot # 14

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
53899	LA00000053899	4LANDA0014	LA-HERTR-13-0071	N/A	No	LA13FG2104	N/A
SB10163	N/A	3LANDA0203	LA-HERTR-13-0103	N/A	No	LA13FG2103	N/A

Veronica Waldram
Signature of Site Project Manager

Veronica Waldram
Printed Name

10/03/2013
Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 15

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
SB10151	N/A	3LANDA0202	LA-HERTR-13-0103	N/A	No	LA13FG12101	N/A
SB10155	N/A	3LANDA0203	LA-HERTR-13-0103	N/A	No	LA13FG2103	N/A
SB10156	N/A	3LANDA0203	LA-HERTR-13-0103	N/A	No	LA13FG2103	N/A
SB10157	N/A	3LANDA0203	LA-HERTR-13-0103	N/A	No	LA13FG2103	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
10/14/2013 — Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001

Lot # 16

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
SB10152	N/A	3LANDA0211	LA-HERTR-13-0103	N/A	No	LA13FG2108	N/A
SB10153	N/A	3LANDA0212	LA-HERTR-13-0103	N/A	No	LA13FG2109	N/A
SB10154	N/A	3LANDA0211	LA-HERTR-13-0104	N/A	No	LA13FG2108	N/A

Veronica Waldram
Signature of Site Project Manager

Veronica Waldram
Printed Name

11/05/2013
Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001

Lot # 17

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
SB10150	LASB10150	3LANDA0218	LA-HERTR-13-0103	N/A	No	LA13FG12113	N/A
SB10158	LASB10158	3LANDA0218	LA-HERTR-13-0103	N/A	No	LA13FG12113	N/A
SB10159	LASB10159	3LANDA0218	LA-HERTR-13-0104	N/A	No	LA13FG12113	N/A
SB10160	LASB10160	3LANDA0214	LA-HERTR-13-0110	N/A	No	LA13FG12113	N/A
SB10161	LASB10161	3LANDA0215	LA-HERTR-13-0110	N/A	No	LA13FG2112	N/A
SB10162	LASB10162	3LANDA0218	LA-HERTR-13-0104	N/A	No	LA13FG12113	N/A
SB10165	LASB10165	3LANDA0215	LA-HERTR-13-0110	N/A	No	LA13FG12113	N/A
SB10166	LASB10166	3LANDA0214	LA-HERTR-13-0110	N/A	No	LA13FG12113	N/A
						LA13FG2112	N/A

Veronica Waldram
Signature of Site Project Manager

Veronica Waldram
Printed Name

11/15/2013
Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001

Lot # 18

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
SB10164	SB10164	3LANDA0217	LA-HERTR-13-0110	N/A	No	LA13FG12113	N/A
SB10169	SB10169	3LANDA0217	LA-HERTR-13-0104	N/A	No	LA13FG12113	N/A

Signature of Site Project Manager

Rick Whiteley
Printed Name

11/20/2013
Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 19

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
56513	LA00000056513	1LANDA1414	LA-RTR2-11-0054	N/A	Yes	LA13FG2127	N/A
S810637	LAS810637	1LANDA1414	LA-RTR2-11-0054	N/A	No	LA13FG2127	N/A

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 01/24/2014 (Date)

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 20

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
53889	LA00000053889	4LANDA0028	LA-HERTR-13-0123	N/A	No	LA14FG2017	N/A
65223	LA00000065223	1LANDA1904	LA-RTR2-14-0013	N/A	No	LA14FG2016	N/A
69049	LA00000069049	1LANDA1888	LA-RTR2-14-0001	N/A	No	LA14FG12009	N/A

Roger Whiteaker — Signature of Site Project Manager

Roger Whiteaker — Printed Name

02/12/2014 — Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 21

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68269	LA00000068269	4LANDA0050	LA-HERTR-14-0019	N/A	Yes	LA14FG2023	N/A
68272	LA00000068272	4LANDA0050	LA-HERTR-14-0019	N/A	Yes	LA14FG2024	N/A
68276	LA00000068276	3LANDA0244	LA-HERTR-14-0021	N/A	Yes	LA14FG2025	N/A
68278	LA00000068278	4LANDA0053	LA-HERTR-14-0021	N/A	Yes	LA14FG2025	N/A

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 02/25/2014 (Date)

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 22

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68281	LA00000068281	3LANDA0246	LA-HERTR-14-0023	N/A	No	LA14FG2030	N/A
68282	LA00000068282	3LANDA0244	LA-HERTR-14-0021	N/A	No	LA14FG2028	N/A
68283	LA00000068283	3LANDA0247	LA-HERTR-14-0023	N/A	No	LA14FG2030	N/A
68284	LA00000068284	3LANDA0245	LA-HERTR-14-0022	N/A	No	LA14FG2030	N/A
68286	LA00000068286	3LANDA0245	LA-HERTR-14-0022	N/A	No	LA14FG2030	N/A
69365	LA00000069365	1LANDA1915	LA-RTR2-14-0021	N/A	No	LA14FG2029	N/A

Roger Whiteaker — Signature of Site Project Manager

Roger Whiteaker — Printed Name

03/06/2014 — Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 23

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
65222	LA00000065222	1LANDA1923	LA-RTR2-14-0027	N/A	No	LA14FG2039	N/A
68268	LA00000068268	4LANDA0051	LA-HERTR-14-0019	N/A	No	LA14FG2038	N/A
68275	LA00000068275	4LANDA0059	LA-HERTR-14-0021	N/A	No	LA14FG2038	N/A
68871	LA00000068871	2LANDA1268	LA-RTR2-14-0015	N/A	No	LA14FG2019	N/A
68877	LA00000068877	1LANDA1925	LA-RTR2-14-0029	N/A	No	LA14FG2038	N/A
69296	LA00000069296	1LANDA1926	LA-RTR2-14-0031	N/A	No	LA14FG2039	N/A

Rick Whiteley — Signature of Site Project Manager
Rick Whiteley — Printed Name
03/20/2014 — Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001

Lot # 24

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68273	LA0000006	3LANDA0261	LA-HERTR-14-0019	N/A	No	LA14FG2038	N/A
68710	LA0000006	2LANDA1274	LA-RTR2-14-0017	N/A	No	LA14FG2023	N/A

Roger Whiteaker Roger Whiteaker 04/03/2014

Signature of Site Project Manager | Printed Name | Date

DIVIDER

PAGE

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with B&W and AREVA

CP:13:01579
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: December 5, 2013

FROM: T. Groover tgroover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations - LANL

SUBJECT: REVISED ACCP-AK-LANL-004 CCEPTABLE KNOWLEDGE ACCURACY REPORT: LOS ALAMOS NATIONAL LABORATORY WASTE STREAM NUMBER LA-MHD09.001, HETEROGENEOUS DEBRIS WASTE FROM TA-50, LOTS 4 THROUGH 10

Purpose

This memorandum and attachments supersedes CP:13:01264 dated November 26, 2013, in order to correct the revision of Attachment 14, CCP Acceptable Knowledge Accuracy Report, used.

CCP-TP-005, Revision 26, *CCP Acceptable Knowledge Documentation*, requires that Acceptable Knowledge (AK) accuracy be evaluated and documented, either on a lot or waste stream basis. The purpose of this correspondence is to document the results of the AK accuracy evaluation for containers in waste stream LA-MHD09.001, Heterogeneous Debris Waste from TA-50, lots 4 through 10.

Methodology

In accordance with CCP-TP-005, the CCP Acceptable Knowledge Characterization Checklists (Attachment 13) for each lot in waste stream LA-MHD09.001 subject to this AK accuracy review were evaluated. Acceptable Knowledge Re-Evaluation Checklists (Attachment 10), were reviewed, if applicable, as part of the AK accuracy determination.

The results of the AK accuracy evaluation for waste stream LA-MHD09.001, lots 4 through 10, are documented on the attached AK Accuracy Report Form, Attachment 14 (See enclosure 1). A total of 17 containers have been evaluated for AK accuracy and are provided as enclosure 2. Containers that had the waste matrix code reassigned, Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWNs) reassigned, or were found to have radiological data inconsistent with AK, are identified on the AK Accuracy Report Form. The results of the AK Accuracy determination for waste stream LA-MHD09.001, lots 4 through 10, are addressed in the following sections of this correspondence.

NTPC RECORDS ORIGINAL
DATE REC'D 01/07/14

Results of AK Accuracy Determination

Acceptable Knowledge Re-Evaluation and Confirmation for Waste Stream LA-MHD09.001

No AK Re-evaluation Checklist was prepared for waste containers in waste stream LA-MHD09.001, lots 4 through 10. A review of CCP Waste Stream Characterization Checklist indicates the following:

- No containers were reassigned to a different WMC. Consistent with AK, the waste is greater than 50 percent heterogeneous debris.
- No EPA HWNs were assigned to this waste stream.
- AK identifies Pu-239 and U-238 as the two most prevalent isotopes by weight percent. The two most prevalent nuclides in each lot were not always consistent with AK, but this was not considered significant because the isotopes identified were anticipated in the waste (e.g. Am-241, Np-237, Pu-240, U-238).

The waste material parameters, EPA HWNs (if applicable) and radionuclides are, within reasonable error, as predicted in the AK.

Containers Requiring Special Consideration

No AK re-evaluations occurred during this AK accuracy evaluation period.

Summary

There are a total of 17 waste containers in lots 4 through 10 for waste stream LA-MHD09.001. Of these containers, all were determined to be consistent with AK.

The percent of waste containers found to be consistent with AK is therefore:

$$17/17 \times 100\% = 100\%$$

This AK Accuracy Report has been prepared in accordance with CCP-TP-005. The original Attachment 14, AK Accuracy Report, and the supporting list of waste containers in lots 4 through 10 for waste stream LA-MHD09.001 are provided to the Site Project Manager for review, in accordance with CCP-TP-005 requirements.

If you have any questions, or if you would like more information about the contents of this AK Accuracy Report, please contact Ms. T. Groover at (505) 606-2344.

TG:jmc

Enclosures

1 – CCP-TP-005 Attachment 14, CCP AK Accuracy Report
2 – CCP Correlation of Container Identification Numbers to Batch Data Report Numbers, Lots 4 through 10

cc: (without enclosures)
M. W. Pearcy ED
V. M. Waldram ED

(with enclosures)
NTPC Records Custodian GSA-212

TechSpecs

(without enclosures)
M. J. Papp ED

Attachment 14 – CCP Acceptable Knowledge Accuracy Report – Example Form

CCP Acceptable Knowledge Accuracy Report

Site(s): LANL

Waste Stream Number(s): LA-MHD09.001; LOTS 4-10

Waste Stream Description: HETEROGENEOUS DEBRIS WASTE FROM TA-50

Waste Containers:	Waste Matrix Code Reassigned? (Y/N)	EPA Hazardous Waste Number Reassigned? (Y/N)	Radiological Data Consistent with AK? (Y/N)
NA	N	N	Y

Total containers in this report: 17
Total containers consistent with AK: 17
Percent containers consistent with AK: 100

Site Project Manager:

Terri-Anne Grover / [signature]
Print Sign

Date: 11-20-13

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 4

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
52311	LA00000052311	3LANDA0054	LA-HERTR-12-0033	NA	NA	NA		NA	NA	NA	LA12FG8031
87527	LA00000087527	1LANDA1330	LA-RTR2-10-0142	NA	NA	NA		LAHSG1201	NA	NA	LA10FG8055
87702	LA00000087702	2LANDA0761	LA-RTR2-11-0016	NA	NA	NA		LAHSG1201	NA	NA	LA11FG8031

Signature of Site Project Manager

Jim Eastham
Printed Name

7/3/2012
Date

0154-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 5

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
91724	LA00000091724	1LANDA1593	LA-RTR2-12-0071	NA	NA	NA		NA	NA	NA	LA12FG8046
91859	LA00000091859	1LANDA1618	LA-RTR2-12-0093	NA	NA	NA		NA	NA	NA	LA12FG12031
91860	LA00000091860	1LANDA1618	LA-RTR2-12-0093	NA	NA	NA		NA	NA	NA	LA12FG12030
91861	LA00000091861	1LANDA1618	LA-RTR2-12-0093	NA	NA	NA		NA	NA	NA	LA12FG8058
S810689	LAS810689	1LANDA1484	LA-RTR2-11-0135	NA	NA	NA		NA	NA	NA	LA11FG2088

Signature of Site Project Manager

Jim Eastham
Printed Name

9/18/2012
Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001

6

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
25270	LA00000025270	3LANDA0052	LA-HERTR-12-0020	NA	NA	NA		NA	NA	NA	LA12FG12031

Signature of Site Project Manager

Jim Eastham
Printed Name

9/20/2012
Date

NRS-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 7

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
52312	LA00000052312	3LANDA0042	LA-HERTR-12-0028	NA	NA	NA		NA	LAHSG1204	ECL12032M	LA12FG8031
91807	LA00000091807	1LANDA1617	LA-RTR2-12-0091	NA	NA	NA		NA	LAHSG1206	ECL12037M	LA12FG2066

Signature of Site Project Manager

Jim Eastham
Printed Name

10/16/2012
Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001

8

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Lead Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
52309	LA00000052309	3LANDA0127	LA-HERTR-12-0129	NA	NA	NA		NA	N/A	N/A	LA13FG2001
57842	LA00000057842	3LANDA0036	LA-HERTR-12-0016	NA	NA	NA		NA	LAHSG120	ECL12048M	LA12FG8032

Signature of Site Project Manager

Jim Eastham
Printed Name

1/29/2013
Date

C1543

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 9

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Lead Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
52026	LA00000052026	3LANDA0097	LA-HERTR-12-0103	NA	NA	NA		NA	LAHSG1301	N/A	LA12FG2073
63036	LA00000063036	3LANDA0129	LA-HERTR-12-0131	NA	NA	NA		NA	LAHSG1301	N/A	LA13FG2005

Signature of Site Project Manager

Jim Eastham
Printed Name

2/25/2013
Date

CAS-03

CCP-TP-002 Rev 25
Effective Date: 02/11/2013
CCP Reporting of DQO's and Reporting Characterization Data

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001

10

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
52315	LA00000052315	3LANDA0127	LA-HERTR-12-0129	NA	NA	NA		NA	LAHSG1301	ECL12032M	LA13FG2013
60499	LA00000060499	3LANDA0129	LA-HERTR-12-0131	NA	NA	NA		NA	NA	N/A	LA13FG2018

Signature of Site Project Manager

Jim Eastham
Printed Name

2/28/2013
Date

C4-03

DIVIDER

PAGE

Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:13:01264
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: July 1, 2013

FROM: T. Groover T Groover LOCATION: CCP Certification

TO: C. E. Simmons ED LOCATION: CCP Operations - LANL

SUBJECT: ACCEPTABLE KNOWLEDGE ACCURACY REPORT: LOS ALAMOS NATIONAL LABORATORY WASTE STREAM NUMBER LA-MHD09.001, HETEROGENEOUS DEBRIS WASTE FROM TA-50, LOTS 4 THROUGH 10

Purpose

CCP-TP-005, Revision 17, *CCP Acceptable Knowledge Documentation*, requires that Acceptable Knowledge (AK) accuracy be evaluated and documented, either on a lot or waste stream basis. The purpose of this correspondence is to document the results of the AK accuracy evaluation for containers in waste stream LA-MHD09.001, Heterogeneous Debris Waste from TA-50, lots 4 through 10.

Methodology

In accordance with CCP-TP-005, the CCP Acceptable Knowledge Characterization Checklists (Attachment 13) for each lot in waste stream LA-MHD09.001 subject to this AK accuracy review were evaluated. Acceptable Knowledge Re-Evaluation Checklists (Attachment 10), were reviewed, if applicable, as part of the AK accuracy determination.

The results of the AK accuracy evaluation for waste stream LA-MHD09.001, lots 4 through 10, are documented on the attached AK Accuracy Report Form, Attachment 14 (See enclosure 1). A total of 17 containers have been evaluated for AK accuracy and are provided as enclosure 2. Containers that had the waste matrix code reassigned, Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWNs) reassigned, or were found to have radiological data inconsistent with AK, are identified on the AK Accuracy Report Form. The results of the AK Accuracy determination for waste stream LA-MHD09.001, lots 4 through 10, are addressed in the following sections of this correspondence.

NTPC RECORDS ORIGINAL
DATE REC'D 7.9.13
AM

Results of AK Accuracy Determination

Acceptable Knowledge Re-Evaluation and Confirmation for Waste Stream LA-MHD09.001

No AK Re-evaluation Checklist was prepared for waste containers in waste stream LA-MHD09.001, lots 4 through 10. A review of CCP Waste Stream Characterization Checklist indicates the following:

- No containers were reassigned to a different WMC. Consistent with AK, the waste is greater than 50 percent heterogeneous debris.
- No EPA HWNs were assigned to this waste stream.
- AK identifies Pu-239 and U-238 as the two most prevalent isotopes by weight percent. The two most prevalent nuclides in each lot were not always consistent with AK, but this was not considered significant because the isotopes identified were anticipated in the waste (e.g. Am-241, Np-237, Pu-240, U-238).

The waste material parameters, EPA HWNs (if applicable) and radionuclides are, within reasonable error, as predicted in the AK.

Containers Requiring Special Consideration

No AK re-evaluations occurred during this AK accuracy evaluation period.

Summary

There are a total of 17 waste containers in lots 4 through 10 for waste stream LA-MHD09.001. Of these containers, all were determined to be consistent with AK.

The percent of waste containers found to be consistent with AK is therefore:

$$17/17 \times 100\% = 100\%$$

This AK Accuracy Report has been prepared in accordance with CCP-TP-005. The original Attachment 14, AK Accuracy Report, and the supporting list of waste containers in lots 4 through 10 for waste stream LA-MHD09.001 are provided to the Site Project Manager for review, in accordance with CCP-TP-005 requirements.

If you have any questions, or if you would like more information about the contents of this AK Accuracy Report, please contact Ms. T. Groover at (505) 606-2344.

TG:jmc

Enclosures

1 – CCP-TP-005 Attachment 14, CCP AK Accuracy Report
2 – CCP Correlation of Container Identification Numbers to Batch Data Report Numbers, Lots 4 through 10

cc: (without enclosures)

R. P. Kantrowitz	ED
M. W. Pearcy	ED
V. M. Waldram	ED

(with enclosures)

NTPC Records Custodian	GSA-212

TechSpecs

(without enclosures)

M. J. Papp	ED

Attachment 14 – CCP Acceptable Knowledge Accuracy Report

CCP Acceptable Knowledge Accuracy Report

Site(s): LANL

Waste Stream Number(s): LA-MHD09.001; lots 4 through 10

Waste Stream Description: Heterogeneous Debris Waste From TA-50

Waste Containers:	Waste Matrix Code Reassigned? (Y/N)	EPA Hazardous Waste Number Reassigned? (Y/N)	Radiological Data Consistent with AK? (Y/N)
NA	N	N	Y

Total containers in this report: 17
Total containers consistent with AK: 17
Percent containers consistent with AK: 100

Site Project Manager:

T. Groover / Date:
Print Sign

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 4

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
52311	LA00000052311	3LANDA0054	LA-HERTR-12-0033	NA	NA	NA		NA	NA	NA	LA12FG8031
87527	LA00000087527	1LANDA1330	LA-RTR2-10-0142	NA	NA	NA		LAHSG1201	NA	NA	LA10FG8055
87702	LA00000087702	2LANDA0761	LA-RTR2-11-0016	NA	NA	NA		LAHSG1201	NA	NA	LA11FG8031

Signature of Site Project Manager

Jim Eastham
Printed Name

7/3/2012
Date

0115-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 5

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
91724	LA00000091724	1LANDA1593	LA-RTR2-12-0071	NA	NA	NA		NA	NA	NA	LA12FG8046
91859	LA00000091859	1LANDA1618	LA-RTR2-12-0093	NA	NA	NA		NA	NA	NA	LA12FG12031
91860	LA00000091860	1LANDA1618	LA-RTR2-12-0093	NA	NA	NA		NA	NA	NA	LA12FG12030
91861	LA00000091861	1LANDA1618	LA-RTR2-12-0093	NA	NA	NA		NA	NA	NA	LA12FG8058
S810689	LAS810689	1LANDA1484	LA-RTR2-11-0135	NA	NA	NA		NA	NA	NA	LA11FG2088

Signature of Site Project Manager

Jim Eastham
Printed Name

9/18/2012
Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 6

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
25270	LA00000025270	3LANDA0052	LA-HERTR-12-0020	NA	NA	NA		NA	NA	NA	LA12FG12031

Signature of Site Project Manager

Jim Eastham
Printed Name

9/20/2012
Date

013-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 7

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
52312	LA00000052312	3LANDA0042	LA-HERTR-12-0028	NA	NA	NA		NA	LAHSG1204	ECL12032M	LA12FG8031
91807	LA00000091807	1LANDA1617	LA-RTR2-12-0091	NA	NA	NA		NA	LAHSG1206	ECL12037M	LA12FG2066

Signature of Site Project Manager

Jim Eastham
Printed Name

10/16/2012
Date

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 8

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
52309	LA00000052309	3LANDA0127	LA-HERTR-12-0129	NA	NA	NA		NA	N/A	N/A	LA13FG2001
57842	LA00000057842	3LANDA0036	LA-HERTR-12-0016	NA	NA	NA		NA	LAHSG120	ECL12048M	LA12FG8032

Signature of Site Project Manager

Jim Eastham
Printed Name

1/29/2013
Date

C/S 4 3

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 9

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
52026	LA00000052026	3LANDA0097	LA-HERTR-12-0103	NA	NA	NA		NA	LAHSG1301	N/A	LA12FG2073
63036	LA00000063036	3LANDA0129	LA-HERTR-12-0131	NA	NA	NA		NA	LAHSG1301	N/A	LA13FG2005

Signature of Site Project Manager

Jim Eastham
Printed Name

2/25/2013
Date

CAS-93

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 10

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
52315	LA00000052315	3LANDA0127	LA-HERTR-12-0129	NA	NA	NA		NA	LAHSG1301	ECL12032M	LA13FG2013
60499	LA00000060499	3LANDA0129	LA-HERTR-12-0131	NA	NA	NA		NA	NA	N/A	LA13FG2018

Signature of Site Project Manager

Jim Eastham
Printed Name

2/28/2013
Date

C1S-03

DIVIDER

PAGE

URS
Washington TRU Solutions LLC

CP:12:01349
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: July 11, 2012

FROM: T. Groover TGroover LOCATION: Certification

TO: R. D. Reeves ED LOCATION: CCP Project Management

SUBJECT: ACCEPTABLE KNOWLEDGE ACCURACY REPORT: LOS ALAMOS NATIONAL LABORATORY WASTE STREAM NUMBER LA-MHD09.001, TA-50 MIXED TRANSURANIC WASTE (HETEROGENEOUS DEBRIS), LOTS 1 THROUGH 3

Purpose

CCP-TP-005, Revision 24, *CCP Acceptable Knowledge Documentation*, requires that Acceptable Knowledge (AK) accuracy be evaluated and documented, either on a lot or waste stream basis. The purpose of this correspondence is to document the results of the AK accuracy evaluation for containers in waste stream LA-MHD09.001, TA-50 MIXED TRANSURANIC WASTE (Heterogeneous Debris), lots 1 through 3.

Methodology

In accordance with CCP-TP-005, the CCP Acceptable Knowledge Characterization Checklists (Attachment 13) for each lot in waste stream LA-MHD09.001 subject to this AK accuracy review were evaluated. Acceptable Knowledge Re-Evaluation Checklists (Attachment 10), were reviewed, if applicable, as part of the AK accuracy determination.

The results of the AK accuracy evaluation for waste stream LA-MHD09.001, lots 1 through 3, are documented on the attached AK Accuracy Report Form, Attachment 14 (See enclosure 1). A total of 24 containers have been evaluated for AK accuracy and are provided as enclosure 2. Containers that had the waste matrix code reassigned, Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWNs) reassigned, or were found to have radiological data inconsistent with AK, are identified on the AK Accuracy Report Form. The results of the AK Accuracy determination for waste stream LA-MHD09.001, lots 1 through 3, are addressed in the following sections of this correspondence.

Results of AK Accuracy Determination

Acceptable Knowledge Re-Evaluation and Confirmation for Waste Stream LA-MHD09.001

No AK Re-evaluation Checklist was prepared for waste containers in waste stream LA-MHD09.001, lots 1 through 3. A review of CCP Waste Stream Characterization Checklist indicates the following:

- No containers were reassigned to a different WMC. Consistent with AK, the waste is greater than 50 percent heterogeneous debris.

CCP RECORDS ORIGINAL
DATE REC'D 7-19-12

- No EPA HWNs were assigned to this waste stream.
- AK identifies Pu-239 and U-235 as the two most prevalent isotopes by weight percent. The two most prevalent nuclides in each lot were not always consistent with AK, but this was not considered significant because the isotopes identified were anticipated in the waste (e.g. U-238).

The waste material parameters, EPA HWNs (if applicable) and radionuclides are, within reasonable error, as predicted in the AK.

Containers Requiring Special Consideration

No AK re-evaluations occurred during this AK accuracy evaluation period.

Summary

There are a total of 24 waste containers in lots 1 through 3 for waste stream LA-MHD09.001. Of these containers, all were determined to be consistent with AK.

The percent of waste containers found to be consistent with AK is therefore:

24/24 x 100% = 100%

This AK Accuracy Report has been prepared in accordance with CCP-TP-005. The original Attachment 14, AK Accuracy Report, and the supporting list of waste containers in lots 1 through 3 for waste stream LA-MHD09.001 are provided to the Site Project Manager for review, in accordance with CCP-TP-005 requirements.

If you have any questions, or if you would like more information about the contents of this AK Accuracy Report, please contact Ms. T. Groover at (505) 606-2344.

TG:jmc

Enclosures
1 – CCP-TP-005 Attachment 14, CCP AK Accuracy Report
2 – CCP Correlation of Container Identification Numbers to Batch Data Report Numbers, Lots 1 through 3

cc: WTS

(without enclosures)

M. W. Pearcy ED
C. E. Simmons ED

(with enclosures)

CCP Records Custodian GSA-212

TechSpecs

(without enclosures)

M. Papp ED

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001

Lot # 1

Container ID Number	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR		
							Sample	Analysis	
56511	2LANDA0717	LA-RTR2-10-0143	N/A	N/A	N/A	Yes*	LAHSG11001	ECL11001M	ECL11001G
56514	2LANDA0717	LA-RTR2-10-0143	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
56515	2LANDA0522	LA-RTR2-09-0181	N/A	N/A	N/A		LAHSGS100001	ECL10001M	ECL10001G
56517	2LANDA0717	LA-RTR2-10-0143	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
84807	1LANDA1208	LA-RTR2-10-0033	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
85122	2LANDA0605	LA-RTR2-10-0050	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
85160	2LANDA0613	LA-RTR2-10-0068	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
85710	2LANDA0618	LA-RTR2-10-0065	N/A	N/A	N/A		LAHSGS100002	ECL10028M	ECL10028G
S820847	2LANDA0717	LA-RTR2-10-0143	N/A	N/A	N/A		LAHSG11001	ECL11001M	ECL11001G
S820848	2LANDA0522	LA-RTR2-09-0181	N/A	N/A	N/A		LAHSGS100001	ECL10001M	ECL10001G

* Requires overpack.

Signature of Site Project Manager

Richard Kantrowitz
Printed Name

7/25/2011
Date

CT500J

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 2

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
56512	LA00000056512	2LANDA0579	LA-RTR2-10-0032	NA	NA	NA		NA	NA	NA	LA10FG2061
56516	LA00000056516	2LANDA0522	LA-RTR2-09-0161	NA	NA	NA	Yes	LAHSGS100001	NA	NA	LA10FG8023
84854	LA00000084854	1LANDA1214	LA-RTR2-10-0037	NA	NA	NA		NA	NA	NA	LA10FG2055
85109	LA00000085109	2LANDA0605	LA-RTR2-10-0050	NA	NA	NA		NA	NA	NA	LA10FG2075
86583	LA00000086583	2LANDA0651	LA-RTR2-10-0091	NA	NA	NA		NA	NA	NA	LA10FG8028
86765	LA00000086765	2LANDA0668	NA	LAVE500403	NA	NA		NA	NA	NA	LA10FG2118
86986	LA00000086986	1LANDA1296	NA	LAVE500412	NA	NA		NA	NA	NA	LA10FG2127
87551	LA00000087551	1LANDA1370	LA-RTR2-11-0019	NA	NA	NA		NA	NA	NA	LA11FG8035
S851153	LAS851153	1LANDA1401	LA-RTR2-11-0054	NA	NA	NA		NA	NA	NA	LA11FG2033

Signature of Site Project Manager

Jim Eastham
Printed Name

9/15/2011
Date

C15-03

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 3

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR			
								Sample	Analysis		Transportation
52309	LA00000052309	3LANDA0037	LA-HERTR-12-0026	NA	NA	NA		NA	NA	NA	LA12FG2034
57563	LA00000057563	3LANDA0036	LA-HERTR-12-0016	NA	NA	NA		NA	NA	NA	LA12FG8018
59204	LA00000059204	2LANDA0898	LA-RTR2-11-0134	NA	NA	NA		NA	NA	NA	LA11FG2088
59616	LA00000059616	3LANDA0026	LA-HERTR-12-0017	NA	NA	NA		NA	NA	NA	LA12FG8018
89998	LA00000089998	3LANDA0011	LA-HERTR-11-0002	NA	NA	NA		NA	NA	NA	LA12FG8013

Signature of Site Project Manager

Jim Eastham
Printed Name

5/1/2012
Date

C/15-03

Attachment 14 – CCP Acceptable Knowledge Accuracy Report

CCP Acceptable Knowledge Accuracy Report

Site(s): LANL

Waste Stream Number(s): LA-MHD09.001; lots 1 through 3

Waste Stream Description: TA-50 MIXED TRANSURANIC WASTE (Heterogeneous Debris)

Waste Containers:	Waste Matrix Code Reassigned? (Y/N)	EPA Hazardous Waste Number Reassigned? (Y/N)	Radiological Data Consistent with AK? (Y/N)
NA	N	N	Y
	TG 7/12/12		

Total containers in this report: 24
Total containers consistent with AK: 24
Percent containers consistent with AK: 100

Site Project Manager:

T. Groover / T. A. Groover Date: 7/11/12
Print Sign

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523 or 575-234-7431

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CALRSBAD, NM	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505) 662-1344
	N/A	Date Sent:	07/16/12
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
N/A	INTER-OFFICE CORRESPONDENCE ACCEPTABLE KNOWLEDGE ACCURACY REPORT WITH ATTACHMENTS LA-MHD09.001 ~~CP:01340~~ BM CP:12:01349 7-19-12	07/11/12	6
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	B Marshall	**Brandon Marshall**	7-19-12
	Signature	Printed Name	Date
Records Rejected [ ]			
	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:			
	Signature	Printed Name	Date

Changes made to the transmittal per Communication with Yolanda Valdez. BM 7-19-12

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	0907
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	07/19 11:30
TIME USE	00'19
PAGES SENT	1
RESULT	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523 or 575-234-7431

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CALRSBAD, NM	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505) 662-1344
	N/A	Date Sent:	07/16/12
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
N/A	INTER-OFFICE CORRESPONDENCE ACCEPTABLE KNOWLEDGE ACCURACY REPORT WITH ATTACHMENTS LA-MHD09.001 ~~CP:01340~~	07/11/12	6
	BM CP:12:01349 7-19-12		
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-13-0103				Examination Date(s): 9/20/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: SB10156 SB10155 SB10157 SB10158 SB10153 SB10152 SB10150 SB10163 SB10151 68010 68009
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 9-26-13

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0103				Examination Date(s): 9/20/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No observable liquid.
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0103	**Examination Date(s): 9/20/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna			9/25/13
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-13-0103 ☑ CH ☐ RH Date: 9-20-13

Waste Container ID Numbers	
Replicate Scan:	SB10153
Independent Observation:	SB10157
1	SB10156
2	SB10155
3	SB10157
4	SB10158
5	68010
6	68009
7	SB10153
8	SB10152
9	SB10150
10	SB10163
11	SB10151
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator: Thad Hasselstrom — Printed Name | Signature | 9-20-13 — Date

Independent Technical Reviewer: Aaron Elliot — Printed Name | Signature | 9/23/13 — Date

NTPC RECORDS ORIGINAL
DATE REC'D 9/23/13

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-13-0103 Date: 09/20/2013

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	43

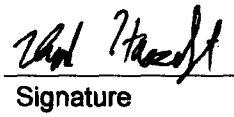
Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 13, CCP Radiography Measurement Control Report.

Thad Hasselstrom
RTR Operator

Signature

09/20/2013
Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-13-0103		
Examination Date: 09/20/2013		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 11 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Thad Hasselstrom		09/20/2013
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	SB10153
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 423.0 kg Tare Wt.: 290.0 kg Net Wt.: 133.0 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: SB10153

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Vented 55 gal drums
AM:	
OM:	
OI:	
C:	
R:	
XPM:	90 mil plastic liners, plastic sheeting
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	110.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	22.2
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	133.0

CCP Radiography Data Sheet

Waste Container ID: SB10153

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Replicate Scan agrees with the Original Scan.	

RTR Operator:

Michael Simmons		9/20/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	SB10157
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 421.5 kg Tare Wt.: 290.0 kg Net Wt.: 131.5 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: SB10157

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Vented 55 gal drums

AM:

OM:

OI:

C:

R:

XPM: 90 mil plastic liners, plastic sheeting

OR:

IN:

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	110.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	20.7
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	131.5

CCP Radiography Data Sheet

Waste Container ID: SB10157

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This Independent Observation agrees with the Original Scan.

RTR Operator:

Michael Simmons		9/20/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	SB10156
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 425.0 kg Tare Wt.: 290.0 kg Net Wt.: 135.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: SB10156

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Vented 55 gal drums
AM:	
OM:	
OI:	
C:	
R:	
XPM:	90 mil liners, plastic sheeting
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	110.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	22.2
Organic Matrix (OR):	
Inorganic Matrix (IN):	2.0
Soils (S):	
Total WMP Weight:	135.0

CCP Radiography Data Sheet

Waste Container ID: SB10156

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	9/20/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-HERTR-13-0103	
Examination Date:	9/20/2013	
Waste Container ID:	SB10155	
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 A&B	
Procedure and Revision No.:	CCP-TP-053	Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 427.0 kg Tare Wt.: 290.0 kg Net Wt.: 137.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: SB10155

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Vented 55 gal drums
AM:	
OM:	
OI:	
C:	
R:	
XPM:	90 mil liners, plastic sheeting
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	110.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	26.2
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	137.0

CCP Radiography Data Sheet

Waste Container ID: SB10155

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom		9/20/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	SB10157
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 421.5 kg Tare Wt.: 290.0 kg Net Wt.: 131.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: SB10157

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Vented 55 gal drums
AM:	
OM:	
OI:	
C:	
R:	
XPM:	90 mil liners, plastic sheeting
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	110.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	20.7
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	131.5

CCP Radiography Data Sheet

Waste Container ID: SB10157

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom		9/20/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	SB10158
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 425.5 kg Tare Wt.: 290.0 kg Net Wt.: 135.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: SB10158

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Vented 55 gal drums
AM:	
OM:	
OI:	
C:	
R:	
XPM:	90 mil liners, plastic sheeting
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	110.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	24.7
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	135.5

CCP Radiography Data Sheet

Waste Container ID: SB10158

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom		9/20/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	68010
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 596.5 kg Tare Wt.: 290.0 kg Net Wt.: 306.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: 68010

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Vented 55 gal drums, metal cans with material, open 30 gal drums, metal tubing, hardware
AM:	
OM:	Scrap lead
OI:	Broken glass, glass containers, glass labware
C:	Coveralls
R:	
XPM:	Plastic bags, plastic containers
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	170.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	10.0
Other Inorganic Materials (OI)	93.5
Cellulosics (C):	5.0
Rubber (R):	
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	20.0
Soils (S):	
Total WMP Weight:	306.5

CCP Radiography Data Sheet

Waste Container ID: 68010

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom		9/20/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	68009
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 526.5 kg Tare Wt.: 290.0 kg Net Wt.: 236.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 3 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: 68009

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Vented 55 gal drums, metal cans with material, scrap metal
AM:	
OM:	Scrap lead
OI:	Glass labware
C:	Coveralls
R:	
XPM:	90 mil liner, plastic bags, open 5 gal plastic buckets
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	150.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	8.0
Other Inorganic Materials (OI)	40.0
Cellulosics (C):	15.0
Rubber (R):	
Plastics (waste materials) (XPM):	20.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	3.5
Soils (S):	
Total WMP Weight:	236.5

CCP Radiography Data Sheet

Waste Container ID: 68009

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	9/20/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	SB10153
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 423.0 kg Tare Wt.: 290.0 kg Net Wt.: 133.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: SB10153

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Vented 55 gal drums
AM:	
OM:	
OI:	
C:	
R:	
XPM:	90 mil liners, plastic sheeting
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	110.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	22.2
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	133.0

CCP Radiography Data Sheet

Waste Container ID: SB10153

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	9/20/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	SB10152
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 421.5 kg Tare Wt.: 290.0 kg Net Wt.: 131.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: SB10152

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Vented 55 gal drums
AM:	
OM:	
OI:	
C:	
R:	
XPM:	90 mil liners, plastic sheeting
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	110.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	20.7
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	131.5

CCP Radiography Data Sheet

Waste Container ID: SB10152

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	9/20/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	SB10150
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 424.0 kg Tare Wt.: 290.0 kg Net Wt.: 134.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: SB10150

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Vented 55 gal drums
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bag, 90 mil liner, plastic sheeting
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	110.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	22.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	1.2
Soils (S):	
Total WMP Weight:	134.0

CCP Radiography Data Sheet

Waste Container ID: SB10150

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	
RTR Operator: Thad Hasselstrom (Print Name) / Signature / 9/20/2013 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	SB10163
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 421.5 kg Tare Wt.: 290.0 kg Net Wt.: 131.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: SB10163

Section 3: Container Inventory and Comments (Detailed descriptions)
IM: Vented 55 gal drums
AM:
OM:
OI:
C:
R:
XPM: Plastic bags, 90 mil liners
OR:
IN:
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	110.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	20.7
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	131.5

CCP Radiography Data Sheet

Waste Container ID: SB10163

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	[signature]	9/20/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0103
Examination Date:	9/20/2013
Waste Container ID:	SB10151
Video/Audio Recorded Media Number:	LA-HERTR-13-0103 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 426.5 kg Tare Wt.: 290.0 kg Net Wt.: 136.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: SB10151

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Vented 55 gal drums
AM:	
OM:	
OI:	
C:	
R:	
XPM:	90 mil liners, plastic sheeting
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	110.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	25.7
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	136.5

CCP Radiography Data Sheet

Waste Container ID: SB10151

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	9/20/2013
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-13-0103

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 13	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☑ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☑ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-13-0103

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2? (1 per batch or 1 per day, whichever is less frequent).	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2? (1 per batch or 1 per day, whichever is less frequent).	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☑ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:
N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

AARON ELLIOTT — Printed Name

Signature

9/23/13 — Date

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-13-0123				Examination Date(s): 12/19/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 53889 53882 54208 53893 68244 68242
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

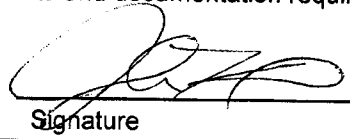
COPY

NTPC RECORDS ORIGINAL
DATE REC'D 01/07/14

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0123				Examination Date(s): 12/19/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0123	**Examination Date(s): 12/19/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Jake Knox				1/7/2014
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-13-0123 ☑ CH ☐ RH Date: 12/19/2013

Waste Container ID Numbers	
Replicate Scan:	54208
Independent Observation:	53882
1	53889
2	53882
3	54208
4	53893
5	68244
6	68242
7	N/A
8	N/A
9	N/A
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Michael Simmons		12/19/2013
Printed Name	Signature	Date

Independent Technical Reviewer:

BENITO MAESTAS		12-23-13
Printed Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 1/6/14

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-13-0123 Date: 12/19/2013

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	28

Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

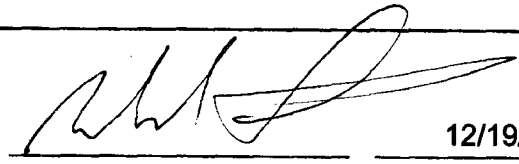
Michael Simmons
RTR Operator

Signature

12/19/2013
Date

02

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-13-0123		
Examination Date: 12/19/2013		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 8 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Michael Simmons		12/19/2013
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0123
Examination Date:	12/19/2013
Waste Container ID:	54208
Video/Audio Recorded Media Number:	LA-HERTR-13-0123 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Corrugated Metal Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 1307.5 kg Tare Wt.: 168.0 kg Net Wt.: 1139.5 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☐ No ☒ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 54208

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, mechanical equipment, metal framed HEPA filter
AM:	
OM:	Scrap lead
OI:	
C:	
R:	Rubber gloves
XPM:	Plastic sheeting
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	168.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	168.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	809.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	300.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	10.0
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	10.0
Soils (S):	
Total WMP Weight:	1139.5

CCP Radiography Data Sheet

Waste Container ID: 54208

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This Replicate Scan agrees with the original scan.
The corners of the Corrugated Metal Box have been cut off, therefore, the Corrugated Metal Box is vented.

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	12/19/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0123
Examination Date:	12/19/2013
Waste Container ID:	53882
Video/Audio Recorded Media Number:	LA-HERTR-13-0123 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Corrugated Metal Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 853.5 kg Tare Wt.: 168.0 kg Net Wt.: 685.5 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☐ No ☒ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 53882

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, hardware, metal framed HEPA filter
AM:	
OM:	
OI:	
C:	Wood
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	168.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	168.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	645.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	15.0
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	15.0
Soils (S):	
Total WMP Weight:	685.5

CCP Radiography Data Sheet

Waste Container ID: 53882

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This Independent Observation agrees with the original scan.
The corners of the Corrugated Metal Box have been cut off, therefore, the Corrugated Metal Box is vented.

RTR Operator:

Thad Hasselstrom		12/19/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0123
Examination Date:	12/19/2013
Waste Container ID:	53889
Video/Audio Recorded Media Number:	LA-HERTR-13-0123 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Corrugated Metal Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 790.0 kg Tare Wt.: 168.0 kg Net Wt.: 622.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

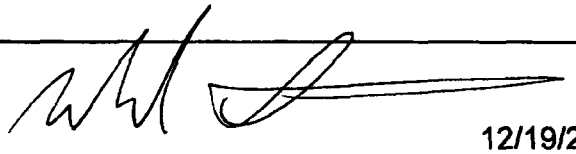
Waste Container ID: 53889

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, glovebox components, hand tool, electric motor
AM:	
OM:	Scrap lead
OI:	
C:	Cardboard, wood
R:	
XPM:	Plastic bag
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	168.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	168.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	542.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	25.0
Other Inorganic Materials (OI)	
Cellulosics (C):	30.0
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	15.0
Soils (S):	
Total WMP Weight:	622.0

CCP Radiography Data Sheet

Waste Container ID: 53889

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: The corners of the Corrugated Metal Box have been cut off, therefore, the Corrugated Metal Box is vented.	
RTR Operator:	
Michael Simmons (Print Name)	Signature:  Date: 12/19/2013

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0123
Examination Date:	12/19/2013
Waste Container ID:	53882
Video/Audio Recorded Media Number:	LA-HERTR-13-0123 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Corrugated Metal Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 853.5 kg Tare Wt.: 168.0 kg Net Wt.: 685.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 53882

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, glovebox components, metal hardware
AM:	
OM:	
OI:	
C:	Wood
R:	
XPM:	Plastic sheeting, plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	168.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	168.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	638.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	25.0
Rubber (R):	
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	14.0
Soils (S):	
Total WMP Weight:	685.5

CCP Radiography Data Sheet

Waste Container ID: 53882

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: The corners of the Corrugated Metal Box have been cut off, therefore, the Corrugated Metal Box is vented.	

RTR Operator:

Michael Simmons		12/19/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0123
Examination Date:	12/19/2013
Waste Container ID:	54208
Video/Audio Recorded Media Number:	LA-HERTR-13-0123 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Corrugated Metal Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 1307.5 kg Tare Wt.: 168.0 kg Net Wt.: 1139.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 54208

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, glovebox components, metal pipe, metal filter
AM:	
OM:	Scrap lead
OI:	
C:	Cardboard, coveralls
R:	Rubber gloves
XPM:	Plastic sheeting
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	168.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	168.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	807.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	275.0
Other Inorganic Materials (OI)	
Cellulosics (C):	20.0
Rubber (R):	12.0
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	15.0
Soils (S):	
Total WMP Weight:	1139.5

CCP Radiography Data Sheet

Waste Container ID: 54208

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: The corners of the Corrugated Metal Box have been cut off, therefore, the Corrugated Metal Box is vented.	
RTR Operator:	
Michael Simmons (Print Name)	Signature / 12/19/2013 (Date)

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0123
Examination Date:	12/19/2013
Waste Container ID:	53893
Video/Audio Recorded Media Number:	LA-HERTR-13-0123 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Corrugated Metal Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 929.5 kg Tare Wt.: 168.0 kg Net Wt.: 761.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 53893

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, glovebox components, metal hardware
AM:	
OM:	Scrap lead
OI:	
C:	Wood, wood framed HEPA filters
R:	Rubber gloves
XPM:	Plastic sheeting, plastic bags, glove port
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	168.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	168.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	542.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	150.0
Other Inorganic Materials (OI)	
Cellulosics (C):	25.0
Rubber (R):	30.0
Plastics (waste materials) (XPM):	14.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	761.5

CCP Radiography Data Sheet

Waste Container ID: 53893

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: The corners of the Corrugated Metal Box have been cut off, therefore, the Corrugated Metal Box is vented.	
RTR Operator: Michael Simmons (Print Name) / Signature / 12/19/2013 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0123
Examination Date:	12/19/2013
Waste Container ID:	68244
Video/Audio Recorded Media Number:	LA-HERTR-13-0123 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 854.0 kg Tare Wt.: 290.0 kg Net Wt.: 564.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 68244

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, metal pipes, hand tools, saw blades, utility knives, electric motor
AM:	
OM:	Scrap lead
OI:	
C:	Cardboard, coveralls, leather gloves
R:	
XPM:	Plastic sheeting, plastic bag, hand pump
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	115.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	18.0
Other Inorganic Materials (OI)	
Cellulosics (C):	45.0
Rubber (R):	
Plastics (waste materials) (XPM):	20.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	366.0
Soils (S):	
Total WMP Weight:	564.0

CCP Radiography Data Sheet

Waste Container ID: 68244

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: Operator may not have specified, but the object identified as a "hand pump" is plastic. This is reflected appropriately on this attachment.	

RTR Operator:

Michael Simmons		12/19/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0123
Examination Date:	12/19/2013
Waste Container ID:	68242
Video/Audio Recorded Media Number:	LA-HERTR-13-0123 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 375.0 kg Tare Wt.: 290.0 kg Net Wt.: 85.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

Waste Container ID: 68242

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Saw blades, metal hardware, scrap metal
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, wood framed HEPA filters, filter media, tape rolls
R:	
XPM:	Plastic bags, plastic container, hand pumps, plastic hose
OR:	
IN:	
S:	

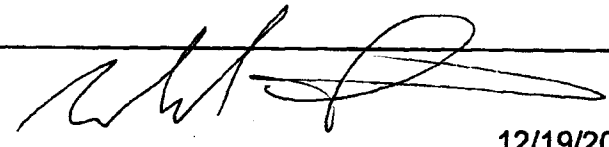
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	4.5
Aluminum-based Metals / Alloys (AM):	6.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	54.5
Rubber (R):	
Plastics (waste materials) (XPM):	20.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	85.0

CCP Radiography Data Sheet

Waste Container ID: 68242

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		12/19/2013
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-13-0123

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☑ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☑ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-13-0123

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☑ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:

N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

BENITO MAESTAS		12-23-13
Printed Name	Signature	Date

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-RTR2-14-0017	Examination Date(s): 02/07/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 69328 69287 68779 69273 69321 69323 68710 69329 68799 60117 68909 68913 68908 67404 69292 69198
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**	X cs 4/11/14		X cs 4/11/14	NCR-LANL-0603-14 cs 4/11/14
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 2/12/14

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-14-0017				Examination Date(s): 02/07/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-14-0017	Examination Date(s): 02/07/2014			
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
Comments: ~~None~~ See SPM1-3				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna — SPM Printed Name	Carolina Soaterna — Signature			2/13/14 PDR 2/12/14 — Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
Carolina Soaterna	Carolina Soaterna	Correction 68779	4/11/14

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0603-14 **Revision 0**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-RTR2-14-0017
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 68779
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
CCP-TP-053, Rev. 14, CCP Standard Real-Time Radiography (RTR) Inspection Procedure
Section 4.4.2 Data Entry
[A] Record the following data in Section 1 of Attachment 2:
[A.8] Procedure and Revision No.

7c. Actual Condition:

Attachment 2, Section 1, Procedure is missing for container 68779 (page16).

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☐ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Carolina Soaterna (printed name) [signature] 4/10/14 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: A

11. Responsible Manager: **Terri-Anne Groover**

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Wayne Ledford (printed name) [signature] 4-10-2014 (date)

SP11

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0603-14 Revision 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name signature date

16b. QA Engineer or QA Designee:

printed name signature date

Additional Approval:

printed name signature date

Additional Approval:

printed name signature date

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name signature date

18. Interim Disposition Verified – QA Engineer:

printed name signature date

SM2

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0603-14 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair
19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☐ Reject ☒ Rework ☐ Scrap
19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
1. DGL to correct container data for container 68779.
2. ITR re-review; submit corrections and copy of NCR to records.
3. SPM to re-review corrected data.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Carolina Soltero	Carolina Soltero	4/10/14

21. QA Engineer or QA Designee:

printed name	signature	date
Wayne Ledford		4-10-2014

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date

23. Attachments:

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date

SPM3
COPY

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-RTR2-14-0017 ☑ CH ☐ RH Date: 2-7-14

Waste Container ID Numbers	
Replicate Scan:	69292
Independent Observation:	69328
1	69328
2	69287
3	68779
4	69273
5	69321
6	69323
7	68710
8	69329
9	68799
10	60117
11	68909
12	68913
13	68908
14	67404
15	69292
16	69198
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Thad Hasselstrom		2-7-14
Printed Name	Signature	Date

Independent Technical Reviewer:

Eddie Rios		2-11-14
Printed Name	Signature	Date
AARON ELLIOTT		4/10/14

NTPC RECORDS ORIGINAL
DATE REC'D 2/11/14

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-RTR2-14-0017 ☑ CH ☐ RH Date: 2-7-14

Waste Container ID Numbers	
Replicate Scan:	69292
Independent Observation:	69328
1	69328
2	69287
3	68779
4	69273
5	69321
6	69323
7	68710
8	69329
9	68799
10	60117
11	68909
12	68913
13	68908
14	67404
15	69292
16	69198
17	N/A
18	N/A
19	N/A
20	N/A

SUPERSEDED 3/11/14

RTR Operator:

Thad Hasselstrom		2-7-14
Printed Name	Signature	Date

Independent Technical Reviewer:

Eddie Rios		2-11-14
Printed Name	Signature	Date

01A CS 4/11/14

NTPC RECORDS ORIGINAL
DATE REC'D 2/11/14

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-RTR2-14-0017 Date: 02/07/2014

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	58

Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

Thad Hasselstrom — RTR Operator

Thad Horsley — Signature

02/07/2014 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-RTR2-14-0017		
Examination Date: 02/07/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 8 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Thad Hasselstrom	Thad Hasselstrom	02/07/2014
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	69292
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 80.5 kg Tare Wt.: 33.4 kg Net Wt.: 47.1 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	70 %

CCP Radiography Data Sheet

Waste Container ID: 69292

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal hardware, scrap metal, motor, metal tubing, metal lids, electrical equipment, metal can with material
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	41.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	47.1

CCP Radiography Data Sheet

Waste Container ID: 69292

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This Replicate Scan agrees with the Original Scan.
This drum contains a metal can with material which may require additional Project Office review.

RTR Operator:

Michael Simmons		2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	69328
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 56.5 kg Tare Wt.: 33.4 kg Net Wt.: 23.1 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	35 %

CCP Radiography Data Sheet

Waste Container ID: 69328

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, metal lid
AM:	
OM:	Scrap lead
OI:	Broken glass
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	6.5
Other Inorganic Materials (OI)	8.7
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	0.9
Soils (S):	
Total WMP Weight:	23.1

CCP Radiography Data Sheet

Waste Container ID: 69328

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This Independent Observation agrees with the Original Scan.
This drum contains metal cans with material which may require additional Project Office review.

RTR Operator:

Michael Simmons		2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	69328
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 56.5 kg Tare Wt.: 33.4 kg Net Wt.: 23.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	35 %

CCP Radiography Data Sheet

Waste Container ID: 69328

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, metal lid
AM:	
OM:	Scrap lead
OI:	Broken glass
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	4.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	6.0
Other Inorganic Materials (OI)	8.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.1
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	23.1

CCP Radiography Data Sheet

Waste Container ID: 69328

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	69287
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 101.5 kg Tare Wt.: 33.4 kg Net Wt.: 68.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 69287

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, scrap metal, metal lids, hardware, electrical equipment
AM:	
OM:	Scrap lead
OI:	Glass containers, glass labware
C:	
R:	
XPM:	Plastic bags, plastic containers
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	30.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	1.0
Other Inorganic Materials (OI)	30.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	7.1
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	68.1

CCP Radiography Data Sheet

Waste Container ID: 69287

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-14-0017	
Examination Date:	2/7/2014	
Waste Container ID:	68779	
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B	
Procedure and Revision No.:	CCP-TP-053 TSH 4-10-14 Rev. 14	
NCR(s) associated with the container? (e.g., Prohibited Items)	~~[X] No~~ NB 4-10-14 [X] Yes TSH 4-10-14 NCR No.: ~~N/A~~ NCR-LANL-2603-14 TSH 4-10-14 NCR No.: N/A	

Container Type:	55 Gallon Drum
TRUCON Code:	LA211
Waste Matrix Code:	S3120
Waste Stream I.D.:	LA-MIN03-NC.001
Waste Container Weights:	Gross Wt.: 170.5 kg Tare Wt.: 36.1 kg Net Wt.: 134.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	68779
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA211
Waste Matrix Code:	S3120
Waste Stream I.D.:	LA-MIN03-NC.001
Waste Container Weights:	Gross Wt.: 170.5 kg Tare Wt.: 36.1 kg Net Wt.: 134.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

CS 9/11/14

164
CS 9/11/14

CCP Radiography Data Sheet

Waste Container ID: 68779

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hardware, closure ring
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Liner bottom, plastic containers, liner lid
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag and Rigid Liner	8.4
Other:	0.0
Total Packaging Weight	36.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	1.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.5
Organic Matrix (OR):	
Inorganic Matrix (IN):	130.9
Soils (S):	
Total WMP Weight:	134.4

CCP Radiography Data Sheet

Waste Container ID: 68779

Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: ~~N/A~~ DID NOT SAY HARDWARE ON THE RECORDSHT. TJH 2-11-14
NCR-LANL-0603-14 TJH 4-10-14

	Thad Hasselstrom	4-10-14
RTR Operator:	Thad Hasselstrom	2-11-14
Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Waste Container ID: 68779

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: ~~N/A~~ DID NOT SAY HARDWARE ON THE RECORDING. TJH 2-11-14

CS 4/11/14

RTR Operator: Thad Hasselstrom 2-11-14

Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

184
CS 4/11/14

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	69273
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 181.5 kg Tare Wt.: 33.4 kg Net Wt.: 148.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 69273

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, scrap metal, metal lids, hardware
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	12.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	4.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	126.1
Soils (S):	
Total WMP Weight:	148.1

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 69273

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This drum contains metal cans with material, which may require additional Project Office review.
I DID NOT SAY HOMOGENEOUS SOLIDS ON THE RECORDING. TSH 2-11-14

RTR Operator:		
Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	69321
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD03.001
Waste Container Weights:	Gross Wt.: 105.5 kg Tare Wt.: 33.4 kg Net Wt.: 72.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 69321

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal can with material, electrical equipment, metal lids, hardware, scrap metal

AM:

OM: Scrap lead

OI: Broken glass, glass labware, GLASS CONTAINERS TJM 2-1117

C: Tape roll

R:

XPM: Plastic containers, plastic bags

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	49.7
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	6.0
Other Inorganic Materials (OI)	0.3
Cellulosics (C):	0.1
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	10.0
Soils (S):	
Total WMP Weight:	72.1

CCP Radiography Data Sheet

Waste Container ID: 69321

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:		
Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	69323
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 106.0 kg Tare Wt.: 33.4 kg Net Wt.: 72.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	45 %

CCP Radiography Data Sheet

Waste Container ID: 69323

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, scrap metal, metal lids
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	5.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	20.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	41.6
Soils (S):	
Total WMP Weight:	72.6

CCP Radiography Data Sheet

Waste Container ID: 69323

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	68710
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 59.0 kg Tare Wt.: 27.7 kg Net Wt.: 31.3 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	70 %

CCP Radiography Data Sheet

Waste Container ID: 68710

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Wire, hardware, saw blades
AM:	
OM:	
OI:	
C:	Cardboard
R:	
XPM:	Flex hose, plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	0.5
Rubber (R):	
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	22.3
Soils (S):	
Total WMP Weight:	31.3

CCP Radiography Data Sheet

Waste Container ID: 68710

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	69329
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 79.0 kg Tare Wt.: 33.4 kg Net Wt.: 45.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80% ~~75~~ % JM 2-11-14

CCP Radiography Data Sheet

Waste Container ID: 69329

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Closure ring, metal containers, hand tool, scrap metal
AM:	
OM:	Scrap lead
OI:	Light bulb
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	2.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	0.1
Other Inorganic Materials (OI)	0.3
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	23.2
Organic Matrix (OR):	
Inorganic Matrix (IN):	20.0
Soils (S):	
Total WMP Weight:	45.6

CCP Radiography Data Sheet

Waste Container ID: 69329

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This drum contains metal cans with material, which may require additional Project Office review.
ON THE RECORDING I SAID 80%. I HAVE CORRECTED THIS ATTACHMENT 2 TO REFLECT THAT. TH 2-11-14

RTR Operator:		
Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	68799
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA211
Waste Matrix Code:	S3120
Waste Stream I.D.:	LA-MIN03-NC.001
Waste Container Weights:	Gross Wt.: 178.0 kg Tare Wt.: 34.1 kg Net Wt.: 143.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 68799

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Aerosol cans punctured, scrap metal
AM:	
OM:	
OI:	
C:	Leather gloves
R:	
XPM:	Liner bottom, liner lid
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Rigid Liner	6.4
Other:	0.0
Total Packaging Weight	34.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	1.0
Rubber (R):	
Plastics (waste materials) (XPM):	1.5
Organic Matrix (OR):	
Inorganic Matrix (IN):	140.9
Soils (S):	
Total WMP Weight:	143.9

CCP Radiography Data Sheet

Waste Container ID: 68799

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	60117
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 30.5 kg Tare Wt.: 27.7 kg Net Wt.: 2.8 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	15 %

CCP Radiography Data Sheet

Waste Container ID: 60117

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Metal cans with material
AM:	
OM:	Scrap lead
OI:	Glass containers
C:	
R:	
XPM:	Plastic bags, plastic sheeting
OR:	
IN:	Homogeneous solids
S:	

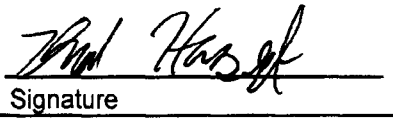
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	0.1
Other Inorganic Materials (OI)	0.1
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	1.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	1.1
Soils (S):	
Total WMP Weight:	2.8

CCP Radiography Data Sheet

Waste Container ID: 60117

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Thad Hasselstrom		2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	68909
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA211
Waste Matrix Code:	S3120
Waste Stream I.D.:	LA-MIN03-NC.001
Waste Container Weights:	Gross Wt.: 183.0 kg Tare Wt.: 35.1 kg Net Wt.: 147.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 68909

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Rigid Liner with Lid	7.4
Other:	0.0
Total Packaging Weight	35.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	147.9
Soils (S):	
Total WMP Weight:	147.9

CCP Radiography Data Sheet

Waste Container ID: 68909

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: Liner lid is punctured due to, the liner lid was cut open.	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	68913
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA211
Waste Matrix Code:	S3120
Waste Stream I.D.:	LA-MIN03-NC.001
Waste Container Weights:	Gross Wt.: 217.0 kg Tare Wt.: 34.1 kg Net Wt.: 182.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 68913

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Liner lid
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Rigid Liner	6.4
Other:	0.0
Total Packaging Weight	34.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	1.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	181.9
Soils (S):	
Total WMP Weight:	182.9

CCP Radiography Data Sheet

Waste Container ID: 68913

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	68908
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA211
Waste Matrix Code:	S3120
Waste Stream I.D.:	LA-MIN03-NC.001
Waste Container Weights:	Gross Wt.: 202.5 kg Tare Wt.: 34.1 kg Net Wt.: 168.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: 68908

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Liner lid, plastic sheeting
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Rigid Liner	6.4
Other:	0.0
Total Packaging Weight	34.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	166.4
Soils (S):	
Total WMP Weight:	168.4

CCP Radiography Data Sheet

Waste Container ID: 68908

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Thad Hasselstrom		2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	67404
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA212
Waste Matrix Code:	S3900
Waste Stream I.D.:	LA-MIN05-V.001
Waste Container Weights:	Gross Wt.: 56.5 kg Tare Wt.: 27.7 kg Net Wt.: 28.8 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	50 %

CCP Radiography Data Sheet

Waste Container ID: 67404

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic containers, plastic bags, plastic labware
OR:	Homogeneous solids
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	0.1
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	11.3
Inorganic Matrix (IN):	11.4
Soils (S):	
Total WMP Weight:	28.8

CCP Radiography Data Sheet

Waste Container ID: 67404

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom		2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	69292
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 80.5 kg Tare Wt.: 33.4 kg Net Wt.: 47.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 69292

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, hardware, scrap metal, motor, metal lids, hand tool
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	43.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	47.1

CCP Radiography Data Sheet

Waste Container ID: 69292

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Thad Hasselstrom		2/7/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0017
Examination Date:	2/7/2014
Waste Container ID:	69198
Video/Audio Recorded Media Number:	LA-RTR2-14-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 227.5 kg Tare Wt.: 33.4 kg Net Wt.: 194.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 69198

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, metal cans with material
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic bag
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	5.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	10.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	177.1
Soils (S):	
Total WMP Weight:	194.1

CCP Radiography Data Sheet

Waste Container ID: 69198

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	2/7/2014
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-RTR2-14-0017

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☑ YES	☐ N/A
12.	Was justification made for changing the original data?	☐ NO	☑ YES	☐ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☑ YES	☐ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-RTR2-14-0017

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	JCE 4/10/14
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☑ YES	~~N/A~~
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments: ~~N/A~~ I HAVE REVIEWED AND AGREE WITH ALL CHANGES.
JCE
4/10/14

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Printed Name	Signature	Date
Eddie Rios	Eddie Rios	2-11-14
AARON ELLIOTT		4/10/14

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-RTR2-14-0017

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☑ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments: N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Eddie Rios	Eddie Rios	2-11-14
Printed Name	Signature	Date

59A 2/11/14

2/11/14

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-14-0039				Examination Date(s): 03/21/14
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 66122, 66124, 68168, 68169, 66130, 66128, 66134, 66135, 66129, 66142, 66127
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 3/31/14

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0039	**Examination Date(s): 03/21/14**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0039	**Examination Date(s): 03/21/14**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	Ter. A Groover			3.27.14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-14-0039 ☑ CH ☐ RH Date: 03/21/2014

Waste Container ID Numbers	
Replicate Scan:	66128
Independent Observation:	66130
1	66122
2	66124
3	68168
4	68169
5	66130
6	66128
7	66134
8	66135
9	66129
10	66142
11	66127
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Michael Simmons		03/21/2014
Printed Name	Signature	Date

Independent Technical Reviewer:

AARON ELLIOTT		3/24/2014
Printed Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 3/25/14

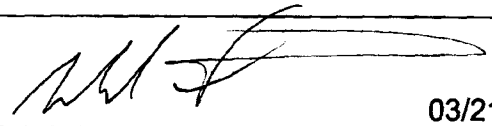
Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-14-0039 Date: 03/21/2014

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	43

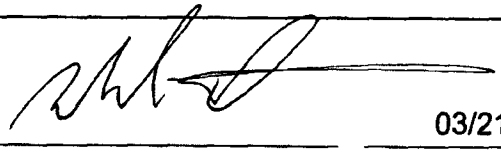
Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

Michael Simmons — RTR Operator


Signature

03/21/2014 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-14-0039		
Examination Date: 03/21/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 8 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Michael Simmons		03/21/2014
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66128
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1715.5 kg Tare Wt.: 290.0 kg Net Wt.: 1425.5 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 66128

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal, metal can

AM:

OM:

OI:

C:

R:

XPM: Plastic sheeting, electrical cord

OR:

IN:

S: Soil

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	18.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1397.5
Total WMP Weight:	1425.5

Waste Container ID: 66128

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No

Comments: The Replicate Scan agrees with the original scan.

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66130
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1516.0 kg Tare Wt.: 290.0 kg Net Wt.: 1226.0 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 66130

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal

AM:

OM:

OI:

C:

R:

XPM: Plastic sheeting

OR:

IN:

S: Soil

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	4.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1212.0
Total WMP Weight:	1226.0

Waste Container ID: 66130

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Thad Hasselstrom		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66122
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1353.0 kg Tare Wt.: 290.0 kg Net Wt.: 1063.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	50 %

Waste Container ID: 66122

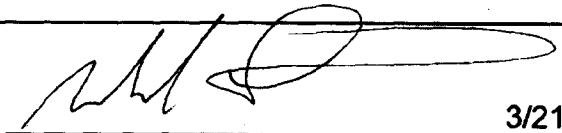
Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	Cardboard
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	25.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	1.0
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1025.0
Total WMP Weight:	1063.0

Waste Container ID: 66122

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66124
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1594.0 kg Tare Wt.: 290.0 kg Net Wt.: 1304.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	60 %

Waste Container ID: 66124

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	Tape roll
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	9.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	0.2
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1282.8
Total WMP Weight:	1304.0

Waste Container ID: 66124

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	68168
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 457.0 kg Tare Wt.: 290.0 kg Net Wt.: 167.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	80 %

Waste Container ID: 68168

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Saw blades, scrap metal, metal hardware, paint scraper
AM:	Respirator filters
OM:	
OI:	
C:	Cardboard, coveralls, wood, tape roll
R:	Rubber gloves
XPM:	Plastic sheeting, plastic bags, flex hose, hand pump
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	130.0
Aluminum-based Metals / Alloys (AM):	6.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	20.0
Rubber (R):	3.0
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	167.0

Waste Container ID: 68168

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	68169
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 503.0 kg Tare Wt.: 290.0 kg Net Wt.: 213.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

Waste Container ID: 68169

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Metal carts, scrap metal, metal pipes, metal hardware
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, cloth straps, cardboard, tape roll
R:	
XPM:	Plastic sheeting, plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	185.0
Aluminum-based Metals / Alloys (AM):	8.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	16.0
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	213.0

Waste Container ID: 68169

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66130
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1516.0 kg Tare Wt.: 290.0 kg Net Wt.: 1226.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	50 %

CCP Radiography Data Sheet

Waste Container ID: 66130

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal

AM:

OM:

OI:

C:

R:

XPM: Plastic sheeting

OR:

IN:

S: Soils

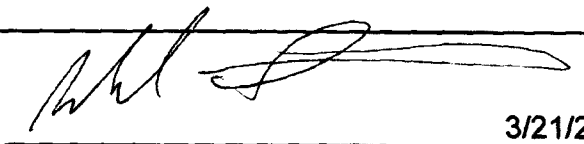
Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1210.5
Total WMP Weight:	1226.0

Waste Container ID: 66130

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66128
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1715.5 kg Tare Wt.: 290.0 kg Net Wt.: 1425.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	60 %

Waste Container ID: 66128

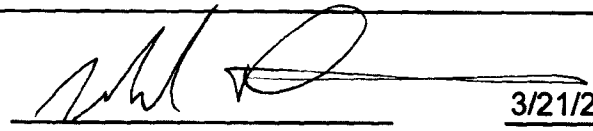
Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic sheeting, electrical cord, plastic container
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	14.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	8.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1391.5
Total WMP Weight:	1425.5

Waste Container ID: 66128

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66134
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1442.0 kg Tare Wt.: 290.0 kg Net Wt.: 1152.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 66134

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal

AM:

OM:

OI:

C:

R:

XPM: Plastic sheeting

OR:

IN:

S: Soils

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	6.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1134.0
Total WMP Weight:	1152.0

Waste Container ID: 66134

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66135
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 989.5 kg Tare Wt.: 290.0 kg Net Wt.: 699.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	40 %

Waste Container ID: 66135

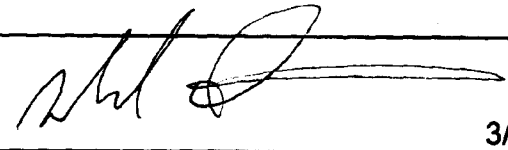
Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	689.5
Total WMP Weight:	699.5

Waste Container ID: 66135

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66129
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1538.5 kg Tare Wt.: 290.0 kg Net Wt.: 1248.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	70 %

Waste Container ID: 66129

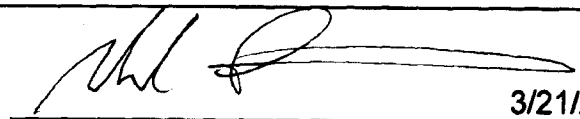
Section 3. Container Inventory and Comments (Detailed descriptions)
IM: Scrap metal
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	15.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1221.5
Total WMP Weight:	1248.5

Waste Container ID: 66129

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66142
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1651.5 kg Tare Wt.: 290.0 kg Net Wt.: 1361.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	70 %

Waste Container ID: 66142

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soils

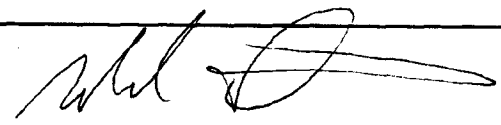
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1349.5
Total WMP Weight:	1361.5

Waste Container ID: 66142

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No

Comments: On the recording the screen displays the Container ID number as "66412," this should have read, "66142" which is the correct ID number for this container. Both this attachment and the video file name on discs C&D reflect this data.

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66127
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1713.0 kg Tare Wt.: 290.0 kg Net Wt.: 1423.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	70 %

Waste Container ID: 66127

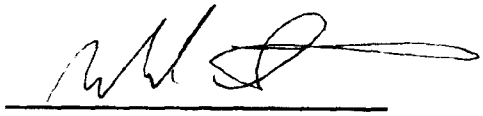
Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	22.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1389.0
Total WMP Weight:	1423.0

Waste Container ID: 66127

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-14-0039

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☑ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☑ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-14-0039

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☑ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:
N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

AARON ELLIOTT
Printed Name

Signature

3/24/2014
Date

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-14-0054				Examination Date(s): 05/13/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 68187 68188 68163 68157 68158 66140
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 5/22/14 JY

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0054			Examination Date(s): 05/13/2014	
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0054	**Examination Date(s): 05/13/2014**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Scale not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Scale not used.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna			5/20/14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-14-0054 ☑ CH ☐ RH Date: 05/13/2014

Waste Container ID Numbers	
Replicate Scan:	68188
Independent Observation:	68187
1	68187
2	68188
3	68163
4	68157
5	68158
6	66140
7	N/A
8	N/A
9	N/A
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Thad Hasselstrom		05/13/2014
Printed Name	Signature	Date

Independent Technical Reviewer:

Eddie Rios		5-14-14
Printed Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE RECD 5/15/14

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-14-0054 Date: 05/13/2014

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	28

Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

Thad Hasselstrom — RTR Operator

Signature

05/13/2014 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-14-0054		
Examination Date: 05/13/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 11 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Thad Hasselstrom		05/13/2014
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0054
Examination Date:	5/13/2014
Waste Container ID:	68188
Video/Audio Recorded Media Number:	LA-HERTR-14-0054 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 375.0 kg Tare Wt.: 290.0 kg Net Wt.: 85.0 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	70 %

Waste Container ID: 68188

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, tape rolls
R:	
XPM:	Plastic sheeting, plastic containers, plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	5.0
Aluminum-based Metals / Alloys (AM):	5.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	45.0
Rubber (R):	
Plastics (waste materials) (XPM):	15.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	15.0
Soils (S):	
Total WMP Weight:	85.0

Waste Container ID: 68188

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Replicate scan agrees with the original scan.	

RTR Operator:

Benito Maestas		5/13/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0054
Examination Date:	5/13/2014
Waste Container ID:	68187
Video/Audio Recorded Media Number:	LA-HERTR-14-0054 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 403.5 kg Tare Wt.: 290.0 kg Net Wt.: 113.5 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	95 %

Waste Container ID: 68187

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Hardware, hand tools, scrap metal
AM:	
OM:	
OI:	
C:	HEPA filters, coveralls, cardboard
R:	Rubber gloves
XPM:	Plastic containers, flex hose, plastic bags, plastic lids
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	2.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	50.0
Rubber (R):	1.0
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	50.5
Soils (S):	
Total WMP Weight:	113.5

Waste Container ID: 68187

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Benito Maestas		5/13/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0054
Examination Date:	5/13/2014
Waste Container ID:	68187
Video/Audio Recorded Media Number:	LA-HERTR-14-0054 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 403.5 kg Tare Wt.: 290.0 kg Net Wt.: 113.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	95 %

Waste Container ID: 68187

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hardware, hand tools, scrap metal
AM:	
OM:	
OI:	
C:	FILTERS TSH 5-14-14 Hepa ~~filter~~, coveralls, cardboard
R:	Rubber gloves
XPM:	Plastic containers, flex hose, plastic bags, plastic lids
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	2.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	48.5
Rubber (R):	1.0
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	50.0
Soils (S):	
Total WMP Weight:	113.5

Waste Container ID: 68187

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No

Comments: ~~N/A~~ ON THE RECORDING I SAID FILTER INSTEAD OF FILTERS. THE DATA IS NOT AFECTED JSH 5-14-14

RTR Operator: Thad Hasselstrom 5-14-14

Thad Hasselstrom	Thad Hasselstrom	5/13/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0054
Examination Date:	5/13/2014
Waste Container ID:	68188
Video/Audio Recorded Media Number:	LA-HERTR-14-0054 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 375.0 kg Tare Wt.: 290.0 kg Net Wt.: 85.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	70 %

Waste Container ID: 68188

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, tape rolls, cardboard tubes, cloth
R:	
XPM:	Plastic sheeting, plastic container, plastic bags, plastic handles
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	1.0
Aluminum-based Metals / Alloys (AM):	3.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	50.0
Rubber (R):	
Plastics (waste materials) (XPM):	15.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	16.0
Soils (S):	
Total WMP Weight:	85.0

Waste Container ID: 68188

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	5/13/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0054
Examination Date:	5/13/2014
Waste Container ID:	68163
Video/Audio Recorded Media Number:	LA-HERTR-14-0054 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD03.001
Waste Container Weights:	Gross Wt.: 470.0 kg Tare Wt.: 290.0 kg Net Wt.: 180.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

Waste Container ID: 68163

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Mechanical equipment, scrap metal, hand tools, hardware, metal framed HEPA filters, saw blades
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, cardboard
R:	Leaded rubber aprons
XPM:	Plastic sheeting, electrical cord, plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	80.0
Aluminum-based Metals / Alloys (AM):	3.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	42.0
Rubber (R):	5.0
Plastics (waste materials) (XPM):	40.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	10.0
Soils (S):	
Total WMP Weight:	180.0

Waste Container ID: 68163

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	5/13/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0054
Examination Date:	5/13/2014
Waste Container ID:	68157
Video/Audio Recorded Media Number:	LA-HERTR-14-0054 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 432.0 kg Tare Wt.: 290.0 kg Net Wt.: 142.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

Waste Container ID: 68157

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hand tools, scrap metal, hardware
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, tape rolls, lifting strap, brush
R:	
XPM:	Plastic sheeting, electrical cord, flex hose, open 5 gallon water jug, plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	12.0
Aluminum-based Metals / Alloys (AM):	5.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	25.0
Rubber (R):	
Plastics (waste materials) (XPM):	90.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	10.0
Soils (S):	
Total WMP Weight:	142.0

Waste Container ID: 68157

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	[signature]	5/13/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0054
Examination Date:	5/13/2014
Waste Container ID:	68158
Video/Audio Recorded Media Number:	LA-HERTR-14-0054 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 420.0 kg Tare Wt.: 290.0 kg Net Wt.: 130.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	95 %

Waste Container ID: 68158

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hardware, hand tools, scrap metal
AM:	Respirator filters
OM:	
OI:	
C:	Tape roll, coveralls, cardboard
R:	Leaded rubber gloves
XPM:	Plastic bags, flex hose
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	1.0
Aluminum-based Metals / Alloys (AM):	8.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	25.0
Rubber (R):	10.0
Plastics (waste materials) (XPM):	86.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	130.0

Waste Container ID: 68158

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	5/13/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0054
Examination Date:	5/13/2014
Waste Container ID:	66140
Video/Audio Recorded Media Number:	LA-HERTR-14-0054 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1220.5 kg Tare Wt.: 290.0 kg Net Wt.: 930.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	50 %

Waste Container ID: 66140

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	925.5
Total WMP Weight:	930.5

Waste Container ID: 66140

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	
RTR Operator: Thad Hasselstrom (Print Name) — Signature — 5/13/2014 (Date)	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-14-0054

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☑ YES	☐ N/A
12.	Was justification made for changing the original data?	☐ NO	☑ YES	☐ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☑ YES	☐ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-14-0054

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☑ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments: N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Printed Name	Signature	Date
Eddie Rios		5-14-14

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-12-0111 **Examination Date:** 10/18/12

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-10b**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-10b**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-10b**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-10b**				Container Numbers: 56537 62211 66659 66694 66785 66796 67000 61249 91400 S853072
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-11**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-11**			X	No NCRs associated with BDR.
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-10**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-10b**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, C3-4, Table C3-11**	X			

CCP RECORDS ORIGINAL
DATE RECVD 10-25-12

COPY

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-12-0111			**Examination Date: 10/18/12**	
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, C1-3, Table C3-11**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, C3-4a**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C3-4a**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-4a**			X	No discrepancies
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-4a**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C3-4a**	X			
16. Was the Lines-Pair Resolution Test Check included in the BDR? **Reference Source: CCP-PO-001, C3-4a**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-3**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-3**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-12-0111 **Examination Date:** 10/18/12

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-3**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-3**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP-PO-001, Table C3-1**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Weight obtained independent of RTR
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Weight obtained independent of RTR

Comments: None

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Veronica Waldram	Veronica Waldram	October 24, 2012
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-12-0111 ☑ CH ☐ RH Date: 10-18-12

Waste Container ID Numbers	
Replicate Scan:	61249
Independent Observation:	91400
1	62211
2	56537
3	91400
4	S853072
5	66694
6	67000
7	61249
8	66659
9	66785
10	66796
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator: Benito Maestas — Printed Name | Signature | 10-18-12 Date

Independent Technical Reviewer:

Kenneth Simpson — Printed Name | Signature | 10-23-12 Date

01

CCP RECORDS ORIGINAL
DATE REC'D 10/23/12

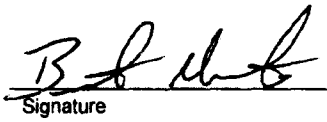
Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-12-0111 Date: 10-18-12

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	40

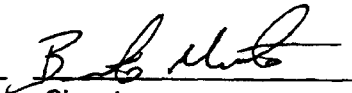
Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 12, CCP Radiography Measurement Control Report.

Benito Maestas — RTR Operator


Signature

10-18-12
Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-12-0111		
Examination Date: 10-18-12		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 8 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Benito Maestas		10/18/12
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	61249
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 172.3 kg Tare Wt.: 142.1 kg Net Wt.: 30.2 kg
Rigid Liner and Liner Vent Description:	Liner: ☐ No ☒ Yes Lid: ☐ No ☒ Yes Type: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☒ Yes ☐ N/A Punctured: ☐ No ☒ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 61249

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material
AM:	
OM:	Scrap lead
OI:	Broken glass, graphite
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP): Rigid Liner	6.4
Other: Fiberboard (CP)	26.7
Total Packaging Weight	142.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	6.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	3.9
Other Inorganic Materials (OI)	9.2
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	1.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	10.1
Soils (S):	
Total WMP Weight:	30.2

CCP Radiography Data Sheet

Waste Container ID: 61249

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: Standard Pipe Overpack Container (P.O.C.)
There is separation between liner lid and liner; therefore, the liner is vented.
This drum contains metal cans with material, which may require additional Project Office review.
This replicate scan agrees with the original scan.

RTR Operator:

Michael Simmons		10/18/2012
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	91400
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 90.0 kg Tare Wt.: 33.4 kg Net Wt.: 56.6 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	50 %

CCP Radiography Data Sheet

Waste Container ID: 91400

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM: Scrap Lead
OI:
C:
R:
XPM: Plastic bags
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Plastic Liner Bag	2.0
Other: Fiberboard Liner (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	39.4
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	15.2
Soils (S):	
Total WMP Weight:	56.6

CCP Radiography Data Sheet

Waste Container ID: 91400

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Michael Simmons		10/18/2012
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	62211
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 98.0 kg Tare Wt.: 36.1 kg Net Wt.: 61.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 3 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 62211

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal lids, metal cans with material, electrical equipment, metal hardware, electrical wire, scrap metal

AM:

OM:

OI:

C:

R:

XPM: Plastic Bags

OR:

IN:

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Plastic Liner Bag/ 90 mil. Liner no Lid	8.4
Other:	0.0
Total Packaging Weight	36.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	55.9
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	61.9

CCP Radiography Data Sheet

Waste Container ID: 62211

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	
RTR Operator:	
Benito Maestas (Print Name) / Signature / 10/18/2012 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	56537
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	SQ211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 152.0 kg Tare Wt.: 29.7 kg Net Wt.: 122.3 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	50 %

CCP Radiography Data Sheet

Waste Container ID: 56537

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	Glass containers
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	
S:	Soil

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Plastic Liner Bag	2.0
Other:	0.0
Total Packaging Weight	29.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	6.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.5
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	113.8
Total WMP Weight:	122.3

CCP Radiography Data Sheet

Waste Container ID: 56537

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	
RTR Operator: Benito Maestas (Print Name) — Signature — 10/18/2012 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	91400
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 90.0 kg Tare Wt.: 33.4 kg Net Wt.: 56.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 91400

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM: Scrap Lead
OI:
C:
R:
XPM: Plastic bags
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	25.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	29.6
Soils (S):	
Total WMP Weight:	56.6

CCP Radiography Data Sheet

Waste Container ID: 91400

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments:N/A	

RTR Operator:

Benito Maestas		10/18/2012
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	S853072
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 134.4 kg Tare Wt.: 29.7 kg Net Wt.: 104.7 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: S853072

Section 3: Container Inventory and Comments (Detailed descriptions)
IM: Open 30 GAL. drum with material, scrap metal
AM:
OM:
OI:
C:
R:
XPM: Plastic bags
OR:
IN:
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Plastic Liner Bag	2.0
Other:	0.0
Total Packaging Weight	29.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	98.7
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	104.7

CCP Radiography Data Sheet

Waste Container ID: S853072

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Benito Maestas	[signature]	10/18/2012
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	66694
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 85.5 kg Tare Wt.: 36.1 kg Net Wt.: 49.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 66694

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal pan, hand tool
AM:	
OM:	
OI:	Bricks
C:	
R:	
XPM:	Plastic bags, plastic containers, plastic caps
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): 90 MIL. Liner with no lid, Plastic liner bag	8.4
Other:	0.0
Total Packaging Weight	36.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	2.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	32.4
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	15.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	49.4

CCP Radiography Data Sheet

Waste Container ID: 66694

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	
RTR Operator: Benito Maestas (Print Name) / Signature / 10/18/2012 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	67000
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 130.5 kg Tare Wt.: 36.1 kg Net Wt.: 94.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

Waste Container ID: 67000

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal pan, scrap metal, metal lids, metal cans with material, metal hardware, electrical equipment

AM:

OM: Lead pellets

OI:

C:

R:

XPM: Plastic bags

OR:

IN: HOMOGENEOUS SOLIDS B.M 10.23.12

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): 90 MIL. Liner with no lid, Plastic liner bag	8.4
Other:	0.0
Total Packaging Weight	36.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	B.M 10.23.12 ~~74.4~~ 71.4 B.M 10.23.12
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	15.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	3.0 B.M 10.23.12
Soils (S):	
Total WMP Weight:	94.4

CCP Radiography Data Sheet

Waste Container ID: 67000

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:		
Benito Maestas		10/18/2012
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	61249
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 172.3 kg Tare Wt.: 142.1 kg Net Wt.: 30.2 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 61249

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material
AM:	
OM:	Scrap lead
OI:	Broken glass
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP): Rigid Liner	6.4
Other:Fiberboard (CP)	26.7
Total Packaging Weight	142.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	8.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	1.0
Other Inorganic Materials (OI)	6.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	13.2
Soils (S):	
Total WMP Weight:	30.2

CCP Radiography Data Sheet

Waste Container ID: 61249

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review. Standard Pipe Overpack Container (P.O.C.) There is separation between liner lid and liner therefore liner is vented.	
RTR Operator: Benito Maestas (Print Name) — Signature — 10/18/2012 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	66659
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 78.5 kg Tare Wt.: 27.7 kg Net Wt.: 50.8 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	70 %

CCP Radiography Data Sheet

Waste Container ID: 66659

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Electrical equipment, scrap metal, metal cans with material, metal lids
AM:	
OM:	
OI:	
C:	
R:	RUBBER GLOVES B.M 10.23.12
XPM:	Plastic sheeting, plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	18.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	1.3 B.M 10.23.12
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	B.M 10.23.12 ~~27.8~~ 26.5 B.M. 10.23.12
Soils (S):	
Total WMP Weight:	50.8

CCP Radiography Data Sheet

Waste Container ID: 66659

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:		
Benito Maestas		10/18/2012
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	66785
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 53.5 kg Tare Wt.: 27.7 kg Net Wt.: 25.8 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

Waste Container ID: 66785

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	
C:	Cloth, coveralls
R:	Rubber gloves
XPM:	Plastic sheeting, plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	8.0
Rubber (R):	2.5
Plastics (waste materials) (XPM):	15.3
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	25.8

CCP Radiography Data Sheet

Waste Container ID: 66785

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Benito Maestas		10/18/2012
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-12-0111
Examination Date:	10/18/2012
Waste Container ID:	66796
Video/Audio Recorded Media Number:	LA-HERTR-12-0111 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 44.5 kg Tare Wt.: 27.7 kg Net Wt.: 16.8 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 66796

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Paper clip, scrap metal
AM:	
OM:	
OI:	
C:	Cloth, coveralls
R:	Rubber gloves
XPM:	Plastic sheeting, plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.2
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	8.0
Rubber (R):	2.0
Plastics (waste materials) (XPM):	6.6
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	16.8

CCP Radiography Data Sheet

Waste Container ID: 66796

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Benito Maestas	[signature]	10/18/2012
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-WERTR-12-0111

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 12	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☑ YES	☐ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☑ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☑ YES	☐ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HGRTR-12-0111

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2? (1 per batch or 1 per day, whichever is less frequent).	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2? (1 per batch or 1 per day, whichever is less frequent).	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☑ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:

N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Kenneth Simpson — Printed Name

Signature

10-23-12 — Date

AK28

Attachment 13 - CCP Waste Stream Characterization Checklist

Site(s): LANL
Waste Stream Number: LA-MHD09.001 (CCP-AK-LANL-004) Lot # (if applicable) 24
Waste Stream Description: Hetereogeneous Debris

Acceptable Knowledge Information or other data points[a]	Characterization Method(s)	Acceptable Knowledge Re-evaluation Required? Yes/No[b]?	Comments[c]
Physical waste form/description	RTR	No	RTR Data Sheets indicate consistency with Attachment 6 of CCP-TP-005.
Waste material parameters weights	RTR	No	RTR Data Sheets indicate consistency with the Waste Material Parameter table as listed in the AK. See additional attached sheets.
Waste percent volume consistent with nondestructive examination or visual examination data and audio/video tapes or equivalent media	RTR	No	RTR Data Sheets indicate consistency with CCP-AK-LANL-004. See additional attached sheets.
Summary category group assignment	RTR	No	RTR Data Sheets are consistent with CCP-TP-005, Attachment 6.
Waste matrix code assignment	RTR	No	Waste Matrix Code S5400 is consistent with data from RTR data sheets.
Absence of prohibited items	RTR	No	RTR did not identify any prohibited items.
EPA Hazardous Waste Number assignment [d]	AK	No	Characterization results consistent with CCP-AK-LANL-004.
Toxicity characteristic code assignment	AK	No	Consistent with CCP-AK-LANL-004.
VOCs from packaging materials or radiolysis present	AK	No	CCP-TP-005 Attachment 5 does not identify any VOCs associated with packaging or radiolysis.
State Hazardous Waste Number assignment	AK	No	No additional State Hazardous Waste codes are identified in CCP-TP-005 Attachment 5.
Radionuclides present	NDA	No	See Additional Comments section and additional sheets attached.
Other radiological parameters: (specify)	NDA	No	No additional radiological parameters identified.

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 4/21/14 JY.

Attachment 13 - CCP Waste Stream Characterization Checklist

Site(s): LANL
Waste Stream Number: LA-MHD09.001 (CCP-AK-LANL-004) Lot # (if applicable) 24
Waste Stream Description: Hetereogeneous Debris

Additional Comments:

- For this waste stream, AK identifies the two most prevalent isotopes, by weight, to be: Pu-239 at 56.83% and U-238 at 29.51%
- The two most prevalent isotopes by weight percent for the lot are: 89.26% PU-239 and 9.71% PU-240
- For the waste stream to date, the two most prevalent isotopes by weight percent are: 42.99% PU-239 and 36.06% U-238

a. Identified in the AK Summary Report or included in the in-process record documentation (e.g., BDR's).
b. If 'Yes,' AK Expert completes an Acceptable Knowledge Re-evaluation Checklist.
c. Identify the source of the waste characterization information (e.g., batch data report).
d. Ensure that, if a toxicity characteristic contaminant is identified, it is not included as a listed waste, and if analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Code is applied.

Site Project Manager:

Roger Whiteaker	Roger Whiteaker	4/3/2014
Print	Sign	Date

Acceptable Knowledge Expert:

Mike Papp	MPapp	4/3/14
Print	Sign	Date

NDA Isotopic Weight Percent
LA-MHD09.001
Lot 24

CONTAINERID	NDABDR	SR-90	CS-137	U-233	U-234	U-235	U-238	NP-237	PU-238	PU-239	PU-240	PU-241	PU-242	AM-241
68273	3LANDA0261							1.96E-04	4.12E-04	3.97E-01	4.35E-02	1.22E-03	6.38E-04	1.44E-03
68710	2LANDA1274	1.30E-10	2.07E-10						7.16E-07	7.38E-03	4.72E-04	8.87E-06	1.57E-06	7.64E-04
		1.30E-10	2.07E-10					1.96E-04	4.13E-04	4.04E-01	4.40E-02	1.23E-03	6.40E-04	2.20E-03
Total Mass	0.453033156													
		< 0.01 %	< 0.01 %					0.04 %	0.09 %	89.26 %	9.71 %	0.27 %	0.14 %	0.49 %

Individual Container Weight Percents

CONTAINERID	NDABDR	SR-90	CS-137	U-233	U-234	U-235	U-238	NP-237	PU-238	PU-239	PU-240	PU-241	PU-242	AM-241
68273	3LANDA0261							0.04 %	0.09 %	89.33 %	9.79 %	0.27 %	0.14 %	0.32 %
68710	2LANDA1274	0.00 %	0.00 %						0.01 %	85.54 %	5.47 %	0.10 %	0.02 %	8.86 %

Supporting Documentation

NDA Isotopic Weight Percent Rollup
LA-MHD09.001
Lots 1 Thru 24

		CO-60	SR-90	CS-137	AC-228	U-232	U-233	U-234	U-235	U-238	NP-237	PU-238
		1.20E-08	3.47E-04	5.45E-04	1.53E-12	1.22E-06		2.97E+00	4.91E+00	2.91E+02	1.37E+01	7.33E+00
		1.20E-08	3.47E-04	5.45E-04	1.53E-12	1.22E-06		2.97E+00	4.91E+00	2.91E+02	1.37E+01	7.33E+00
Total Mass	8.07E+02											
		< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %		0.37 %	0.61 %	36.06 %	1.70 %	0.91 %

NDA Isotopic Weight Percent Rollup
LA-MHD09.001
Lots 1 Thru 24

		PU-239	PU-240	PU-241	PU-242	AM-241	AM-243	CM-243	BK-249
		3.47E+02	3.43E+01	1.03E+00	9.86E-01	1.04E+02	9.97E-02	4.94E-05	7.62E-03
		3.47E+02	3.43E+01	1.03E+00	9.86E-01	1.04E+02	9.97E-02	4.94E-05	7.62E-03
Total Mass	8.07E+02								
		42.99 %	4.25 %	0.13 %	0.12 %	12.86 %	0.01 %	< 0.01 %	< 0.01 %

RTR Data
LA-MHD09.001
Lot 24

Batch Data Report No.	Container	Cellulosics (kg)	Plastics (kg)	Rubber (kg)	Organic Matrix (kg)	Inorganic Matrix (kg)	Iron-based Metals (kg)	Aluminum-based Metals (kg)	Other Metals (kg)	Other Inorganics (kg)	Soils/Gravel (kg)	Total Organic (kg)	Total Inorganic (kg)	Total Waste Weight (kg)	Cellulosics Weight %	Plastics Weight %
LA-HERTR-14-0019	68273	50	30			10	298.4	1.5	0.1			80	310	390	12.82 %	7.69 %
LA-RTR2-14-0017	68710	0.5	8			22.3	0.5					8.5	22.8	31.3	1.60 %	25.56 %

RTR Data
LA-MHD09.001
Lot 24

Batch Data Report No.	Container	Rubber Weight %	Organic Matrix Weight %	Inorganic Matrix Weight %	Iron-based Metals Weight %	Aluminum-based Metals Weight %	Other Metals Weight %	Other Inorganics Weight %	Soils/gravel Weight %
LA-HERTR-14-0019	68273	.00 %	.00 %	2.56 %	76.51 %	.38 %	.03 %	.00 %	.00 %
LA-RTR2-14-0017	68710	.00 %	.00 %	71.25 %	1.60 %	.00 %	.00 %	.00 %	.00 %

Total Lot Weight %								
Cellulosics Weight %	Plastics Weight %	Rubber Weight %	Organic Matrix Weight %	Inorganic Matrix Weight %	Iron-based Metals Weight %	Aluminum-based Metals Weight %	Other Metals Weight %	Other Inorganics Weight %
11.99 %	9.02 %	.00 %	.00 %	7.67 %	70.95 %	.36 %	.02 %	.00 %

Total Lot % Volume	
Organic	Inorganic
44.13 %	55.87 %

NDE Density Rollup Data Through Lot: 24
LA-MHD09.001

Waste Stream Waste Material Parameter Weight Percent

Cellulosics	Plastics	Rubber	Organic Matrix	Inorganic Matrix	Iron-based Metals	Aluminum-based Metals	Other Metals	Other Inorganics	Soils/Gravel
6.49 %	5.82 %	1.02 %	0.00 %	1.35 %	82.71 %	0.21 %	1.98 %	0.42 %	0.00 %

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:14:01107
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: April 17, 2014

FROM: C. Soaterna LOCATION: CCP Certification

TO: NTPC Records Custodian GSA-212 LOCATION: National TRU Program Certification

SUBJECT: TRANSMITTAL OF LOS ALAMOS NATIONAL LABORATORY CHARATERIZATION INFORMATION SUMMARY FOR CCP-AK-LANL-004, WASTE STREAM #LA-MHD09.001, LOT 19, LOT 20, LOT 21, LOT 22, LOT 23, AND LOT 24

Please accept the attached Los Alamos National Laboratory Characterization Information Summary to be placed in Records for CCP-AK-LANL-004, Waste Stream #LA-MHD09.001, Lot 19, Lot 20, Lot 21, Lot 22, Lot 23, and Lot 24.

CS:jmc

Attachment

cc: (without attachment)
T. A. Groover ED
M. F. Ramirez ED
C. E. Simmons ED

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 4/22/14

P.O. Box 2078 • Carlsbad, New Mexico USA 88221-2078
Phone: (575) 234-7200 • Fax: (575) 234-7083

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD09.001 Rev. 0 (CCP-AK-LANL-004)

Lot 19

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #: 19

AK Expert Review: N/A Date: N/A

SPM Review: Jerry Jess Fisher Jr. Date: 01/24/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000

CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000

CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 19

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
56513	LA00000056513	1LANDA1414	LA-RTR2-11-0054	N/A	Yes	LA13FG2127	N/A
S810637	LAS810637	1LANDA1414	LA-RTR2-11-0054	N/A	No	LA13FG2127	N/A

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 01/24/2014 (Date)

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot #: 19

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Site Project Manager Signature | Jerry Jess Fisher Jr. Printed Name | 01/24/2014 Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD09.001 Rev. 0 Lot # 19

Sampling Completeness

RTR/VE:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

NDA:

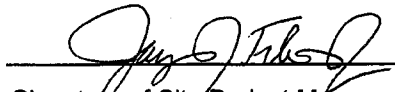
Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

		Completeness	Comparability	Representativeness
	Radiography	Y	Y	Y
	VE	NA	NA	NA

Comments: None



Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 01/24/2014 (Date)

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD09.001 Rev. 0 (CCP-AK-LANL-004)

Lot 20

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #: 20

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Date: 02/12/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 23	12/29/2010	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 33	11/19/2013	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005	CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-053	Rev. 14	09/25/2013	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-198	Rev. 7	05/09/2013	CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012	CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012	CCP-HE-RTR Operating Procedure

CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 20

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
53889	LA00000053889	4LANDA0028	LA-HERTR-13-0123	N/A	No	LA14FG2017	N/A
65223	LA00000065223	1LANDA1904	LA-RTR2-14-0013	N/A	No	LA14FG2016	N/A
69049	LA00000069049	1LANDA1888	LA-RTR2-14-0001	N/A	No	LA14FG12009	N/A

Roger Whiteaker — Signature of Site Project Manager
Roger Whiteaker — Printed Name
02/12/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot #: 20

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Roger Whiteaker (Printed Name) | 02/12/2014 (Date)

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD09.001 Rev. 0 Lot # 20

Sampling Completeness

RTR/VE:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 3 Number of Total Samples Analyzed: 3

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

		Completeness	Comparability	Representativeness
	Radiography	Y	Y	Y
	VE	NA	NA	NA

Comments: None

Roger Whiteaker — Roger Whiteaker — 02/12/2014

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD09.001 Rev. 0 (CCP-AK-LANL-004)

Lot 21

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #: 21

AK Expert Review: N/A Date: N/A

SPM Review: Jerry Jess Fisher Jr. Date: 02/25/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013	Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011	Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011	Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-064	Rev. 7	08/23/2013	Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011	Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007	Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006	Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004	Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004	Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004	Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003	Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013	Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013	Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013	CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013	CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011	CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011	CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010	CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006	CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006	CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005	CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004	CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005	CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006	CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 16	06/08/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan
CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 21

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68269	LA00000068269	4LANDA0050	LA-HERTR-14-0019	N/A	Yes	LA14FG2023	N/A
68272	LA00000068272	4LANDA0050	LA-HERTR-14-0019	N/A	Yes	LA14FG2024	N/A
68276	LA00000068276	3LANDA0244	LA-HERTR-14-0021	N/A	Yes	LA14FG2025	N/A
68278	LA00000068278	4LANDA0053	LA-HERTR-14-0021	N/A	Yes	LA14FG2025	N/A

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 02/25/2014 (Date)

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot #: 21

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Site Project Manager Signature | Jerry Jess Fisher Jr. (Printed Name) | 02/25/2014 (Date)

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD09.001 Rev. 0 Lot # 21

Sampling Completeness

RTR/VE:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Signature of Site Project Manager | Jerry Jess Fisher Jr. (Printed Name) | 02/25/2014 (Date)

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD09.001 Rev. 0 (CCP-AK-LANL-004)

Lot 22

TABLE OF CONTENTS

Characterization Information Summary Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #: 22

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Roger Whiteaker Date: 03/06/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 22	06/30/2010	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005	CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005	CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005	CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004	CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013	CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012	CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012	CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012	CCP-HE-RTR Operating Procedure

CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 22

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68281	LA00000068281	3LANDA0246	LA-HERTR-14-0023	N/A	No	LA14FG2030	N/A
68282	LA00000068282	3LANDA0244	LA-HERTR-14-0021	N/A	No	LA14FG2028	N/A
68283	LA00000068283	3LANDA0247	LA-HERTR-14-0023	N/A	No	LA14FG2030	N/A
68284	LA00000068284	3LANDA0245	LA-HERTR-14-0022	N/A	No	LA14FG2030	N/A
68286	LA00000068286	3LANDA0245	LA-HERTR-14-0022	N/A	No	LA14FG2030	N/A
69365	LA00000069365	1LANDA1915	LA-RTR2-14-0021	N/A	No	LA14FG2029	N/A

Roger Whiteaker — Signature of Site Project Manager
Roger Whiteaker — Printed Name
03/06/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot #: 22

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Roger Whiteaker — Site Project Manager Signature
Roger Whiteaker — Printed Name
03/06/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD09.001 Rev. 0 Lot # 22

Sampling Completeness

RTR/VE:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker 03/06/2014

Signature of Site Project Manager Printed Name Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD09.001 Rev. 0 (CCP-AK-LANL-004)

Lot 23

TABLE OF CONTENTS

Characterization Information Summary Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #: 23

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Rick Whiteley Date: 03/20/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006 CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004 CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure

CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 23

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
65222	LA00000065222	1LANDA1923	LA-RTR2-14-0027	N/A	No	LA14FG2039	N/A
68268	LA00000068268	4LANDA0051	LA-HERTR-14-0019	N/A	No	LA14FG2038	N/A
68275	LA00000068275	4LANDA0059	LA-HERTR-14-0021	N/A	No	LA14FG2038	N/A
68871	LA00000068871	2LANDA1268	LA-RTR2-14-0015	N/A	No	LA14FG2019	N/A
68877	LA00000068877	1LANDA1925	LA-RTR2-14-0029	N/A	No	LA14FG2038	N/A
69296	LA00000069296	1LANDA1926	LA-RTR2-14-0031	N/A	No	LA14FG2039	N/A

Rick Whiteley — Signature of Site Project Manager
Rick Whiteley — Printed Name
03/20/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot #: 23

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Rick Whiteley — Site Project Manager Signature

Rick Whiteley — Printed Name

03/20/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD09.001 Rev. 0 Lot # 23

Sampling Completeness

RTR/VE:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Rick Whiteley Rick Whiteley 03/20/2014

Signature of Site Project Manager Printed Name Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD09.001 Rev. 0 (CCP-AK-LANL-004)

Lot 24

TABLE OF CONTENTS

Characterization Information Summary Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #: 24

AK Expert Review: N/A Date: N/A

SPM Review: Roger Whiteaker Date: 04/03/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 22	06/30/2010	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005	CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005	CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005	CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-028	Rev. 8	06/17/2013	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 7	07/13/2012	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 6	12/29/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 5	07/27/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 4	05/26/2010	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 3	01/19/2006	CCP Radiographic Test Drum and Training Container Construction
CCP-TP-028	Rev. 2	02/04/2004	CCP Radiographic Test Drum and Training Container Construction

CCP-TP-053	Rev. 14	09/25/2013	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013	CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012	CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012	CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012	CCP-HE-RTR Operating Procedure

CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 15	02/12/2014 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 14	10/30/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 24

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
68273	LA0000006	3LANDA0261	LA-HERTR-14-0019	N/A	No	LA14FG2038	N/A
68710	LA0000006	2LANDA1274	LA-RTR2-14-0017	N/A	No	LA14FG2023	N/A

Roger Whiteaker — Signature of Site Project Manager

Roger Whiteaker — Printed Name

04/03/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot #: 24

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.

a. See Batch Data Reports
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Roger Whiteaker — Site Project Manager Signature
Roger Whiteaker — Printed Name
04/03/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD09.001 Rev. 0 Lot # 24

Sampling Completeness

RTR/VE:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Roger Whiteaker — Roger Whiteaker — 04/03/2014

Signature of Site Project Manager — Printed Name — Date

DIVIDER

PAGE

Attachment 13 - CCP Waste Stream Characterization Checklist

Site(s): LANL
Waste Stream Number: LA-MSG04.001 (CCP-AK-LANL-010) Lot # (if applicable) 3
Waste Stream Description: Soils

Acceptable Knowledge Information or other data points[a]	Characterization Method(s)	Acceptable Knowledge Re-evaluation Required? Yes/No[b]?	Comments[c]
Physical waste form/description	RTR	No	RTR Data Sheets indicate consistency with Attachment 6 of CCP-TP-005.
Waste material parameters weights	RTR	No	RTR Data Sheets indicate consistency with the Waste Material Parameter table as listed in the AK. See additional attached sheets.
Waste percent volume consistent with nondestructive examination or visual examination data and audio/video tapes or equivalent media	RTR	No	RTR Data Sheets indicate consistency with CCP-AK-LANL-010. See additional attached sheets.
Summary category group assignment	RTR	No	RTR Data Sheets are consistent with CCP-TP-005, Attachment 6.
Waste matrix code assignment	RTR	No	Waste Matrix Code S4200 is consistent with data from RTR data sheets.
Absence of prohibited items	RTR	No	RTR did not identify any prohibited items.
EPA Hazardous Waste Number assignment [d]	AK	No	Characterization results consistent with CCP-AK-LANL-010.
Toxicity characteristic code assignment	AK	No	Consistent with CCP-AK-LANL-010.
VOCs from packaging materials or radiolysis present	AK	No	CCP-TP-005 Attachment 5 does not identify any VOCs associated with packaging or radiolysis.
State Hazardous Waste Number assignment	AK	No	No additional State Hazardous Waste codes are identified in CCP-TP-005, Attachment 5.
Radionuclides present	NDA	No	See Additional Comments section and additional sheets attached.
Other radiological parameters: (specify)	NDA	No	No additional radiological parameters identified.

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 5/16/14 JV

Attachment 13 - CCP Waste Stream Characterization Checklist

Site(s): LANL
Waste Stream Number: LA-MSG04.001 (CCP-AK-LANL-010) Lot # (if applicable) 3
Waste Stream Description: Soils

Additional Comments:

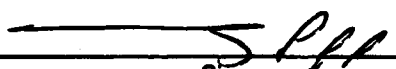
- AK identifies U-238 and Pu-239 as the two most prevalent isotopes, by weight, in the waste stream at 87.71% and 8.38% respectively.
- The two most prevalent isotopes by weight percent for the lot are: 93.49% PU-239 and 5.78% PU-240
- For the waste stream to date, the two most prevalent isotopes by weight percent are: 93.52% PU-239 and 3.15% AM-241
- The radiological distribution present by NDA data to date is not necessarily an indication of an incorrect radiological characterization due to the small population size of containers characterized. Consequently, an assessment as to whether an AK re-evaluation is necessary will be postponed until there are sufficient NDA assay data to be reasonably certain they are representative of the waste stream.

a. Identified in the AK Summary Report or included in the in-process record documentation (e.g., BDR's).
b. If 'Yes,' AK Expert completes an Acceptable Knowledge Re-evaluation Checklist.
c. Identify the source of the waste characterization information (e.g., batch data report).
d. Ensure that, if a toxicity characteristic contaminant is identified, it is not included as a listed waste, and if analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Code is applied.

Site Project Manager:

Rick Whiteley		2/3/2014
Print	Sign	Date

Acceptable Knowledge Expert:

Michael Papp		2/4/14
Print	Sign	Date

NDA Isotopic Weight Percent
LA-MSG04.001
Lot 3

CONTAINERID	NDABDR	SR-90	CS-137	U-233	U-234	U-235	U-238	NP-237	PU-238	PU-239	PU-240	PU-241	PU-242	AM-241	AM-243
56537	1LANDA1836													5.12E-03	
66147	3LANDA0239							4.32E-03	9.03E-04	2.62E+00	1.62E-01	8.65E-04	6.60E-04	8.37E-03	1.30E-04
								4.32E-03	9.03E-04	2.62E+00	1.62E-01	8.65E-04	6.60E-04	1.35E-02	1.30E-04
Total Mass	2.802368														
								0.15 %	0.03 %	93.49 %	5.78 %	0.03 %	0.02 %	0.48 %	< 0.01 %

Individual Container Weight Percents

CONTAINERID	NDABDR	SR-90	CS-137	U-233	U-234	U-235	U-238	NP-237	PU-238	PU-239	PU-240	PU-241	PU-242	AM-241	AM-243
56537	1LANDA1836													100.00 %	
66147	3LANDA0239							0.15 %	0.03 %	93.66 %	5.79 %	0.03 %	0.02 %	0.30 %	0.00 %

Supporting Documentation

NDA Isotopic Weight Percent Rollup
LA-MSG04.001
Lots 1 Thru 3

		SR-90	CS-137	U-233	U-234	U-235	U-238	NP-237	PU-238	PU-239	PU-240	PU-241	PU-242	AM-241	AM-243
		1.54E-09	2.42E-09					1.35E-02	9.03E-04	4.99E+00	1.62E-01	8.65E-04	6.60E-04	1.68E-01	1.30E-04
		1.54E-09	2.42E-09					1.35E-02	9.03E-04	4.99E+00	1.62E-01	8.65E-04	6.60E-04	1.68E-01	1.30E-04
Total Mass	5.34E+00														
		< 0.01 %	< 0.01 %					0.25 %	0.02 %	93.52 %	3.03 %	0.02 %	0.01 %	3.15 %	< 0.01 %

RTR Data
LA-MSG04.001
Lot 3

Batch Data Report No.	Container	Cellulosics (kg)	Plastics (kg)	Rubber (kg)	Organic Matrix (kg)	Inorganic Matrix (kg)	Iron-based Metals (kg)	Aluminum-based Metals (kg)	Other Metals (kg)	Other Inorganics (kg)	Soils/Gravel (kg)	Total Organic (kg)	Total Inorganic (kg)	Total Waste Weight (kg)
LA-HERTR-12-0111	56537		2.5							6	113.8	2.5	119.8	122.3
LA-HERTR-12-0109	66147		5								1369.5	5	1369.5	1374.5

RTR Data
LA-MSG04.001
Lot 3

Batch Data Report No.	Container	Cellulosics Weight %	Plastics Weight %	Rubber Weight %	Organic Matrix Weight %	Inorganic Matrix Weight %	Iron-based Metals Weight %	Aluminum-based Metals Weight %	Other Metals Weight %	Other Inorganics Weight %	Soils/gravel Weight %
LA-HERTR-12-0111	56537	.00 %	2.04 %	.00 %	.00 %	.00 %	.00 %	.00 %	.00 %	4.91 %	93.05 %
LA-HERTR-12-0109	66147	.00 %	.36 %	.00 %	.00 %	.00 %	.00 %	.00 %	.00 %	.00 %	99.64 %

Lot	3	Waste Stream Waste Material Parameter Weight Percent Lot Total							
Cellulosics	Plastics	Rubber	Organic Matrix	Inorganic Matrix	Iron-based Metals	Aluminum-based Metals	Other Metals	Other Inorganics	Soils/gravel
.00 %	.50 %	.00 %	.00 %	.00 %	.00 %	.00 %	.00 %	.40 %	99.10 %

NDE Density Rollup Data Through Lot: 3
LA-MSG04.001

Waste Stream Waste Material Parameter Weight Percent

Cellulosics	Plastics	Rubber	Organic Matrix	Inorganic Matrix	Iron-based Metals	Aluminum-based Metals	Other Metals	Other Inorganics	Soils/Gravel
0.00 %	0.61 %	0.00 %	0.00 %	0.00 %	1.41 %	0.00 %	0.00 %	0.29 %	97.69 %

Supporting Documentation

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:14:01103
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: April 17, 2014

FROM: C. Soaterna P. Soaterna LOCATION: CCP Certification

TO: NTPC Records Custodian GSA-212 LOCATION: National TRU Program Certification

SUBJECT: TRANSMITTAL OF LOS ALAMOS NATIONAL LABORATORY CHARATERIZATION INFORMATION SUMMARY FOR CCP-AK-LANL-010, WASTE STREAM #LA-MSG04.001, LOT 3

Please accept the attached Los Alamos National Laboratory Characterization Information Summary to be placed in Records for CCP-AK-LANL-010, Waste Stream #LA-MSG04.001, Lot 3.

CS:jmc

Attachment

cc: (without attachment)
T. A. Groover ED
M. F. Ramirez ED
C. E. Simmons ED

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 4/22/14

P.O. Box 2078 • Carlsbad, New Mexico USA 88221-2078
Phone: (575) 234-7200 • Fax: (575) 234-7083

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MSG04.001 Rev. 0 (CCP-AK-LANL-010)

Lot 3

TABLE OF CONTENTS

Characterization Information Cover Page.....2

Correlation of Container Identification Numbers to Batch Data Report Numbers.....5.

RTR/VE Summary of Prohibited Items and AK Confirmation.....6

Reconciliation with Data Quality Objectives.....7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MSG04.001 Lot #: 3

AK Expert Review: N/A Date: N/A

SPM Review: Rick Whiteley Date: 02/03/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-063	Rev. 15	08/23/2013 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 14	08/01/2012 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/15/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 10	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 9	11/27/2007 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 8	11/30/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 7	03/31/2006 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 6	10/10/2005 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 12	11/04/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 20	06/16/2011	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan
CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-012	Rev. 14	10/30/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/08/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/18/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MSG04.001 Lot # 3

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
56537	LA0000005	1LANDA1836	LA-HERTR-12-0111	N/A	No	LA13FG2127	N/A
66147	LA0000006	3LANDA0239	LA-HERTR-12-0109	N/A	No	LA14FG12014	N/A

Rick Whiteley — Signature of Site Project Manager
Rick Whiteley — Printed Name
02/03/2014 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MSG04.001 Lot #: 3

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste matches the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Site Project Manager Signature | Rick Whiteley (Printed Name) | 02/03/2014 (Date)

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MSG04.001 Rev. 0 Lot # 3

Sampling Completeness

RTR/VE:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2
Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2
Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Rick Whiteley — Signature of Site Project Manager

Rick Whiteley — Printed Name

02/03/2014 — Date

DIVIDER

PAGE

Attachment 13 - CCP Waste Stream Characterization Checklist

Site(s): LANL
Waste Stream Number: LA-MHD09.001 Lot # (if applicable) 15
Waste Stream Description: Hetereogeneous Debris

Acceptable Knowledge Information or other data points[a]	Characterization Method(s)	Acceptable Knowledge Re-evaluation Required? Yes/No[b]?	Comments[c]
Physical waste form/description	RTR	No	RTR Data Sheets indicate consistency with Attachment 6 of CCP-TP-005.
Waste material parameters weights	RTR	No	RTR Data Sheets indicate consistency with the Waste Material Parameter table as listed in the AK. See additional attached sheets.
Waste percent volume consistent with nondestructive examination or visual examination data and audio/video tapes or equivalent media	RTR	No	RTR Data Sheets indicate consistency with CCP-AK-LANL-004. See additional attached sheets.
Summary category group assignment	RTR	No	RTR Data Sheets are consistent with CCP-TP-005.
Waste matrix code assignment	RTR	No	Waste Matrix Code S5400 is consistent with data from RTR data sheets.
Absence of prohibited items	RTR	No	RTR did not identify any prohibited items.
EPA Hazardous Waste Number assignment[d]	AK	No	Characterization results consistent with CCP-AK-LANL-004.
Toxicity characteristic code assignment	AK	No	Consistent with CCP-AK-LANL-004.
VOCs from packaging materials or radiolysis present	AK	No	CCP-TP-005 Attachment 5 does not identify any VOCs associated with packaging or radiolysis.
State Hazardous Waste Number assignment	AK	No	No additional State Hazardous Waste codes are identified in CCP-TP-005 Attachment 5.
Radionuclides present	NDA	No	See Additional Comments section and additional sheets attached.
Other radiological parameters: (specify)	NDA	No	No additional radiological parameters identified

NTPC RECORDS ORIGINAL
DATE REC'D 10/25/13 C

COPY

Attachment 13 - CCP Waste Stream Characterization Checklist

Site(s): LANL
Waste Stream Number: LA-MHD09.001 Lot # (if applicable) 15
Waste Stream Description: Hetereogeneous Debris

Additional Comments:

- AK identifies Pu-239 and U-238 as the two most prevalent isotopes, by weight, in the waste stream at 56.83% and 29.51% respectively.
- The two most prevalent isotopes by weight percent for the lot are: 92.93% Pu-239 and 6.23% Pu-240
- For the waste stream to date, the two most prevalent isotopes by weight percent are: 41.18% U-238 and 36.52% PU-239

a. Identified in the AK Summary Report or included in the in-process record documentation (e.g., BDR's).
b. If 'Yes,' AK Expert completes an Acceptable Knowledge Re-evaluation Checklist.
c. Identify the source of the waste characterization information (e.g., batch data report).
d. Ensure that, if a toxicity characteristic contaminant is identified, it is not included as a listed waste, and if analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Code is applied.

Site Project Manager:

Veronica Waldram	Veronica Waldram	10/14/2013
Print	Sign	Date

Acceptable Knowledge Expert:

Michael Papp	MPapp	10/14/13
Print	Sign	Date

NDA Isotopic Weight Percent
LA-MHD09.001
Lot 15

CONTAINERID	NDABDR	SR-90	CS-137	U-233	U-234	U-235	U-238	NP-237	PU-238	PU-239	PU-240	PU-241	PU-242	AM-241	AM-243	CM-243
SB10151	3LANDA0202							4.12E-04	4.25E-04	1.18E+00	7.64E-02	9.09E-04	3.73E-04	5.79E-03		
SB10155	3LANDA0203							5.28E-04	2.26E-03	1.37E+00	8.78E-02	1.08E-03	4.86E-04	9.15E-03	1.33E-05	
SB10156	3LANDA0203							1.02E-03	1.33E-03	3.43E+00	2.34E-01	5.60E-03	1.30E-03	2.10E-02	6.91E-06	2.11E-05
SB10157	3LANDA0203							6.70E-04	3.45E-04	9.85E-01	6.91E-02	1.13E-03	3.89E-04	8.62E-03	5.03E-06	
								2.63E-03	4.36E-03	6.97E+00	4.67E-01	8.72E-03	2.55E-03	4.46E-02	2.52E-05	2.11E-05
Total Mass	7.49516334															
								0.04 %	0.06 %	92.93 %	6.23 %	0.12 %	0.03 %	0.59 %	< 0.01 %	< 0.01 %

Individual Container Weight Percents

CONTAINERID	NDABDR	SR-90	CS-137	U-233	U-234	U-235	U-238	NP-237	PU-238	PU-239	PU-240	PU-241	PU-242	AM-241	AM-243	CM-243
SB10151	3LANDA0202							0.03 %	0.03 %	93.33 %	6.04 %	0.07 %	0.03 %	0.46 %		
SB10155	3LANDA0203							0.04 %	0.15 %	93.11 %	5.97 %	0.07 %	0.03 %	0.62 %	0.00 %	
SB10156	3LANDA0203							0.03 %	0.04 %	92.85 %	6.33 %	0.15 %	0.04 %	0.57 %	0.00 %	0.00 %
SB10157	3LANDA0203							0.06 %	0.03 %	92.47 %	6.49 %	0.11 %	0.04 %	0.81 %	0.00 %	

NDA Isotopic Weight Percent Rollup
LA-MHD09.001
Lots 1 Thru 15

		CO-60	SR-90	CS-137	AC-228	U-232	U-233	U-234	U-235	U-238	NP-237	PU-238	PU-239	PU-240	PU-241	PU-242	AM-241	AM-243	CM-243	BK-249
		1.20E-08	3.47E-04	5.45E-04	1.01E-12	1.22E-06		2.91E+00	4.41E+00	2.91E+02	1.35E+01	7.09E+00	2.58E+02	2.54E+01	7.94E-01	7.87E-01	1.03E+02	9.65E-02	2.67E-05	7.62E-03
		1.20E-08	3.47E-04	5.45E-04	1.01E-12	1.22E-06		2.91E+00	4.41E+00	2.91E+02	1.35E+01	7.09E+00	2.58E+02	2.54E+01	7.94E-01	7.87E-01	1.03E+02	9.65E-02	2.67E-05	7.62E-03
Total Mass	7.07E+02																			
		< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %		0.41 %	0.62 %	41.18 %	1.92 %	1.00 %	36.52 %	3.59 %	0.11 %	0.11 %	14.52 %	0.01 %	< 0.01 %	< 0.01 %

Supporting Documentation

RTR Data
LA-MHD09.001
Lot 15

Batch Data Report No.	Container	Cellulosics (kg)	Plastics (kg)	Rubber (kg)	Organic Matrix (kg)	Inorganic Matrix (kg)	Iron-based Metals (kg)	Aluminum-based Metals (kg)	Other Metals (kg)	Other Inorganics (kg)	Soils/Gravel (kg)	Total Organic (kg)	Total Inorganic (kg)	Total Waste Weight (kg)	Cellulosics Weight %	Plastics Weight %
LA-HERTR-13-0103	SB10151		25.7				110.8					25.7	110.8	136.5	.00 %	18.83 %
LA-HERTR-13-0103	SB10155		26.2				110.8					26.2	110.8	137	.00 %	19.12 %
LA-HERTR-13-0103	SB10156		22.2			2	110.8					22.2	112.8	135	.00 %	16.44 %
LA-HERTR-13-0103	SB10157		20.7				110.8					20.7	110.8	131.5	.00 %	15.74 %

RTR Data
LA-MHD09.001
Lot 15

Batch Data Report No.	Container	Rubber Weight %	Organic Matrix Weight %	Inorganic Matrix Weight %	Iron-based Metals Weight %	Aluminum-based Metals Weight %	Other Metals Weight %	Other Inorganics Weight %	Soils/gravel Weight %
LA-HERTR-13-0103	SB10151	.00 %	.00 %	.00 %	81.17 %	.00 %	.00 %	.00 %	.00 %
LA-HERTR-13-0103	SB10155	.00 %	.00 %	.00 %	80.88 %	.00 %	.00 %	.00 %	.00 %
LA-HERTR-13-0103	SB10156	.00 %	.00 %	1.48 %	82.07 %	.00 %	.00 %	.00 %	.00 %
LA-HERTR-13-0103	SB10157	.00 %	.00 %	.00 %	84.26 %	.00 %	.00 %	.00 %	.00 %

Total Lot Weight %								
Cellulosics Weight %	Plastics Weight %	Rubber Weight %	Organic Matrix Weight %	Inorganic Matrix Weight %	Iron-based Metals Weight %	Aluminum-based Metals Weight %	Other Metals Weight %	Other Inorganics Weight %
.00 %	17.56 %	.00 %	.00 %	.37 %	82.07 %	.00 %	.00 %	.00 %

Total Lot % Volume	
Organic	Inorganic
45.19 %	54.81 %

NDE Density Rollup Data Through Lot: 15
LA-MHD09.001

Waste Stream Waste Material Parameter Weight Percent

Cellulosics	Plastics	Rubber	Organic Matrix	Inorganic Matrix	Iron-based Metals	Aluminum-based Metals	Other Metals	Other Inorganics	Soils/Gravel
5.49 %	7.81 %	0.95 %	0.00 %	1.09 %	83.38 %	0.03 %	0.75 %	0.50 %	0.00 %

NWP
Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

CP:13:01479
UFC:5900.00

INTER-OFFICE CORRESPONDENCE

DATE: October 17, 2013

FROM: V. M. Waldram V. M. Waldram LOCATION: CCP Certification

TO: NTPC Records Custodian GSA-212 LOCATION: National TRU Program Certification

SUBJECT: TRANSMITTAL OF LOS ALAMOS NATIONAL LABORATORY CHARATERIZATION INFORMATION SUMMARY FOR WASTE STREAM #LA-MHD09.001, LOT 11, LOT 12, LOT 13, LOT 14, AND LOT 15

Please accept the attached Los Alamos National Laboratory Characterization Information Summary to be placed in Records for Waste Stream #LA-MHD09.001, Lot 11, Lot 12, Lot 13, Lot 14, and Lot 15.

VW:jmc

Attachment

cc: (without attachment)
T. A. Groover ED
M. W. Pearcy ED
C. E. Simmons ED

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 12/30/13

P.O. Box 2078 • Carlsbad, New Mexico USA 88221-2078
Phone: (575) 234-7200 • Fax: (575) 234-7083

CHARACTERIZATION INFORMATION SUMMARY

WSPF # LA-MHD09.001

Lot 11

TABLE OF CONTENTS

Characterization Information Cover Page..... 002

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 003

CCP Headspace Gas UCL_{90} Evaluation Form..... 004

Headspace Gas Summary Data..... 006

RTR/VE Summary of Prohibited Items and AK Confirmation..... 007

Reconciliation with Data Quality Objectives..... 008

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #. 11

AK Expert Review N/A Date N/A

SPM Review RW 4/30/14 ~~Jim Eastham~~ ROGER WHITEKER Date ~~8/19/2013~~ 4/30/2014 RW 4/30/2014

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-063	Rev. 11	10/22/08	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/10	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 13	04/11/11	CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 7	11/16/06	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 8	07/12/10	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 9	03/14/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 10	08/30/11	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000

Headspace Gas Sampling and Analysis (HSG):

CCP-TP-173	Rev. 1	09/30/09	CCP Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-175	Rev. 1	03/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 2	12/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 3	08/02/11	CCP Analysis of Gas Samples for VOCs by GC/MS

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/13	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/13	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 26	08/12/12	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/12/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 7	05/08/08	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/10	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/12	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 11

Container ID Number	Historical Container	NDA BDR	RTR BDR	VE BDR	Load Management/ Overpack Yes	Transportation
52316	LA00000052316	4LANDA0016	LA-HERTR-12-0031	N/A	No	LA12FG8031
56500	LA00000056500	4LANDA0003	LA-HERTR-12-0033	N/A	No	LA12FG8027

ROGER WHITEAKER Roger Whiteaker 4/30/2014
Signature of Site Project Manager

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot #: 11

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.
a. See Batch Data Reports b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF)			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Roger Whitehead ROGER WHITEHEAD 9/30/2014 ~~08/13/2013~~ RW 9/30/2014

Site Project Manager Signature | Printed Name | Date

CCP Reconciliation with Data Quality Objectives

WSF# LA-MHD09.001 Lot # 11

Sampling Completeness

RTR:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 CFR 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous at the 90-percent confidence level.
8		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: NONE

Roger Whitlock
Signature of Site Project Manager

~~Jim Eastham~~ ROGER WHITEAKER RW 4/30/14
Printed Name

~~8/19/2013~~ 4/30/14 RW 4/30/2014
Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD09.001

Lot 12

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 4

RTR/VE Summary of Prohibited Items and AK Confirmation..... 5

Reconciliation with Data Quality Objectives..... 6

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #: 12

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 09/17/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 1	09/19/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000
CCP-TP-063	Rev. 13	04/11/2011 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 12	11/17/2010 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-063	Rev. 11	10/22/2008 CCP Operating the High Efficiency Neutron Counter Using NDA2000
CCP-TP-076	Rev. 0	05/16/2013 CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/12/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS/WDS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

WAP Certification:

CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 26	07/14/2011	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 12

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
53877	LA00000053877	4LANDA0012	LA-HERTR-13-0072	N/A	No	LA13FG12090	N/A
54205	LA00000054205	4LANDA0013	LA-HERTR-13-0069	N/A	No	LA13FG2099	N/A
91862	LA00000091862	2LANDA1032	LA-RTR2-12-0093	N/A	No	LA12FG8067	N/A
91863	LA00000091863	2LANDA1032	LA-RTR2-12-0093	N/A	No	LA12FG12030	N/A
91864	LA00000091864	2LANDA1032	LA-RTR2-12-0093	N/A	No	LA12FG8058	N/A
91865	LA00000091865	2LANDA1032	LA-RTR2-12-0093	N/A	No	LA12FG12030	N/A

Veronica Waldram
Signature of Site Project Manager

Veronica Waldram
Printed Name

09/17/2013
Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot #: 12

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
09/17/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD09.001 Lot # 12

Sampling Completeness

RTR/VE:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 6 Number of Total Samples Analyzed: 6

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	N/A	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Signature of Site Project Manager

Veronica Waldram — Printed Name

09/17/2013 — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD09.001 Rev. 0

Lot 13

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #: 13

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 10/01/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan
CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-003	Rev. 9	12/12/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 13

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
53879	LA00000053879	4LANDA0013	LA-HERTR-13-0070	N/A	No	LA13FG2101	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
10/01/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot #: 13

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
10/01/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD09.001 Rev. 0 Lot # 13

Sampling Completeness

RTR/VE:

Number of Valid Samples: 1 Number of Total Samples Analyzed: 1

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 1 Number of Total Samples Analyzed: 1

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 10/01/2013

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD09.001 Rev. 0

Lot 14

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #: 14

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 10/03/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-076	Rev. 0	05/16/2013 Operating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-077	Rev. 0	05/16/2013 Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/12/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 13	06/25/2013 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006 CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 14

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
53899	LA00000053899	4LANDA0014	LA-HERTR-13-0071	N/A	No	LA13FG2104	N/A
SB10163	N/A	3LANDA0203	LA-HERTR-13-0103	N/A	No	LA13FG2103	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
10/03/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot #: 14

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.
a. See Batch Data Reports			
b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).			
Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.			

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
10/03/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD09.001 Rev. 0 Lot # 14

Sampling Completeness

RTR/VE:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 2 Number of Total Samples Analyzed: 2

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 10/03/2013

Signature of Site Project Manager — Printed Name — Date

CHARACTERIZATION INFORMATION SUMMARY

WSPF# LA-MHD09.001 Rev. 0

Lot 15

TABLE OF CONTENTS

Characterization Information Cover Page..... 2

Correlation of Container Identification Numbers to Batch Data Report Numbers..... 5

RTR/VE Summary of Prohibited Items and AK Confirmation..... 6

Reconciliation with Data Quality Objectives..... 7

CCP Characterization Information Summary Cover Page

Waste Stream # LA-MHD09.001 Lot #: 15

AK Expert Review: N/A Date: N/A

SPM Review: Veronica Waldram Veronica Waldram Date: 10/14/2013

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Non Destructive Assay (NDA):

CCP-TP-059	Rev. 2	08/26/2013 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 1	09/19/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-059	Rev. 0	05/04/2011 Operating the Super High Efficiency Neutron Counter (SperHENC) Using NDA 2000
CCP-TP-064	Rev. 7	08/23/2013 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 6	04/06/2011 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 5	11/27/2007 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 4	03/31/2006 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 3	09/10/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 2	05/14/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 1	03/24/2004 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-064	Rev. 0	10/11/2003 Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
CCP-TP-103	Rev. 11	05/16/2013 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 10	08/30/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 9	03/14/2011 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 8	07/12/2010 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 7	11/16/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 6	02/08/2006 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 5	07/18/2005 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000
CCP-TP-103	Rev. 4	10/26/2004 CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-005	Rev. 26	08/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation

CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Radiography (RTR/NDE):

CCP-TP-053	Rev. 14	09/25/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 13	05/14/2013 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 12	08/22/2012 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/2011 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/2010 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/2009 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/2008 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 5	11/16/2006 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 4	12/22/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 3	03/21/2005 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 2	07/14/2004 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

CCP-TP-198	Rev. 7	05/09/2013 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 6	08/06/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 5	01/30/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 4	01/05/2012 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 3	07/11/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 2	03/14/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 1	03/01/2011 CCP-HE-RTR Operating Procedure
CCP-TP-198	Rev. 0	02/11/2011 CCP-HE-RTR Operating Procedure

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan

CCP-PO-002	Rev. 25	12/29/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005	CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/12/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	06/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-012	Rev. 13	06/25/2013	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 12	11/05/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 11	10/01/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 10	07/09/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 9	01/04/2012	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 8	12/29/2010	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 7	05/08/2008	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 6	08/06/2007	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 5	11/16/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document
CCP-PO-012	Rev. 4	03/31/2006	CCP/Los Alamos National Laboratory (LANL) Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # LA-MHD09.001 Lot # 15

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Load/Manage Overpack Yes	Transportation Headspace Gas	
						FGA	GGT
SB10151	N/A	3LANDA0202	LA-HERTR-13-0103	N/A	No	LA13FG12101	N/A
SB10155	N/A	3LANDA0203	LA-HERTR-13-0103	N/A	No	LA13FG2103	N/A
SB10156	N/A	3LANDA0203	LA-HERTR-13-0103	N/A	No	LA13FG2103	N/A
SB10157	N/A	3LANDA0203	LA-HERTR-13-0103	N/A	No	LA13FG2103	N/A

Veronica Waldram — Signature of Site Project Manager
Veronica Waldram — Printed Name
10/14/2013 — Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: LA-MHD09.001 Lot #: 15

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.	The physical form of the waste match the waste stream description as determined by AK.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Veronica Waldram — Site Project Manager Signature
Veronica Waldram — Printed Name
10/14/2013 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# LA-MHD09.001 Rev. 0 Lot # 15

Sampling Completeness

RTR/VE:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4

Percent Complete: 100 (QAO is 100%)

NDA:

Number of Valid Samples: 4 Number of Total Samples Analyzed: 4

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
4	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
6	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA

Comments: None

Veronica Waldram — Veronica Waldram — 10/14/2013

Signature of Site Project Manager — Printed Name — Date

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MHD09.001, LA-MIN03-NC.001	
Site(s): Los Alamos National Laboratory	Source Document Tracking Number: C099
Acceptable Knowledge Documentation Type: ✔ TRU Waste Management Program Information ✔ Waste Stream-Specific Information ✔ Supporting Information	Category: ✔ C - Correspondence D - Documents M - Miscellaneous P - Procedures DR - Discrepancy Resolution U - Unpublished Documents
Title of Source Document: Secondary Waste Generated by the Remediation/Repackaging Processes at Dome 231 and WCRRF	
Source Document Reference Information (author(s), document and revision number, date, publisher): Randy Fitzgerald, NA, Rev. NA, 08/26/2009, P2010-2655	

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR7, WS2, WS9, S16	Throughout	The examples of secondary waste listed below were provided by personnel from both TA-54, Area G, Dome 231 and the Waste Characterization, Reduction, Repackaging and Facility (WCRRF), TA-50-69. Generally, secondary waste is any material, e.g., decontamination materials, PPE, etc., which may come in contact with the waste during the remediation process. Specifically, the Dome 231 prohibited item disposition (PID) procedure states: "ENSURE that all waste has been removed from the parent drum and SEGREGATE any secondary wastes for reinsertion into the daughter drum." [Prohibited Item Dispositioning in Dome 231 Permacon, Rev. 7, EP-DOP-2108, Sec. 9.4, Step 33]. Also, the WCRRF Waste Handling Procedures states: "PLACE waste into daughter drum(s) making note of any waste added in process on Attachment 1. [Processing Waste in the Waste Characterization Glovebox, Rev. 14, EP-WCRR-WO-DOP-0233, Step 8.17.7] The list below provides examples of secondary waste which may be generated during the remediation/repackaging process at Dome 231 and/or WCRRF, including, but NOT limited to: Miscellaneous Items 1.Stick-on type labels 2.Red, plastic tags with metal clips with wire tie 3.Moist Kimwipes (Fantastik-soaked) 4.Drill bits 5.Plastic zip ties 6.Radiation tags (paper with plastic tie wraps) 7.Fantastik plastic bottles (spray and bulk) 8.Plastic tape 9.Glove box windows (not leaded) rubber filters 10.Miscellaneous. Hand tools, scales 11.Dust pans and brooms 12.Rigid liner lids cut into pieces PPE 1.Leather gloves 2.Nitrile gloves 3.Saranex sleeves

ORIGINAL

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: C099
AK # [a]	Source Doc. Page # [b]	AK Information Summary
		4.Cloth booties 5.Glove box gloves (rubber), Kevlar gloves Absorbent 1.Waste Lock 770
Source Document Data Limitations (if any): N/A mp 7/24/12		
Acceptable Knowlege Expert: Amy Johns (Print) / Amy Johns (Sign) Date: 9/14/09		

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

DIVIDER PAGE ONLY

Not part of page count

P2010-2655

Secondary Waste
Generated by the Remediation/Repackaging Processes
at Dome 231 and WCRRF
August 26, 2009
Randy Fitzgerald, CCP AKE

The examples of secondary waste listed below were provided by personnel from both TA-54, Area G, Dome 231 and the Waste Characterization, Reduction, Repackaging and Facility (WCRRF), TA-50-69.

Generally, secondary waste is any material, *e.g.*, decontamination materials, PPE, *etc.*, which may come in contact with the waste during the remediation process. Specifically, the Dome 231 prohibited item disposition (PID) procedure states: "ENSURE that all waste has been removed from the parent drum and SEGREGATE any secondary wastes for reinsertion into the daughter drum." [*Prohibited Item Dispositioning in Dome 231 Permacon*, Rev. 7, EP-DOP-2108, Sec. 9.4, Step 33]. Also, the WCRRF Waste Handling Procedures states: "PLACE waste into daughter drum(s) making note of any waste added in process on Attachment 1. [*Processing Waste in the Waste Characterization Glovebox*, Rev. 14, EP-WCRR-WO-DOP-0233, Step 8.17.7]

The list below provides examples of secondary waste which may be generated during the remediation/repackaging process at Dome 231 and/or WCRRF, **including, but NOT limited to**:

Miscellaneous Items

1. Stick-on type labels
2. Red, plastic tags with metal clips with wire tie
3. Moist Kimwipes (Fantastik-soaked)
4. Drill bits
5. Plastic zip ties
6. Radiation tags (paper with plastic tie wraps)
7. Fantastik plastic bottles (spray and bulk)
8. Plastic tape
9. Glove box windows (not leaded) rubber filters
10. Miscellaneous, hand tools, scales
11. Dust pans and brooms
12. Rigid liner lids cut into pieces

PPE

1. Leather gloves
2. Nitrile gloves
3. Saranex sleeves
4. Cloth booties
5. Glove box gloves (rubber), Kevlar gloves

Absorbent

1. Waste Lock 770

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records/Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523,
Fax Number: 505-234-7014

☒ Original Record
☐ Faxed Record
☐ Electronic Record

Attn:	Records Custodian	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-004
	4021 National Parks Highway - MS GSA 203	Company:	Technical Specialists, LLC
	Carlsbad, NM 88220	Telephone Number:	575-302-8669
		Date Sent:	9/14/09
Telephone Number:	505-234-7523		

Document Number	Title/Description	Record Date	Total Pages
C099	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-004	9/14/2009	2
NA	Secondary Waste Generated by the Remediation/Repackaging Processes at Dome 231 and WCRRF	8/26/2009	1

Comments

None.

Acceptance/Rejection Signature and Date

	Signature	Printed Name	Date
Records Accepted ☑	Sonia Gonzalez	Sonia Gonzalez	09/14/09
Records Rejected ☒			
Reason for Rejection:	N/A		
Re-submittal:			

HP Color LaserJet

Fax Confirmation Report

CCP RECORDS
5752347033
Sep-15-2009 9:50AM

Job	Date	Time	Type	Identification	Duration	Pages	Result
7222	9/15/2009	9:50:14AM	Senc	96283238	0:36	1	OK

Controlled Copy

CCP-QP-008, Rev. 14 **Effective Date: 09/19/2007**
CCP Records Management **Page 29 of 29**

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records/Records Custodian, 4021 National Parks Highway - MS GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523,
Fax Number: 505-234-7014

☒ Original Record
☐ Faxed Record
☐ Electronic Record

Attn:	Records Custodian	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-004
	4021 National Parks Highway - MS GSA 203	Company:	Technical Specialists LLC
	Carlsbad, NM 88220	Telephone Number:	575-302-8669
		Date Sent:	9/14/09
Telephone Number:	505-234-7523		

C099	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-004	9/14/2009	2
NA	Secondary Waste Generated by the Remediation/Repackaging Processes at Dome 231 and WCRRF	8/26/2009	1

None.

Acceptance/Rejection Signature and Date

Records Accepted ☑ Sonia Gonzalez (Signature) SONIA GONZALEZ (Printed Name) 09/14/09 (Date)

Records Rejected ☐ _____ (Signature) _____ (Printed Name) _____ (Date)

Reason for Rejection: N/A

Re-submittal _____ (Signature) _____ (Printed Name) _____ (Date)

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MHD09.001, LA-MIN03-NC.001

Site(s): Los Alamos National Laboratory

Source Document Tracking Number: D018

Acceptable Knowledge Documentation Type:
TRU Waste Management Program Information
✔ Waste Stream-Specific Information
✔ Supporting Information

Category:
C - Correspondence
✔ D - Documents
M - Miscellaneous
P - Procedures
DR - Discrepancy Resolution
U - Unpublished Documents

Title of Source Document: Waste Management Site Plan

Source Document Reference Information (author(s), document and revision number, date, publisher): LA-UR-80-2836, October 1980, LASL

AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS2, WS4	8	The TA-2 Omega West Reactor was a water-cooled U-fueled reactor used for research and irradiation studies. The equipment building housed ion-exchange columns used to clean primary circulating cooling water and makeup water. Liquid wastes are collected in tanks and transported to TA-50 by vehicle.
WS2, WS4, WS8, WS11	8-16	The CMR Building, TA-3-29, had six wings performing irradiated-fuel examinations and other R&D and analytical chemistry operations. Liquid waste was discharged to an underground pipeline terminating at TA-50. Liquid waste from enriched U operations in Wing 4 were transferred to DP West at TA-21 for recovery or disposal. Liquid waste does not appear to have been generated in Wings 3, 5, or 7, where analytical chemistry was conducted. Examination of irradiated fuel specimens was conducted in Wing 9, generating some liquid waste including Pu etchant, U/fission product solutions, and reacted Na and Na/K solutions that are poured into one-gallon or smaller metal containers. Other beta-gamma contaminated liquids were collected, treated by cation exchange, and discharged to TA-50.
WS2, WS4, WS11	16-18	The Sigma Complex in TA-3 buildings 35, 66, and 141 developed and fabricated materials for many LASL programs. Building 35 manufactured enriched U-loaded graphite or carbide fuel elements. Building 141 houses the Rolling Mill, which processes metallic U, UO2, U carbide, metallic Th and ThO2, and tritium/tritium hydride. The electrochemistry section performs electropolishing and acid etching on U-235, U-238, and Th-232; depleted solutions from U-238 and Th-232 processing were collected in drums and trucked to TA-50 , as well as any spilled solution collected in trucks. Handling of U-235 and U-238 in Building 35 generated liquid effluent that went to the industrial waste sewer system.
WS2, WS4	19-20	The DP-West facility in TA-21 was LASL's main Pu facility in Buildings 2-5, and 150. Pu work was transferred to TA-55 in June 1978. Four shielded cells conducted operations involving U and mixed oxide fuel elements. A small volume of reacted Na and NaK liquid waste generated during the opening of intact fuel elements is placed containers filled with vermiculite. Liquid residues generated in U-235 from weapons scrap are recycled or treated in TA-21. Liquid waste from DP-East facilities conducted R&D work on tritiated compounds are also treated in TA-21-257.
WS2, WS4	20-22	The Ten-Site Lab at TA-35 conducted R&D activities including impact testing of fuels, structural materials, and subassemblies of Pu-238-fueld generators, as well as laser fusion experiments at TA-35. Liquid wastes are generated in the lab areas at buildings 10, 31, and 158 and are disposed at TA-50.

ORIGINAL

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: D018
AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS2, WS4	22	Building RC-1 at TA-48 performs radiochemistry to obtain information on yield and other nuclear test device performance parameters from underground tests at NTS. The facility also produces purified radioisotopes for medical applications at the LAMPF facility and conducts basic nuclear research on neutron and charged-particle excitation functions, decay schemes, and level structure, stripping reactions, synthesis and properties of heavy element isotopes, and various aspects of the fission process. Liquid wastes are collected, neutralized if needed, and pumped to TA-50. Small volumes of gamma-active liquid wastes are transported to TA-50 for decay and fixation in cement.
WS2, WS4, WS11	24-27	The TA-53 Meson Physics facility conducts experiments in medium-energy physics and nuclear chemistry, production of medical radioisotopes, and clinical experiments. Liquid waste was generated by proton and neutron spallation and activation in accelerator-related materials, and nuclear chemistry operations. Radionuclides found in the waste included Ag-110m, Cr-51, Na-22, Sc-46, Y-88, Be-7, Fe-55, Rb-83, Ta-182, Zn-65, Co-56, 57, and 58, Mn-54, Sb-124, and V-48. Liquid waste consists of activated water in cooling systems and is contaminated with Be-7, H3, Na-22, and cobalt. Liquid waste is also generated from nuclear chemistry operations including study of cross-sections and mechanisms of reactions induced by subatomic particles, decay of spallation-produced nuclides, meson-induced fission processes, and analysis of fast neutron spectra by activation detectors. Liquid waste containing primarily beta- and gamma-emitters are fed to storage tanks and ultimately transferred to TA-50. Finally, the Weapons Neutron Research facility also generators liquid waste that may be treated at TA-50.
WS2, WS4	28	Building PF-4 in TA-55 has been the main Pu facility at LASL, conducting R&D, oxide production, metal preparation, and metal fabrication work with Pu-238 and Pu-239. Liquid discard streams from TA-55 are discarded through TA-55. Liquid waste goes to TA-50 from the caustic dissolver and precipitation, nitric/hydrofluoric acid dissolution, nitrate anion exchange systems (ion exchange effluent), and equilibration tanks. Waste goes to the nitrate anion exchange systems from dissolver, slag & crucible dissolution, incinerator ash leaching, holding tanks, and the pickling hood.
WS4, WS5, WS8, WS11, S16	30-34, 42, 49	TA-50 has a bar screen and grit chamber, flash mixers, flocculator-clarifiers, gravity filters, ion-exchange columns, sludge storage tanks, a vacuum filter, and various other storage tanks. Chemicals used in the concentration of alpha-emitting radionuclides include ferric sulphate, lime, trisodium phosphate, and other coagulants. Sludge is dewatered by vacuum filtration to 25-40% solids, placed in lined 57-gal steel drums if the TRU activity > 10 nCi/g or Pu-238 > 100 nCi/g, and stored at TA-54. No free water is apparent in the sludge. Drum liners are 90-mil polyethylene. See process flow diagrams in Figs 7 and 8. Sludge activity is based on gross alpha activity of the raw waste received and verified by sludge analysis for Pu-238, Pu-239, Pu-240, and Am-241, which usually comprise > 99% of the alpha activity of the waste. Ion-exchange resins are regenerated with nitric acid and spent regenerant is treated and dewatered prior to packaging. In 1979, TA-50 treated about 6.9mCi gross alpha in liquid waste, with about 76% Pu-239/Pu-240 and most of the remainder Pu-238. U radioactivity was "negligible." The TA-50 lab does weekly analyses for Pu-238, Pu-239, Am-241, Cs-137, U, Sr-89 and -90, and chemical and physical parameters. Monthly samples are analyzed for Se and As. Tritiated water generated from meson physics accelerator operations does not go to TA-50.

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D018
Source Document Data Limitations (if any): 1. Document is a snapshot of waste-generating activities in 1980.	
Acceptable Knowlege Expert: Amy Johns / Amy Johns Date: 6/4/09 Print /Sign	
[a] Obtain from Acceptable Knowledge Documentation Checklist [b] For microfilm or microfiche, identify box, tape, reel number and location.	

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MIN03-NC.001

Site(s): Los Alamos National Laboratory	**Source Document Tracking Number:** D018
Acceptable Knowledge Documentation Type: ☐ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Supporting Information	**Category:** ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents

Title of Source Document: Waste Management Site Plan

Source Document Reference Information (author(s), document and revision number, date, publisher): LA-UR-80-2836, October 1980, LASL

AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS2, WS4	8	The TA-2 Omega West Reactor was a water-cooled U-fueled reactor used for research and irradiation studies. The equipment building housed ion-exchange columns used to clean primary circulating cooling water and makeup water. Liquid wastes are collected in tanks and transported to TA-50 by vehicle.
WS2, WS4, WS8, WS11	8-16	The CMR Building, TA-3-29, had six wings performing irradiated-fuel examinations and other R&D and analytical chemistry operations. Liquid waste was discharged to an underground pipeline terminating at TA-50. Liquid waste from enriched U operations in Wing 4 were transferred to DP West at TA-21 for recovery or disposal. Liquid waste does not appear to have been generated in Wings 3, 5, or 7, where analytical chemistry was conducted. Examination of irradiated fuel specimens was conducted in Wing 9, generating some liquid waste including Pu etchant, U/fission product solutions, and reacted Na and Na/K solutions that are poured into one-gallon or smaller metal containers. Other beta-gamma contaminated liquids were collected, treated by cation exchange, and discharged to TA-50.
WS2, WS4, WS11	16-18	The Sigma Complex in TA-3 buildings 35, 66, and 141 developed and fabricated materials for many LASL programs. Building 35 manufactured enriched U-loaded graphite or carbide fuel elements. Building 141 houses the Rolling Mill, which processes metallic U, UO2, U carbide, metallic Th and ThO2, and tritium/tritium hydride. The electrochemistry section performs electropolishing and acid etching on U-235, U-238, and Th-232; depleted solutions from U-238 and Th-232 processing were collected in drums and trucked to TA-50 , as well as any spilled solution collected in trucks. Handling of U-235 and U-238 in Building 35 generated liquid effluent that went to the industrial waste sewer system.
WS2, WS4	19-20	The DP-West facility in TA-21 was LASL's main Pu facility in Buildings 2-5, and 150. Pu work was transferred to TA-55 in June 1978. Four shielded cells conducted operations involving U and mixed oxide fuel elements. A small volume of reacted Na and NaK liquid waste generated during the opening of intact fuel elements is placed containers filled with vermiculite. Liquid residues generated in U-235 from weapons scrap are recycled or treated in TA-21. Liquid waste from DP-East facilities conducted R&D work on tritiated compounds are also treated in TA-21-257.
WS2, WS4	20-22	The Ten-Site Lab at TA-35 conducted R&D activities including impact testing of fuels, structural materials, and subassemblies of Pu-238-fueld generators, as well as laser fusion experiments at TA-35. Liquid wastes are generated in the lab areas at buildings 10, 31, and 158 and are disposed at TA-50.

SUPERCEDED
5/19/12/09
ORIGINAL

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: D018
AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS2, WS4	22	Building RC-1 at TA-48 performs radiochemistry to obtain information on yield and other nuclear test device performance parameters from underground tests at NTS. The facility also produces purified radioisotopes for medical applications at the LAMPF facility and conducts basic nuclear research on neutron and charged-particle excitation functions, decay schemes, and level structure, stripping reactions, synthesis and properties of heavy element isotopes, and various aspects of the fission process. Liquid wastes are collected, neutralized if needed, and pumped to TA-50. Small volumes of gamma-active liquid wastes are transported to TA-50 for decay and fixation in cement.
WS2, WS4, WS11	24-27	The TA-53 Meson Physics facility conducts experiments in medium-energy physics and nuclear chemistry, production of medical radioisotopes, and clinical experiments. Liquid waste was generated by proton and neutron spallation and activation in accelerator-related materials, and nuclear chemistry operations. Radionuclides found in the waste included Ag-110m, Cr-51, Na-22, Sc-46, Y-88, Be-7, Fe-55, Rb-83, Ta-182, Zn-65, Co-56, 57, and 58, Mn-54, Sb-124, and V-48. Liquid waste consists of activated water in cooling systems and is contaminated with Be-7, H3, Na-22, and cobalt. Liquid waste is also generated from nuclear chemistry operations including study of cross-sections and mechanisms of reactions induced by subatomic particles, decay of spallation-produced nuclides, meson-induced fission processes, and analysis of fast neutron spectra by activation detectors. Liquid waste containing primarily beta- and gamma-emitters are fed to storage tanks and ultimately transferred to TA-50. Finally, the Weapons Neutron Research facility also generators liquid waste that may be treated at TA-50.
WS2, WS4	28	Building PF-4 in TA-55 has been the main Pu facility at LASL, conducting R&D, oxide production, metal preparation, and metal fabrication work with Pu-238 and Pu-239. Liquid discard streams from TA-55 are discarded through TA-55. Liquid waste goes to TA-50 from the caustic dissolver and precipitation, nitric/hydrofluoric acid dissolution, nitrate anion exchange systems (ion exchange effluent), and equilibration tanks. Waste goes to the nitrate anion exchange systems from dissolver, slag & crucible dissolution, incinerator ash leaching, holding tanks, and the pickling hood.
WS4, WS5, WS8, WS11, S16	30-34, 42, 49	TA-50 has a bar screen and grit chamber, flash mixers, flocculator-clarifiers, gravity filters, ion-exchange columns, sludge storage tanks, a vacuum filter, and various other storage tanks. Chemicals used in the concentration of alpha-emitting radionuclides include ferric sulphate, lime, trisodium phosphate, and other coagulants. Sludge is dewatered by vacuum filtration to 25-40% solids, placed in lined 57-gal steel drums if the TRU activity > 10 nCi/g or Pu-238 > 100 nCi/g, and stored at TA-54. No free water is apparent in the sludge. Drum liners are 90-mil polyethylene. See process flow diagrams in Figs 7 and 8. Sludge activity is based on gross alpha activity of the raw waste received and verified by sludge analysis for Pu-238, Pu-239, Pu-240, and Am-241, which usually comprise > 99% of the alpha activity of the waste. Ion-exchange resins are regenerated with nitric acid and spent regenerant is treated and dewatered prior to packaging. In 1979, TA-50 treated about 6.9mCi gross alpha in liquid waste, with about 76% Pu-239/Pu-240 and most of the remainder Pu-238. U radioactivity was "negligible." The TA-50 lab does weekly analyses for Pu-238, Pu-239, Am-241, Cs-137, U, Sr-89 and -90, and chemical and physical parameters. Monthly samples are analyzed for Se and As. Tritiated water generated from meson physics accelerator operations does not go to TA-50.

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D018

Source Document Data Limitations (if any):

1. Document is a snapshot of waste-generating activities in 1980.

Acceptable Knowlege Expert:

Sheri Nance , Sheri Nance Date: 3/20/08

Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

DIVIDER PAGE ONLY

Not part of page count

QP-00-004.R.2
Effective Date: 10/30/03

TWCP-21711

RECORDS SUBMITTAL

INSTRUCTIONS: This form is prepared by the record source when submitting individual records, batch data reports, or a records package to the RMDC Center. Each record submitted requires a complete form.

MANDATORY: ☒To the best of my knowledge, the record(s) have no radioactive contamination.

Signature: _____

RECORD TYPE:

☒ Project 2010 ☐ Facility

☐ Other: _____ ☐ UCNI ☐ Proprietary

RECORD SOURCE:

Submittal Date: 3/2/04 Z No.: ~~198502~~ 198464 Name: ~~Steve Schafer~~ Randy Fitzgerald

Originator: CCP (Randy Fitzgerald) Organization: ~~RRES-WD~~ CCP B.S.C

TYPE OF RECORD/ACTION TO BE TAKEN

☐ Individual Record ☐ Batch Data Report ☒Records Package

☒New ☐ Addition* ☐ Supersedes*

*Record Barcode Number: _____

RECORD ID NUMBER: (e.g., memo symbol number, procedure (include revision), deficiency number, batch data report number, unique record identifier if applicable):

PKG-014

Record Date: 10/1980 Physical Page Count: ~~80~~ 77 ☒ Single Sided ☐ Double Sided

Category Number: (from page two): 07

RECORD TITLE, SUBJECT, AND/OR KEYWORDS:

D018, Waste Management Site Plan

P2010-0053

MEDIA TYPE:

☐ CD ☐ Diskette ☐ VHS ☐ Zip ☐ Other (specify): _____

RECORD CENTER USE ONLY

☐ Accepted Date: 3/24/04

Signature: _____

RIDs Type: _____

Scan Date: _____ By: _____ QC Date: _____ By: _____

(Subject to change prior to scheduled review cycle).

(D018)

P2010-0053

WASTE MANAGEMENT
SITE PLAN

Los Alamos Scientific Laboratory
University of California
Los Alamos, New Mexico

October 1980

WASTE MANAGEMENT SITE PLAN

TABLE OF CONTENTS

		Page
Section I	RADIOACTIVE WASTE.....	1
Section II	HAZARDOUS NONRADIOACTIVE WASTE.....	75

Section I

RADIOACTIVE WASTE

		Page
1.	Program Administration	1
2.	Description of Waste Generation Processes	8
3.	Waste Management Facilities	30
4.	Radioactive Waste Disposed/Stored	45
5.	Plans and Budget Projections	47
6.	Description of Surplus Facilities	67
7.	References	73

1. Program Administration

1.1 Site

The Los Alamos Scientific Laboratory (LASL) and the resident communities of Los Alamos and White Rock are located in north-central New Mexico on the Pajarito Plateau, situated west of the Rio Grande on the eastern slopes of the Jemez Mountains (Fig. 1). The U. S. Army Manhattan District laboratory was established here during World War II because of the mild climate and relative isolation of the location. The Laboratory site covers about 111 km^2* (27 500 acres) in and adjacent to Los Alamos County. The surrounding area, including most of Los Alamos County and portions of Sandoval, Rio Arriba, and Santa Fe Counties, is largely undeveloped except for those areas occupied by Laboratory facilities and the associated communities. Large tracts of land in the Jemez Mountains to the north, west, and south of the Laboratory site are held by the U. S. Forest Service and U. S. National Park Service. This land is largely covered by pine, fir, and aspen forests and supports the usual variety of western mountain wildlife. Agriculture is limited to home gardens and some cattle grazing. In the river valleys to the east, agriculture consists of relatively small, irrigated plots. Primary crops are corn, chili, tree fruits, and alfalfa. Milk is not produced in commercial quantities in the immediate vicinity of Los Alamos. A more detailed description of the geology, climatology, and economy of the area is given in the LASL Final Environmental Impact Statement.[1]

The principal mission of the Laboratory is the design and development of weapons for the nation's nuclear arsenal; however, considerable effort is devoted to peaceful uses of nuclear energy including research on controlled thermonuclear reactions, fission reactors, nuclear safeguards, laser fusion, and medium energy physics. Extensive basic research programs in physics,

* In keeping with Laboratory policy, metric dimensions are used throughout this text with English conversions given in parenthesis.

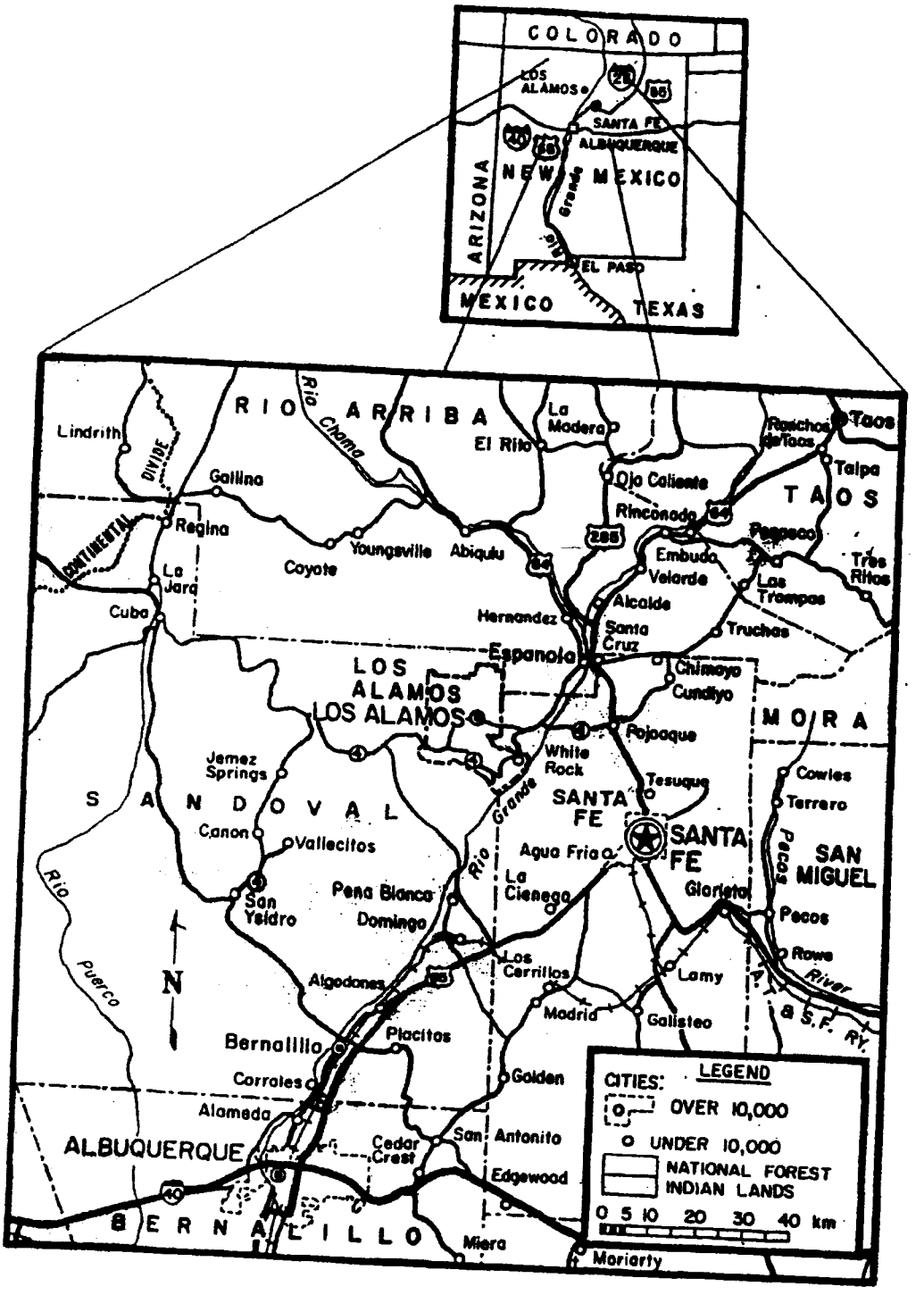


Fig. 1. North-central New Mexico.

chemistry, metallurgy, mathematics and computers, earth sciences, and electronics support these efforts. Biomedical and environmental research includes programs in molecular biology, radiobiology, cancer therapy, radioecology, and industrial hygiene. Rapid expansion into non-nuclear areas is represented by applied technology development of solar and geothermal energy, and superconducting power transmission lines. Laboratory activities are located in 30 Technical Areas (TA) widely spread over the LASL site, as shown in Figs. 2 and 3.

1.2 Office Responsible

LASL is operated for the US Department of Energy (DOE) by the University of California under Contract W-7405-ENG-36. The University is responsible to DOE's Los Alamos Area Office (LAAO), which reports to the DOE Albuquerque Operations Office (ALOO).

1.3 Contractors

LASL is the prime contractor for operations involving waste generation and management. The Zia Company, under prime contract to DOE, provides the major support work for the Laboratory, and also generates waste from its operations.

1.4 Lead Responsibility for Site Plans

DOE-ALOO: Mr. R. Y. Lowrey, Director
Waste Management & Transportation
Research Division

DOE-LAAO: Mr. Kenneth R. Braziel, Manager
Los Alamos Area Office

1.5 Source of FY 1980 Funds for Radioactive Waste Management

FY 1980 funding of the LASL Radioactive Waste Management operations program was derived in part from LASL overhead and from DOE-ONWM (Office of Nuclear Waste Management). A Work Element Plan (WEP) project, funded directly from DOE-ONWM, provided the Laboratory operations program with $700 K in FY 1980; this money was used directly for the operation of the LASL solid waste burial/storage areas.

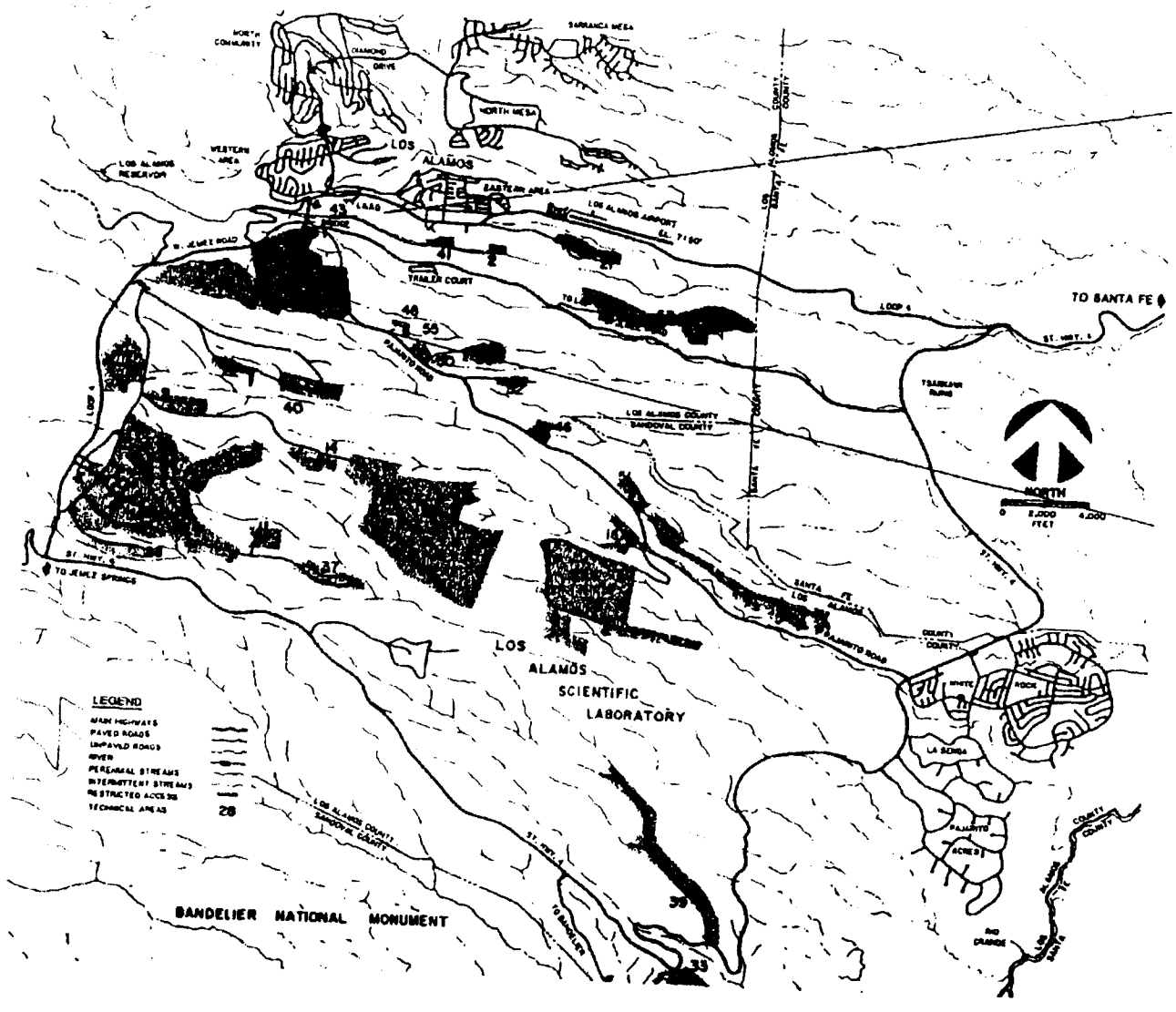


Fig. 2 Los Alamos County Residential Areas
and LASL Technical Areas

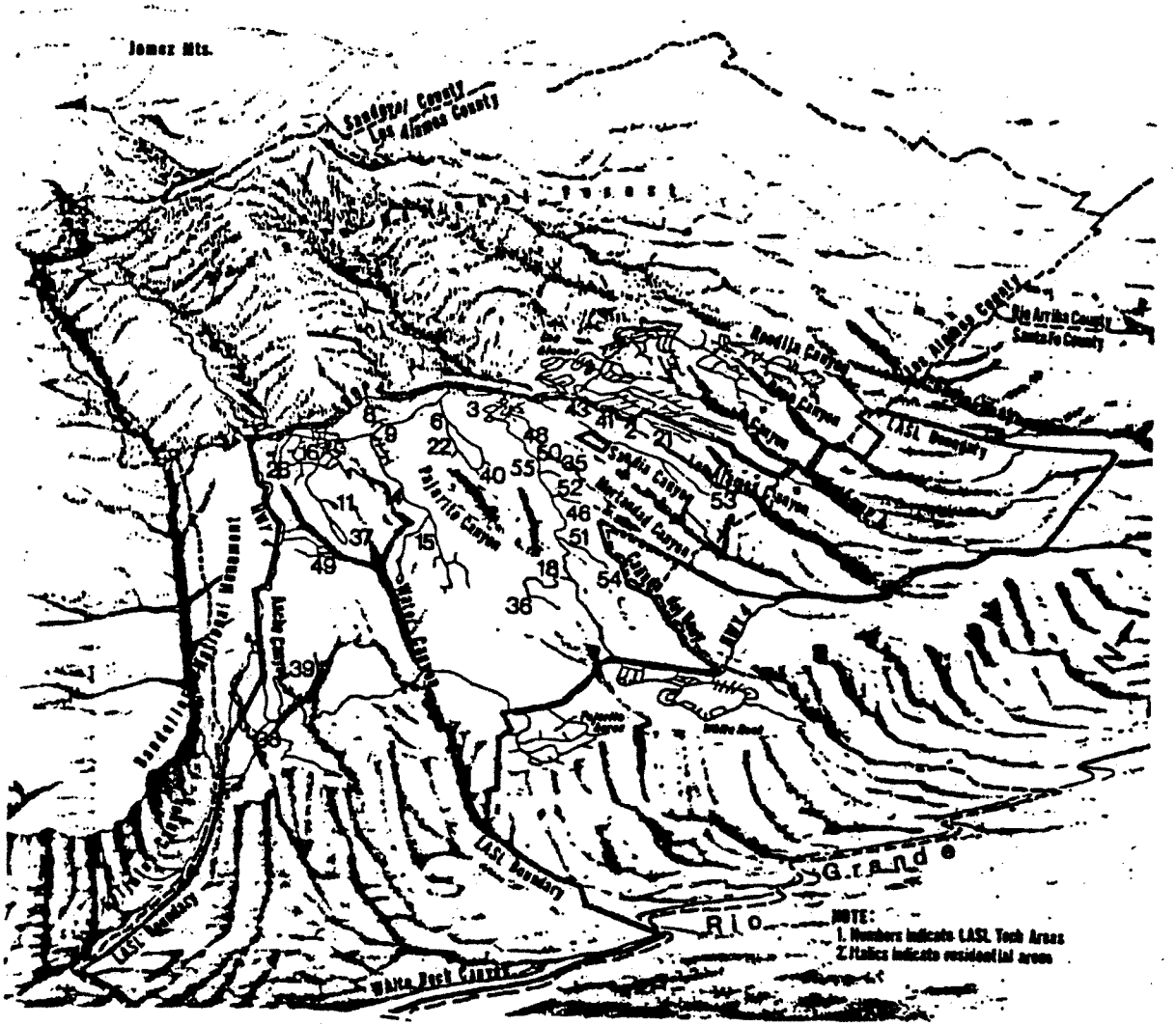


Fig. 3 Topography of the Los Alamos, N.M., area.

LASL waste management costs in excess of this $700 K were funded from Laboratory overhead charges. The following table lists an approximate breakdown of the FY 1980 LASL budget with each of these programs contributing a proportionate share to the waste management funding in excess of the DOE-ONWM funded $700 K.

Budget Category	Program	Percentage of Laboratory Budget
ASDP	Defense Programs	42
ASNE	Nuclear Energy	9
DER	Energy Research	13
ASEV	Environment	4
ASRA	Resource Application	4
	Other DOE	2
	Support	13
	Reimbursable Work	13

Personnel hours involved in LASL Waste Management operations during FY 1980 are estimated, by activity, in the table below:

Activity	Personnel Hours
Solid waste operations	20 000
Health physics support	15 000
Packaging (Zia and Laboratory personnel)	30 000
On-site transport	3 000
Zia support	5 000
Liquid waste treatment	38 000
Site environmental monitoring	6 000

Solid waste operations here include activities of personnel at the disposal/storage area, as well as activities throughout the Laboratory, including waste generation control, records management, and program administration. Health Physics support includes both direct support at the burial/storage site

as well as general Laboratory support related to monitoring and waste controls. Waste packaging activities are carried out primarily by Zia janitorial personnel, although some effort is included with certain wastes (e.g., TRU wastes) of Laboratory personnel. On-site waste transport again includes primarily the activities of Zia personnel. Zia support services include disposal/storage site activities such as pit/shaft excavation, waste covering, and site maintenance. Personnel included under liquid waste treatment are plant operations personnel and essential laboratory suppport personnel. Environmental monitoring activities included are only those routinely ongoing at the LASL waste disposal sites; R&D activities are not included.

2. Description of Radioactive Waste Generating Processes

Significant waste-generating processes at LASL were concentrated in 10 areas in FY 1980; TA-2, Omega Site; TA-3, SM-29, Chemistry and Metallurgy Research (CMR) Building; SM-35, 66, and 141, Sigma Complex; TA-21, DP-Site; TA-35, Ten-Site Laboratory; TA-46, WA-Site; TA-48, Radiochemistry Laboratory; TA-50, Waste Management Site; TA-53, Meson Physics Facility; and TA-55, Plutonium Facility. Waste generating processes at these areas (excepting TA-50) are discussed in this section; liquid waste processing plants at TA-21 and TA-50 are discussed in Section 3.2. Flow diagrams of the generation and disposition of radioactive solid waste generated at LASL are presented in Fig. 4.

2.1 TA-2, Omega Site

Primary facilities located at the Omega Site are the Omega West Reactor (OWR) and an equipment building. The OWR is a water-cooled uranium-fueled reactor facility which is used for research and irradiation studies. The equipment building houses the ion-exchange columns used for cleanup of primary circulating cooling water and makeup water. Operation of these facilities results in the generation of solid, liquid, and gaseous wastes in relatively small quantities. The solid wastes are packaged and transported to the waste disposal/storage area at TA-54 (Area G) for burial; the liquid wastes are collected in tanks and later transported by vehicle to TA-50 for final treatment. Gaseous effluents are monitored for radioactivity and vented to the atmosphere after an approximate 1-hr delay.

2.2 TA-3-29, Chemistry Metallurgy Research (CMR) Building

The CMR Building, located in TA-3, is an R&D facility composed of six interconnected, but different, experimental areas. Wing 9 houses an irradiated-fuel examination facility; the other five, Wings 2, 3, 4, 5, and 7, house numerous and varied R&D and analytical chemistry operations. Significant volumes and activities of radioactive solid, liquid, and gaseous wastes are generated by these operations.

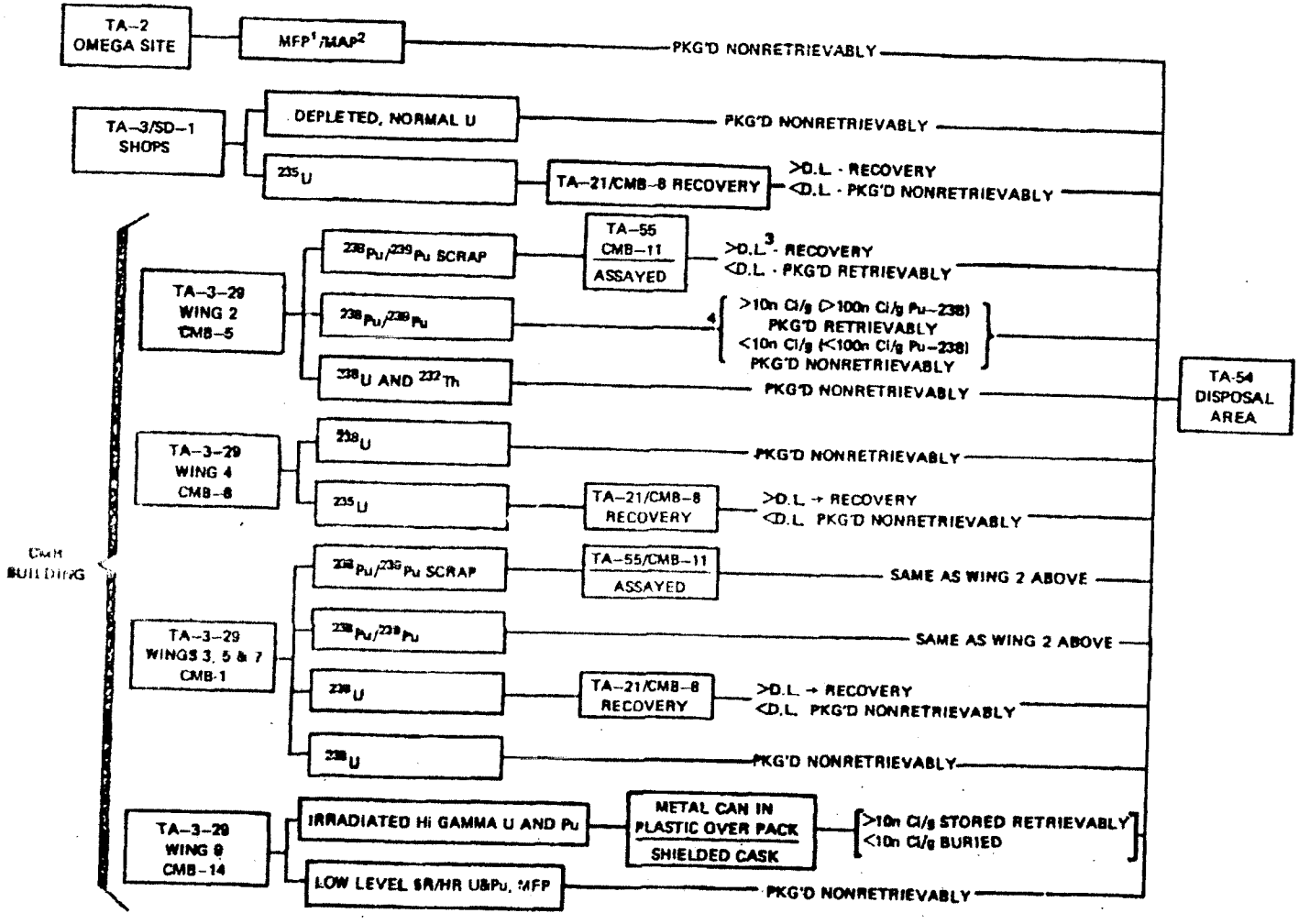


Fig. 4. LASL radioactively-contaminated solid waste flow sheet. -continued-

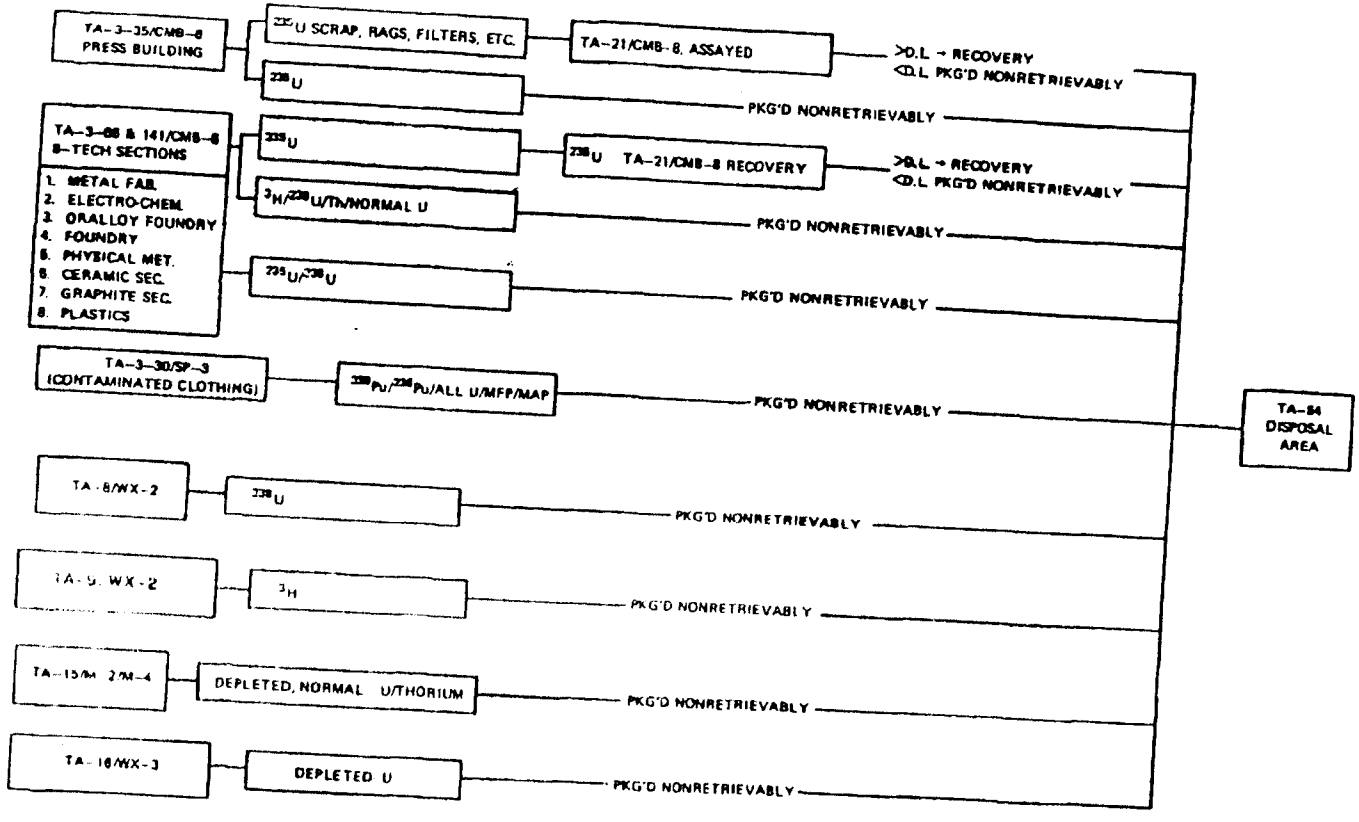


Fig. 4. Continued

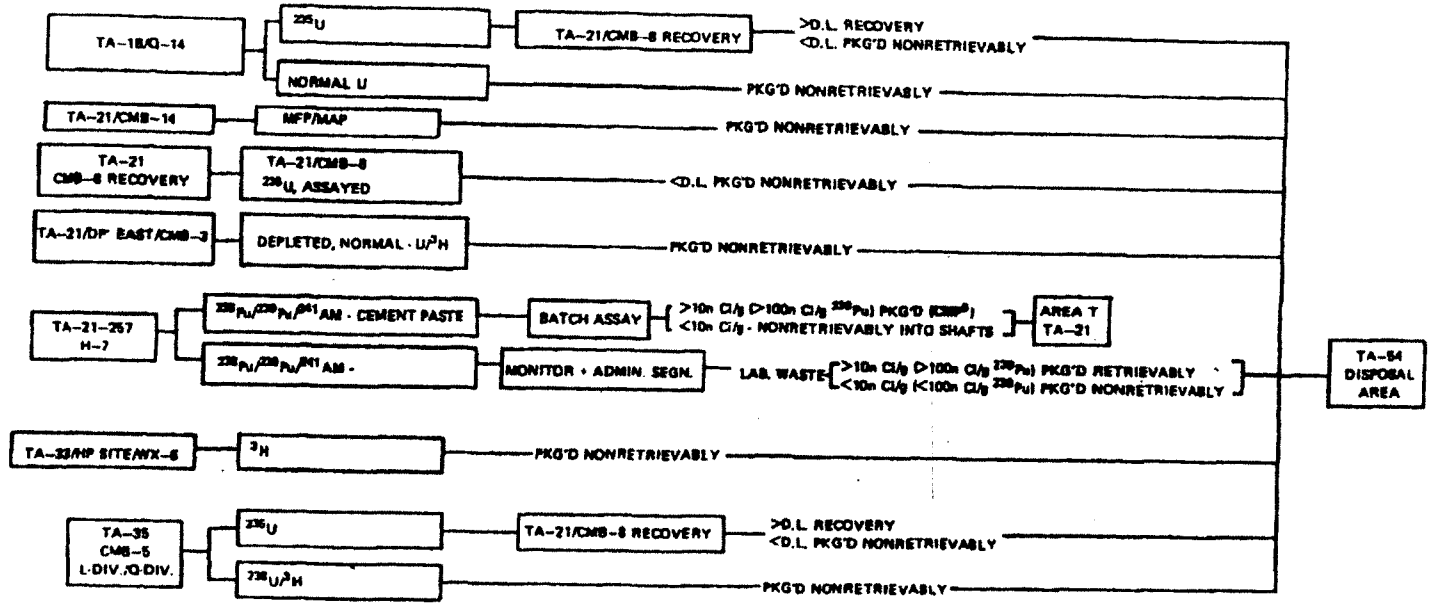
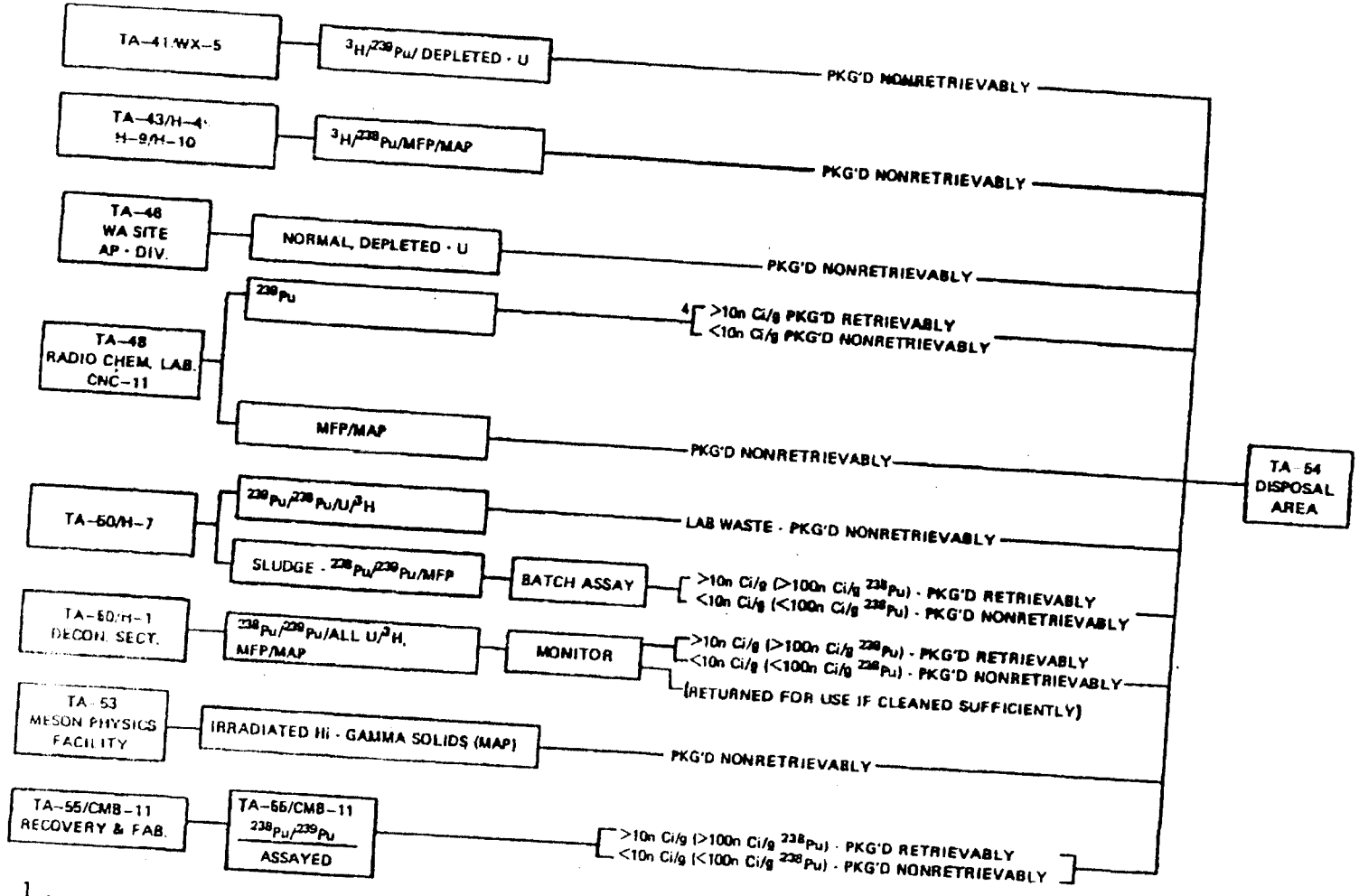


Fig. 4. Continued



[1] MFP = Mixed Fission Products [2] MAP = Mixed Activation Products [3] D.L. = Discard Limit

[4] Administratively segregated TRU hood and glovebox waste is packaged retrievably; room waste is assumed to be nonretrievable.

[5] CMP = Corrugated Metal Pipe

Fig. 4. Continued

Solid radioactive wastes from all areas are packaged and transported to Area G for disposal or storage. Liquid wastes are discharged to holding tanks which drain to an underground pipeline system terminating at TA-50. Gaseous wastes from Wings 2, 5, 7, and 9 are passed through high-efficiency particulate air (HEPA) filters before release to the atmosphere. In Wings 3 and 4, lower efficiency filters still are used.

2.2.1 TA-3-29 (Wings 2 and 4)

Group CMB-5's operations in Wing 2 include basic and applied physical metallurgical research both on alpha-radioactive and nonradioactive materials. Among the various radioactive isotopes that have been, or are being, studied are ^{238}Pu, ^{239}Pu, ^{241}Am, ^{232}Th, and ^{238}U. The materials are investigated both experimentally and theoretically, and the gloveboxes and other specialized enclosures in the wing, as well as the highly efficient ventilation system, have been designed specifically for use with chemically reactive and alpha-radioactive materials. Nonradioactive material studies have been concentrated mainly on metals such as iridium, platinum alloys, and tantalum, but have in the past included most of the elements in the Periodic Table.

Basic experimental work includes determination of thermochemical, physical, and mechanical properties, often at very high or very low temperatures; phase relationships under normal and high pressures; and crystal structures. Applied studies encompass safety analyses, compatability investigations, structural and mechanical property determinations and production of new metastable alloy phases by splat cooling techniques.

The wide variety of work being done and the reactivity of the materials being worked with require the use of many specialized experimental tools, among which are vacuum and inert atmosphere furnaces, high-pressure/high-temperature apparatus, cryogenic equipment, mechanical test equipment, metal fabrication appratus, metallographs, an electron microscope and various types of optical microscopes, x-ray units, thermal analysis furnaces and dilatometers, and splat cooling units.

The total plutonium inventory in Group CMB-5 is normally between 9 and 15 kg (19.8 and 33 lb) and includes several hundred individual specimens (and stocks) of metals, alloys, and solid compounds ranging in weight from less than a gram to about 400 g (0.9 lb). Typically, 70% of the specimens weigh less than 10 g (0.02 lb) each. All specimens not in active use are stored in separate containers and labeled to preserve their identities and prevent cross-contamination. During processing, specimens may be heated, cooled, vaporized, compressed, pulled apart, rolled, extruded, broken, cut, filed, ground polished, and etched or undergo chemical reactions.

Radioactive residues produced in Wing 2 are collected and recycled by being sent to the ^{239}Pu-recovery facility or the ^{238}Pu operation of CMB-11 at TA-55.

In the basement of Wing 4, Group CMB-5 also operates a facility for heat treating and testing SNAP $^{238}PuO_2$ fuel spheres and samples. The activities carried on in this location, however, consist only of loading, operating, and unloading the furnaces. All processing and examining of the radioactive materials are performed in Wing 2. Group CMB-5 normally does not produce any retrievable transuranic waste in Wing 4. Gaseous wastes from the wing are treated by filtration prior to release.

Group CMB-8 is also in Wing 4. This group prepares substantial amounts of depleted uranium alloys and compounds, and occasionally small amounts of enriched uranium are used for preparations or experiments. Small amounts of ^{239}Pu in solid form only also are occasionally used in experiments. Solid waste from these operations is packaged for disposal by burial or storage; liquids from enriched uranium operations are transferred to Group CMB-8 at DP West, TA-21, for recovery or for disposal by Group H-7. Drums containing TRU waste for storage are assayed by Group CMB-11 at TA-55 prior to transport to TA-54.

2.2.2 TA-3-29 (Wings 3, 5, and 7)

Group CMB-1 occupies Wings 3, the south half of 5, and 7 (including basement) and is responsible for furnishing analytical

chemical services for the entire Laboratory. The group analyzes fissionable and nonfissionable materials arising from the various Laboratory programs. In general, the samples are very small and the amount of fissionable material present in any given sample may be almost negligible.

The work involves the analysis of radioactive materials from research, production, and recycle operations. Many constituents are determined at both the macro- and micro-range by conventional methods and by a variety of more sophisticated techniques such as atomic absorption spectrophotometry, electron microprobe, gas chromatography, mass spectrometry, high-resolution gamma-ray spectrometry, fast-neutron activation, emission spectroscopy, and x-ray fluorescence. Residues generated in the analytical chemistry operations are properly identified, packaged, and returned to the appropriate recycle or recovery groups at TA-21 (uranium residues) and TA-55 (plutonium residues). Solid wastes from these operations are packaged for burial or storage at TA-54. Drums of TRU waste are assayed by Group CMB-11 at TA-55 prior to shipment to the waste disposal site.

2.2.3 TA-3-29 (Wing 9)

Irradiated reactor-fuel examination operations are conducted by Group CMB-14 in Wing 9 of the CMR Building. Sixteen shielded cells provide protection of personnel during operations involving both uranium- and plutonium-enriched fuel materials. Primary operations include physical measurements, specimen cutting and preparation, and examination of fuel specimens by photomicrographic methods. Special apparatus are available for collection of radioactive materials associated with irradiated fuel.

During these operations varying quantities of solid, liquid, and gaseous wastes are generated. Gamma-active solid radioactive waste materials exceeding 5 R/hr at the package surface require special handling and are transported in a cask to TA-54 for disposal by shaft burial or storage where required by transuranic contamination. Lower level solid wastes are packaged, placed in a Dempster Dumpster, and then transported to TA-54 for burial.

Some small volumes of solutions that are generated in the hot cells--plutonium etchant, uranium/fission product solutions, and reacted Na and NaK solutions--require special handling, packaging, and disposal. These solutions are poured into dry vermiculite and packaged in a 3.8-L (1-gal) or smaller metal container, which is subsequently placed into a 7.6-L (2-gal) can containing dry vermiculite. Handling and disposal by shaft burial or storage of these cans is via the same procedures for the higher level solid wastes described above.

Other beta-gamma-contaminated liquid wastes from the hot-cell operations are collected in stainless-steel storage tanks at the site. Tank contents can be treated by cation exchange and transferred to concrete storage tanks for low-level ($<10^{-3}$ Ci/m^3 alpha and/or $<10^{-2}$ Ci/m^3 beta) wastes or they can be pumped to a portable steel tank for delivery to TA-50 for treatment. Wastes in the concrete tanks, from laboratory sinks, decontamination operations, etc., are sampled and then discharged to the industrial waste sewer system for treatment at TA-50.

2.3 TA-3-35, -66, and -141, Sigma Complex

The location consisting of buildings SM-35, 66, and 141 of TA-3 is commonly called the Sigma Complex and is operated by Group CMB-6, the Materials Technology Group, whose function is to develop and fabricate materials for the many LASL programs. The main building is the Sigma Building, SM-66, in which are housed seven specific sections where development work on both radioactive and nonradioactive materials is performed. The Press Building, SM-35, housing a portion of the Nuclear Fuels Section, is the facility where all enriched uranium-loaded graphite or carbide fuel elements are manufactured. The Rolling Mill Building, SM-141, houses parts of the Nuclear Fuels Section, Coatings Section, and Metal Processing Section. These sections are to some degree involved with radioactive materials, including metallic uranium, uranium dioxide and uranium carbide, all of various enrichment, metallic thorium and thorium dioxide, and on occasion tritium either in the gaseous form or as a metal hydride. A

brief summary of the scope and type of radioactive material processing is included on a section-by-section basis.

The Ceramics-Powder Metallurgy Section processes ^{238}U, ^{235}U, and ^{232}Th in the forms of carbides, oxides, nitrides, or hydrides. Some of the materials, i.e., the finely powdered metal forms, are usually handled in controlled-atmosphere dry boxes due to the pyrophoricity of the powders. The nonpyrophoric oxides are processed in hoods which exhaust through the roofs of the respective buildings. Solid wastes from all section areas are collected in polyethylene-lined cardboard boxes and are sent to TA-54 for burial.

The Metal Processing Section performs a variety of metal processing steps on ^{235}U, ^{238}U, ^{232}Th and, on occasion, metal containers for ^{3}H. The uranium can be hot-rolled, warm- and cold-rolled, swaged, forged, drawn, or extruded. In all cases where ^{235}U is processed, the work area is isolated, floor covering is applied, and all workers are dressed in protective clothing. Upon the completion of the processing, all clothing, floor coverings, solvents, rags, etc., are forwarded to Group CMB-8 at DP-West, TA-21, for recovery of the enriched material. All of the equipment used for processing in this section is equipped with filtered exhaust systems. The processing of ^{238}U is also performed in isolated areas; however, the floor coverings, solvents, rags, etc., are collected and sent to TA-54. There is some extrusion work performed in this section on both ^{238}U and ^{235}U, in Building SM-141. The same procedures regarding burial of ^{238}U-contaminated material and recovery of ^{235}U material described previously apply to this processing.

The Plastics Section has never been required to process radioactive material.

The Electrochemistry Section is required to perform electropolishing and acid etching on ^{238}U, ^{235}U, and ^{232}Th. All of the ^{235}U processing is performed in a special facility located in the basement of the Oralloy area. The solutions from this processing are collected and sent to CMB-8 for recovery. The

^{238}U and ^{232}Th are processed in the standard cleaning and plating tanks in the Electrochemistry Section. Depleted solutions from these tanks are transferred to 210-L (55-gal) drums which are trucked to TA-50 for treatment. Should there be a spill of the concentrated plating bath, the spilled solution is collected in sumps, from which it is pumped to TA-50 for treatment.

The Coatings Section work is performed in SM-141 and has been limited to processing nonradioactive materials and depositing coatings on depleted uranium. Uranium is not removed during the coating operations, thus essentially no radioactive waste is generated. Items which come in contact with the uranium are sent to TA-54 for disposal as is all solid waste generated in the Sigma Complex.

The Welding and Joining Section is located in SM-66. The nature of the joining operations performed preclude significant amounts of depleted uranium waste from being generated. All solid waste is properly packaged and sent to TA-54, Area G. On rare occasions, this section has to work with items containing ^{3}H either as a gas or in the form of metal hydride. The operations with this material are performed in a vented chamber.

The Physical Metallurgy Section performs routine metallurgical evaluations on materials containing both ^{238}U and ^{235}U. Generally, the quantities of material handled by this section are very small.

The Nuclear Fuels Section has operations in Buildings SM-35 and SM-141. The radioactive materials handled in these two buildings are ^{235}U in SM-35 and ^{238}U and some ^{235}U in SM-141. An attempt is made to recover all of the effluent and waste generated in SM-35. A sink-and-drain connection to the industrial waste sewer system is provided for disposal of radioactive and/or chemical wastes at SM-35. This building is equipped with filtered air systems and protective clothing is used for all operations. Waste material recovery is performed by CMB-8. The operation in SM-141 involves the identical processing of UO_2 and UC as is performed in SM-35 with ^{238}U. Future plans call for an

expanded program involving ^{235}U in SM-141. For this work equipment modification and new procedures will be required.

The Foundry area, administratively in the Nuclear Fuels Section, is physically separated from the Oralloy area to prevent cross-contamination of unenriched with enriched uranium. The Foundry area casts parts and shapes of ^{238}U, normal U, and ^{232}Th. The casting operations are performed in vacuum furnaces which have filtered exhaust mechanical pumps vented outside of the building. The filters are subsequently forwarded to TA-54 for burial. Massive residues such as casting shells, risers, scrap parts, etc., are gathered into 210-L (55-gal) drums and are disposed of at the Laboratory contaminated burial ground at TA-54.

In the Oralloy area, also administered by the Nuclear Fuels Section, massive pieces of enriched uranium metal are processed. However, the residue materials from this section are recovered insofar as practical.

Owing to the nature of the CMB-6 operation, it has been deemed easier and more economical to assume that all solid waste originating within the Sigma Complex is contaminated. The possibility of separating nonradioactive waste prior to entering potentially contaminated areas is being investigated.

2.4 TA-21, DP-Site

2.4.1 DP-West

LASL's main plutonium facilities were located at TA-21 in Buildings No. 2, 3, 4, 5, and 150. During the period January through June, 1978, the CMB-11 operations at TA-21 were terminated, and the plutonium work transferred to TA-55. The equipment that could not be used at TA-55 was cleaned by CMB-11 personnel until the plutonium content was reduced to a few grams per glovebox or tank. These equipment items are being further decontaminated and removed for storage/burial. The areas at TA-21 used by CMB-11 are being decontaminated to be used for other LASL research and development programs.

Nondestructive examinations of irradiated reactor-fuel elements are conducted by Group CMB-14 in Building 401 at the DP-West Facility. Four shielded cells provide protection for personnel during operations involving both uranium and mixed oxide fuel elements. During the operations varying quantities of solid, liquid, and gaseous wastes are generated. Gamma-active solid radioactive waste materials exceeding 5 R/hr at the package surface require special handling and are transported in a cask to TA-54 for disposal by shaft burial. Lower level solid wastes are packaged, placed in a Dempster-Dumpster, and then transported to TA-54 for burial. The small volume of reacted Na and NaK liquid waste generated during the opening of intact fuel elements is placed in a 3.8-L (1-gal) or smaller container full of vermiculite, which is subsequently placed into a 7.6-L (2-gal) container filled with vermiculite and transported to TA-54 for burial.

DP-West also houses the CMB-8 uranium recovery operations in Buildings 3 south and 4 south. Solid and liquid residues are generated during recovery of uranium enriched in ^{235}U from weapons scrap and other scrap. Solid residues containing 1% uranium or less by weight are packaged in steel drums and buried at TA-54. Liquid residues containing 10 ppm or less uranium are transferred to TA-21-257 for treatment. Solid and liquid residues containing more than these amounts of uranium are recycled in the plant.

2.4.2 DP-East

Group CMB-3 moved their preparative and R&D work on tritiated compounds to DP-East early in FY 1975. Only small quantities of solid wastes are generated by these operations. Airborne tritium is the primary waste stream. Several of the buildings at DP-East are provided with sewer connections to a sump for radioactive and/or chemical liquid wastes which are pumped to the TA-21-257 liquid waste treatment plant.

2.5 TA-35, Ten-Site Laboratory

The Ten-Site Laboratory area, TA-35, houses varied R&D operations involving radioactive materials. Group CMB-5 conducts

impact testing of fuels, structural materials, and subassemblies of ^{238}Pu-fueled SNAP generators to simulate the impact of components against the earth's surface, and studies candidate CTR insulator materials. The impact samples are multi-encapsulated and do not produce contaminated wastes requiring disposal.

A tritium glovebox line previously used by Group CMB-3, and which exhausted an estimated few hundred curies of tritium annually to the atmosphere was removed to burial at TA-54 in FY 1979.

L-Division Groups L-1, 4 and 7 conduct laser fusion experiments at TA-35. The only radioactive material is tritium, which is used as the fuel in laser fusion targets. Current (FY 1980) targets contain 0.5 to 1.5 mCi of tritium s deuterium-tritium (DT) gas, but previous targets and target p totypes have also used Li (D,T) or $(-CDT-)_n$. The quantity of tr ium per target is not expected to increase over the next sever years.

Targets are filled with DT gas by permeati at elevated temperature and pressure. This is done with a system in Building TSL-2, which employs secondary containmen th intermediate air scrubbing. The air scrubbing utilizes c ytic oxidation followed by absorption on molecular sieve. ste is produced as repairs necessitate disposal of triti contaminated parts and equipment. Occasional sieve replacement also necessary. It has not yet been determined whether th ieve can be reprocessed to concentrate the tritium waste c whether the entire sieve column (16" diameter by 6' long) wil require disposal. Tritium content of a sieve column is estim d to be 1 to 10 Ci.

When the target is irradiated by one of lasers, the tritium is vaporized into the vacuum system and p ses into the vacuum pumps. Any tritium escaping from the va m system is vented directly to the air. Currently a maximum about 5 mCi of tritium are vaporized in the target chambers p day and this could increase to ~15 mCi/day in FY 1981. If a gas filled-target is broken during target assembly, the cont ed DT gas is

vented directly to the air. If the need arises to dispose of any Li (D,T) microspheres, these are packaged in air-tight containers and placed in the radioactive-waste receptacles for disposal.

There are four 1.89 x 10^5-L (5 x 10^4-gal), one 2.4 x 10^4-L (6.5 x 10^3-gal) and one 4.7 x 10^3-L (1.25 x 10^3-gal) tanks at TA-35 which collect the liquid radioactive wastes from the laboratory areas. These are TSL-10, 31, and 158. The stored wastes are pumped periodically to TA-50 through a 0.08-m (3-in) cast iron pipeline, a 0.10-m (4-in) cast-iron pieline, and a 0.08-m (3-in) polyethylene pipeline at a rate of about 200 L/min (53 gal/min).

2.6 TA-46, WA-Site

The principal project of AP Division at TA-46 during FY 1980 continued to be the uranium laser isotope separation program. AP Division buildings at TA-46 (Building 30, 31, 41, 59, 75, 76) can potentially have small amounts (less than gram quantities) of radioactive materials in closed loop experiments on natural uranium. The exceptions to natural uranium are Building 30 with nanogram quantities of ^{237}U, Building 76 with millicurie amounts of ^{14}C, and Building 31 with gram quantities of 50 % enriched uranium. The ^{237}U dry box in Building 30 has a HEPA filter to preclude release into the atmosphere. The ^{14}C in Building 76 is used in a closed loop system as a laser gas. The natural uranium in the other buildings will be contained in a portable recirculating closed loop (minipulser). Uranium contaminated solid wastes generated in any operations are packaged and transported to the TA-54 disposal area.

2.7 TA-48-1, Radiochemistry

Building RC-1 at TA-48 houses nuclear and radiochemistry operations conducted by Group CNC-11. This work is concerned with the application of radioactivity measurements to Laboratory programs and with the study of nuclear reactions and structure. One of its primary functions is to obtain information on the yield and other performance parameters of nuclear test devices by

analyses of debris samples collected after the underground tests at the Nevada Test Site. Similar diagnostic services, and some radiochemical preparations, are also provided for other research and development programs. Of these latter programs, probably the most important from a waste management viewpoint is the production of a variety of purified radioisotopes for medical applications from targets bombarded with protons at the LAMPF beam stop. The medical radioisotopes research project is now in full-scale operation. The group additionally conducts basic nuclear research in the areas of neutron and charged-particle excitation functions, decay schemes and level structure, stripping reactions, synthesis and properties of heavy element isotopes, various aspects of the fission process, and other investigations oriented toward geo- and cosmochemistry.

The major wastes currently generated by this group are radioactive and fall roughly into two categories: those from the diagnostic work, which are essentially fission-product mixtures with small amounts of heavy elements, and those from the radioisotopes project, which are spallation-product nuclides of mass number up to about 200. CNC-11 operations described above are presently carried out almost exclusively at TA-48, Building RC-1. The limited work performed by this group at other sites, such as Omega, Pajarito, and trailers now located at TA-48 or Kirtland AFB results in no significant release of radioactive waste materials.

Gaseous waste materials from alpha activity areas leave TA-48-1 by HEPA filter-equipped ventilation stacks, liquid via an industrial waste line to TA-50, and solids by truck for burial at TA-54. Liquid wastes are collected and neutralized, if necessary, in three separate sumps, then pumped through two 0.08-m (3-in) cast-iron lines to the TA-50 sewer system.

Small volumes (<5-L) of gamma-active liquid wastes (from 5-50 R/hr on contact) are transported in shielded containers to TA-50 for decay and subsequent fixation in cement.

2.8 TA-53, Meson Physics Facility

MP Division operates the Clinton P. Anderson Meson Physics Facility (LAMPF) which is used by both LASL staff and outside scientists to conduct experiments in medium-energy physics and nuclear chemistry, for the production of radioisotopes for nuclear medicine, and for clinical experiments in the treatment of certain types of cancer with negative pi mesons. Radioactive solids, liquids, and gases requiring disposal are generated by: (1) proton and neutron spallation and activation within accelerator-related materials (shielding, structural and experimental equipment, targets, and beam stops and associated water cooling systems) and surrounding air, and (2) nuclear chemistry operations.

The degree of induced activation of material varies with position in or about the accelerator proper. The most highly activated components are contained in target cells and beam dumps. Nevertheless, most of the accelerator is moderately radioactive in varying degrees. Accelerator-related solid wastes are in the form of discarded components, beam stops, experimental apparatus, shielding, etc. The following radionuclides having a half-life in excess of 10 days have been detected in the waste:

^{110m}Ag	^{51}Cr	^{22}Na	^{46}Sc	^{88}Y
^{7}Be	^{55}Fe	^{83}Rb	^{182}Ta	^{65}Zn
$^{56,57,58}Co$	^{54}Mn	^{124}Sb	^{48}V	

The production rates of most of these radionuclides are not great; however, a gradual increase of activity (build-up) can be expected with continued accelerator operation.

Large contaminated items (up to 1000 R/h) occasionally are removed from the accelerator; curie content is estimated to range from 10-20 Ci/m^3. These items are held in a shielded enclosure at this site to permit some decay prior to disposal at TA-54.

Liquid waste resulting from LAMPF operations consists of the activated water in cooling systems. Since this water is

initially deionized, radioactivity detected following accelerator operation is primarily the result of spallation occurring within the water. Long-lived spallation products from ^{16}O are ^{7}Be and ^{3}H. Small quantities of ^{22}Na and cobalt activities are also seen, due to corrosion in some of the cooling systems. The cooling-water systems each contain ion-exchange columns for continuous purification of a fraction of the stream to remove the ^{7}Be and other activities, except for the tritium. Estimated tritium generation throughout this system is presented in Table I.

Unplanned leaks have developed in the circulating cooling-water systems resulting in substantial volumes (up to 10,000 L/day) of dilute radioactive waste being released to the liquid radioactive waste holding tanks. This dilute waste has been transferred to the sanitary sewer system and thence to the two one-acre sanitary lagoons at TA-53. During most of the year there is total evaporation from these lagoons but during the winter months there is an overflow to a normally dry arroyo. The EPA has been informed that the nature of the waste has been altered somewhat because of this addition of tritiated water from that described in the original NPDES permit application.

A study made of possible population exposures resulting from evaporation of this tritiated water showed that if this waste is discharged via the LAMPF exhaust stack, the average annual concentration would be on the order of 0.3 MPC at the stack exit. Atmospheric dispersion would result in off-site concentrations many orders of magnitude below the concentration guides (CG) for uncontrolled areas as listed in Table II, Annex A, DOEM Appendix 0524.

During operation, beam loss in accelerator structures and target areas will give rise to radioactive gases formed by the interaction of secondary particles in air. The principal types of radionuclides generated in this process are well known, and estimates of their potential radiation hazard have already

TABLE I

LAMPF Cooling
Radioactive Water Systems
Volume Estimate

System Designation	Volume Liters	General Use	Potential Tritium Concentration	Estimate Maximum Annual Tritium Production
			Hot, 13 μCi/mL	100 Ci
X02	8100	Targets and beam stops		
X03	8360	Line A beam line magnets through the first bend in each secondary beam line		
X04 & 6*	6950	Switchyard magnets in lines A, X and WNR	Warm, 0.66 μCi/mL	10 Ci
X05	12425	Area A secondary beam line magnets after the first beam		
X07 & 8*	3690	Lines B and C beam line magnets	Contaminated 0.066 μCi/mL	1 Ci
	39525	Total volume of potentially radioactive cooling water		
X01	2280	Service corridor power supplies		
X09	2280	Line B & C power supplies	Cold	None
	4560	Total volume of nonradioactive cooling water		

*Systems X04 and X06 have a common pump.
*Systems X07 and X08 have a common pump.

been made. The predominant radioactive gases and their half-lives thus formed will be: ^{41}Ar ($t_{1/2}$ ~1.8 h), ^{11}C ($t_{1/2}$ ~20 min), ^{13}N ($t_{1/2}$ ~10 min), ^{15}O ($t_{1/2}$ ~2 min). Measurements and calculations indicate the ^{41}Ar emissions to be ~0.1 MPC as exhausted through the LAMPF exhaust stack; atmospheric dispersion will result in concentrations several orders of magnitude below MPC. Radioactive particulates, such as activated dust, are removed by HEPA filters and thus are not discharged to the environment. It is estimated that a few microcuries of noble gases may be released per year.

The LAMPF site also contains an area of CNC-11 effort involving a separate laboratory and several other sample-handling facilities for the group's research program in nuclear chemistry. This program covers a broad range of experimental studies including: cross-sections and mechanisms of reactions induced by pions, muons, and medium-energy neutrons and protons; the decay of spallation-produced nuclides; meson-induced fission processes; and the analysis of fast neutron spectra by radio-activation detectors. Processing of radioactive samples is conducted primarily in four standard radiochemistry rooms in the chemistry wing (D-wing) of the Laboratory Office Building. The wastes are essentially all beta- and gamma-emitters; no significant quantities of alpha-emitters are processed here. Liquid wastes are fed to basement storage tanks for pump transfer to a tank truck for delivery to TA-50. Solid wastes are collected and packaged for burial at TA-54. Other processing is conducted in a laboratory in the Merrimac area (Beam Area A). Liquid radioactive wastes are drained to a neutralization-storage system in the basement below the lab for eventual tank truck transfer to TA-50.

At the Weapons Neutron Research facility two 1.5 x 10^4-L (4 x 10^3-gal) storage tanks are provided for collection of liquid wastes. Provisions are made for pumping into 3.8 x 10^3-L (1 x 10^3-gal) Dumpster transfer tanks which would convey the wastes to TA-50 or pumping to the site sanitary sewer system if radioactivity is negligible.

Best Available Copy

2.9 TA-55, Plutonium Facility

LASL's main plutonium facilities are located at TA-55 in Building PF-4. Plutonium operations at the site involve research and development, oxide production, metal preparation, and metal fabrication work with ^{238}Pu and ^{239}Pu materials. Most of these operations generate residues and waste materials which are sent (along with residues from other LASL plutonium operations) to the Chemical Operations Section.

Materials containing ^{238}Pu are assayed and are either sent to Savannah River for recovery, are placed into the appropriate LASL retrievable-storage facility, or are buried when the ^{238}Pu content of the waste is <100 nCi/g. The ^{238}Pu retrievable limit of <100 nCi/g was proposed by LASL and accepted by DOE/ALO in accordance with DOE Manual Chapter 0511.

In the Chemical Operations Section, all containers of ^{239}Pu material are measured for Pu content by one or more nondestructive assay techniques. Materials that contain more plutonium than the ALO approved discard limit are processed through scrap recovery. Process waste of lower concentrations is sent to retrievable storage. Leached process solids are sent to retrievable storage when the plutonium concentration is <4 g/kg.

Room-trash boxes are monitored by a neutron counter or a low-energy gamma scanner. Those found to be >10 nCi/g are repackaged and placed into retrievable storage. The room trash that is <10 nCi/g is sent to TA-54 for burial. The flow sheet for the processes[2-5] is included as Fig. 5. Liquid discard streams from TA-55 are transferred through special stainless steel waste lines to TA-50 for final treatment.

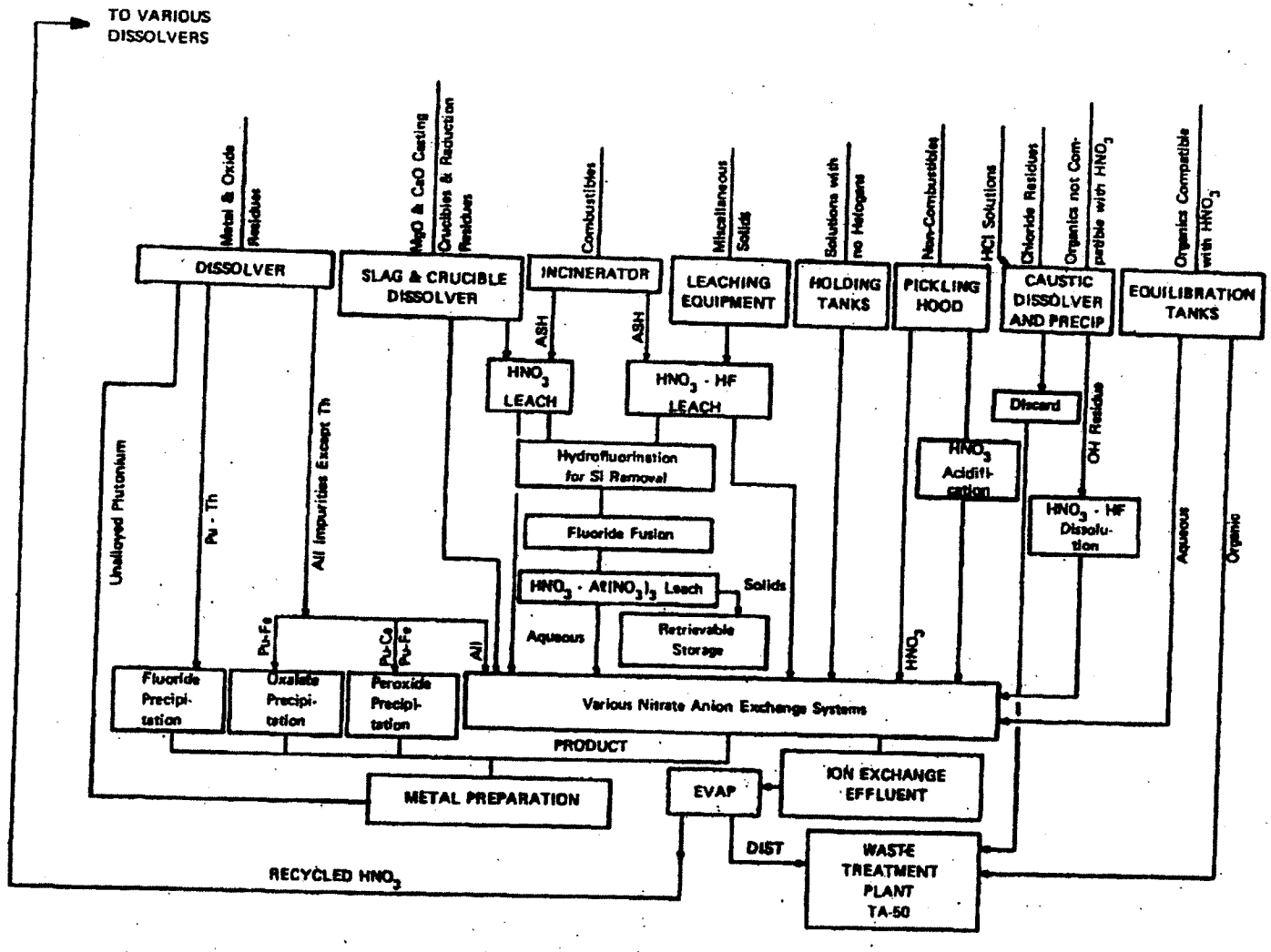


Fig. 5. Flow (top to bottom) of material in TA-55 Plutonium Recovery Plant.

3. Waste Management Facilities

3.1 Locations

Locations of major LASL radioactive waste managment facilities are shown in Fig. 6. This includes liquid waste treatment plants with associated effluent control systems, waste storage or burial locations, and locations of major airborne contamination release points and their associated effluent control systems, that is, filtration units and monitoring equipment.

3.2 Treatment Facilities

Waste treatment facilities at LASL include a 950 L/m (250 gal/m) chemical-treatment and ion-exchange plant at TA-50, a 475 L/m (125 gal/m) chemical treatment plant and a waste-cement fixation plant at DP-257, TA-21, a main neutralization tank-pumping station at TA-3, SM-700, a separate pumping station at TA-21, DP East, and a large number of building storage, neutralization, and/or pumping stations. Figure 7 indicates the sites served directly by the TA-50 plant; DP-257 serves TA-21 only.

3.2.1 TA-50

The TA-50 facility, (see Fig. 8) provides a bar screen, grit chamber, raw waste storage tanks, flash mixers, chemical feeders, flocculator-clarifiers, gravity filters, distributor for CO_2 storage, ion-exchange columns, spent regenerant storage-treatment tank, sludge storage tanks, vacuum filter, and treated waste storage tanks. Chemicals used in the treatment for separation and concentration of alpha-emitting radioisotopes include ferric sulphate, lime, trisodium phosphate, and coagulant aids.

The sludge produced by chemical treatment is dewatered by vacuum filtration to 25-40% solids, placed in lined 215-L (57-gal) steel drums if the transuranium radionuclide activity is >10 nCi/g or ^{238}Pu activity is >100 nCi/g, and forwarded to the solid waste disposal/storage area at TA-54. The sludge in the drums has the appearance of wet clay, but no free water is apparent. Drum liners are 2.3-mm (90-mil) black, cross-linked high-density polyethylene units which will provide, with the steel overpack, a package expected to maintain its integrity in

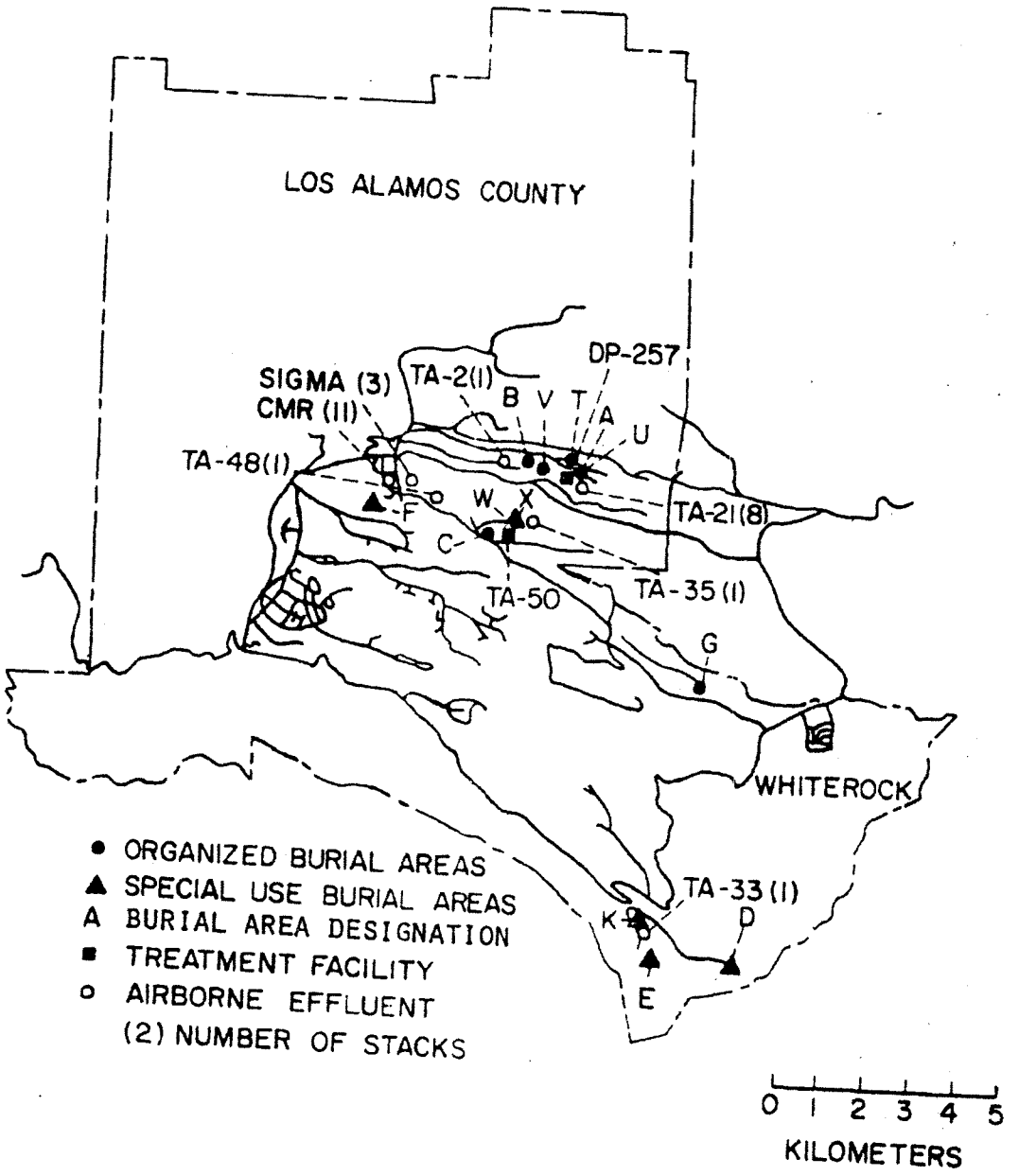


Fig. 6. Waste Management Facilities

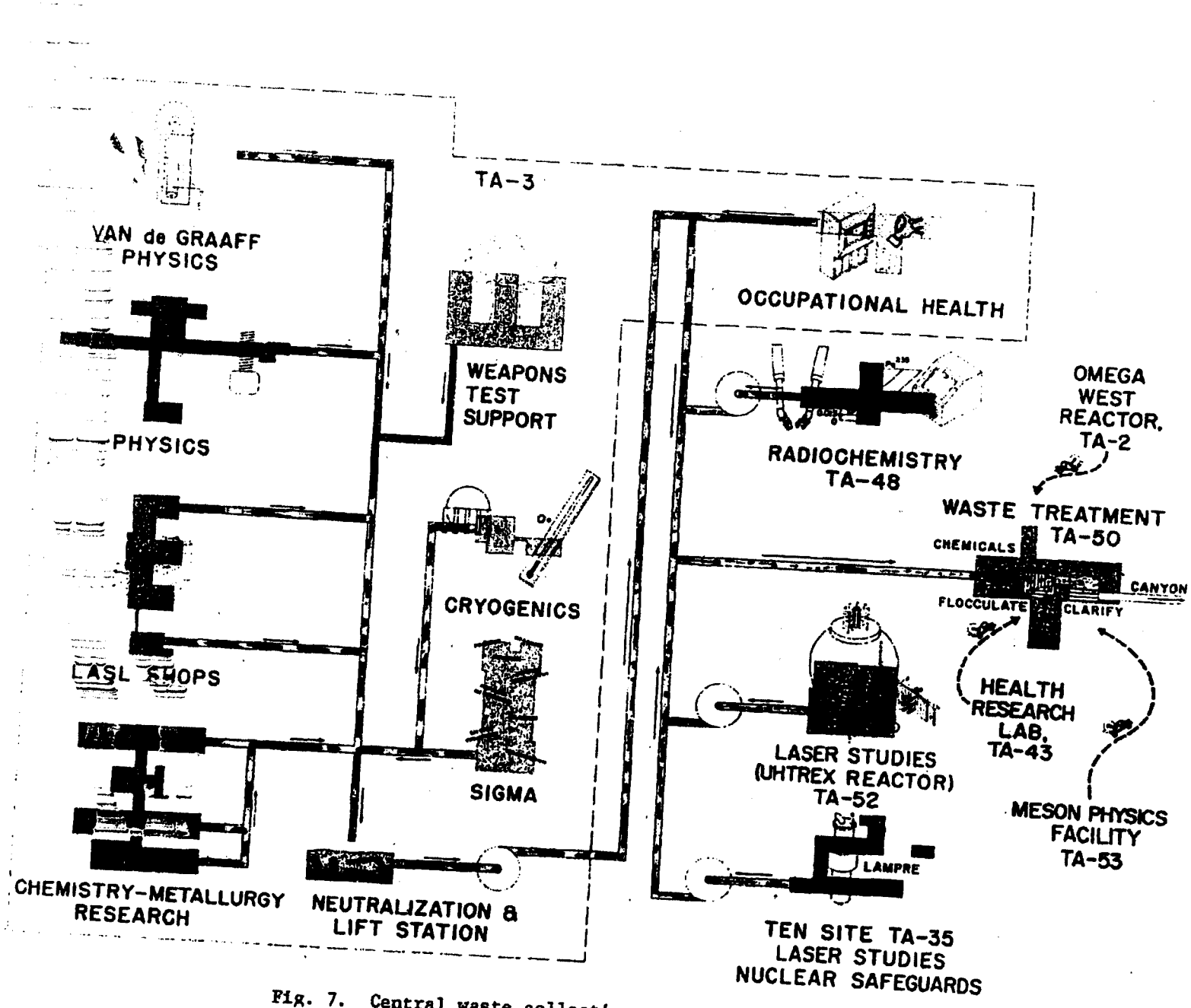


Fig. 7. Central waste collection system discharging to TA-50.

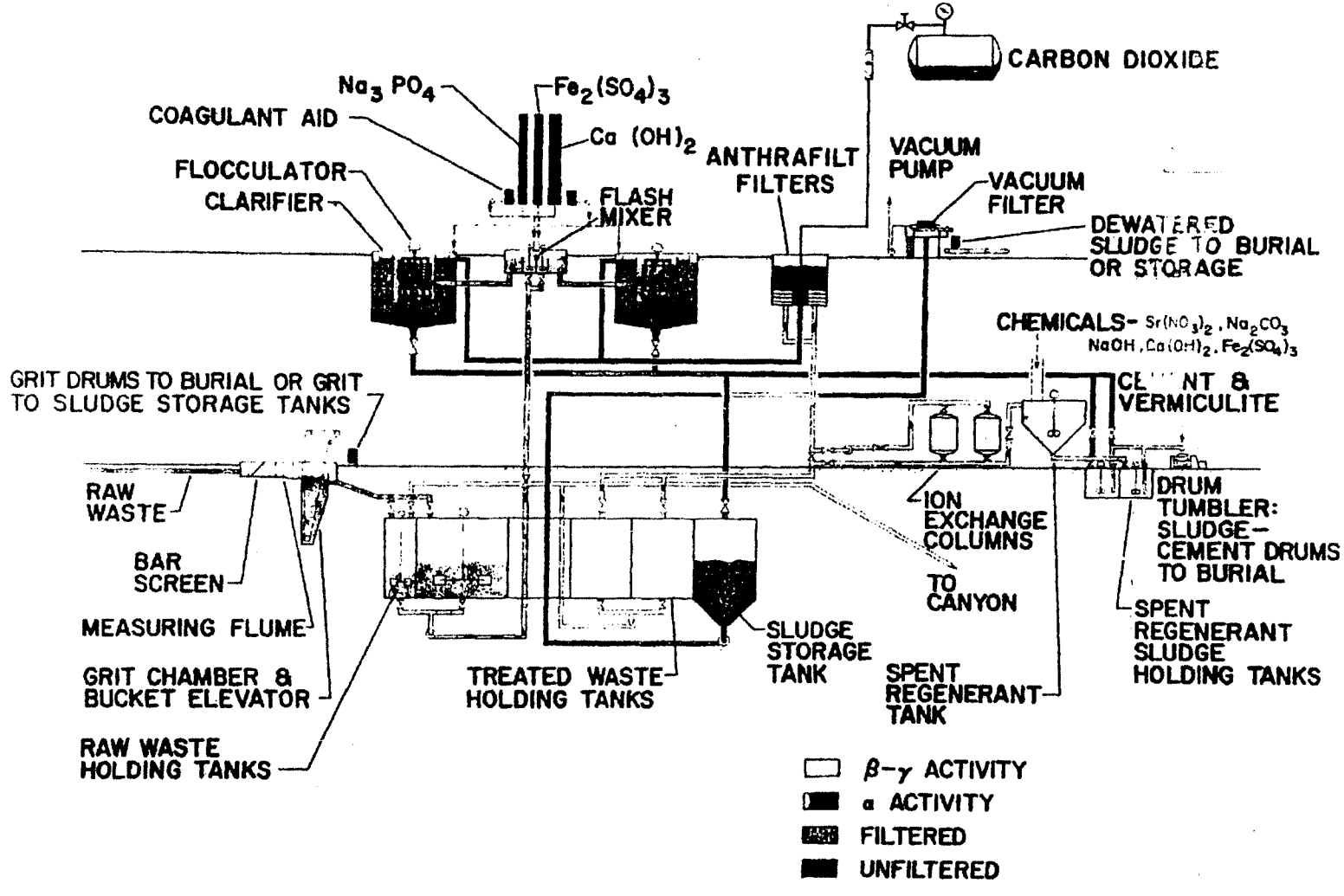


Fig. 8. Contaminated Liquid Waste Treatment Plant, TA-50, schematic flow diagram for normal operation.

storage for a minimum period of twenty years. Dewatered sludges with ^{238}Pu <100 nCi/g are placed in 215-L (57-gal) steel, or 210-L (55-gal) fiber drums lined with 0.125-mm (5-mil) polyethylene. These units are sent to burial at TA-54.

Using past experience as a guide, sludge activity is predicted on the basis of the gross-alpha activity of the raw wastes received. The predictions are subsequently verified by sludge analyses, prior to and following filtration, for ^{238}, ^{239}, ^{240}Pu, and ^{241}Am levels. These isotopes usually represent over 99% of the alpha activity in the waste.

The ion-exchange columns contain high-capacity cation-exchange resins which are used in the hydrogen phase for removal of beta- and gamma-emitting radionuclides. Upon exhaustion, the resins are regenerated with nitric acid. The spent regenerant is collected, chemically treated, dewatered, and analyzed prior to packaging in lined steel or fiber drums for storage or burial. Proportional samples are collected during all phases of the operation and analyzed to determine treatment efficiencies.

In CY 1979 the TA-50 plant treated 4.86×10^7-L (1.28×10^7-gal) of waste containing about 118 Ci of alpha activity. Discharged effluents contained about 6.9 mCi of gross-alpha, as americium with some plutonium. The plutonium radioactivity was approximately 76% $^{239,240}Pu$ with most of the remainder being ^{238}Pu. Uranium radioactivity was negligible.

3.2.2 DP-257

This plant,[7-11] (Fig. 9) provides a bar screen, grit chamber, raw waste storage, flash mixer, chemical feeders, flocculator, sedimentation tank, filter sump, recarbonators, pressure filter and treated waste storage tanks for treatment of low-level radioactive wastes. In CY 1979, 1.6×10^6-L (0.4×10^6-gal) of waste containing about 0.22 Ci of alpha radioactivity were treated. About 0.7 mCi of gross-alpha activity were discharged from this facility.

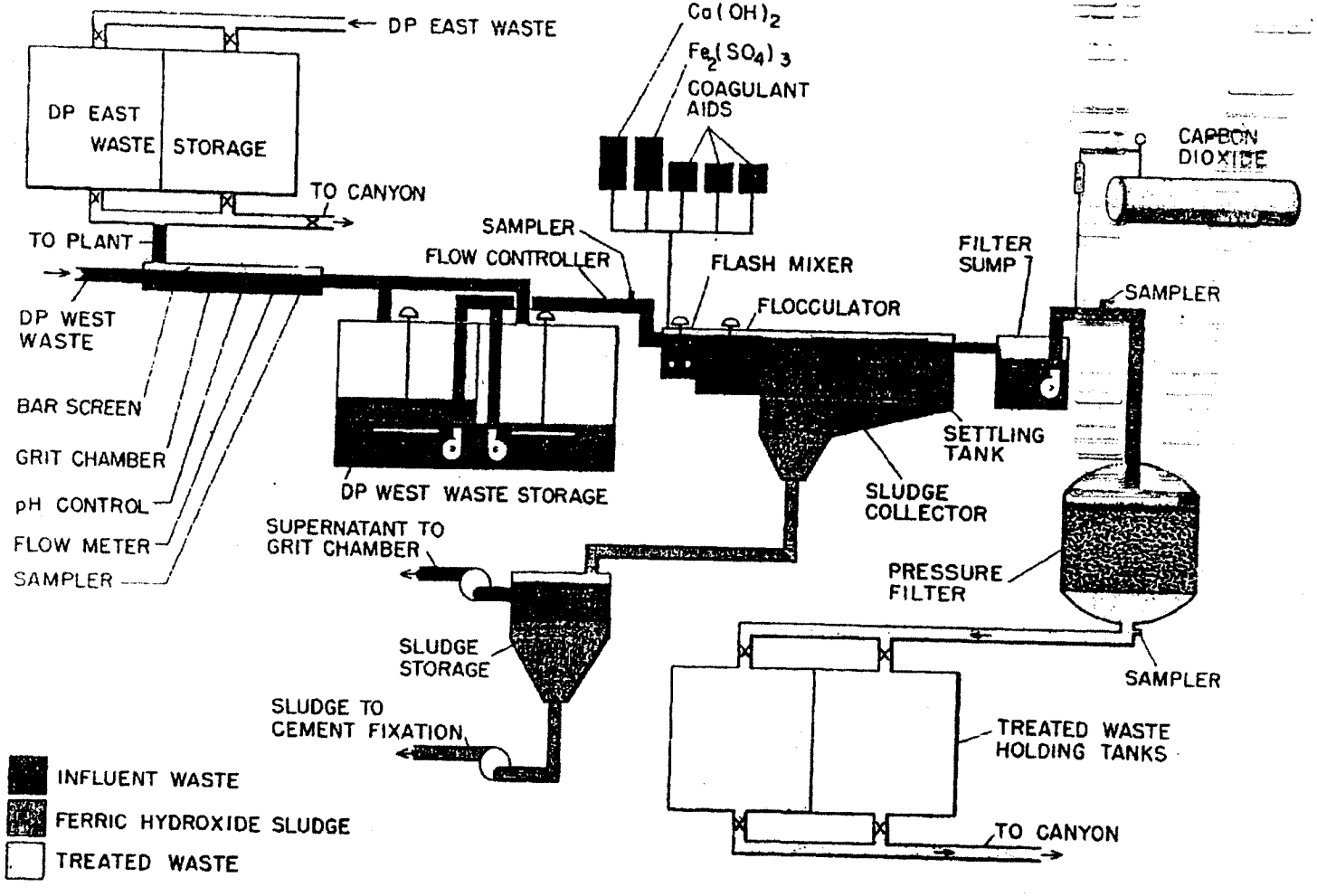


Fig. 9. Contaminated Liquid Waste Treatment Plant TA 21, DP-257, schematic flow diagram.

Other concrete and stainless steel storage tanks are provided at Building 257 for a variety of higher-level batch wastes. Most of these are treated by neutralization, if necessary, in special stainless steel water-cooled tanks. Neutralized and alkaline wastes are transferred to a mixer-equipped feed tank, then fed to a pug mill where cement from a silo is added (Fig. 10). Nonretrievable cement paste is discharged to large shafts in Area T west of the building. The system was modified in late FY 1975 to provide for storage of the paste requiring retrievability (DOEM 0511) in 6.1-m (20-ft) long by 0.76-m (2.5-ft) diam galvanized, welded, corrugated-metal pipe (CMP) sections. Sludge from the chemical treatment plant providing feed to the pug mill system will not usually require retrievability; it will be discharged to asphalt-lined shafts in the tuff in Area T. Appropriate samples are taken at all phases of the operations.

In CY 1979, 9.1×10^4 L (2.4×10^4 gal) of waste produced 124 m^3 (4.3×10^3 ft^3) of cement paste waste containing about 168 Ci of alpha activity, most of which was due to ^{241}Am. Of the 124 m^3 of total paste, 96 m^3 were placed in the CMP sections; this paste contained almost all of the alpha activity.

3.3 Disposal/Storage Facilities

Thirteen separate areas at LASL contain known or suspected subsurface radioactive contamination (Fig. 6). All of these areas are either located in secured areas or are provided with security-type fences, with the exception of Area V.

More information on the LASL radioactive waste disposal areas (areas A, B, C, D, E, F, G, and T) is contained in a 1977 published Source Document report.[12] All of the then available information on the operational history of each area, and its environmental setting, is compiled in this document. All known sources on a given subject were presented despite some apparent contradictions. This study was begun in September 1973.

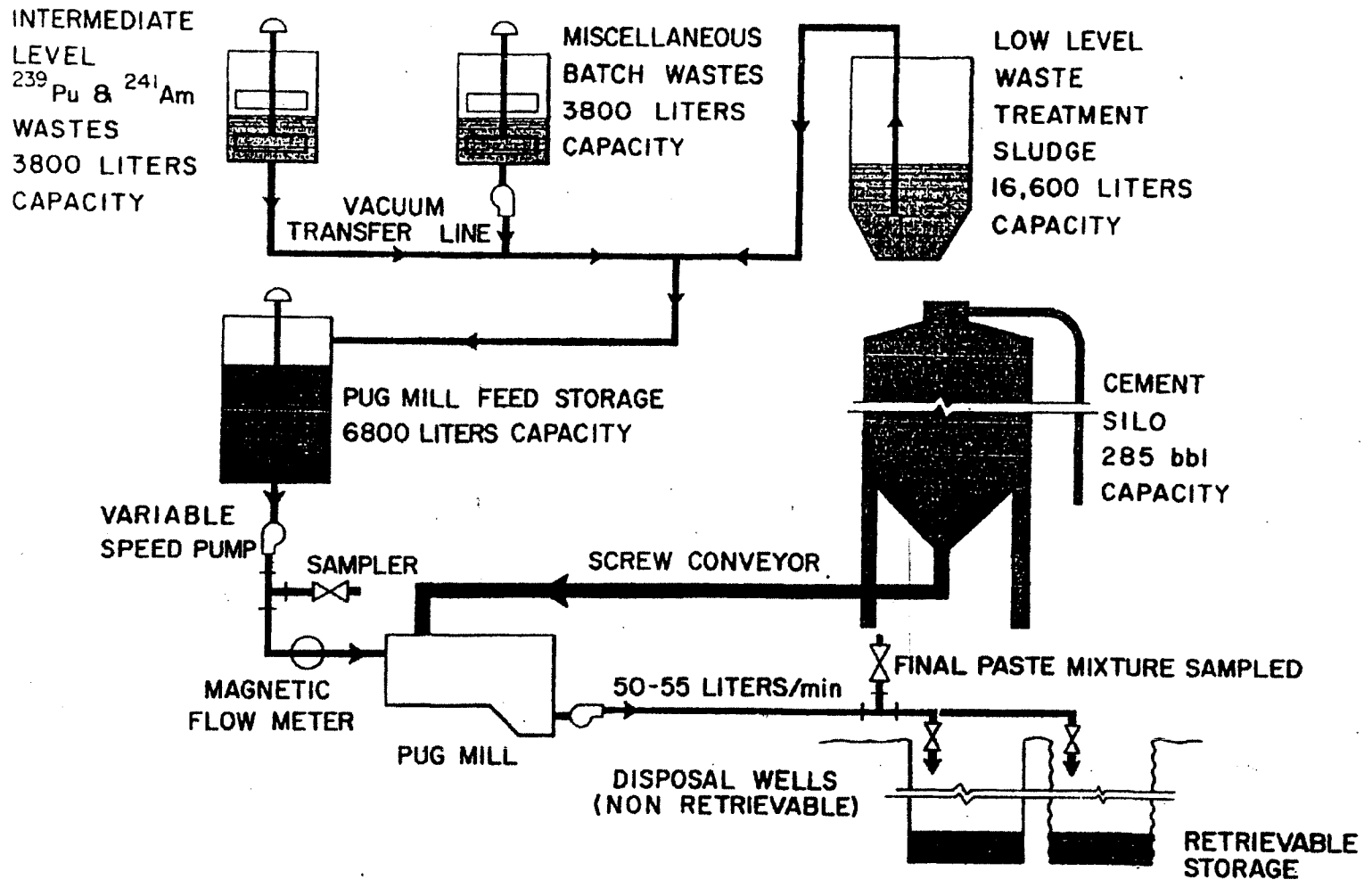


Fig. 10. Contaminated Liquid Waste Treatment Plant TA 21, DP-257, pug mill cement fixation schematic flow diagram.

3.3.1 Area A

Located on the north side of TA-21 between DP-East and DP-West, Area A was opened in late 1944 or early 1945, and closed in 1947. It covers a 5 x 10^3-m^2 (1.25-acre) area and originally contained four pits for burial of TA-21-generated polonium- and possibly some plutonium-contaminated wastes, and two buried tanks (designated the "general's tanks") for storage of solution containing ^{239}Pu. Investigations indicate that these tanks, which contained an alpha activity equivalent to 94 g of ^{239}Pu (about one-half of which is from ^{241}Am), have not leaked. Thru CY 1979, 2.0 x 10^5 L (5.0 x 10^4 gal) have been pumped to DP-257 for treatment; the remainder will be processed in the same manner. A plan to fill the emptied tanks with <10 nCi/g radioactive nonretrievable cement paste from the DP-257 pug mill still is being considered.

Area A was reactivated in April 1969 with the excavation of a fifth pit to be used for burial of debris from TA-21 demolition work. This debris was contaminated with transuranic elements at <10 nCi/g. This pit remained active thru FY 1977 and in May 1978 it was backfilled. It is planned to have the area revegetated.

3.3.2 Area B

Area B is located about 0.4 km (0.25 mi) west of TA-21 and covers 2.44 x 10^4 m^2 (6.03 acres). It was used from 1946 through 1948. The waste in these pits is contaminated with all types of radioactive materials used at LASL. The entire area is estimated to contain no more than 100 g of ^{239}Pu. The fenced area has been divided into two sections. The smaller (about 1/3 of the total) has not been developed further, while the remainder has been covered with asphalt and made available to Los Alamos County for rental spaces for storage of private camper trailers and other types of vehicles.

3.3.3 Area C

Located south of TA-50, Area C occupies 4.8 x 10^4 m^2 (11.8 acres). It contains 7 pits (one of which was designated a

hazardous-chemical pit), and 108 disposal shafts. The pits and shafts contain alpha and beta-gamma wastes. Area C was in use from 1948 to 1969.

3.3.4 Area D

An area covering 1.2×10^2 m^2 (0.03 acre) in the eastern part of TA-33, this site contains two underground chambers which were used for detonation of experimental devices in 1948. The chambers were contaminated with polonium (now decayed) and perhaps a trace of uranium.

3.3.5 Area E

Located in the southern part of TA-33, Area E consists of approximately 2.8×10^3 m^2 (0.69 acre). It contains 6 pits and an underground chamber. The chamber was destroyed by experimentation in 1950 and is probably contaminated with polonium (now decayed) and perhaps some uranium. The pits were in use from 1951 to the mid-sixties. The waste was contaminated by polonium, uranium, and beryllium.

3.3.6 Area F

In 1946 a 730-m^2 (0.18-acre) tract on Two-Mile Mesa east of TA-6 was set aside for a one-time burial of obsolete materials. The pits contain little, if any, radioactive contaminated material. There may be small amounts of ^{90}Sr, ^{137}Cs, and HE contaminated wastes.

3.3.7 Area G

Area G is situated on Mesita del Buey in TA-54 and currently is the main active radioactive solid waste burial/storage site at LASL. The area has been in use since 1957, and is expected to remain active through the foreseeable future. In FY 1977 the active portion of the site was last expanded to a current total area of 2.55×10^5 m^2 (63 acres); future expansions of this area are planned. Burial/storage facilities within the area include pits, shafts, trenches, and pads, all of varying dimensions. A more detailed description of the use of these facilities and of current waste management operatons is contained in the LASL Final Environmental Impact Statement.[1]

3.3.8 Area K

This area is located at TA-33, in close proximity to Area D, and occupies approximately 10 m^2 (.003 acre). A shallow pit in the area was used for disposal of tritium contaminated solutions between 1950 and 1959. Septic tanks in the area have received liquid wastes contaminated with ^{233}U and ^{238}U. One other septic tank received two emergency releases of plutonium-contaminated liquid in 1961. No estimates have been made of the curie content of these various wastes.

3.3.9 Area T

Area T occupies 3.6 x 10^3 m^2 (0.88 acre) and is located on the north side of TA-21 to the west of Area A. Four absorption beds handling DP-West liquid waste from 1945 through 1952 are located there. From 1952 to 1967, the beds were used infrequently for overflows and for wastes which were not treated adequately. In 1968 the area between the absorption beds was chosen for a shaft field for disposal of cement paste waste from the waste treatment plant, TA-21-257. This paste has been pumped into 2.4-m (8-ft) diam by 18.3-m (60-ft) deep disposal shafts. A retrievable storage pit was dug in late 1974 beyond the shaft field in the western portion of the Area. This pit is used to contain the CMP filled with retrievable cement paste.

3.3.10 Area U

This area located on the north side of DP-East, TA-21, covers 1.2 x 10^3 m^2 (0.3 acre) and contains several absorption beds similar to those in Area T. The beds were used for subsurface disposal of contaminated liquid wastes between 1945 and 1968. The primary contaminant was ^{210}Po. No records exist of the amount discharged; however, the short half-life of the material has by now resulted in decay to innocuous levels. During 1953, approximately 2.5 Ci of ^{227}Ac were discharged into these pits.

3.3.11 Area V

This area is located southwest of TA-21, and was used for the disposal of contaminated liquid waste from laundry operations during the years of 1945 to 1961, using absorption beds

similar to those at Area T. The area covers approximately 4 x 10^3 m^2 (1.0 acre) and received wastes containing an estimated total of three curies of ^{89}Sr, ^{140}Ba, and ^{140}La. Small quantities of ^{90}Sr and ^{239}Pu were additionally contained in the waste.

3.3.12 Area W

At this location at TA-35 are two buried 0.20-m (8-in) diam x 30-m (100-ft) long stainless steel tanks. When the LAMPRE reactor was shut down in 1964, the sodium coolant was drained into these tanks and the tanks sealed. Each tank presently contains 100-150 L (25-40 gal) of irradiated sodium known to be contaminated with ^{137}Cs, ^{22}Na, and ^{239}Pu. Work was completed in early FY 1980 to "entomb" the tops of the tanks (at ground level) in a reinforced concrete structure.

3.3.13 Area X

Also located at TA-35, Area X is a 2 x 10^2-m^2 (0.05-acre) tract which serves as the burial site of the containment shell of the LAPRE II reactor decommissioned in 1959 and buried in 1960. The site has since been paved over.

3.4 Description of Effluent Control Systems

3.4.1 Liquid Effluent Systems

At both TA-50 and the DP-257 treatment plants, treated waste streams are sampled continuously, proportional to the flow, using a timer-solenoid arrangement on sample pump discharge lines. The treated waste streams are collected in storage tanks, and after a tank has been filled, a portion of the composite sample is assayed for gross-alpha activity in plant proportional counters. The emphasis in plant operations is removal of a maximum amount of radioactivity because of the concentration of certain radionuclides in the environment; effluent guidelines based on these concentrations are being reexamined. Treatment plant effluent is discharged to Mortandad Canyon from TA-50 and to DP Canyon from DP-257. In FY1979 about 90% of the alpha radioactivity in TA-50 wastes was ^{241}Am; at DP-257, about 98% of the alpha radio-activity was ^{241}Am. The laboratory at TA-50 analyzes the

daily samples for gross-alpha, beta, and gamma radioactivity, and for strontium. In addition, a weekly composite sample is analyzed for similar radiochemical characteristics plus ^{238}Pu, ^{239}Pu, ^{241}Am, ^{137}Cs, uranium, ^{89}, ^{90}Sr, and a number of chemical and physical characteristics such as pH, total solids, total hardness, CN, SO_4, Cl, F, NH_3, PO_4, NO_3, alkalinity, Hg, Cd, Pb, Zn, Cu, Ca, Mg, and Na. Analyses of a monthly composite provide ^{238}Pu, ^{239}Pu, ^{241}Am, ^{238}U, ^{90}Sr, and ^{137}Cs data, as well as Se and As.

Overflow of raw wastes to the environment is unlikely due to the treating capacities of the plants and the storage capacities in the systems. At TA-50, 3.8×10^5 L (1×10^5 gal) of raw waste storage is available. However, should these tanks overflow, the wastes pass to the two 9.5×10^4-L (2.5×10^4-gal) effluent storage tanks. In addition, tanks varying from 1.9×10^4 to 1.9×10^5 L (5000 to 50 000-gal) capacity are located at the facilities producing the wastes.

At DP-257, 1.02×10^5 L (2.7×10^4 gal) of storage are available for wastes from DP-East and about 2.1×10^5 L (5.6×10^4 gal) of storage for those from DP-West.

3.4.2 Airborne Effluent Systems

Approximately 82 stacks discharge gaseous effluents with a potential for radioactive material contamination from various LASL facilities. These stacks are monitored continuously using applicable particulate and/or gas monitoring methods. High efficiency particulate air (HEPA) filters are used extensively to control the emission of plutonium and other particulate radioactive materials. The new tritium research facility at TA-21 is equipped with an oxidizing microsieve exhaust air treatment system that effectively reduces airborne tritium effluent releases.

In each instance where HEPA filters are specified, the system is in-place tested in accordance with ANSI Standarad 101.1. All filters used meet the specification required in the DOE Health and Safety Bulletin No. 306 and military specifications MIL-F-510686, and are installed in accordance with the

recommendations included in ORNL-NSIC-65. Information regarding sample types, sample frequency, sample location, and annual quantities of radioactivity released can be obtained for the years 1973 to present from the 789A/789B/789T forms LASL submits in accordance with DOEM 0513.

3.5 Site Administrative Limits on Effluents

The prevalent LASL philosophy is that radioactivity levels in airborne and liquid effluents should be as low as practicable and in accord with various DOE directives. An extensive monitoring program[13] has shown that environmental levels of radioactivity are well below levels of concern. This program consists of various routine and special purpose monitoring efforts, including collection of air, water, soil, sediment, milk, and biotic samples, and measurement of external radiation levels in the Los Alamos vicinity and at points as distant as 48-64 km (30-40 mi). Results have shown that the levels of radioactivity and concentrations of radiocontaminants are generally about the same as worldwide fallout levels.

All radioactive liquid wastes are managed by Group H-7 of the Health Division. The group has set a derived limit of 50% of the Concentration Guide values for uncontrolled areas given in Table II, DOEM 0524, before onsite release of the treated liquid. In recent years, radiochemical separations have shown alpha activity to be due almost entirely to ^{241}Am, ^{239}Pu or ^{238}Pu, though wastes also contain uranium. In many instances, when time and storage space permit, treated waste streams are recirculated on the basis of the LASL and DOE policies of discharging a minimum amount of radioactivity. Annual averages of alpha activity in liquid wastes discharged to the onsite environment have been less than 5% of the DOEM 0524 values for uncontrolled areas in recent years.

Prior to disposal of property in the townsite, the liquid effluents from TA-43 (Health Research Laboratory) were transported through industrial waste sewer lines to a treatment plant on Acid Canyon. After AEC disposal of land in the townsite and

relocation of the waste treatment plant, the industrial waste sewer line from HRL was disconnected and all drains were connected to the sanitary sewer system. Composite samples of these wastes are collected continuously and analyzed for radioactivity. Concentrations of radionuclides in these liquid effluents have been well below Concentration Guide Units for uncontrolled area. Since FY 1975, procedures for local collection have been initiated to reduce further the quantity of radioactive material released; i.e., liquids known to contain radioactive material are collected in containers located in designated HRL laboratory rooms and filled containers are transported to TA-50 or TA-21-257 for treatment and disposal.

4. Radioactive Waste Disposed/Stored

4.1 High-Level Waste

Not applicable.

4.2 Solid Radioactive Waste Other than High-Level Waste

The actual volumes and activities of solid waste generated and disposed/stored at LASL are submitted quarterly as part of the DOE Solid Waste Information Management System (SWIMS). A summary of the information submitted to SWIMS covering the first three quarters of FY 1980 (9/79 - 6/80) is presented in Table II. The sometimes large variations in waste volumes at LASL are caused by program changes, facility decontamination and decommissioning activities, and general Laboratory area cleanup programs.

During FY 1980, major facility decontamination projects have included continuation of the removal of plutonium-contaminated equipment and materials from the old LASL Plutonium Facility at TA-21, DP-West, the removal of contaminated exhaust air washers from Building TSL-7 at TA-35, and the removal of the LAMPRE reactor facility from Building TSL-2 at TA-35. Waste from these projects has accounted for 48.5% of the total buried waste volume (2027 m^3 out of 4177 m^3) and 61% of the total stored waste volume (571 m^3 out of 937 m^3) during the first nine months of FY 1980.

A somewhat larger volume of "routine" buried and stored wastes also has been generated this FY. A Laboratory-wide general cleanup campaign has resulted in several hundreds of cubic meters of additional nonretrievable waste for burial. Higher levels of plutonium and americium contamination in liquid wastes received at TA-50 for processing (wastes originating at the new TA-55 Plutonium Facility) have resulted in all of the chemical treatment sludge as well as a new waste stream - cement paste solidified in drums - being retrievable TRU-waste.

Compaction of nonretrievable laboratory trash-type wastes has continued, with 524.3 m^3 of this waste reduced to a

burial volume of 106.1 m^3 over the first nine months of FY1980. This represents a volume reduction factor of 4.95:1 for this waste stream.

Table II

LASL Waste Buried/Stored as Reported to SWIMS

First Three Quarters, FY1980

Waste Category	Buried (B) Stored (S)	Volume (m^3)	Radio-activity (Ci)[1]	Radionuclide Content (g) Pu	Am	U
1 - TRU	S	932.3	36950	25689	39.3	76040
2 - U/Th	B	875.5	1.1			2879090
3 - MFP	B	407.4	0.4			
4 - MAP	B	97.8	1330			
5 - H-3	B	41.9	1942			
6 - β/γ TRU	S	4.6	410	302.9		349.9
7 - Alpha	B	2754.8	105	2.9	<0.1	24552

Notes: [1] Total activity of all contaminants.

5. Plans and Budget Projections

5.1 Interim Storage of High-Level Liquid Wastes

Not applicable.

5.2 Long-Term Storage of High-Level Liquid Waste

Not applicable.

5.3 Management of Low- and Intermediate-Level Liquid Waste

5.3.1 Summary and Milestones

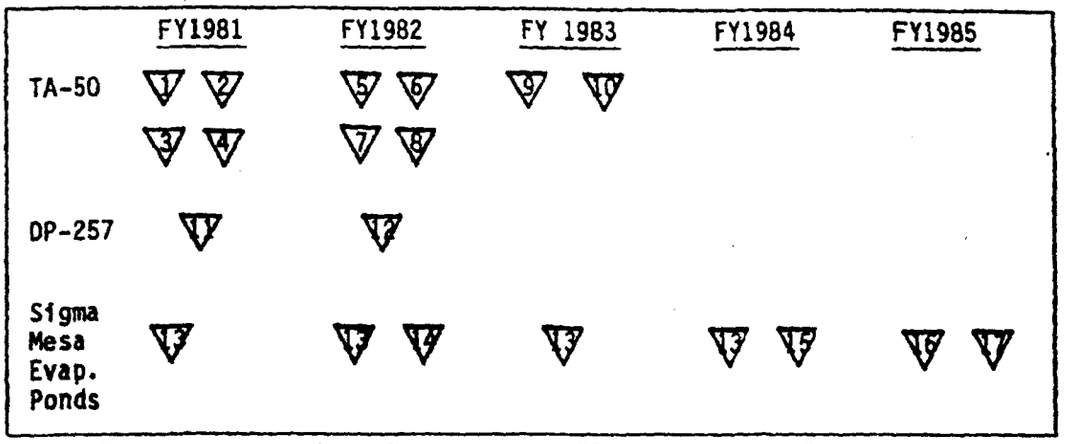
During the next ten years, the emphasis will continue on reduction of liquid discharges and improvement of radionuclide removals from waste streams (Fig. 11).

A study to revise the entire liquid waste management system at LASL was completed in 1975. The study considered pretreatment of wastes at TA-3, TA-43, TA-48, and TA-53, as well as upgrading of the existing plants, an improvement of the waste collection and transmission pipelines, and removal of all abandoned sewers and structures in the liquid waste management system. Funds have been received for the radioactive liquid waste collection system improvements (FY 1978 line item - $12.5M). Design of the double contained - fully monitored collection system has been completed. Plans for removal of abandoned radioactive wastes lines are also underway.

CP&D funds were requested for the treatment plant upgrading and such funds were received in early CY 1977. An engineering firm was retained to prepare Title I drawings for the project which is now scheduled as a FY 1981 project. This work has been completed and FY 1979 PE&D funds were renewed for completion of Title II.

Emphasis in treatment process improvements at TA-50 and DP-257 is directed toward minimum release of radioactivity to the environment and compliance with effluent guidelines established by the Environmental Protection Agency (EPA) under the Water Pollution Control Act, Amendments of 1972 (PL 92-500) and of 1977 (PL 95-217) (now cited as the Clean Water Act). Emphasis in treatment process improvements is directed toward improvement in

Fig. 11. Planning Guide for Management of Radioactive Liquid Wastes



1. Begin construction of new waste collection system for sites served by TA-50.
2. Title II design of TA-50 Treatment Plant Improvements.
3. Start construction of remote monitoring-control system for waste facilities.
4. Start construction of treatment facility improvements at TA-50.*
5. Remove Townsite and Canyon abandoned contaminated sewers and structures.
6. Complete construction of the new waste collection system.
7. Begin removal of technical area abandoned contaminated sewers and strucures.
8. Complete installation of the monitoring-control system.
9. Complete removal of abandoned technical area contaminated sewers and structures.
10. Complete construction of plant improvements at TA-50.*
11. Begin construction of the pipeline from DP-257 to TA-50.
12. Complete construction of the pipeline from DP-257 to TA-50.
13. Continue operating pilot evaporation pond.
14. Design full scale evaporation ponds on Sigma Mesa.
15. Construct full scale evaporation ponds on Sigma Mesa.*
16. Complete construction of evaporation ponds.*
17. Begin operating evaporation ponds.*

---

* Accomplishment is dependent upon availability of line item funding (Evaporation ponds - FY 1984).

quality of liquid discharges at a minimum cost in energy consumed. The engineer for the project has recommended the following processes:

- Upgrading of the chemical treatment plants (prefiltration, addition of powdered activated carbon, weak cation exchange, solar heated wiped-film evaporation of high-solids process wastes at TA-50).
- Transfer of treated or low radioactivity wastes from TA-21-257 to TA-50.

A third project, solar evaporation of all treated wastes is planned for the purpose of ceasing all discharge of any radioactive waste to the environment. Installation of evaporation ponds for elimination of effluent is now dependent on FY 1984 line item funding.

Tritiated water is being generated from the meson physics accelerator operation. Management methods were developed to handle these wastes at the site and the plans were implemented with MP Division funding. However, the cooling systems have leaked so badly that the large volumes of waste have been routed to the sanitary lagoons at TA-53.

In accordance with the retrievability requirements of DOEM-0511, the cement paste at TA-21-257 is being placed in burial shafts if TRU activity is below 10 nCi/g, and in 0.76-m (2.5-ft) diameter by 6.1-m (20-ft) long corrugated metal pipe lengths if TRU activity exceeds 10 nCi/g. CMB-11 has transferred it operations to TA-55 and ^{241}Am-^{239}Pu wastes are no longer generated at TA-21. Cement paste with TRU activity >10 nCi/g is now the result of cleanup operations only.

5.3.2 Expected Accomplishments in FY 1981

A major line-item project will be continued in FY 1981. This project will include replacement of the existing sewers which transport wastes to TA-50, abandonment of the neutralization-pumping station TA-3-700, construction of safe, efficient stations for loading and unloading tank trucks, and removal of all abandoned contaminated sewers and structures. The new sewer system will be double-encased and continuously monitored for

leakage. The project will also include the design, fabrication and installation of an electronic display system for the operation of the entire waste collection and transportation system; it will provide for upgrading of existing storage tanks and monitoring for leakage from these tanks. Title II drawings for the upgrading of the waste treatment plants should be completed this year.

A major line-item project may be initiated in FY 1981. This project will result in improvements at TA-50 and DP-257 so that pollutants in liquid discharges to the environment can be reduced.

5.3.3 **Expected Accomplishments in FY 1982**

The construction of the new waste collection system for sites served by TA-50, the removal of the abandoned contaminated lines and the installation of the remote monitoring-control system should continue through FY 1981.

Title II drawings should be started and completed for the solar evaporation ponds using FY 1982 PE&D funds. The construction of a pipeline from TA-21-257 to TA-50 should begin.

5.3.4 **Proposed Program and Expected Accomplishments for FY 1983 Through FY 1987**

Construction will begin on a major line-item project in FY 1984, which will result in the elimination of liquid discharges from TA-50 and DP-257 by on-site evaporation in engineered solar ponds.

During this period, a number of major accomplishments will be completed. A new, monitored, double-encased industrial waste system will deliver liquid wastes from TA-3, 48, and 55 to the treatment facility at TA-50. All waste storage tanks in the system will be monitored. All abandoned contaminated sewers and structures will have been removed and sent to burial/storage at TA-54. The pipeline from TA-21-257 to TA-50 should be completed during this period.

5.3.5 Annual Budget Projections

Budget projections for management of low- and intermediate-level liquid wastes are as follows (in thousands of dollars):

Year	Operating Costs	Capital Equipment	Construction
FY 1981	1400	80	7000
FY 1982	1550	90	6000
FY 1983	1650*	90*	5500
FY 1984	1750*	95*	1500
FY 1985	1750*	95*	500
FY 1986	1750*	95*	200
FY 1987	1750*	95*	200

Much of the funding indicated for capital equipment and construction for FY 1982-85 is related to major modifications and improvements in liquid waste management at TA-2, 3, 35, 43, 48, and 53. The projects will provide systems which will meet the EPA goals for 1985. In addition, the funds will permit improvements of the environment through the removal of previously abandoned sewers and structures. The major concepts included in the improvement program are double-containment sewers, safe hauling, inspectable storage, and elimination of the discharge of treated liquid wastes through evaporation.

5.4 Management of Solid Waste Contaminated with Radioactivity

5.4.1. Summary and Milestones

The primary effort of the LASL solid radioactive waste management program will continue to be the operation of all radioactive waste disposal/storage areas at the LASL in an efficient, effective manner. Included in these operations is the retrievable storage of transuranic waste, controlled burial of all other LASL-generated radioactive wastes, generation of waste disposal records and preparation of necessary reports, maintenance of current and past disposal/storage areas at the LASL, and development of improved waste packaging, handling, and disposal/storage technologies.

* In FY 1982 Constant Dollars

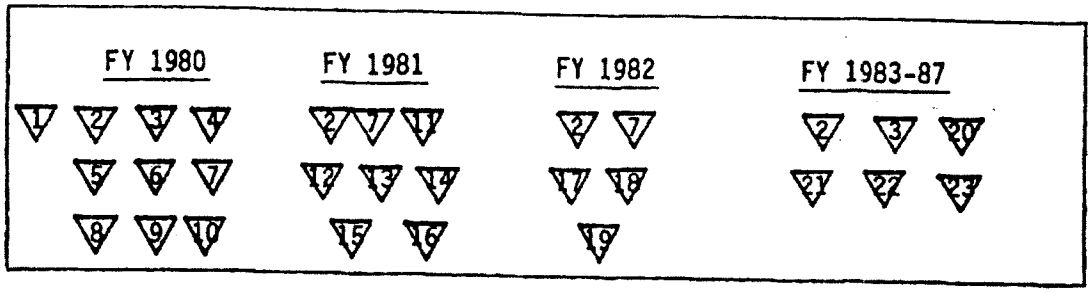
LASL Waste Management operations will continue to be upgraded such that all Federal Government criteria and regulations for burial/storage sites are met. Waste volume reduction through the implementation of waste treatment technologies will continue to play an ever increasing role in the LASL Waste Management effort. Continuing emphasis will be placed upon control of radioactive waste generation via direct interaction with waste generators. Major goals include effecting a reduction of the volume of radioactive waste generated, better segregation of wastes, and effecting improvements throughout the LASL waste handling system through implementation of documented Waste Management policies and procedures. Specific major program milestones to be accomplished in attaining overall program goals are identified in Fig. 12.

5.4.2 Expected Accomplishments in FY 1981

Radioactive waste burial and storage operations will continue to be accomplished in a manner meeting all applicable standards. In particular, all programs required to bring LASL operations into compliance with the anticipated Final DOE Burial Site Criteria will be initiated to the extent possible with existing personnel during the FY. Another major project will be the completion of installation of components in the Size Reduction Facility (SRF) building and initiation of cold test operations of the facilities.

Shallow land burial of LASL low-level solid waste will continue. Burial operations will be in compliance with the "Initial Disposal Criteria for DOE Low-Level Solid Waste," LASL guidelines, and other applicable standards. A Waste Mangement operations QA/QC program will be maintained for all appropriate waste burial activities. The volume of buried waste is estimated to be 6200 m^3 (220 000 ft^3) of which only about 2800 m^3 (98 840 ft^3) is expected to be routine Laboratory-generated waste. The variation depends upon the extent of decontamination/decommissioning of excess contaminated LASL facilities that can be accomplished. Decontamination work at the old LASL Plutonium Facility, DP-West, will continue into the early part of this FY.

Fig. 12. Planning Guide for Management of Solid Wastes Contaminated With Radioactivity.



1. Complete program to upgrade LASL disposal site operations to meet Initial DOE Criteria.
2. Excavate new burial pit(s).
3. Construct new above ground TRU-waste storage pad.
4. Close out use of TRU-waste storage pit (pit 9).
5. Construct and begin use of metal-lined disposal shafts for high activity H-3 wastes.
6. Purchase computer and begin programming for Waste Management data base operations.
7. Continue placement of historic waste records into computer system.
8. Size Reduction Facility construction and begin components installation.
9. Revise/reissue Waste Management procedures at LASL.
10. Complete design and begin construction in TA-54 access road improvement project.
11. Initiate programs for compliance with anticipated Final DOE Burial Site Criteria.
12. Begin use of second above ground TRU-waste storage pad.
13. Complete programming of new computer for LASL Waste Management data base operations. Transfer historic computer records into new system.
14. Complete installation of SRF components.
15. Initiate and hopefully complete cold testing of SRF system.
16. Complete construction on TA-54 access road improvements project.
17. Continute implementation of Final Burial Site Criteria.
18. Initiate hot operations in SRF.
19. Possible major revegetation/erosion control program at LASL disposal sites.*
20. Complete implementation of Final Burial Site Criteria.
21. Complete long-term stabilization of LASL burial grounds.
22. Complete work on historic waste burial records.
23. Possible design/construction of a LASL Waste Treatment Facility.

---

* Accomplishment is dependent upon receipt of requested Waste Management GPP or line item funding.

One new burial pit, and appropriate burial shafts will be provided.

Facilities for retrievable storage of TRU waste at LASL will continue to be provided and operated. Storage of waste will be initiated on the new (second) TRU waste storage pad constructed during the past FY. Additional storage facilities for β/γ TRU waste likely will be required, although the extent to which these new facilities are needed will depend upon whether any significant quantity of Sandia National Laboratory-generated TRU hot-cell wastes are received at LASL. No additional planning work presently is anticipated regarding the possible storage of irradiated U/Pu fuel pins pending program management decisions on this material. A QA/QC program will continue to be maintained by LASL Waste Management personnel for all appropriate storage-related functions and materials. An estimated 850 m^3 (30 000 ft^3)of TRU-waste is anticipated to be placed into retrievable storage this FY.

Compaction of nonretrievable trash-type waste prior to burial will continue as a major technique to reduce the volume of waste for disposal. At current annual waste generation rates, an estimated 900 m^3 (31 800 ft^3) of waste will be reduced to a burial volume of less than 180 m^3 (6350 ft^3), for a projected overall volume reduction of about 5:1.

Waste Management personnel will continue to interact closely with LASL waste generators, including both operations and decontamination/decommissioning personnel, to assure proper waste handling and disposal procedures, to reduce waste volumes, and to resolve all special waste problems. At the LASL, this interaction is considered to be a vital part of maintaining and upgrading the overall Waste Management effort.

LASL Guidelines, and more recently the Initial DOE Criteria, require continuing maintenance of burial site facilities, equipment and conditions, and restoration of a site following completion of waste disposal activities. Appropriate maintenance and restoration activities at the LASL disposal sites will combine safety considerations with essential disposal functions,

and assure adequate containment within the burial/storageenvironment. Following the completion of burial or storage activities in a portion of the disposal site, revegetation of the area and installation of disposal facility markers (monuments) is accomplished. Site revegetation requirements at the LASL include re-establishment of proper surface drainage patterns, the spreading of topsoil over the area, followed by applications of seed and fertilizer. Work of this nature will be restricted to essential work at Area G only this FY due to funding limitations.

Detailed computer records will continue to be maintained for all currently buried and stored radioactive waste at LASL. In addition, work will continue to enter historic written records of waste disposal activities into the computer system. This will provide a readily accessible waste disposal data base. Data will continue to be assessed in order to meet all applicable DOE reporting requirements (e.g., SWIMS). In order, however, to meet these goals, a major FY 1981 project will be the completion of work to make fully operational a "stand-alone" computer system. This effort is necessary because the LASL Computer Center will no longer be available for maintaining large data bases.

The only presently expected Waste Management GPP-funded project this FY at TA-54, Area G will be the completion of the TA-54 access road work initiated in FY 1980. This project involves the widening, general improvement, and paveing of the approximately 2.6 km (1.6 mi) access road to Area G.

Reduction in volume of bulky TRU-contaminated wastes as, for example, gloveboxes, ductwork and process equipment, is considered to be an important step in the disposal of these wastes. Significant cost savings from waste size reduction will result from lower interim storage, packaging, transport, and repository disposal volume requirements. Planningand design work was initiated in FY 1977 for a prototype facility at LASL in which bulky TRU-wastes can be reduced in volume by a remote cutting operation. This work will continue in FY 1981 with the

completion of installation of the SRF process components followed by the extensive "cold" testing of the facility operations. It may be possible to initiate "hot" operations in the SRF by late in the FY.

DOE Program Guidance calls for a continuing emphasis on improving overall operations, extending burial ground life, reducing waste volumes, affirmation of 20-year retrievability of stored TRU-wastes, and other tasks. To meet these programmatic goals will require additional staff to provide operational technical support. Appropriate study and technical evaluation of current practices and conditions will be essential in initiating any significant additional upgrading of the LASL Waste Management operations. Needed work includes evaluation of current operational problems and practices, monitoring and testing setup, data collection and evaluation, and as necessary, implementation of improved procedures, operational practices, and/or facilities. Initiation of this work in FY 1981 will be possible only if additional funding is made available.

5.4.3 Proposed Program and Expected Accomplishments in FY 1982

5.4.3.1 Current Budget Level

At the requested current budget level of $1080K in FY 1982 all of the ongoing programs described in FY 1981 will continue. In addition, funding is provided for one additional staff person to initiate a program of disposal operations upgrading studies. Waste volumes anticipated for burial and storage this FY are 6900 m^3 (244 000 ft^3) and 625 m^3 (22 000 ft^3), respectively. Continuing operations to properly dispose of nonretrievable waste will require excavation of one new burial pit and numerous shafts. Additional lined shafts for high-activity tritium waste will be needed. Additional cask storage facilities for ^{238}Pu/^{233}U wastes and for β/γ TRU-wastes also will be needed this FY.

Waste burial/storage operations will be in compliance with the DOE Initial Criteria, and with the addition this FY of disposal operations technical support funding, considerable progress is expected toward compliance with the DOE Final Burial

Site Criteria. Studies to affirm the 20-year retrievability of stored TRU-wastes will be initiated. Storage facility and/or waste packaging modifications will be implemented as required. Planning for site upgrading and remedial work at old waste burial areas also will be begun.

Processing of TRU-contaminated gloveboxes from the old LASL plutonium facility will begin in the Size Reduction Facility.

5.4.3.2 **Enhanced Level Funding**

At the enhanced level, additional fund is identified for site maintenance/restoration work and for o ions upgrading studies. Work to improve conditions in some burial sites would be begun this FY. Specific tasks would in e the removal of areas of surface contamination and/or the add n of backfill material, drainage/erosion control improvement revegetation, installation of burial facility markers, anc er possible actions. Assistance in the area of technical port studies would be obtained from other LASL organization /or outside consultants. This would accelerate the implemer n of operational improvements and consequently the LASL cor ce with the DOE Final Burial Site Criteria.

5.4.3.3 **Minimum Level Funding**

At the minimum level, all basic operat aspects of the LASL waste burial/storage program would con e as required. However, work involving TRU-waste size re ion would be reduced to a level that only some limited explorat type investigation would proceed. Also, support for work i site maintenance/restoration would be reduced to the minim required for operational safety and containment. Work su as monument installation and revegetation over filled burial rage facilities would be delayed to a later time, when ts would be higher. The elimination of technical support st y work would mean that little, if any, progress could be made t ard implementation and compliance with the DOE Final Criteria.

5.4.4 Proposed Program and Expected Accomplishments for FY 1983 Through FY 1987

Waste burial/storage operations will be continued in the most efficient manner possible. Annual volumes of generated, buried, and stored waste during theis period are projected below.

WASTE VOLUMES (m^3)

Category	FY1983	FY1984	FY1985	FY1986	FY1987
TRU-generated	565	565	565	565	565
Other-generated	8500	7800	7080	7080	7080
TOTAL	9065	8365	7645	7645	7645

Category	FY1983	FY1984	FY1985	FY1986	FY1987
TRU-stored	450	450	450	450	450
Other-buried	7820	7120	6400	6400	6400
TOTAL	8270	7570	6850	6850	6850

The volume projected for waste burial in each of these years is representative of a continuing facilities decontamination/decommissioning program at LASL during the period which will generate very large waste volumes. Very little of this waste, however, is anticipated to be TRU waste. A major project beginning in FY 1982 and continuing through FY 1983 will be the removal of the old contaminated sewer system. This large waste volume is expected to require excavation of two burial pits this FY.

Waste compaction-baling operations are expected to continue throghout this period with the reduction annually of about 850 m^3 of waste to a burial volume of about 170 m^3. Operations of the size reduction facility are expected to continue with the volume reduction of any appropriate currently generated waste as well as some previously generated waste. An estimated 170 m^3 of waste is currently projected as being reduced to a storage volume

of approximately 55 m^3 annually. Volumes treated may, however, be substantially larger once this operation has been demonstrated. Efforts also will continue with waste generators to minimize the volumes of waste generated.

Pending the receipt of at least current level funding, it is planned that full implementation of the anticipated final DOE burial site criteria will be accomplished by the end of FY 1987. The operations technical support program is planned to expand somewhat during this period with additional staff. All programs initiated in previous years will continue as required, particularly in areas of general site and operations upgrading, and the conversion of historical disposal records into the computer-based system. This latter program with continued funding should be completed during this period.

A current DOE Headquarters milestone scheduled for FY 1987 completion is the long-term stabilization of LASL burial grounds. Current needs and alternatives for this work are being identified through a LASL Burial Grounds Evaluation program. However, while some LASL burial grounds contain only low-level waste, others contain a "mix" of previously buried low-level and TRU waste. In these latter sites, until a decision regarding exhumation (retrieval) is made, work relating to long term stabilization of these areas may be delayed. The earliest that this decision is expected, following completion of the NEPA process, is FY1985. Actual exhumation operations, if deemed necessary, could take fifteen or more years to complete. Work is planned to begin in FY 1983, however, to upgrade old burial areas through the removal of surface contamination, filling of some slumps, revegetation, installation of pit/shaft markers, etc.

It now is planned that all TRU-waste generated at LASL through FY 1987 will be placed into on-site retrievable storage facilities as opposed to there being any possibility of shipment to a DOE repository. Due to the lack of a schedule for repository availability, work at LASL to develop requirements and methods of retrieval, treatment and off-site transport for stored

TRU-wastes presently is planned to continue only as required for the Evaluation program above. No specific milestones are now projected for this work. Preliminary planning and design work was completed in FY 1979 on a LASL Waste Treatment Facility. Major treatment processes identified in this facility include controlled-air incineration, ash fixation, size reduction, and electropolishing. Currently as both the need for and the funding status of this proposed project are undefined, no projections or further scheduling of construction/startup can be made.

5.4.5 Budget Projections

Budget projections for the management of radioactively contaminated solid wastes are as follows (in thousands of dollars):

Year	Operating Costs	Capital Equipment	Construction
FY 1981	$ 845	$ 60	$ 300
FY 1982			
Current	$1080	$ 60	$ 1000
Enhanced	$1130	$ 60	$ 1000
Minimum	$ 860	$ 25	$ 1000
FY 1983	$1150*	$ 60*	$ 1000*
FY 1984	$1260*	$ 60*	$ 1000*
FY 1985	$1260*	$ 60*	$ 1000*
FY 1986	$1260*	$ 60*	$ 1000*
FY 1987	$1260*	$ 60*	$ 1000*

These costs are for operation of the storage-burial area only and do not include costs borne by waste generators, such as packaging, handling and on-site transportation, or the costs of Waste Management research and development programs. All of the above funding presently is obtained from DOE/ONWM under the task title of Interim Waste Operations.

Capital equipment is required for this program in order that LASL waste handling and disposal needs can adequately be met. Equipment needed includes replacement items and new equipment to modify the LASL operations to meet DOE criteria and to

* In 1982 constant dollars; based upon Current Level Funding.

satisfy new LASL waste handling requirements. Specific items generally include new and replacement equipment for waste handling, facilities maintenance, site/waste security, environmental monitoring, personnel safety, waste treatment, and records keeping.

Construction projects in FY 1981 totaling $300K are planned to include modification to a laboratory facility needed by waste burial site monitoring/surveillance personnel, and modification to the liquid waste treatment system at TA-50, needed to significantly reduce the volume of TRU-waste now generated at this facility. Currently identified FY 1982 projects include the installation of a water line to TA-54 (project previously deferred several times), revegetation and drainage control work at waste treatment and disposal sites, and several small site improvements projects.

5.5 Management of Airborne Radioactive Waste

5.5.1 Summary and Milestones

The principal sources of airborne radioactive emissions at LASL in 1979 were the accelerator operations at TA-53 (activated gases of carbon, nitrogen, and oxygen), the reactor research operation at TA-2 (radioactive argon), the various tritium handling operations at TA-3, -21, -33, -35, -41, and -53 (tritiated water vapor), and the chemistry and metallurgy operations at TA-3-29 (plutonium dioxide). Other potential sources are the radiochemistry operations at TA-48, the decontamination operations at TA-50, and decommissioning at other sites. Only a few of the 82 stacks monitored at LASL ever exceed the Maximum Permissible Concentrations-air (MPC_a) on an annual average at the point of release. This very conservative criterion sometimes used by DOE ensures that concentrations at locations where people actually are remain orders of magnitude less than MPC_a. During CY 1979 radionuclide concentrations exceeded MPC_a at the point of release at the Omega Reactor (TA-2-9), tritium operations and facilities at TA-3-16, TA-3-34, TA-21-209, TA-33-86, TA-35-2, TA-41 (stack FE-4), and the chemistry operations at TA-3-29 (Wing 3). Levels from decontamination operations at TA-50 and

from the accelerator operations at TA-53 also exceeded MPC_a at the point of release. All other annual concentrations were below applicable MPC_a guides for uncontrolled areas at the point of discharge.

Milestones in the airborne radioactive effluent program are shown in Fig. 13. Proposed plans for controlling airborne releases from the facilities mentioned above and from several lesser sources are addressed in Fig. 13.

5.5.1.1 TA-2-9, Omega Reactor

The quantity of ^{41}Ar generated and released depends on the amount of air passed through the high neutron flux of the thermal column. A certain minimum air flow is necessary to reduce potential occupational exposures. Operational procedures keep the volume of exposed air to a minimum. No additional effluent treatment system is feasible or planned at this time.

5.1.2 TA-33-86, Tritium Facility

Funding has been requested for a new tritium facility to replace TA-33-86. This facility will provide triple containment and will be capable of cleaning up accidental spills into the two outer containments. The cost is estimated to be $4.1 M. Detailed design (Title II) was completed in FY1980. If construction begins in FY1981, startup will be in FY1983.

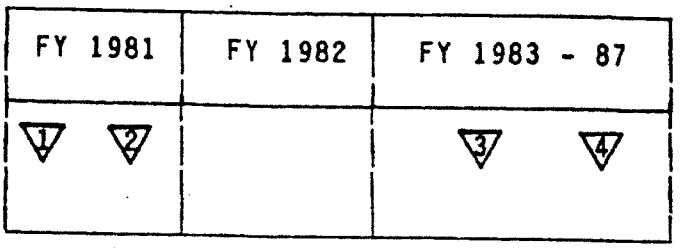
5.5.1.3 TA-3-16, Van de Graaff Facility

On occasion tritium targets are used at this facility, hence, the facility has a tritium collection and gas handling system. The exhaust air flow rate from the systems is extremely low making the concentration at the point of discharge high even for small releases. Releases were reduced from 100 Ci in CY1978 to 14 Ci in CY1979. No major changes are planned beyond improved collection and retention of the tritium.

5.5.1.4 TA-3-34 (FE-52) Cryogenics Laboratory

The cryogenics laboratory does not normally release tritium from any of its operations. In CY1979 there was a single release of 3000 Ci on May 4. This occurred when a uranium tritide furnace overheated during preparation for a tritium gas

Fig. 13. Planning Guide for Management of Airborne Radioactive Wastes



1. Sealing of shield blocks at LAMPF to reduce required ventilation rate.
2. Detailed design completed on new tritium facility at TA-41 to replace TA-33-86.
3. If construction of the new tritium facility begins in 1981 it will be ready for startup in 1983.
4. Install double HEPA filtered exhaust system in Wing 3, TA-3-29.

experiment. Tritium gas was released into the laboratory experimental area and vented to the atmosphere. Improvements made after this release are expected to greatly reduce the chances of a reoccurrence.

5.5.1.5 TA-21-209, Tritium Facility

This facility is equipped with a state-of-the-art effluent treatment system and no further reduction appears possible. During CY1979 the facility released a total of 95 Ci which resulted in an average concentration of 4.6×10^{-7} μCi/mL at the point of release.

5.5.1.6 TA-35-2, Main Laboratory

The tritium operations ventilated by stack FE-11 at Ten Site have been terminated. Eighty-five percent of the total release in CY 1979, 1300 Ci, came from the decommissioning operation. The source was eliminated by mid-year 1979.

5.5.1.7 TA-41 (FE-4), Tritium Handling Laboratory

Tritium releases at TA-41 are erratic in that they occur 3 or 4 times per year with little being released between the major spikes. This mostly because the group is divided between operations at TA-41 and TA-33 which increases the number of handling steps and allows only periodic experiments. Construction of a new facility at TA-41 will eliminate several handling steps and consequently reduce the chances of a release.

5.5.1.8 TA-50, Decontamination Facility

This facility is part of the larger liquid waste treatment facility at TA-50. On occasion, highly contaminated gloveboxes or equipment items are decontaminated for reuse. The exhaust system that serves these operations was improved during FY 1979 and effluent levels were reduced by an order of magnitude over those of a year ago. The improved system has only a single stage of HEPA filters, however.

5.5.1.9 TA-53, LAMPF Accelerator Facility

Short-lived activation products of air and spallation products are produced in proportion to the accelerator beam intensity. Oxygen-15, carbon-11, nitrogen-13 and argon-41 are

the primary radionuclides. A task force has been formed to accomplish reduction to as-low-as-practicable levels. This is being accomplished primarily by reducing air volume intercepted by the beam and by reducing activated air leakage and ventilation of the beam line.

5.5.1.10 **TA-3-29, Chemistry Laboratory**

Analytical chemistry operations in the south side of Wing 3 generate airborne plutonium. This wing is not equipped with a double HEPA filter system like other wings in the facility, but individual glovebox systems have HEPA filtered exhaust. During FY 1980, an engineering study was made to determine the feasibility and cost of installing a central double HEPA filter system.

5.5.1.11 **TA-35-7, Filter Building**

Decontamination and decommissioning of a plutonium glovebox system no longer in use at Ten Site building 2 resulted in temporarily elevated levels of airborne plutonium. Since cleanup has been completed, this source has been eliminated.

5.5.2 **Proposed Program and Expected Accomplishments in FY 1981**

Begin construction of a new high-pressure tritium facility at TA-41.

5.5.3 **Proposed Program and Expected Accomplishments for FY 1982**

Filter systems for Wing 3 of the CMR building and TA-50 may be upgraded at a total estimated cost of $2.3M.

5.5.4 **Budget Projections** (in thousands of dollars)

Year	Operating Costs	Capital Equipment	Construction**
FY 1981	1150	80	-
FY 1982	1265*	90*	-
FY 1983	1265*	160*	-
FY 1984	1265*	160*	300
FY 1985	1265*	110*	700
FY 1986	1265*	110*	700
FY 1987	1265*	110*	600

* In FY 1982 constant dollars

** New tritium facility has not been included because construction funds have not been approved, and it is not possible to determine the portion of the total cost to attribute to control of airborne waste.

5.5 Summary of Budget Projections

A summary of all waste management budget projections is given below (in thousands of dollars):

Year	Operating Costs	Capital Equipment	Construction
FY 1981	3395	220	7300
FY 1982	3895*	240*	7000
FY 1983	4140*	310*	6500
FY 1984	4275*	315*	2800
FY 1985	4275*	265*	2200
FY 1986	4275*	265*	1900
FY 1987	4275*	265*	1800

* Based on current level funding for solid waste disposal operations; in FY 1982 constant dollars

6. Description of Decontamination and Decommissioning

6.1 Identification and Description of Contaminated Facilities

6.1.1 Excess to Present Needs

During 1977, a ten-year decontamination/decommissioning site plan was prepared for the Los Alamos project. This plan identified contaminated facilities, major equipment items and land areas excess to present needs. Three excess facilities identified in this plan (TA-42, TA-21-153 and TA-35-2, Room 12A) were decontaminated or decommissioned in FY 1978 and 1979. TA-35-7 was decontaminated, TA-35-43 was entombed, and the LAMPRE reactor vessel was removed in FY 1980. The following facilities remain available for decommissioning or decontamination.

6.1.1.1 TA-35, LAPRE Reactor

The vessel that housed the LAPRE Reactor remains buried at TA-35. It is activated and contains small amounts of uranium. It is excess and should be removed and disposed at the LASL radioactive waste disposal site when office trailers now in the area are relocated.

6.1.1.2 TA-21-2, 3, 4, 5, and 150, Plutonium Facilities

These facilities became excess in 1978 and decontamination operations are underway with completion of TA-21-3, 4, 5, and 150 areas planned for FY1980. TA-21-2 work will continue into FY 1981. TA-55 construction funds are being used.

6.1.1.3 TA-2, Water Boiler Reactor Facilities

This experimental water boiling reactor was defueled in CY1974, making the reactor and associated liquid and gaseous waste systems available for decommissioning. The reactor fuel form was enriched uranium-uranyl-nitrate solution, and the reactor vessel is highly contaminated with uranium, induced activity, and long-lived fission products. Gaseous waste transfer systems are moderately contaminated with fission products and the massive concrete radiation shields have low levels of induced activity.

6.1.1.4 TA-52, UHTREX Reactor Facility

This facility contains the Ultra-High Temperature Reactor Experiment (UHTREX) and is in limited use by the Energy

Division, and also houses a classified document disposal operation in one of the support buildings.

There are two main buildings. Building RD-1 is a composite building, of rectangular shape with maximum dimensions of 40.25 m (132 ft) x 26.0 m (85.3 ft). It consists of the containment Area and other areas outside the containment which are: the Ground Floor Level, the Operations Level and the Basement Level. The building is provided with hot-water heating, evaporative cooling and ventilation, electric, water and sewer services, sanitary facilities, a fire detection system, a telephone conduit system, and a paging system. Lighting in the containment consists of mercury vapor fixtures, with fluorescent fixtures in the remainder of the building. A vacuum cleaning system, breathing-air system, compressed-air system, and air-sampling system are also provided in certain areas. Portions of the reactor (fuel has been removed) are highly contaminated with FP/IA and uranium.

Building RD-11, the Mechanical Assembly Building, is a prefabricated, rigid-frame metal building set on reinforced concrete foundations. The outside dimensions are 10.1 m (33.1 ft) x 18.8 m (61.7 ft). The wall height is 8.4 m (27.5 ft); the gable height is 9.8 m (32.3 ft). The building is provided with toilet and washroom facilities, heat, power, lightning protection, and a fire detection system.

6.1.3 Currently Considered to be Standby

There are no facilities considered standby.

6.1.4 Currently in Use

Radioactively contaminated facilities currently in use at LASL are given in Table III. Other LASL land areas that are contaminated with radioactivity are listed in Table IV.

6.2 Projection of Waste Volumes from D&D Activities

Waste buried from decontamination and decommissioning projects in recent years have amounted to over two-thirds of the total buried radioactive waste during this period, as indicated below:

TABLE III

CONTAMINATED FACILITIES CURRENTLY IN USE

Tech Area (Fig. 2)	Description	Location Bldg #	Location Dwg.#12	Contamination Category[a]	Radioactive Contaminant(s)
TA-2	Omega Reactors	1	ENG-R 2409	M	FP, IA
TA-2	Stack Gas Valve	19	" " "	M	FP, IA
TA-2	Equipment Building	44	" " "	M	FP, IA
TA-2	Cooling Tower	49	" " "	M	FP, IA
TA-3	Van de Graaff Lab	16	ENG-R 2414	L	T, IA
TA-3	CMR Building	29	" " "	M	TRU, U, FP, IA, T
TA-3	Cryogenics Building "B"	34	" " "	L	T
TA-3	Press Building	35	" " "	M	U
TA-3	Tech Shop, Rm 42	39	" " "	L	U
TA-3	Physics Laboratories	40	" " "	L	T, TRU, FP, IA
TA-3	Source Storage Building	65	" " "	L	Ra
TA-3	Sigma Building	66	" " "	L	U
TA-3	Tech Shops	102	" " "	L	U
TA-3	Rolling Mill Building	141	" " "	L	U
TA-3	Liquid Waste Storage Facility	154	" " "	M	TRU, U, FP, IA
TA-3	Shop Storage Building	164	" " "	S	TRU, U
TA-3	Acid Neutral. & Pump Bldg	700	" " "	M	TRU, U, FP, IA
TA-8	Betatron Building	23	ENG-R 2422	M	IA, FP, TRU, U
TA-8	Isotope Building	24	" " "	S	IA
TA-8	Radiation Laboratory	26	" " "	S	IA
TA-8	Nondestruct. Test Facil.	70	" " "	L	U
TA-9	Lab.Bldg. (Rms 119 & 120)	21	ENG-R 2424	L	T
TA-16	Assembly Building	410	ENG-R 2441	S	TRU, U, T
TA-16	Rest House	411	" " "	S	TRU, U, T
TA-18	Assembly Bldg. (Kiva 1)	23	ENG-R 2446	M	U, IA
TA-18	Vault	26	" " "	M	U, TRU
TA-18	Assembly Bldg. (Kiva 2)	32	" " "	M	TRU, U, IA
TA-18	Assembly Bldg. (Kiva 3)	116	" " "	M	TRU, U, IA
TA-18	Reactor Subassembly Bldg	129	" " "	L	U
TA-18	Dynam. Crit. Assay Facil.	168	" " "	M	U, FP, IA
TA-21	Vault	21	ENG-R 5113	S	U, Pu
TA-35	Laboratory Building	2	ENG-R 2462	M	FP, Pu
TA-46	Lab Bldg. (Ducts & Drains)	1	ENG-R 2480	M	U
TA-46	Test Cell No. 1 & 2	16	" " "	M	U
TA-48	Laboratory Building	1	ENG-R 2483	H	TRU, U, FP, IA, T
TA-50	Liquid Disposal Plant	1, 2	ENG-R 2493	M	TRU, U, FP, IA, T
TA-53	Accelerator Building	3	ENG-R 2500	L	IA
TA-54	Waste Disposal Site	-	ENG-R 5131	M	All
TA-55	Plutonium Facility	4		M	TRU
TA-59	Occupational Health	1		L	All

[a] DOE recommended classification criteria applied with addition of Suspect (S) category for facilities where health physics surveys do not indicate contamination however, a more intensive survey would be advisable if facility were to be removed or used for other purposes. H, M, L indicates high, medium, low levels of contamination.

TABLE IV

OTHER CONTAMINATED AREAS

Identification/Description (Fig. 2)	Surface Area (acres)	Estimated Radio-activity[a]	Principle Radio-nuclides
. Underground pits used for liquid disposal:			
1. Near TA-21-164 (Area U)	0.3	H	Po, Ac, Ra
2. Unmarked: Between TA-21-2 and TA-21-3, liquids from Hanford container washing operation	0.1 (est.)	H	Pu
3. TA-21-20 (dismantled laundry) between TA-21-14 and Waste Disposal Area B (Area V)	1.0	M	Pu, U
4. Near TA-33-86 (Area K)	0.003	L	H-3
5. At TA-49	1.0	M	Pu
. Outfall and disposal areas for liquid effluent:			
1. TA-45 (dismantled) and Acid-Pueblo Canyon	3.7 (est.)	L	Pu
2. TA-21 and DP-Los Alamos Canyon	11.1 (est.)	L	Pu
3. TA-50, Mortandad Canyon, and Ten Site Canyon	2.2 (est.)	L	Pu
4. TA-53 Lagoons	2.0	L	H-3
. Septic tanks:			
TA-2, TA-21, TA-33, TA-41, TA-42, TA-46	Unknown	L	Pu, U, H-3
. Underground contaminated drainlines: (Ref: Dwg. ENG-R 2404 and others in Ref. 12)			
1. TA-3-700 to ULR-33 manhole	Unknown	M	Pu, U, FP
2. ULR-33 to North top edge of Los Alamos Canyon	Unknown	M	Pu, U, FP
3. HRL to ULR-60	Unknown	L	Pu, FP
4. Under Canyon Rd. near Diamond Dr.	Unknown	M	Pu, U, FP
5. ULR-62 to N side Central Ave.	Unknown	M	Pu, U
6. Under Rose St. near Central Ave.	Unknown	M	Pu, U
7. Under Canyon Rd. near Central Ave.	Unknown	M	Pu, U
8. TA-48-1 to ULR-149	Unknown	L	Pu, U, FP
9. Miscellaneous lines at TA-21	Unknown	H	Pu, Am, U
. Miscellaneous			
1. Dirt bunkers (4) at TA-15-44, 45, E, and I-J firing points	Unknown	L	U
2. Underground chamber TA-33-29	0.7	L	Po

[a] H, M, L indicate high, medium, low levels of contamination

LASL WASTE VOLUMES - BURIED

Volume - m^3

Year (CY)	Routine	D & D	Total Volume
1975	2337	10270	12607
1976	2830	5990	8820
1977	2358	1352	3710
1978	2003	5501	7504
1979	2214	2656	4870
TOTAL	11742 (31.3%)	25769 (68.7%)	37511

Similarly, volumes of D&D waste through the forseeable future are anticipated to continue to be a large fraction of the LASL total, as indicated in Table V.

6.3 **Decontamination and Decommissioning Plans and Priorities**

LASL has prepared a comprehensive 10-year D&D plan for the period from FY 1980 thru FY 1989. This plan describes facilities which are either surplus or expected to become programmatically inactive within 10 years. It identifies, describes and justifies these as projects, addresses project alternatives, estimates D&D costs, and ranks projects according to priority. Entire surplus buildings with or without surplus equipment items, on-site land areas and building portions are considered as facilities. Also during the period FY 1981-1983 the present underground industrial waste collection system will become excess and work will begin on removal of this system as part of the new system construction funds.

TABLE V

PRESENT AND FUTURE LASL DECONTAMINATION/DECOMMISSIONING WASTES

Tech Area	Project	FY	Estimated Waste Volume (m^3) Retrievable	Non-retrievable	Type
TA-21-2, 3, 4, 150	Decontamination of old plutonium facility	79-81	2000	4000	Steel gloveboxes, rubber gloves, rags, building debris and soil
TA-3 to TA-50	Removal of existing acid waste lines and TA-3-700	81-83	some possible	8000-12000	Soil, clay and cast iron pipe, some building debris, tanks, and equipment
TA-2-1	Decommissioning of water boiler reactor	?	0	500-1000	Steel bldg. material and piping
TA-35	Decontamination of LAMPRE Reactor Area	80-81	2.1	50	Steel vessels and piping
TA-52	Decontamination of UHTREX Reactor Area	?	0	200-400	Steel vessels and piping
TA-35	LAPRE Reactor	?	0	100-200	Steel vessels, piping, soil

7. REFERENCES

1. US Department of Energy, Final Environmental Impact Statement, Los Alamos Scientific Laboratory Site, Los Alamos, New Mexico, DOE/EIS-0018, (December 1979).

2. E. L. Christensen and W. J. Maraman, "Plustonium Processing at the Los Alamos Scientific Laboratory," Los Alamos Scientific Laboratory report LA-3542 (1969).

3. L. J. Mullins, Jr., J. A. Leary, and A. N. Morgan, "Operating Instructions, Procedures, and Equipment for the Los Alamos Plutonium Electrorefining Plant," Los Alamos Scientific Laboratory report LA-2981 (1963).

4. L. J. Mullins, Jr. and J. A. Leary, "Fused Salt Electrorefining of Molten Plutonium and Its Alloys," Los Alamos Scientific Laboratory report LA-3118 (1964).

5. J. A. Leary, A. N. Morgan, and W. J. Maraman, "Plutonium Peroxide Precipitation," Ind. Eng. Chem. 51, 27 (1959).

6. L. A. Emelity, C. W. Christenson, and W. H. Kline, "Operational Practices in the Treatment of Low- and Intermediate-Level Radioactive Wastes: Argonne and Los Alamos Laboratories, United States of America," Proceedings of Symp. on Practices in the Treatment of Low- and Intermediate-Level Radioactive Wastes 187, (IAEA, Vienna, 1966).

7. L. A. Emelity and C. W. Christenson, "Program and Procedures for Control of Radioactive Wastes at Los Alamos," Health Phys. 12, 1170 (1966).

8. L. A. Emelity and C. W. Christenson, "Processing of Plutonium Contaminated Liquid Wastes at Los Alamos," Symp. on Safety in Plutonium Handling Facilities, Rocky Flats Div., Dow Chemical Company, (Golden, CO. 1971).

9. L. A. Emelity, J. R. Buchholz, P. E. McGinnis, "Review of Radioactive Liquid Waste Management at Los Alamos," Symp. on Management of Low-Level Radioactive Waste (Atlanta, GA 1977).

10. C. W. Christenson and L. A. Emelity, "Chemical Treatment and Cement Fixation of Radioactive Waste," 42nd Annual Conf. of the WPCA (Dallas, TX 1969).

11. L. A. Emelity and C. W. Christenson, "Replacement of an Old Treatment Plant, a Design Based on Experience," Symp. on Developments in the Management of Low- and Intermediate-Level Radioactive Wastes (IAEA, Aix en Provence, France, 1970).

12. M. A. Rogers, "History and Environmental Setting of LASL Near-Surface Land Disposal Facilities for Radioactive Wastes (Areas A, B, C, D, E, F, G, and T), A Source Document," Los Alamos Scientific Laboratory Report LA-6848-MS, Vol. I and II (1977).

13. Environmental Surveillance Group, "Environmental Surveillance at Los Alamos During 1978," Los Alamos Scientific Laboratory Report LA-7800-ENV(1979).

14. "Los Alamos Scientific Laboratory Technical Area Structure Locations Plans," unpublished engineering drawings.

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MHD09.001, LA-MIN03-NC.001

Site(s): Los Alamos National Laboratory	**Source Document Tracking Number:** D028
Acceptable Knowledge Documentation Type: ✔ TRU Waste Management Program Information ✔ Waste Stream-Specific Information Supporting Information	**Category:** C - Correspondence ✔ D - Documents M - Miscellaneous P - Procedures DR - Discrepancy Resolution U - Unpublished Documents

Title of Source Document: Radioactive Liquid Waste Collection System Study

Source Document Reference Information (author(s), document and revision number, date, publisher): Merrick & Company, RLWPO/CST-13, 0, Early 1995, Los Alamos National Laboratory

AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS2	5	A large percentage of liquid waste generators indicated that shutdown of the RLWTF would "significantly impact" operations, including CMR, TA-48 (radiochemistry), and TA-55. Affected programs would include ER, stockpile support, Rocky Flats cleanup efforts, TRU waste size reduction, advance materials, accelerator transmutation technology, and Hanford Tank R&D research. Building 3-66 indicated that "the inadequacy of the current treatment facility is already impacting their electroplating, metallography, and foundry operations." Smaller quantity generators were not as likely to be negatively affected.
PR4	18-20, 132	Administrative controls on liquid waste include the Waste Acceptance Criteria (LW-EM7-AD-17) and administrative requirement AR-10, Radioactive Liquid Waste Management. Generators are required to complete a Waste Profile Request (WPR) and Liquid Radioactive Disposal Request (LRDR). The 1995 WAC primarily included narrative criteria, prohibitions, and numerical criteria. It required Waste Management Coordinators for each operating area; it specified no prohibited waste constituents or characteristics, but limited wastewater activity to 0.5 Ci/l. Solvents, oils, and "certain liquid chemical waste" were prohibited, as well as some heavy metals. The WAC further required that generator radioactive liquid waste pipelines be equipped with metering devices and secondary containment leak detection at manholes. The first draft WAC was issued in 1992 and prohibited high-activity liquid radioactive waste, hazardous/mixed waste, and chemical solutions other than mineral acids. It outlined a process for certification of waste content.
PR4, WS2	32-36, 147-150	Waste generators were required to have adequate monitoring points for analysis of discharge, baseline analytical or process knowledge regarding presence of species on the NPDES permit and in RCRA regulations, a written program to verify WAC compliance and place technical controls on prohibited discharges, and a system for tracking RCRA wastes. Facilities that were no longer generating waste as of 1995 included all of TA-2, TA-21 Buildings 2, 3, 4, 5, 150, and 257 (phasing out), TA-53 (using an evaporative lagoon rather than discharging to the RLWCS), and Building 50-35-213 (Target Fabrication Facility). In addition to facilities listed in Source Document D025, facilities with adequate programs included Building 3-2009, 21-315, 50-37, 50-69, 50-182, and 55-2. Also, some facilities were found not to have adequate programs. Only one of the identified generators had a written waste monitoring plan; the majority of facilities did not.
WS2, WS4, WS8,	C-4	Influent design basis notes. Describes each building sending liquid waste to the RLWTF and notes from analyses or process knowledge on liquid waste composition. Based on these notes, waste constituents include tritium, detergents, scintillation cocktail, copper, HCl, sulfuric acid, Pu-

ORIGINAL

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: D028
AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS11		238, U-235, possibly hydraulic fluid, HF, nitric acid from anodizing solution, oxalic acid, sodium hydroxide, acetic acid, hydrogen peroxide, lactic and phosphoric acids, Fantastik, up to 260 oz/year of organics from the criticality lab (Bldg 18-23), iron, phenolphthalein, ammonia, chloride, phosphate, Se, Ultima Gold scintillation cocktail, Seventy 7 cleaning agent, ethanol, ethylene glycol, Branson detergent, Franklin 77 detergent, tritium oxide, hydrated lime, ferric sulfate, sodium hypochlorite, organics from biological research, Am-241, beta and gamma contaminants (Bldg 48-1), Pu-239, Extran 1000 detergent, Xe-133, Zr-85, diatomaceous earth, sodium borate, lead, chlorides, nitrate salts, Liquinox, Microclean, MSA Cleaner/Sanitizer II, and perchloric acid from duct wash-downs. Operations generating liquid waste include duct wash down, eyewash runoff, water condensers, wet-mopping, duct wash-down, decontamination operations, glassware cleaning (all in CMR Building 3-29), liquid waste spill cleanup (Building 3-35), electroplating (Sigma Building 3-66), foundry, metallography (Sigma Building 3-66), Be operations ceramic processing (Bldg 3-141), personnel dosimetry resulting in non-radioactive acid and caustic waste solutions (Bldg 3-2009), alkalinity tests (Bldg 21-5), DNA sequencing (Bldg 21-150), accelerator target production (formerly but no longer as of 1995, Bldg 35-213), biological and DNA labeling research, medical isotope research, Hanford tank waste remediation studies, radiochemical separations, ER support, geoscientific experiments, non-proliferation experiments, Yucca Mountain surface dating analyses (Bldg 48-45), analytical labs in Bldg 50-1, ES&H labs (Bldg 50-1), off-gas scrubber blow-down from an incinerator (Bldg 50-37), high temperature/high pressure cleaning processes (Bldg 50-69), lead decontamination using detergent and alumina, chemical analyses (Bldg 53-1), LAMPF beam line (suspect tritium waste not allowed at RLWTF in 1995, Bldg 53-3), LANSCE neutron scattering experiments with suspect tritium contamination (Bldg 53-7), proton storage for high-energy pulsed power experiments (Bldgs 53-8 and 53-28), and safety showers (Bldg 54-11). Bldg 3-216 generates only 5 liters of liquid waste per year that is collected in carboys.

Source Document Data Limitations (if any):

1. Document is dated 1995, after the period of waste generation for waste stream LA-MIN03-NC.001.

Acceptable Knowlege Expert:

Amy Johns — Amy Johns — Date: 6/4/09

Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MIN03-NC.001

Site(s): Los Alamos National Laboratory	**Source Document Tracking Number:** D028
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Supporting Information	**Category:** ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents

Title of Source Document: Radioactive Liquid Waste Collection System Study

Source Document Reference Information (author(s), document and revision number, date, publisher): Merrick & Company, RLWPO/CST-13, 0, Early 1995, Los Alamos National Laboratory

AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS2	5	A large percentage of liquid waste generators indicated that shutdown of the RLWTF would "significantly impact" operations, including CMR, TA-48 (radiochemistry), and TA-55. Affected programs would include ER, stockpile support, Rocky Flats cleanup efforts, TRU waste size reduction, advance materials, accelerator transmutation technology, and Hanford Tank R&D research. Building 3-66 indicated that "the inadequacy of the current treatment facility is already impacting their electroplating, metallography, and foundry operations." Smaller quantity generators were not as likely to be negatively affected.
PR4	18-20, 132	Administrative controls on liquid waste include the Waste Acceptance Criteria (LW-EM7-AD-17) and administrative requirement AR-10, Radioactive Liquid Waste Management. Generators are required to complete a Waste Profile Request (WPR) and Liquid Radioactive Disposal Request (LRDR). The 1995 WAC primarily included narrative criteria, prohibitions, and numerical criteria. It required Waste Management Coordinators for each operating area; it specified no prohibited waste constituents or characteristics, but limited wastewater activity to 0.5 Ci/l. Solvents, oils, and "certain liquid chemical waste" were prohibited, as well as some heavy metals. The WAC further required that generator radioactive liquid waste pipelines be equipped with metering devices and secondary containment leak detection at manholes. The first draft WAC was issued in 1992 and prohibited high-activity liquid radioactive waste, hazardous/mixed waste, and chemical solutions other than mineral acids. It outlined a process for certification of waste content.
PR4, WS2	32-36, 147-150	Waste generators were required to have adequate monitoring points for analysis of discharge, baseline analytical or process knowledge regarding presence of species on the NPDES permit and in RCRA regulations, a written program to verify WAC compliance and place technical controls on prohibited discharges, and a system for tracking RCRA wastes. Facilities that were no longer generating waste as of 1995 included all of TA-2, TA-21 Buildings 2, 3, 4, 5, 150, and 257 (phasing out), TA-53 (using an evaporative lagoon rather than discharging to the RLWCS), and Building 50-35-213 (Target Fabrication Facility). In addition to facilities listed in Source Document D025, facilities with adequate programs included Building 3-2009, 21-315, 50-37, 50-69, 50-182, and 55-2. Also, some facilities were found not to have adequate programs. Only one of the identified generators had a written waste monitoring plan; the majority of facilities did not.
WS2, WS4, WS8,	C-4	Influent design basis notes. Describes each building sending liquid waste to the RLWTF and notes from analyses or process knowledge on liquid waste composition. Based on these notes, waste constituents include tritium, detergents, scintillation cocktail, copper, HCl, sulfuric acid, Pu-

UNCLASSIFIED
9/22/09

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: D028
AK # [a]	**Source Doc. Page # [b]**	**AK Information Summary**
WS11		238, U-235, possibly hydraulic fluid, HF, nitric acid from anodizing solution, oxalic acid, sodium hydroxide, acetic acid, hydrogen peroxide, lactic and phosphoric acids, Fantastik, up to 260 oz/year of organics from the criticality lab (Bldg 18-23), iron, phenolphthalein, ammonia, chloride, phosphate, Se, Ultima Gold scintillation cocktail, Seventy 7 cleaning agent, ethanol, ethylene glycol, Branson detergent, Franklin 77 detergent, tritium oxide, hydrated lime, ferric sulfate, sodium hypochlorite, organics from biological research, Am-241, beta and gamma contaminants (Bldg 48-1), Pu-239, Extran 1000 detergent, Xe-133, Zr-85, diatomaceous earth, sodium borate, lead, chlorides, nitrate salts, Liquinox, Microclean, MSA Cleaner/Sanitizer II, and perchloric acid from duct wash-downs. Operations generating liquid waste include duct wash down, eyewash runoff, water condensers, wet-mopping, duct wash-down, decontamination operations, glassware cleaning (all in CMR Building 3-29), liquid waste spill cleanup (Building 3-35), electroplating (Sigma Building 3-66), foundry, metallography (Sigma Building 3-66), Be operations ceramic processing (Bldg 3-141), personnel dosimetry resulting in non-radioactive acid and caustic waste solutions (Bldg 3-2009), alkalinity tests (Bldg 21-5), DNA sequencing (Bldg 21-150), accelerator target production (formerly but no longer as of 1995, Bldg 35-213), biological and DNA labeling research, medical isotope research, Hanford tank waste remediation studies, radiochemical separations, ER support, geoscientific experiments, non-proliferation experiments, Yucca Mountain surface dating analyses (Bldg 48-45), analytical labs in Bldg 50-1, ES&H labs (Bldg 50-1), off-gas scrubber blow-down from an incinerator (Bldg 50-37), high temperature/high pressure cleaning processes (Bldg 50-69), lead decontamination using detergent and alumina, chemical analyses (Bldg 53-1), LAMPF beam line (suspect tritium waste not allowed at RLWTF in 1995, Bldg 53-3), LANSCE neutron scattering experiments with suspect tritium contamination (Bldg 53-7), proton storage for high-energy pulsed power experiments (Bldgs 53-8 and 53-28), and safety showers (Bldg 54-11). Bldg 3-216 generates only 5 liters of liquid waste per year that is collected in carboys.

Source Document Data Limitations (if any):

1. Document is dated 1995, after the period of waste generation for waste stream LA-MIN03-NC.001.

Acceptable Knowlege Expert:

Sheri Nance , Sheri Nance Date: 12/12/06

Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

DIVIDER PAGE ONLY

Not part of page count

QP-00-004,R.2
Effective Date: 10/30/03

TWCP-21682

RECORDS SUBMITTAL

INSTRUCTIONS: This form is prepared by the record source when submitting individual records, batch data reports, or a records package to the RMDC Center. Each record submitted requires a complete form.

MANDATORY: ☒ To the best of my knowledge, the record(s) have no radioactive contamination.
Signature: JR Fitzgerald

RECORD TYPE:
☒ Project 2010 ☐ Facility
☐ Other: _____ ☐ UCNI ☐ Proprietary

RECORD SOURCE:
Submittal Date: 3/24/04 Z No.: ~~198502~~ 198464 3/24/04 Name: ~~Steve Schafer~~ Randy Fitzgerald
Originator: CCP Records (Randy Fitzgerald) Organization: ~~RRES WD~~ CCP 03/15/04 B.S.G

TYPE OF RECORD/ACTION TO BE TAKEN
☐ Individual Record ☐ Batch Data Report ☒ Records Package
☒ New ☐ Addition* ☐ Supersedes*
*Record Barcode Number: _____

RECORD ID NUMBER: (e.g., memo symbol number, procedure (include revision), deficiency number, batch data report number, unique record identifier if applicable): 03/15/04 BSG
PKG-014

Record Date: Early 1995 Physical Page Count: ~~66~~ 464 ☒ Single Sided ☐ Double Sided

Category Number: (from page two): 07

RECORD TITLE, SUBJECT, AND/OR KEYWORDS:
D028, Radioactive Liquid Waste Collection System Study

P2010-0090

MEDIA TYPE:
☐ CD ☐ Diskette ☐ VHS ☐ Zip ☐ Other (specify): _____

RECORD CENTER USE ONLY
☒ Accepted Date: 3/24/04
Signature: _____
RIDs Type: 24

Scan Date: _____ By: _____ QC Date: _____ By: _____

(Subject to change prior to scheduled review cycle).

TABLE OF CONTENTS

LIST OF APPENDICES ii

LIST OF TABLES iii

DEFINITIONS v

LIST OF ACRONYMS viii

1. GENERAL 1

1.1 EXECUTIVE SUMMARY 1
1.2 OBJECTIVE/JUSTIFICATION 2

2. POTENTIALLY APPLICABLE COLLECTION SYSTEM REGULATIONS AND REQUIREMENTS 2

2.1 APPENDIX I-A - REQUIREMENTS IDENTIFICATION DOCUMENT 2
2.2 APPENDIX I-B - REGULATIONS DATABASE 3
2.3 APPENDIX I-C - REGULATIONS REVIEW LOG 3
2.4 REGULATIONS LIBRARY 4

3. PRESENT COLLECTION SYSTEM 4

3.1 APPENDIX II 4
3.2 APPENDIX III - DRAWINGS / PROCESS FLOW DIAGRAMS 4
3.3 APPENDIX IV - PRESENT RADIOACTIVE LIQUID WASTE COLLECTION SYSTEM PIPELINE DATABASE 4

4. PROGRAMMATIC IMPACTS OF SHUTTING DOWN THE RLWTF 5

5. ANTICIPATED FUTURE WASTE STREAMS 6

6. APPLICABILITY OF HAZARDOUS WASTE REGULATIONS TO THE RADIOACTIVE LIQUID WASTE MANAGEMENT SYSTEM 9

6.1 SCOPE OF THE WWTU EXEMPTION 9
6.2 APPLICATION OF THE WWTU EXEMPTION TO RADIOACTIVE LIQUID WASTE MANAGEMENT AT LANL 11
6.3 HAZARDOUS WASTE REGULATIONS APPLICABLE TO THE RADIOACTIVE LIQUID WASTE SYSTEM 12
6.4 OTHER PERTINENT EXCLUSIONS AND EXEMPTIONS 14
6.5 SUMMARY 16

7. PRESENT AND FUTURE COLLECTION SYSTEM COMPARISON 17

7.1 GENERATOR ACCOUNTABILITY 18
7.1.1 Verification of Compliance with Waste Acceptance Criteria 19
7.1.2 Waste Characterization 37
7.2 ADMINISTRATIVE PROCEDURES AND PRACTICES 52
7.2.1 Requirements 52
7.2.2 General Collection System Descriptions 77
7.3 GENERATOR WASTE HANDLING EQUIPMENT 82
7.3.1 Requirements 82
7.3.2 General Collection System Descriptions 107
7.4 WASTE MINIMIZATION 113
7.4.1 Requirements 113
7.4.2 General Collection System Descriptions 117
7.5 SEGREGATION/COMMINGLING 121
7.5.1 Requirements 122
7.5.2 General Collection System Descriptions 126
7.6 MONITORING 131
7.6.1 Requirements 131
7.6.2 General Collection System Descriptions 145

8. CANDIDATES FOR SEGREGATION/PRETREATMENT 151

1. GENERAL

1.1 Executive Summary

Los Alamos National Laboratory (LANL) is committed to meeting current and future regulatory requirements for waste disposal. Improper disposal of waste can result in criminal prosecution and public censure. The continued ability of LANL to provide a world-class research facility rests upon the maintenance and development of appropriate waste handling infrastructure.

This document seeks to provide a baseline for definition of the requirements for a Radioactive Liquid Waste Treatment Facility (RLWTF) and Waste Collection System (RLWCS) to meet current and future needs. The preparation of this document proceeded in three parts.

First, the waste collection system was reviewed to identify points of entry to the RLWTF. Within activities discharging to the RLWCS, responsible facility or building managers, group leaders, or other cognizant and responsible individuals were identified. These individuals were requested to identify the materials that they employed at their activity that could be introduced into the RLWCS. This information was collected as the response to a Radioactive Liquid Waste Collection System Study Questionnaire, and follow up interviews. These questionnaires are presented in appendix XI, Completed Questionnaire Database. The Waste Collection System is described in appendix IV, Present Radioactive Liquid Waste Collection System Pipeline Database. Process flow diagrams (PFDs) are presented in appendix III.

The second portion of the preparation of this document was the review of the technologies available for constituent removal. This was an incremental effort. LANL and other DOE facilities have been active in the development of chemical processing of waste streams, concurrent with their mission activities. This technology was reviewed and a preliminary Best Demonstrated Available Technology Study (BDAT) was prepared. A summary of the preliminary BDAT is presented in appendix VII, Constituent Removal Evaluation.

The third and final portion of the preparation of this document was a comprehensive review of regulatory requirements. From the review, potentially applicable regulations were identified and used as the basis for development of RLWCS and RLWTF requirements. The body of this document is a discussion of the findings.

Current waste disposal is accomplished at Technical Area 50 (TA-50). Processed effluent is subsequently discharged under a National Pollution Discharge Elimination

System (NPDES) permit as required by the Clean Water Act (CWA). The discharge criteria as established by the NPDES permit is subject to review.

Discharge criteria has changed since the promulgation of the Clean Water Act, and the number of regulated materials has increased. The allowable effluent concentrations of regulated materials has decreased with every amendment to the Clean Water Act.

The NPDES permit is the last regulatory step in liquid waste treatment and disposal. The definition of "waste", management responsibility, monitoring, reporting, treatment methodology, public disclosure, storage, discharge concentration, and ultimate disposal venues are determined by a large number of independent federal, state, and local regulations. These regulations and guidelines were identified, and reviewed for application to LANL activities. These regulations are collected in appendix I-A, Requirements Identification Document (RID). The specific requirements of the identified bodies of regulation are segregated as applicable or nonapplicable. The prescriptive requirements of applicable regulations are delineated while maintaining the context of the regulation. Verbatim text of the applicable regulation is provided in the Regulation library portion of the RID.

1.2 Objective/Justification

This document compiles all of the relevant information as to federal, state, tribal, LANL and local requirements, configuration of the present system, waste characterization data (studies, projections, etc.) for the waste collection system. It also is presented in a form that will be useful for developing the conceptual design report for the Radioactive Liquid Waste Treatment Facility project.

2. POTENTIALLY APPLICABLE COLLECTION SYSTEM REGULATIONS AND REQUIREMENTS

A comprehensive review of federal, state, Tribal, LANL and local regulations has been performed. This review is presented in four appendices as summarized in the following sections.

2.1 Appendix I-A - Requirements Identification Document

The Requirements Identification Document (RID) is a listing of prescriptive requirements from all the federal, state and local regulations that potentially apply to the RLWCS. It is structured to identify the regulations that apply to the specific areas of concern such as those listed below:

Abandonment
Accountability
Change in operations/waste
Commingling of waste
Corrosion protection
Characterization
Closure
Construction
Custody transfer (generator accountability)
Design/Construction
Manifesting
Modification of existing facilities
Monitoring
New construction
Notification
Operations
Permitted storage
Permitting
Pipeline
Project Planning
Remediation/decontamination
Reporting
Safety
Satellite accumulation
Secondary containment
System integrity
Temporary accumulation
Training
Transportation mode (i.e., truck vs. pipeline)
WAC verification
Waste minimization
Waste Storage

The RID contains prescriptive requirements from the regulations while maintaining the context of the requirements. The RID references the verbatim text of the regulations that is located in the Regulation Library. The applicable regulations portion of the study will apply to the entire scope of the study.

2.2 Appendix I-B - Regulations Database

The Regulations Database includes all identified applicable regulations, and is sorted by major regulation (RCRA, CWA, etc.). It has the following fields: class, title, number, date, specific applicable section, and status. The class column is used as a sorting/referencing mechanism to aid in determining requirements and regulations applicable to the specific regions of the RLWCS. The title is the specific name by which the body of regulation is known. The number is the reference number associated with the document. the date is the date the document was officially issued, or the date of the latest revision. The specific applicable sections details sections of the regulatory document that apply to the region of the collection system in question. The status column will be used as needed for future references to the collection system in terms of regulations. The electronic copy of the database also includes a field for prescriptive requirements from the regulations.

2.3 Appendix I-C - Regulations Review Log

The Regulations Review Log is a listing of the regulations that were reviewed by the study team. If a regulation was reviewed and determined not to apply to the collection system, it is still included in the log with an explanation as to why it did not apply.

2.4 Regulations Library

The Regulation Library is separate appendix to this document due to its bulk. The library contains verbatim text of regulations, and is presented in a manner consistent with the RID outline. The regulation library is available for reference to the exact wording of an applicable regulation. This stand-alone document serves as a single source of regulations applicable to the entire scope of the collection system study.

3. PRESENT COLLECTION SYSTEM

The bulk of the detailed information on the present collection system is presented in appendix II (Reference Index), appendix III (Drawings) and appendix IV (Present Radioactive Liquid Waste Collection System Database). A comprehensive review of the current Waste Collection System (RLWCS) was performed and the results are presented in three appendices.

3.1 Appendix II

Appendix II-A - Reference Index

The Reference Index is a listing of the previous studies related to the collection system. It documents the information collected by the study team.

Appendix II-B - Reference Drawing Database

The Reference Index also contains a listing of the civil, underground and site collection drawings identified during this study.

3.2 Appendix III - Drawings / Process Flow Diagrams

This section contains process flow diagrams that are a compilation of information on the current physical configuration of the RLW collection system.

3.3 Appendix IV - Present Radioactive Liquid Waste Collection System Pipeline Database

This section is a database comprised of information pertinent to the RLWCS. Data items include source location, associated manholes, location of tanks and pumps,

controls and monitoring equipment, material of construction, length and diameter of pipe, and volumetric flow.

4. PROGRAMMATIC IMPACTS OF SHUTTING DOWN THE RLWTF

Given that the present RLW Treatment Plant at TA-50 is over forty years old and is out of compliance with current regulations, the possibility of the plant having to be shut down for either technical or regulatory purposes needs to be considered. This possibility becomes more significant when considering the amount of time that will be required to either upgrade the present facility or build a new one. With this in mind, a section of the RLWCS Study Questionnaire was devoted to obtaining information from generators regarding which programs would be significantly affected by shutting down TA-50. The responses from the generators are summarized below.

A large percentage of the generators that returned questionnaires indicated that shutdown of the RLWTP would significantly impact their programs or operations. These generators included all of the major contributors to the RLWTP influent, such as the CMR Building, TA-48 (Radiochemistry), and TA-55 (Plutonium Facility). Some of the programs indicated by these and other facilities that would be adversely affected include Environmental Restoration programs, stockpile support and surveillance, WIPP Characterization and Source Term Test Program, Rocky Flats cleanup efforts, TRU Waste Size Reduction, Advanced Materials, Accelerator Transmutation Technology, Hanford Tank R&D, and many other important programs vital to the mission of both LANL and the DOE weapons complex. The Sigma building (3-66) indicated that the inadequacy of the current treatment facility is already impacting their electroplating, metallography, and foundry operations.

A smaller group of generators indicated that their activities would be impacted very little, if at all, by shutdown of the RLWTP. These were generally small quantity generators that could collect batches of their waste in containers if unable to issue to the RLWCS.

The remainder of the generators either indicated that there would no longer be any waste discharge from their facility, or did not respond to this portion of the questionnaire.

The general consensus from most of the generators is that shutdown of the RLWTP would cause many of the important programs currently in progress at LANL to cease until either the plant could be restarted or replaced, or some other disposal option was utilized. Since there is no other practical method of disposal for the majority of the Radioactive Liquid Waste at LANL, shutdown of TA-50 would be seriously detrimental to the continuing mission of LANL.

7.1 Generator Accountability

LANL has an inventory of over twelve thousand chemicals. It is not practical to consider a treatment system with the capacity to deal with all possible influent contaminates. An administrative mechanism to control and monitor the material entering the RLWCS is in place. This mechanism is the Waste Acceptance Criteria (WAC, LW-EM7-AD-17) and compliance with Administrative Requirements, AR section 10:, Waste Management, Radioactive Liquid Waste (AR-10).

The sole purpose of the WAC is to provide a vehicle for the operation of the RLWTF in a manner that does not violate the NPDES permit.

The WAC is administered through completion of Waste Profile Request (WPR, LANL Form 1346) and Liquid Radioactive Disposal Request (LRDR, HS Form LRWDRSYS.GAL). Both forms appear to be evolved from a simple concern with the introduction of radioactive materials into the RLWCS.

Ideally, the process of waste disposal would be transparent to the waste generator. The generator would place waste in drums, tanks, or directly into drains and the operators of the RLWCS and RLWTF would complete the process of disposal.

In many industrial situations, this is the case. A brewery, a petroleum refinery, or a power plant identifies RCRA waste or RCRA characteristic waste during the design phase or in subsequent facility modification. Waste streams would be constant and of near constant volume and composition. Waste stream monitoring provides immediate indication of process upsets. The expression "Knowledge of Process" reflects operators watching instruments and recording the results, and a supervisor, engineer, or plant manager certifying that the results were within the operating parameters for the operation.

There are few parallels between industrial practice and LANL. By the nature of LANL's mission, specific activities are batch rather then continuous operations. Frequently, the scale is "bench top," a size that does not necessarily allow or consider waste stream composition. A waste stream for a LANL generator site might be a few liters from a few researchers or thousands of liters from a major batch operation. A site waste stream may be from a single activity or dozens. Frequently, "Knowledge of Process" is allowed to mean an engineer's or scientist's knowledge of what is supposed to happen within the specifics of their individual activities. Here, the potential for synergistic interaction with other waste or unobserved process upset can not be accurately addressed.

This is a potentially serious shortcoming. An EPA audit may not be satisfied by the information collected and maintained by the WPR and LRDR completed by the

generator. More immediately, a vessel may lose the WWTU exemption if its contents are not subsequently discharged to the RLWTF. Should a vessel lose the WWTU exemption, it is extremely unlikely that regulatory authorities would allow the exemption to be reapplied.

The issue of generator accountability is relatively broad, and includes the following elements:

- Verification of compliance with WAC; and
- Waste characterization.

The following sections discuss each of these elements.

7.1.1 Verification of Compliance with Waste Acceptance Criteria

This section addresses verification of compliance with the waste acceptance criteria (WAC) for wastewaters discharged from points of generation into RLWCS. The waste acceptance criteria govern the types of wastes and levels of waste constituents that can be discharged to the RLWCS. The WAC includes narrative limitations and prohibitions as well as numerical criteria. The term "verification of compliance with the waste acceptance criteria" refers to the specific regulatory and site-specific, facility requirements for demonstrating that wastes meet the WAC.

The existing WAC for the RLWTF consist mainly of narrative criteria contained in "Administrative Requirements (AR) section 10: Waste Management, Radioactive Liquid Waste" (AR 10-1; March 15, 1991). The WAC document requires the identification of Waste Management Coordinators for each operating area who are charged with ensuring that generator discharges meet the narrative restrictions on RLWCS use, including a prohibition on hazardous waste discharges. The WAC does not supply information defining the prohibited waste constituents and characteristics, but lists a numeric limit of 0.5 Ci/l on the activity of wastewaters discharged to the system. Discharges above this activity can be made only by special arrangement with CST-7 personnel. Specific alpha activity limits are listed, including 60 Ci/l for acid waste and 4,500 Ci/l for alkaline waste from TA-55-4. The WAC also identifies "solvents, oils and certain liquid chemical waste" as prohibited. The WAC prohibits some heavy metals.

The draft WAC issued in May of 1992 addresses waste characterization requirements and container packaging for shipments to the RLWTF other than via the RLWCS. The WAC addresses prohibitions on waste disposal to the RLWCS. The prohibitions include high-activity radioactive liquid wastes, hazardous/mixed waste, "chemical solutions" except mineral acids, and sanitary wastewater. The draft WAC addresses

the certification of waste content and waste classification by generators who submit waste profile request and liquid radioactive waste disposal request forms to RLWTF management in Group CST-13.

The requirements for verification of compliance with the WAC are interrelated with generator requirements for waste characterization, monitoring, waste minimization, waste segregation, and commingling.

7.1.1.1 Requirements

Typically, waste acceptance criteria are set on a site-specific basis and are not directly taken from regulatory requirements. In this subsection, current and potentially applicable requirements that could help define waste acceptance criteria, as well as requirements for verification of compliance with waste acceptance criteria, are discussed. The federal and state requirements from appendix I-A that are referenced in this section are indexed in a series of in-text tables, including one for each regulatory program (DOE Orders, hazardous waste regulations, CWA, etc.).

The requirements listed from the CWA pretreatment regulations (40 CFR 403) are not directly applicable to radioactive liquid wastewater generation and treatment at LANL but are discussed because they offer relevant criteria for control of industrial wastewater discharges to collection systems.

Certain RCRA regulatory requirements are identified that may not be directly applicable. However, as developed earlier in this document the reviewed regulations make no distinction between the various categories of waste until after analysis (characterization).

7.1.1.1.1 DOE Orders

The DOE orders which contain direct or indirect applicable limitations on discharges that constitute waste acceptance criteria or which mandate verification of compliance with the waste acceptance criteria are listed in table 7.1

In DOE 5400.5 (I.5.b), the best demonstrated available technology (BDAT) is adopted for achievement of DOE's ALARA (As Low As Reasonably Achievable) policy in the treatment of liquid radioactive waste streams. DOE 5400.5, I.5.b reads in part:

> Treatment of Liquid Radioactive Waste Streams. Standards for liquid effluent discharges are driven by the DOE ALARA policy and objective to minimize contamination in the environment to the extent practicable. The Order adopts the "best demonstrated available technology" (BDAT) as the appropriate level of

7.1.1.2 General Collection System Descriptions

This section provides an overview of the current practices of generators discharging to the RLWCS with regard to compliance with the WAC. The specific practices of each of the individual generators are addressed in the RLWCS Data Sheets contained in appendix X. These data sheets identify the current practices and deficiencies of each generator and provide options and recommended actions to achieve compliance with the WAC.

Section 7.1.1.1 summarizes the requirements for Verification of Compliance with the WAC for RLWCS generators. The following requirements were summarized from information provided in section 7.1.1.1 and used to evaluate the generator questionnaires:

A) Adequate monitoring points must be present for automated or manual sampling and analysis of discharges (DOE 5400.1).

B) Baseline analysis or process knowledge is required to determine the possible presence of all species on the NPDES permit or LDR lists.

C) Generators must have a written program in place to periodically verify WAC compliance.

D) Generators must have a written program in place with technical/administrative controls on prohibited discharges.

E) Generators must have a system in place to track RCRA wastes.

It should be stressed that even though some of the required practices may not be identified in the completed questionnaires, this does not automatically mean that those practices were not implemented or are not being followed. The responses are to the best of the respondents' knowledge, and no single respondent is expected to know everything about his/her facility. A method of assigning respondent codes to several personnel and having questions answered by the most knowledgeable personnel available was developed and intended to ensure that quality information was being provided. However, this method was not always fully utilized by the respondents.

The information from the RLWCS Data Sheets for Verification of Compliance with the WAC is summarized here according to trends in current practices and deficiencies. Among the responding generators, there were four basic trends in current practices that were identified: 1) generators that no longer discharge to the RLWCS, 2) generators that have monitoring capabilities and written programs in place, and 3) generators that

do not have monitoring capabilities and/or have deficiencies in the written programs, and 4) generators that did not return completed questionnaires. In addition to these general trends, it was not possible to evaluate the generator compliance with a system to track RCRA wastes as this issue was not specifically addressed on the questionnaire.

7.1.1.2.1 Summary of Trends

7.1.1.2.1.1 Trend #1 - Generators That No Longer Discharge To The RLWCS

Buildings 2-1, 2-44, 2-65, 3-65, 21-2, 21-4, 21-150, 21-257, 35-213, 53-1, 53-3, 53-7, 53-8, 53-28, 53-30, 54-2, and 54-11.

Buildings 2-1, 2-44, and 2-65 are points of RLW generation from the Omega West Reactor, which is shut down and awaiting decontamination and decommissioning. After D & D is completed, there will no longer be any waste issued from TA-2.

Buildings 21-2, 21-3, 21-4, 21-5, 21-150, and 21-257 are currently still in operation, but are in the process of being shut down. These buildings will undergo D & D over the next several years, after which they will no longer be sources of RLW.

Building 3-65 is currently not in use, and Shawna Eisele of ESH-4 indicated that the RLWCS drain for this building will most likely be capped.

Currently TA-53 utilizes an evaporative lagoon for RLW treatment, and only discharges waste to the RLWTP via truck on an occasional basis. There is no pipeline between TA-53 and TA-50. The future waste treatment plans for TA-53 are currrently being studied and developed, but it is believed that TA-53 waste will continue to be treated on site, and not sent to TA-50.

In a letter dated December 20, 1994, from Paul Wiemann of MST-7, building 35-213 (Target Fabrication Facility) is anticipated to have no future planned discharges to the RLWCS. Also, Mr. Wiemann indicated that there were plans to have the RLW valve for 35-213 closed and locked by TA-50 management.

In order to maintain control over the RLWCS and future activities at these buildings, the drains should be capped or otherwise blocked.

7.1.1.2.1.2 Trend #2 - Generators That Have Monitoring Capabilities, Baseline Data, and Written Programs

Buildings 3-16, 3-35, 3-66, 3-141, 3-216, 3-2009, 16-205, 21-3, 21-5, 21-150, 21-152, 21-155, 21-315, 43-1, 50-1, 50-37, 50-69, 50-185, 55-2, 55-4, 55-41.

Current Practices

These facilities reported some type of equipment or discharge mode that indicated that monitoring of discharges to verify WAC compliance could be performed if desired. Buildings 43-1 and 3-216 discharge to containers and then the full containers are transferred to another tank system prior to discharge to the RLWCS. Therefore, monitoring could be performed on each container or on the holding tank. The remaining buildings discharge in the batch mode, so presumably the wastewater could be sampled prior to discharge. For all of the generators in this grouping, either data or process knowledge is available regarding the wastewater, however, the issue of NPDES or LDR constituents was not addressed directly on the questionnaire, so it is not possible to determine complete compliance with this requirement for any generator.

All of the facilities had written programs in place addressing various WAC with the exception of buildings 3-141 and 3-216 which reported that no written programs were developed or provided no data. Buildings 3-16, 3-2009, 43-1, 50-1, 50-37, 50-69, 55-2 reported that specific programs were developed to verify compliance with the WAC. These buildings and the remainder of the buildings in the grouping reported several other written programs were developed, however, it was unclear from the questionnaire whether prohibited discharges were specifically addressed in these programs.

Deficiencies

The respondents for buildings 3-35, 16-205, 21-3, 21-5, 21-150, 21-152, 21-155, 21-315, 50-185, 55-4, 55-41 reported that a written program was not in place addressing verification of compliance with the WAC. Several respondents listed specific written documents on prohibited discharges that had been developed and this issue could have been addressed there. In addition, the issue of tracking RCRA wastes was not specifically addressed on the questionnaire, therefore, it is not possible to evaluate this requirement.

Options

The options for the noted deficiencies include: 1) no action, 2) develop written program, and 3) develop written program on a site-wide basis.

Recommendations

It is recommended that general written programs be developed on a site-wide basis and provided with guidance to the generators that reported that these programs were not in place. The majority of these dischargers are small laboratory facilities or rooms.

7.1.1.2.1.3 Trend #3 - Generators That Do Not Have Monitoring Capabilities and Deficiencies In The Written Programs

Buildings 3-29, 3-34, 3-102, 18-23, 21-209, 48-1, 48-45, 59-1, 59-19.

Current Practices

Buildings 18-23, 21-209, and 48-1 reported that discharges are directly to the RLWCS. Buildings 3-29, 3-34, and 48-45 did not provide sufficient information to determine if adequate monitoring points for WAC verification currently exist.

Buildings 3-29 and 3-34 did not provide any information regarding baseline analysis or process knowledge of waste streams. For the remaining generators in this grouping, neither data nor process knowledge is available regarding the wastewater, however, the issue of NPDES or LDR constituents was not addressed directly on the questionnaire. Therefore, it is not possible to determine complete compliance with this requirement for any of these generators.

Most of the facilities had written programs in place addressing various WAC compliance issues with the exception of buildings 3-34 which reported that no written programs were developed. Buildings 3-29 and 18-23 reported that specific programs were developed to verify compliance with the WAC. Buildings 3-29, 18-23, 21-209, 48-1, and 48-45 reported several other written programs were developed, however, it was unclear from the questionnaire whether prohibited discharges were specifically addressed in these programs.

Deficiencies

This grouping of respondents was deficient in one or all of the requirements listed for this category. None of the dischargers has adequate monitoring points for the sampling of discharges to the RLWCS. For most of the generators a written program was not in place addressing verification of compliance with the WAC. In addition, the questionnaire did not specifically address the issue of a

written program for technical and administrative controls on prohibited discharges. Several respondents listed specific written documents that had been developed and this issue could have been addressed there. In addition, the issue of tracking RCRA wastes was not specifically addressed on the questionnaire, therefore, it is not possible to evaluate this requirement.

Options

The options for the noted deficiencies include: 1) no action, 2) request waiver, 3) develop written program, and 4) develop written program on a site-wide basis.

Recommendations

It is recommended that general written programs be developed on a site-wide basis and provided with guidance to the generators that reported that these programs were not in place. The majority of these dischargers are small laboratory facilities or rooms. In addition, it is recommended that a site-wide waiver be requested for the very small quantity generators from providing monitoring points for sampling of discharges on the basis that process knowledge is sufficient for these quantities.

7.1.1.2.1.4 Trend #4 - Generators That Did Not Return Completed Questionnaires

Buildings 3-32, 3-39, 3-154, 3-1264, 21-21, 21-223, 35-2, 50-2, 50-90, 50-106, 53-36, 53-368, 53-502, 54-33, and 54-1009.

Current Practices

Buildings 3-154, 50-2, 50-90, and 50-106 are holding tanks.

Building 3-32 was addressed in a memo from Caleb Evans explaining that the waste from 3-32 goes to 3-34 prior to being released to the RLWCS, and therefore no questionnaire would be completed for 3-32.

Buildings 53-36, 53-368, and 53-502 are assumed to be the same status as the rest of TA-53.

The status of the rest of the facilities is unknown.

7.1.1.2.1.5 Trend #5 - Tracking of RCRA Wastes

The issue of RCRA wastes was not directly addressed on the questionnaire, therefore it is not possible to evaluate whether any of the generators have a record keeping system in place to track RCRA wastes. If required, however, a system should be developed on a site-wide basis and simple procedures or forms made available to generators.

7.1.2 Waste Characterization

This section addresses the characterization of wastes for handling in the radioactive liquid waste collection system (RLWCS) and radioactive liquid waste treatment facility (RLWTF). Waste characterization can include sampling and analysis or in-line monitoring of

- wastewaters at their points of discharge into the RLWCS;
- influent wastewaters to the RLWTF; and
- process residuals generated in the RLWTF.

The effluent from the RLWTF is sampled and analyzed as a monitoring activity rather than waste characterization, and so is excluded from consideration in this section.

Waste characterization is taken here to mean not only requirements to conduct characterization, but also the requirements dictating characterization methods. Characterization can be supplemented by knowledge of the processes that produce or process waste. Process knowledge does not replace the requirement for chemical analysis. Implicit in "characterization" is the understanding that the characterization process is repeated periodically to ensure that the waste constituents have not changed.

40 CFR 264.13 General Waste Analysis, requires the folowing:

(a)(1) Before an owner or operator treats, stores, or disposes of any hazardous wastes,... he must obtain a detailed chemical and physical analysis of a representative sample of the wastes.

(a)(2) The analysis may include data developed under Part 261 of this chapter, and existing published or documented data on hazardous waste or hazardous waste generated from similar processes.

Characterization for purposes of determining LDR applicability is required even if the exclusions of 40 CFR 261.3 apply.

The testing methodologies that must be used in determining hazardous waste characteristics, and in determining concentrations of hazardous constituents in wastes and waste extracts, are referenced in the regulations [as illustrated in the citation of 40 CFR 268.7(a) above] and listed in 40 CFR 260.11(a).

Table 7-6 FEDERAL AND STATE HAZARDOUS WASTE REQUIREMENTS FOR WASTE CHARACTERIZATION GENERATOR ACCOUNTABILITY

Document Identification Number	Document Title	Applicable Section	Issue Date	RID Number
40 CFR 261	Identification and Listing of Hazardous Waste	261.21-.24 261.3	05/03/93	--
40 CFR 262	Standards Applicable to Generators of Hazardous Waste	262.10 (a) snd (b) 262.11	08/18/92	008.001 008.004
40 CFR 268	Land Disposal Restrictions	268.32 268.7 (a)	06/25/93	011.005

7.1.2.2 General Collection System Descriptions

This section provides an overview of the current practices of generators discharging to the RLWCS with regard to compliance with Waste Characterization. The specific practices of each of the individual generators are addressed in the RLWCS Data Sheets contained in appendix X. These data sheets identify the current practices and deficiencies of each generator and provide options and recommended actions for waste characterization requirements.

Section 7.1.2.1 summarizes the requirements for waste characterization for RLWCS generators. The following requirements were summarized from information provided in section 7.1.2.1 and used to evaluate the generator questionnaires:

A) Adequate monitoring points must be present for automated or manual sampling and analysis of discharges (DOE 5400.1).

B) Generators must have written guidance available on what parameters require analysis and/or the frequency of sampling.

C) Holding tanks must be available for holdup pending characterization results.

It should be stressed that even though some of the required practices were not identified in the completed questionnaires, this does not automatically mean that those practices are not implemented or are not being followed. The responses are to the best of the respondents' knowledge, and no single respondent is expected to know everything about his/her facility. A method of assigning respondent codes to several personnel and having questions answered by the most knowledgeable personnel available was developed and intended to assure that quality information was being provided. However, this method was not always fully utilized by the respondents.

The information from the RLWCS Data Sheets for Waste Characterization is summarized here according to trends in current practices and deficiencies. Among the responding generators, there were four basic trends in current practices that were identified: 1) generators that will no longer discharge to the RLWCS, 2) generators with monitoring/hold-up capabilities and written programs in place, 3) generators that do not have monitoring/hold-up capabilities and deficiencies in the written programs, and 4) generators that did not return completed questionnaires.

7.1.2.2.1 Summary of Trends

7.1.2.2.1.1 Trend #1 - Generators That Will No Longer Discharge To The RLWCS

Buildings 2-1, 2-44, 2-65, 3-65, 21-2, 21-4, 21-150, 21-257, 35-213, 53-1, 53-3, 53-7, 53-8, 53-28, 53-30, 54-2, and 54-11.

Buildings 2-1, 2-44, and 2-65 are points of RLW generation from the Omega West Reactor, which is shut down and awaiting decontamination and decommissioning. After D & D is completed, there will no longer be any waste issued from TA-2.

Buildings 21-2, 21-3, 21-4, 21-5, 21-150, and 21-257 are currently still in operation, but are in the process of being shut down. These buildings will undergo D & D over the next several years, after which they will no longer be sources of RLW.

Building 3-65 is currently not in use, and Shawna Eisele of ESH-4 indicated that the RLWCS drain for this building will most likely be capped.

Currently TA-53 utilizes an evaporative lagoon for RLW treatment, and only discharges waste to the RLWTP via truck on an occasional basis. There is no pipeline between TA-53 and TA-50. The future waste treatment plans for TA-53 are currrently being studied and developed, but it is believed that TA-53 waste will continue to be treated on site, and not sent to TA-50.

In a letter dated December 20, 1994, from Paul Wiemann of MST-7, building 35-213 (Target Fabrication Facility) is anticipated to have no future planned discharges to the RLWCS. Also, Mr. Wiemann indicated that there were plans to have the RLW valve for 35-213 closed and locked by TA-50 management.

In order to maintain control over the RLWCS and future activities at these buildings, the drains should be capped or otherwise blocked.

7.1.2.2.1.2 Trend #2 - Generators That Have Monitoring And Holdup Capabilities And Written Programs

Buildings 3-216, 43-1, 50-69.

Current Practices

These facilities reported some type of equipment or discharge mode that indicated that monitoring and holdup of discharges could be performed if desired. Buildings 43-1 and 03-216 discharge to containers and then the full containers are transferred to another tank system prior to discharge to the RLWCS. Building 50-69 discharges batchwise to a holding tank, prior to discharge to the RLWCS. Therefore monitoring could be performed on each container or on the holding tank for these buildings. Written guidance documents are available (no data was provided for building 3-216), however, it is unclear whether they specifically address analysis and frequency.

Deficiencies

These dischargers had no deficiencies with respect to waste characterization.

Options

No options were developed.

Recommendations

No recommendations were made.

7.1.2.2.1.3 Trend #3 - Generators That Have Monitoring Capabilities But No Written Plans.

Buildings 3-16, 3-35, 3-66, 3-102, 3-141, 3-2009, 16-205, 21-152, 21-155, 21-315, 50-1, 50-37, 50-185, 55-2, 55-4, 55-41.

Current Practices

These facilities all reported that the discharge to the RLWCS was batch so that adequate monitoring points for sampling are available. Since the discharges are batch it may be possible to holdup the waste pending characterization results, if required, although holding tanks specifically are not available. Buildings 3-35 and 3-141 reported that written guidance was not available on what parameters require analysis and at what frequency. All of the other facilities in this grouping reported several written procedures available, however, it is unclear from the questionnaire data whether these procedures specifically address what parameters require analysis and the frequency.

Deficiencies

Holding tanks are not installed for holdup pending characterization results.

Options

The options for the noted deficiencies include 1) install holding tanks, 2) request an exemption based on the extremely small volumes discharged, and 3) no action.

Recommendations

The facilities in this grouping are generally extremely small quantity dischargers, and it is recommended that an exemption be requested based on volume or total contaminant loading.

7.1.2.2.1.4 Trend #4 - Generators That Discharge Directly To The RLWCS

Buildings 3-29, 3-34, 18-23, 21-209, 48-1, 48-45, 59-1, 59-19.

Current Practices

All of these facilities' discharge was directly to the RLWCS (buildings 18-23, 21-209, and 48-1) or there was insufficient information (buildings 3-29, 3-34, 48-45) to determine if there were adequate monitoring points for sampling of discharges to the RLWCS. Most of the facilities had written programs in place addressing various issues with the exception of buildings 3-34 which reported that no written programs were developed. It was unclear from the questionnaire whether the written programs specifically addressed what parameters require analysis and at

what frequency. None of the facilities in this group reported having holding tanks, and because the discharge is directly to the RLWCS, there is no potential for holdup prior to discharge.

Deficiencies

This grouping of respondents was deficient in one or all of the requirements listed for this category. None of the dischargers has adequate monitoring points for the sampling of discharges to the RLW. The questionnaire did not specifically address the issue of a written program for what parameters require analysis and at what frequency. Several respondents listed specific written documents that were developed, and this issue could have been addressed there. None of the dischargers in this group has a holding tank available for holdup pending characterization results.

Options

The options for the noted deficiencies include 1) no action, 2) request waiver, and 3) request exemption.

Recommendations

These dischargers are small laboratory facilities or rooms. Therefore, it is recommended that a site-wide waiver be requested for these very small quantity generators from providing monitoring points for sampling of discharges on the basis that process knowledge is sufficient for these quantities. This same option is recommended for the requirement that holding tanks be available for holdup pending characterization results.

7.1.2.2.1.5 Trend #5 - Generators That Did Not Return Completed Questionnaires

Buildings 3-32, 3-39, 3-154, 3-1264, 21-21, 21-223, 35-2, 50-2, 50-90, 50-106, 53-36, 53-368, 53-502, 54-33, and 54-1009.

Current Practices

Buildings 3-154, 50-2, 50-90, and 50-106 are holding tanks.

Building 3-32 was addressed in a memo from Caleb Evans explaining that the waste from 3-32 goes to 3-34 prior to being released to the RLWCS, and therefore no questionnaire would be completed for 3-32.

Buildings 53-36, 53-368, and 53-502 are assumed to be the same status as the rest of TA-53.

The status of the rest of the facilities is unknown.

7.2 Administrative Procedures and Practices

This section discusses the regulatory requirements and current practices of generators with respect to the administrative procedures that are associated with waste management. Administrative procedures are activities such as record keeping, waste transportation manifests, written waste minimization plans, and other documentation and control procedures that support the activities that generate waste.

7.2.1 Requirements

This section addresses the requirements for administrative procedures and practices specific to generators that issue radioactive or industrial wastewater to the RLWCS. Administrative procedures are generally prescribed in DOE Orders and federal and state regulations, and set forth guidelines for documentation and methods of activities associated with the generation, handling, and treatment of wastewaters.

7.2.1.1 Waste Management

Waste management, as it pertains to generators that issue waste to the RLWCS, encompasses the handling of waste from the time of generation to such time as it is issued to the RLWCS, whether by pipeline or by other means. Unless the waste is issued directly to an RLWCS drain or pipeline, the generator must make provisions for waste storage or accumulation in containers prior to characterization, monitoring, or other intermediate step before being issued to the RLWCS.

7.2.1.1.1 Storage and Accumulation

Waste that is not issued directly to an RLWCS drain or pipeline must be held in a tank or other container until it is issued to the RLWCS. The following sections discuss the requirements pertaining to Storage and Accumulation, and Temporary Accumulation that the generator must follow. The administrative requirements pertaining to storage and accumulation are identified in Table 7-7.

and supervisors where fissionable materials are involved, as well as for a supervisor training program. The elements of the program for maintenance personnel primarily involve a written policy describing functions, assignments, and responsibilities and a documented training program to ensure personnel are qualified to perform those duties.

Table 7-15 Administrative Requirements for Training of Personnel in Radioactive and Hazardous Waste Generating Facilities

Document I.D. Number	Document Title	Applicable Section	Issue Date	RID Number
40 CFR 264	Standards for owners and operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	264.16(a)-(e)	10/21/92	010.011
DOE Order 5480.11	Radiation Protection for Occupational Workers	section 9.o	6/17/92	119.012
DOE Order 5480.20	Personnel selection, qualification, training, and staffing requirements at DOE reactor and nonreactor nuclear facilities (change 1)	I.2 I.3 I.4 I.5 I.6 I.7 I.7.b-d I.7.e I.7.f I.7.g-i I.8 I.9 I.10 I.11 I.12 I.13 I.16	6/19/91	122.001 122.002 122.003 122.004 122.005 122.006 122.007 122.008 122.009 122.010 122.011 122.012 122.013 122.014 122.015 122.016 122.018
DOE Order 5480.5	Safety of Nuclear Facilities	10.a-b	9/23/86	116.003

7.2.2 General Collection System Descriptions

This section addresses in general the current administrative practices of generators that issue waste to the RLWCS, relative to the pertinent federal and state regulatory requirements governing these activities. The specific practices of each of the individual generators are addressed in the RLWCS Data Sheets contained in appendix X. These data sheets identify the current practices and deficiencies of each generator, and provide options and recommended actions to achieve compliance where necessary.

In this section, the information from the RLWCS Data Sheets for Administrative Procedures is summarized according to trends in current practices and deficiencies. Among the responding generators, there were four basic trends in current practices that were identified: 1) generators that have waste minimization and/or pollution prevention

plans in place, 2) generators that do not have waste minimization or pollution prevention plans in place, 3) facilities that will no longer discharge waste to the RLWCS, and 4) generators that did not return completed questionnaires. Within these general trends, there are also slight variations relative to the rest of the requirements identified.

From section 7.2.1, which details the administrative requirements for generators that issue waste to the RLWCS, the following requirements were identified as being applicable and were used to evaluate generator questionnaires.

- Generators must have written waste minimization and pollution prevention plans in place (DOE 5400.1).
- Generators must have written procedures for prevention of overfill/spills from and damage to holding tanks (RCRA).
- Generators must have a written environmental monitoring plan in place (DOE 5400.1).
- Facility personnel must be trained in hazardous waste management procedures relevant to their position (RCRA).

This is a list of major administrative requirements that were considered to be of primary importance and does not include every administrative requirement that is applicable or potentially applicable to RLW generators. There are numerous requirements that are associated with major requirements (e.g., the requirement of a written waste minimization plan will impose associated requirements for documentation, etc.), and it was considered unnecessary at this point to cover each and every requirement in detail.

It should be stressed that even though some of the required practices were not identified in the completed questionnaires, this does not automatically mean that those practices are not implemented or are not followed. The responses are to the best of the respondents' knowledge, and no single respondent is expected to know everything about his/her facility. A method of assigning respondent codes to several personnel and having questions answered by the most knowledgeable personnel available was developed and intended to assure that quality information was being provided. However, this method was not always fully utilized by the respondents.

7.2.2.1 Summary of Trends

7.2.2.1.1 Trend #1 - Generators That Have A Written Waste Minimization And/Or Pollution Prevention Plan In Place

Buildings 3-16, 3-29, 3-34, 3-35, 3-66, 3-102, 3-141, 16-205, 18-23, 48-1, 48-45, 50-1, 50-37, 50-185, 54-11, 55-2.

Current Practices

The buildings listed above identified either a written waste minimization plan or written procedures for waste minimization on the returned RLWCS questionnaires. Identification of the existence of at least written procedures for waste minimization in Standard Operating Procedures (SOPs) was considered adequate to meet the requirement for a written waste minimization plan. Of the above list, buildings 3-29 and 18-23 also indicated written procedures for overfill/spill prevention and waste handling training, and 3-102 indicated training procedures. The remainder of the buildings indicated no procedures for either of these requirements. Some of these buildings practice waste collection prior to discharge to the RLWCS, while others do not. For those facilities that do not, it was first recommended that waste collection equipment sufficient to meet the requirements in DOE Order 6430.1a should be installed where it is deemed necessary. This must be done prior to developing procedures for spill prevention. None of the above buildings indicated the existence of a written environmental monitoring plan.

Deficiencies

Buildings 3-16, 3-34, 3-35, 3-66, 3-141, 16-205, 48-1, 48-45, 50-37, 50-185, 54-11, and 55-2 did not indicate written procedures for overfill/spill prevention or waste handling training, and building 3-102 indicated no spill prevention procedures. None of the respondents indicated a written environmental monitoring plan.

Options

The options for the noted deficiencies include no action and seek exemption from pertinent requirement, and establish and implement the missing activity or procedure where necessary.

Recommendations

For facilities in this section that do not already practice waste collection prior to release to the RLWCS, it was generally recommended that the generator install a tank or provide other means of collecting waste, as required by DOE 6430.1a (see Generator Waste Handling Equipment requirements, section 7.3). To accompany this, it was recommended that written procedures for prevention of overfills/spills from the associated waste collection containers be developed and implemented. In addition, it was recommended that written procedures for personnel waste management training and a written environmental monitoring plan be developed and implemented. The environmental monitoring plan may be developed on a site-wide basis and actually may be in existence at the present time. If so, each generator should have a copy of this plan, and written procedures to ensure that it is followed.

7.2.2.1.2 Trend #2 - Generators That Do Not Have A Written Waste Minimization Or Pollution Prevention Plan In Place

Buildings 3-216, 3-2009, 43-1, 50-69, 55-4, 55-41, 59-1, 59-19.

Current Practices

These facilities did not indicate the presence of a written waste minimization or pollution prevention plan. In addition, none of these facilities indicated the presence of written procedures dealing with tank spills and waste management training.

Deficiencies

According to the responses in their respective questionnaires, the above facilities are deficient in all of the listed requirements.

Options

The options for the noted deficiencies include no action and seek exemption from the pertinent requirement and establish and implement the missing activity or procedure where necessary.

Recommendations

For the facilities in this section, it was generally recommended that a written waste minimization or pollution prevention plan, a written environmental monitoring plan, and waste handling procedures be developed and implemented. In addition, those facilities for which a recommendation was made to install equipment for waste collection prior to discharge to the RLWCS also had a recommendation made to develop and implement written procedures for the prevention of overfills/spills from that equipment.

7.2.2.1.3 Trend #3 - Facilities That Will No Longer Discharge Waste To The RLWCS

Buildings 2-1, 2-44, 2-65, 3-65, 21-2, 21-4, 21-150, 21-257, 35-213, 53-1, 53-3, 53-7, 53-8, 53-28, 53-30, 54-2, and 54-11.

Buildings 2-1, 2-44, and 2-65 are points of RLW generation from the Omega West Reactor, which is shut down and awaiting decontamination and decommissioning. After D & D is completed, there will no longer be any waste issued from TA-2.

Buildings 21-2, 21-3, 21-4, 21-5, 21-150, and 21-257 are currently still in operation, but are in the process of being shut down. These buildings will undergo D & D over the next several years, after which they will no longer be sources of RLW.

Building 3-65 is currently not in use, and Shawna Eisele of ESH-4 indicated that the RLWCS drain for this building will most likely be capped.

Currently TA-53 utilizes an evaporative lagoon for RLW treatment, and only discharges waste to the RLWTP via truck on an occasional basis. There is no pipeline between TA-53 and TA-50. The future waste treatment plans for TA-53 are currrently being studied and developed, but it is believed that TA-53 waste will continue to be treated on site, and not sent to TA-50.

In a letter dated December 20, 1994, from Paul Wiemann of MST-7, building 35-213 (Target Fabrication Facility) is anticipated to have no future planned discharges to the RLWCS. Also, Mr. Wiemann indicated that there were plans to have the RLW valve for 35-213 closed and locked by TA-50 management.

In order to maintain control over the RLWCS and future activities at these buildings, the drains should be capped or otherwise blocked.

7.2.2.1.4 Trend #4 - Generators That Did Not Return Completed Questionnaires

Buildings 3-32, 3-39, 3-154, 3-1264, 21-21, 21-223, 35-2, 50-2, 50-90, 50-106, 53-36, 53-368, 53-502, 54-33, and 54-1009.

Current Practices

Buildings 3-154, 50-2, 50-90, and 50-106 are holding tanks.

Building 3-32 was addressed in a memo from Caleb Evans explaining that the waste from 3-32 goes to 3-34 prior to being released to the RLWCS, and therefore no questionnaire would be completed for 3-32.

Buildings 53-36, 53-368, and 53-502 are assumed to be the same status as the rest of TA-53.

The status of the rest of the facilities is unknown.

7.3 Generator Waste Handling Equipment

This section addresses the requirements for, and current practices of generators with respect to waste handling equipment. This equipment includes tanks for waste storage, associated valves, piping, pumps, and other ancillary equipment, monitoring and characterization equipment, and any other equipment that is used to handle waste from the point of generation until it is issued to the RLWCS.

7.3.1 Requirements

This section addresses construction and equipment criteria specific to generators that issue radioactive or industrial waste to the Radioactive Liquid Waste Collection System. These orders pertain to new tanks, existing tanks, piping and ancillary equipment which are associated with the RLWCS from the point of generation to the main treatment facility.

New Mexico State regulations repeat the definitions and requirements of 40 CFR 260-299, the Resource Conservation and Recovery Act. This section will provide review of federal regulations and DOE Orders.

7.5.2 General Collection System Descriptions

This section provides an overview of the current practices of generators discharging to the RLWCS with regard to Waste Segregation. The specific practices of each of the individual generators are addressed in the RLWCS Data Sheets contained in appendix X.. These data sheets identify the current practices and deficiencies of each generator and provide options and recommended actions for Waste Segregation requirements.

Section 7.5.1 summarizes the requirements for Waste Characterization for RLWCS generators. The following requirements were summarized from information provided in section 7.5.1 used to evaluate the generator questionnaires:

- The generator should have a written program in place regarding technical/administrative controls or prohibited discharges (40 CFR403).
- Incompatible wastes should be identified and segregated and compliance must be documented (40 CFR 264.17).
- The generator should have a program in place to prevent incompatible materials in tanks.
- The generator should have a written program in place to segregate uncontaminated waste from low-level waste.

It should be stressed that even though some of the required practices were not identified in the completed questionnaires, this does not automatically mean that those practices are not implemented or are not followed. The responses are to the best of the respondents' knowledge, and no single respondent is expected to know everything about his/her facility. A method of assigning respondent codes to several personnel and having questions answered by the most knowledgeable personnel available was developed and intended to assure that quality information was being provided. However, this method was not always fully utilized by the respondents.

The information from the RLWCS Data Sheets for Waste Segregation is summarized here according to trends in current practices and deficiencies. Among the responding generators, there were three basic trends in current practices that were identified 1) generators that no longer discharge to the RLWCS, 2) generators that provided no data on this issue, 3) generators that provided limited information on this issue, and 4) generators that did not return completed questionnaires.

7.5.2.1 Summary of Trends

7.5.2.1.1 Trend #1 - Generators that will no longer discharge to the RLWCS

Buildings 2-1, 2-44, 2-65, 3-65, 21-2, 21-4, 21-150, 21-257, 35-213, 53-1, 53-3, 53-7, 53-8, 53-28, 53-30, 54-2, and 54-11.

Buildings 2-1, 2-44, and 2-65 are points of RLW generation from the Omega West Reactor, which is shut down and awaiting decontamination and decommissioning. After D & D is completed, there will no longer be any waste issued from TA-2.

Buildings 21-2, 21-3, 21-4, 21-5, 21-150, and 21-257 are currently still in operation, but are in the process of being shut down. These buildings will undergo D & D over the next several years, after which they will no longer be sources of RLW.

Building 3-65 is currently not in use, and Shawna Eisele of ESH-4 indicated that the RLWCS drain for this building will most likely be capped.

Currently TA-53 utilizes an evaporative lagoon for RLW treatment, and only discharges waste to the RLWTP via truck on an occasional basis. There is no pipeline between TA-53 and TA-50. The future waste treatment plans for TA-53 are currently being studied and developed, but it is believed that TA-53 waste will continue to be treated on site, and not sent to TA-50.

Paul Wiemann of MST-7 stated in a letter dated December 20, 1994,that building 35-213 (Target Fabrication Facility) is anticipated to have no future planned discharges to the RLWCS. Mr. Wiemann also indicated that there were plans to have the RLW valve for 35-213 closed and locked by TA-50 management.

In order to maintain control over the RLWCS and future activities at these buildings, the drains should be capped or otherwise blocked.

7.5.2.1.2 Trend #2 - Generators That Provided No Data On Any Of The Waste Segregation Issues

Buildings 3-216.

Current Practices

These facilities provided no data regarding any of the Waste Segregation issues.

Deficiencies

With no data provided deficiencies could not be determined.

Options

No options were developed.

Recommendations

No recommendations were made.

7.5.2.1.3 Trend #3 Generators That Provided Limited Information On Waste Segregation Issues.

Buildings 3-16, 3-29, 3-34, 3-35, 3-66, 3-102, 3-141, 3-2009, 16-205, 18-23, 21-3, 21-5, 21-152, 21-155, 21-209, 21-315, 43-1, 48-1, 48-45, 50-1, 50-37, 50-69, 50-185, 55-2, 55-4, 55-41, 59-1, 59-19.

Current Practices

These facilities all reported several written programs in place, however, the information provided did not specifically deal with any of the requirements identified for the Waste Segregation issues.

Deficiencies

Deficiencies could not be identified from the information provided.

Options

No options were developed.

Recommendations

No recommendations were made.

7.5.2.1.4 Trend #4 - Generators That Did Not Return Completed Questionnaires

Buildings 3-32, 3-39, 3-154, 3-1264, 21-21, 21-223, 35-2, 50-2, 50-90, 50-106, 53-36, 53-368, 53-502, 54-33, and 54-1009.

Current Practices

Buildings 3-154, 50-2, 50-90, and 50-106 are holding tanks.

Building 3-32 was addressed in a memo from Caleb Evans explaining that the waste from 3-32 goes to 3-34 prior to being released to the RLWCS, and therefore no questionnaire would be completed for 3-32.

Buildings 53-36, 53-368, and 53-502 are assumed to be the same status as the rest of TA-53.

The status of the rest of the facilities is unknown.

7.6 Monitoring

This section addresses monitoring criteria for wastewaters discharged from points of generation into the Radioactive Liquid Waste Collection System (RLWCS) for treatment in the Radioactive Liquid Waste Treatment Facility (RLWTF) prior to discharge in accordance with an NPDES permit. Monitoring as used herein includes sampling and analysis of the following:

- wastewater at points of discharge into the RLWCS;
- influent wastewaters to the RLWTF; or
- effluent from the RLWTF.

7.6.1 Requirements

Monitoring criteria as discussed in this section include not only the requirements to conduct monitoring, but also the general environmental plans which should be in place to help ensure that quality monitoring is accomplished. Sources of monitoring criteria include the existing and draft Waste Acceptance Criteria documents, discussed in section 7.1.1.1, and the various federal, state, and local regulatory requirements. Requirements for monitoring are interrelated with requirements for the verification of compliance with the waste acceptance criteria, and with waste characterization.

The existing WAC for the RLWTF consists mainly of narrative criteria contained in "Administrative Requirements (AR) section 10: Waste Management, Radioactive Liquid Waste" (AR-10-1; March 15, 1991). The current WAC states that 1) generators of radioactive liquid waste having an activity greater than 0.5 µCi/liter must make special arrangements with HSE-7 personnel and must provide HSE-7 with weekly summaries of volumes and activity levels, 2) the radioactive liquid waste pipelines at each generator site are equipped with metering devices, and 3) the double-contained radioactive liquid pipeline is equipped with secondary containment leak detection devices at manhole locations.

7.6.1.1 Monitoring of Wastewaters

7.6.1.1.1 DOE Orders

The DOE Order requirements pertaining to monitoring are tabulated in Table 7-27. The general topics discussed in this section include environmental monitoring plans and quality assurance, facility operations monitoring, monitoring of generator wastewater, and effluent monitoring.

General environmental monitoring should comply with the following criteria:

- A written environmental monitoring plan is required for each site, facility or process that uses, generates, releases or manages significant pollutants or hazardous materials. The plan should include effluent monitoring and environmental surveillance, and the monitoring data developed under the plan must be maintained in auditable records in accordance with DOE Order 5700.6C [DOE 5400.1, IV.4 and IV.5].

- In addition to the written environmental monitoring plan, a quality assurance program consistent with DOE 5700.6B and an independent data verification program shall be established. The quality assurance program should include, in part, field quality control and laboratory quality control. In addition, DOE and DOE contractor laboratories shall confirm the need and apply for any appropriate certification requirements, and all DOE and contractor laboratories that conduct analytical work in support of DOE environmental radiological monitoring programs for radioactive materials shall participate in the DOE interlaboratory quality assurance program [DOE 5400.1, IV.10.a-c].

- Monitoring and surveillance programs for DOE facilities should be of high quality, and the programs should provide the ability to detect, quantify, and adequately respond to unplanned releases of radioactive material to the environment [DOE 5400.5, I.8.a-b].

characterization to a waste stream, and the capability for characterization and monitoring often depends largely upon the existence and nature of waste handling equipment (tanks, meters, pipelines, etc.).

Beyond the initial requirement for monitoring the chemical and radioactive characteristics of waste prior to discharge to the RLWCS, the requirements for monitoring are largely administrative, i.e., written plans and procedures that support and document monitoring activities.

It should be stressed that even though some of the required practices were not identified in the completed questionnaires, this does not automatically mean that those practices are not implemented or are not followed. The responses are to the best of the respondents' knowledge, and no single respondent is expected to know everything about his/her facility. A method of assigning respondent codes to several personnel and having questions answered by the most knowledgeable personnel available was developed and intended to assure that quality information was being provided. However, this method was not always fully utilized by the respondents.

7.6.2.1 Summary of Trends

7.6.2.1.1 Trend #1 - Generators That Have Waste Collection Equipment And Written Monitoring Plan

Building 16-205.

Current Practices

According to the completed questionnaire, buildings 3-66 and 16-205 met the requirements for having adequate monitoring points and a written monitoring plan. A 1,500 gallon steel holding tank with an 11,000 gallon concrete vault as secondary containment is used to collect all radioactive and industrial liquid waste prior to release to the RLWCS. This allows for adequate capability for characterization and monitoring of waste prior to release. Also, HS-1-TOS-RMI-04-R4 was identified as the routine monitoring instructions for building 16-205. Analytical data was identified as the method of waste characterization and identification of species to be monitored. No current practices were identified for the remaining requirements.

Deficiencies

The respondent(s) for 16-205 did not specifically indicate Quality Assurance procedures, flow measurement capabilities, or a record keeping system. A record keeping system may be contained within the procedures listed, but was not specifically identified.

Options

The options for the noted deficiencies include a) no action and seek exemption from pertinent requirement, and b) establish and implement the missing activity or procedure where necessary.

Recommendations

For 16-205, it was recommended that Quality Assurance procedures, flow measurement capabilities, and a record keeping system be established and implemented where necessary.

7.6.2.1.2 Trend #2 - Generators That Have Waste Collection Equipment But No Written Monitoring Plan

Buildings 3-66, 3-102, 3-216, 43-1, 50-1, 50-37, 50-69, 50-185, 55-4.

Current Practices

These facilities identified some form of waste collection prior to release to the RLWCS, therefore meeting the requirement of having adequate monitoring capability. Also, buildings 50-37 and 55-4 have flow meters monitoring effluent flow, and buildings 3-216, 43-1, 50-69, and 50-185 have holding tanks that do not issue directly to the RLWCS. Building 3-102 has tanks that are connected to the RLWCS, but no flow meters were indicated. Process knowledge was identified by buildings 43-1, 50-37, and 50-69 as the method of waste characterization and identification of species to be monitored, while buildings 50-185 and 55-4 identified analytical data, and buildings 3-102 and 3-216 did not identify any means of determining species to be monitored. No current practices were identified for the remaining requirements.

Deficiencies

The above facilities did not specifically indicate a written monitoring plan, Quality Assurance procedures, or a record keeping system. Also, building 3-102 has holding tanks that are connected directly to the RLWCS, but no flow meters monitoring effluent flow. Buildings 3-102 and 3-216 did not identify any means of determining which species required monitoring.

Options

The options for the noted deficiencies include a) no action and seek exemption from the pertinent requirement, and b) establish and implement the missing activity or procedure where necessary.

Recommendations

For the facilities in this section, it was generally recommended that a written monitoring plan, Quality Assurance procedures, and a record keeping system be established and implemented where necessary. It was recommended that building 3-102 install flow measurement equipment to comply with the pertinent requirement. Also, it was recommended that buildings 3-102 and 3-216 perform baseline analysis to determine which species require future monitoring.

7.6.2.1.3 Trend #3 - Generators That Do Not Have Waste Collection Equipment Or A Written Monitoring Plan

Buildings 3-16, 3-29, 3-34, 3-35, 3-141, 3-2009, 18-23, 21-3, 21-5, 21-152, 21-155, 21-209, 21-315, 48-1, 48-45, 55-4, 55-41, 59-1, 59-19.

Current Practices

All of the above buildings issue waste directly to the RLWCS, and have no waste collection equipment. Also, none of these facilities indicated written monitoring plans. Process knowledge was identified as the method of waste characterization and identification of species to be monitored by buildings 3-16, 3-141, 3-2009, 21-5, 21-152, 21-155, 21-209, 21-315, 43-1, 50-1, 50-37, 50-69, 55-41, and 59-1, while buildings 18-23, 21-3, 50-185, 53-3, 53-8, 53-28, 55-2, and 55-4 identified analytical data as the source for identification of monitored species. No Quality Assurance procedures, flow measurement capabilities, or record keeping system were indicated.

Deficiencies

Since all of the above facilities discharge their waste directly to the RLWCS, there are not adequate monitoring points available for sampling and analysis of wastes. None of the facilities indicated the presence of a written monitoring plan. Buildings 3-29, 3-34, 3-35, 3-216, 48-1, 48-45, 54-11, and 59-19 did not indicate any means of identifying which species require monitoring. Also, none of the facilities indicated the existence of a QA plan, a record keeping system, or flow measurement capabilities.

Options

The options for the noted deficiencies include a) no action and seek exemption from the pertinent requirement, and b) establish and implement the missing activity or procedure where necessary.

Recommendations

For the facilities in this section, it was generally recommended that the generator install a tank or provide other means of collecting waste prior to discharge to the RLWCS, as required by DOE 6430.1a (see Generator Waste Handling Equipment requirements, section 7.4.1). This would allow for adequate monitoring capability. To accompany this action, a written monitoring plan should be developed and implemented, with Quality Assurance procedures and a record keeping system where necessary. Also, it was recommended that buildings 3-29, 3-34, 3-35, 3-216, 48-1, 48-45, and 59-19 perform baseline analysis to determine which species require future monitoring.

7.6.2.1.4 Trend #4 - Facilities That Will No Longer Discharge Waste To The RLWCS

Buildings 2-1, 2-44, 2-65, 3-65, 21-2, 21-3, 21-4, 21-5, 21-150, 35-213, 53-1, 53-3, 53-7, 53-8, 53-28, 53-30 and 54-2.

Current Practices

Buildings 2-1, 2-44, and 2-65 are points of RLW generation from the Omega West Reactor, which is shut down and awaiting decontamination and decommissioning. After D & D is completed, there will no longer be any waste issued from TA-2.

Buildings 21-2, 21-3, 21-4, 21-5, and 21-150 are currently still in operation, but are in the process of being shut down. These buildings will undergo D & D over the next several years, after which they will no longer be sources of RLW.

Building 3-65 is currently not in use, and Shawna Eisele of ESH-4 indicated that the RLWCS drain for this building will most likely be capped.

Currently TA-53 utilizes an evaporative lagoon for RLW treatment, and only discharges waste to the RLWTP via truck on an occasional basis. There is no pipeline between TA-53 and TA-50. The future waste treatment plans for TA-53 are currrently being studied and developed, but it is believed that TA-53 waste will continue to be treated on site, and not sent to TA-50.

In a letter dated December 20, 1994, from Paul Wiemann of MST-7, building 35-213 (Target Fabrication Facility) is anticipated to have no future planned discharges to the RLWCS. Also, Mr. Wiemann indicated that there were plans to have the RLW valve for 35-213 closed and locked by TA-50 management.

7.6.2.1.5 Trend #5 - Generators That Did Not Return Completed Questionnaires

Buildings 3-32, 3-39, 3-154, 3-1264, 21-21, 21-223, 35-2, 50-2, 50-90, 50-106, 53-36, 53-368, 53-502, 54-33, and 54-1009.

Current Practices

Buildings 3-154, 50-2, 50-90, and 50-106 are holding tanks.

Building 3-32 was addressed in a memo from Caleb Evans explaining that the waste from 3-32 goes to 3-34 prior to being released to the RLWCS, and therefore no questionnaire would be completed for 3-32.

Buildings 53-36, 53-368, and 53-502 are assumed to be the same status as the rest of TA-53.

The status of the rest of the facilities is unknown.

8. CANDIDATES FOR SEGREGATION/PRETREATMENT

The Radioactive Liquid Waste Collection System (RLWCS) conveys the low level liquid wastes from approximately 87 dischargers to the existing TA-50 treatment facility. In support of the construction of a new Radioactive Liquid Waste Treatment Facility

No.	TA	Bldg	Facility Name	Notes
1	2	1	Omega West Reactor	Facility undergoing D&D. Phase that would produce the primary source of RLW is already completed.
2	2	44	Omega West Cooling System Bldg.	Facility undergoing D&D. Phase that would produce the primary source of RLW is already completed.
3	2	65	Omega West Cooling System Bldg.	Facility undergoing D&D. Phase that would produce the primary source of RLW is already completed.
4	3	16	Ion Beam Facility	This faclity performs functions that would be severly impacted if we close the RLWCS connection to the facility. This facility disposes of tritiated wastes as well as detergents and bio-chemical wastes, therefore we should evaluate segregation/pretreament options.
5	3	16	Ion Beam Facility	There are several detergents listed (Alconox, Franklin 77) as well as unspecified detergents/ surfactants that may accounted for from the previously list detergents. EDTA is also specified, but it is unknown whether it is included with the detergents/surfactants or used seperately in a process, which is probably the case.
6	3	16	Ion Beam Facility	Source of water was not specified although there are two separate entries for the constituent. It may be suspect cooling water or something, but it was not stated.
211	3	16	Ion Beam Facility	The specific scintillation cocktail is not specified, but it is listed twice.
7	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
8	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
9	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
10	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	The copper is listed to be in solution with hydrochloric acid and sulfuric acid.
11	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
12	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.

No.	TA	Bldg	Facility Name	Notes
13	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
14	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
15	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
16	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Several listings are given for Pu-238, but none have sufficient information to calculate a concentration.
17	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Several listings are given for Pu-239, but none have sufficient information to calculate a concentration.
18	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	No proprietary scintillation cocktails are listed, only the generic listing.
19	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Several listings are given for U-235, but none have sufficient information to calculate a concentration.
20	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Several sources are list for water: soap and water, water-condensers, duct washdown, eye-wash,
21	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Specific detergents are not listed with the exception of hand soap. However, the facility has glassware cleaning and wet mopping which will also contribute to the detergents/surfactants that are released to the RLWCS.
25	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	The CMR Bldg. is one the the most significant generators at LANL due to its massive & diversified research facilities. The research capabilities are only contribute a small portion of the RLW streams, but the support operations of the facility also contribute large quantities of waste to the RLWCS. These support functions include: duct wash-down, wet-mopping, and decontamination operations.
212	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Value is based on a weighted average.
213	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Value is based on a weighted average.
214	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Value is based on a weighted average.

No.	TA	Bldg	Facility Name	Notes
215	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Value is based on a weighted average.
216	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Value is based on a weighted average.
217	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Value is based on a weighted average.
218	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Value is based on a weighted average.
219	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Value is based on a weighted average.
220	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Value is based on a weighted average.
221	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Value is based on a weighted average.
222	3	29	Chemistry & Metallurgical Research (CMR) Bldg.	Value is based on a weighted average.
23	3	32	Center for Material Sciences	Acid wastes are not specified, so I have taken the liberty of specifying some more common acids that the system sees; however, the design team must remember these acids are not specified by the user.
26	3	32	Center for Material Sciences	This facility is not directly connected to the RLWCS, but uses the drains in 3-34 for disposal of acid wastes. These wastes could be held containers and emptied periodically by liquid waste management personnel via truck. Thus the facility will only be considered a partially significant generator.
22	3	34	Condensed Matter and Thermal Physics Lab	Specific detergents listed include Alconox and AJAX as well as unspecified detergents/ surfactants.
27	3	34	Condensed Matter and Thermal Physics Lab	From the information in the questionnaire, the facility would not greatly impact the RLWTF, and therefore will be considered an partially significant generator
24	3	35	Press Bldg./Metal Forming	No specific detergents/surfactants are listed, only wastes from mop water.
28	3	35	Press Bldg./Metal Forming	This facility uses the RLWCS drains for disposing cleaning wastes from wet mopping and RLW spills assoicated with the Press. There is concern that the hydraulic fluid from the Press may also be disposed down the RLWCS drains, therefore the facility will be categorized as a partially significant generator due the waste types.
29	3	39	Tech Shops	No questionnaire was returned for this facility.

No.	TA	Bldg	Facility Name	Notes
30	3	65	Tech Shops Addition	The drain is not in use, and has been requested to be capped.
31	3	66	Sigma Bldg.	This facility is one of the largest producers of RLW to the existing plant due to the support operations within the building such as wet mopping, decontamination, etc. However the facility also provides an excellent opportunity, if possible, for segregation and pretreatment of electroplating, foundry, and metallography solutions. These wastes have recently been diverted from the RLWCS due to the RLWTP exceeding its release limits.
32	3	66	Sigma Bldg.	The only specific detergents/surfactants listed are Frankin Cleaner, and only as a source of wastes from mop water.
33	3	66	Sigma Bldg.	Hydrofluoric acid is listed three times but the one source is known which is from andozing solution. The flows are provided for the listings, but not enough data has been provided to calculate the concentration, although the anodizing solution soure has the largest volume by three orders of magnitude.
34	3	66	Sigma Bldg.	Nitric acid is listed three times but the one source is known which is from andozing solution. The flows are provided for the listings, but not enough data has been provided to calculate the concentration, although the anodizing solution soure has the largest volume by three orders of magnitude.
35	3	66	Sigma Bldg.	The source of the oxalic acid is listed as anodizing solution.
36	3	66	Sigma Bldg.	The source of the sodium hydroxide is listed as anodizing solution.
37	3	66	Sigma Bldg.	Sulfuric acid is listed three times but the one source is known which is from andozing solution. The flows are provided for the listings, but not enough data has been provided to calculate the concentration, although the anodizing solution soure has the largest volume by three orders of magnitude.
223	3	66	Sigma Bldg.	Acetic acid is listed twice but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
224	3	66	Sigma Bldg.	Hydrochloric acid is listed twice but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
225	3	66	Sigma Bldg.	Hydrogen peroxide is listed twice but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
226	3	66	Sigma Bldg.	Lactic acid is listed twice but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
227	3	66	Sigma Bldg.	Phosphoric acid is listed twice but the sources are unknown, as well as not enough data has been provided to calculate the concentration.

No.	TA	Bldg	Facility Name	Notes
38	3	102	Tech. Shops Addition	Waste streams from this facility are primarily radioactive solutions from metal cutting coolants. These coolants currently used have been approved by TA-50 for use in this facility. The future of this facility seems extremely important as well because there is a potential for "round-the-clock" operations for weapons production. Due the size and nature of the facility there is also a potential for a great deal of wastes due to support functions such as wet mopping, etc.
39	3	141	Roller Mill Bldg.	This building primarily support DP activities such as Be operations ceramic processing. This building also uses wet mopping procedures for house keeping purposes. The questionnaire also showed a fairly insignificant volume of nitric acid from this facility, therefore the facility will be considered only partially significant.
40	3	141	Roller Mill Bldg.	A flowrate for detergents/surfactants is provided but there is not sufficient information to determine the concetration. Also Franklin Cleaner is listed as one detergent used for wet mopping.
228	3	141	Roller Mill Bldg.	Nitric acid is listed twice but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
41	3	154	Rad. Waste Pump House	This building is a support building for CMR Bldg. which was used to pump both high and low level radioactive wastes from the hot cells in Wing 9 of CMR. This building is now shut down and the wastes are directly issued to the RLWCS; however, the facility still contains the wastes in the concrete tanks and will be probably undergo D&D some time prior to the operation of the RLWTF.
42	3	216	Medium Energy Physics Bldg.	This facility creates approximately 5 L/yr of waste, collected in carboys, that may or may not go to TA-50 depending on the hazardous constitutency of the waste. Due to the volume and nature of the waste this stream is considered insignificant.
43	3	1264	Unloading Station & Wharehouse	This facility is not a generation point and only holds/pumps wastes from other facilities therefore, it is considered insignificant.
44	3	1698	Materials Science Laboratory (MSL)	From the questionnaire, the primary use of the RLWCS would be for typical acids such as nitric, sulfuric, hydrochloric and phosphoric. The facility has no radioactive operations on-going or planned and therefore wet mopping wastes may not be issued to the RLWCS. This facility will only have an impact on the RLWTF in terms of volume and that may not even be a problem, thus it will only be considered partially significant.
229	3	1698	Materials Science Laboratory (MSL)	Water is listed as source unknown, but it can probably be safety assumed that the source of this water may be from potentially contaminated process support operations.

No.	TA	Bldg	Facility Name	Notes
45	3	2009	ES&H Transportable	This facility is used to perform ES&H funcitons for personnel dosimentry, and the RLWCS drain is used for disposal of non-radioactive acid and caustic waste solutions. This operation would be impacted if the line was capped, however the impact would not be severe, and so is considered only partially significant.
49	3	2009	ES&H Transportable	Alkalinity method is listed as MO (methyl-orange).
230	3	2009	ES&H Transportable	No proprietary detergents/surfactants are listed, only the generic listing.
46	16	205	Weapons Engineering Tritium Facility (WETF)	This facility performs weapons support operations for trituim, and is one of the largest potential tritium influents to the RLWTF. Based on the draft NPDES restriction for tritium the waste streams will continue to be gathered and tested prior to transport to the RLWTF. The facility also generates wastes due to wet mopping, and these wastes on are considered suspect radioactive and are trucked to the RLWTF for treatment and disposal. Due to these conditions the facility will only be partially significant in the design of the process train.
50	16	205	Weapons Engineering Tritium Facility (WETF)	Value is based on a weighted average from two listings, and one of the listings has a flowrate three orders of magnitude higher than the other.
231	16	205	Weapons Engineering Tritium Facility (WETF)	Fantastik is listed as the only proprietary detergent from this facility
47	18	23	KIVA #1 Criticality Laboratory	The questionnaire lists wastes that are primarily drummed; however, it also lists a small quantity 8 - 260 fl. oz./yr of organics that are reported to be. This waste stream could be containerized and shipped to the hazardous waste or mixed waste treatment facilities.
48	21	2	DP Site West	Facility undergoing D&D. Phase that would produce the primary source of RLW will be completed before the RWLTF is constructed. At the time of the questionnaire, the R&D operations on-going within this facility were identified to be relocated to another facility but this has not been determined yet. All current R&D is bench-top chemistry supporting ER programs.
50	21	3	DP Site West	Facility undergoing D&D. Phase that would produce the primary source of RLW will be completed before the RWLTF is constructed. At the time of the questionnaire, the R&D operations on-going within this facility were identified to be relocated to another facility but this has not been determined yet. All current R&D is bench-top chemistry supporting ER programs.
51	21	3	DP Site West	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
52	21	3	DP Site West	Two values are listed but neither had enough information to calculate the concentration. No proprietary detergents/surfactants are listed, only the generic listing.

No.	TA	Bldg	Facility Name	Notes
53	21	3	DP Site West	Two values are listed but neither had enough information to calculate the concentration. State of the iron is unknown.
54	21	3	DP Site West	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
55	21	3	DP Site West	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
56	21	3	DP Site West	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
57	21	3	DP Site West	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
58	21	3	DP Site West	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
59	21	3	DP Site West	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
232	21	3	DP Site West	Value is based on a weighted average from two listings.
60	21	5	DP Site West	Facility undergoing D&D. Phase that would produce the primary source of RLW will be completed before the RWLTF is constructed. At the time of the questionnaire, the R&D operations on-going within this facility were identified to be relocated to another facility but this has not been determined yet. All current R&D is bench-top chemistry supporting ER programs.
61	21	5	DP Site West	Alkalinity is reported as being determined by the phenophthalein method.
62	21	5	DP Site West	No proprietary detergents/surfactants are listed, only the generic listing.
63	21	21	DP Site West Vault	Facility undergoing D&D. Phase that would produce the primary source of RLW will be completed before the RWLTF is constructed.
64	21	150	DP Site West	I believe the facility is scheduled for D&D; however, the DNA sequencing work that is on-going within the lab will probably be relocated to another site. The operation produces enough waste that is should be considered a partially significant waste stream.

No.	TA	Bldg	Facility Name	Notes
66	21	150	DP Site West	Alkalinity is listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration. The alkalinity is reported as being determined by the phenophthalein method.
67	21	150	DP Site West	Ammonia is listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
68	21	150	DP Site West	Chloride is listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
69	21	150	DP Site West	Detergents/surfactants are listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration. No proprietary detergents/surfactants are listed, only the generic listing.
70	21	150	DP Site West	Phosphate is listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
71	21	150	DP Site West	Selenium is listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
72	21	150	DP Site West	Sulfuric acid is listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
73	21	150	DP Site West	Water is listed several times but the sources are unknown.
65	21	152	Tritium Salt Laboratory	This facility supports tritium ladden programs such as, weapons RD&T, energy research, and fusion energy activities. The amounts of tritium are trace, however the majority would come from scintillation cocktails (Ultima Gold) and cleaning agents (Water-deionized, Seventy 7, Detergents/Surfactants) used for high purity experiments. There also appears to be a fairly significant organic constituency of Ethanol, Ethylene glycol. Due to the constituents, more than the flowrate, this facility has some partially significant design implications.
74	21	152	Tritium Salt Laboratory	Branson and Franklin 77 are listed as detergents contributing to the RLW stream.
75	21	152	Tritium Salt Laboratory	Ultima Gold is listed as the scintillation cocktails contributing to the RLW stream.
76	21	152	Tritium Salt Laboratory	The sources of the water and tritium oxide are not listed, but the tritium oxide stream probably is initimately mixed with water stream. Not enough data was provided to calculate the concentration tritium oxide.
233	21	152	Tritium Salt Laboratory	Chemical make-up and source of this are unknown.

No.	TA	Bldg	Facility Name	Notes
77	21	155	Tritium Science Test Assembly (TSTA)	This facility supports tritium ladden programs such fusion energy research activities. The amounts of tritium are low-level, however the majority would come from scintillation cocktails (Ultima Gold) and cleaning agents (Water-deionized, Seventy 7, Detergents/Surfactants) used for high purity experiments. There also appears to be a fairly significant organic constituency of Ethanol, Ethylene glycol. Due to the constituents, more than the flowrate, this facility has some partially significant design implications.
78	21	155	Tritium Science Test Assembly (TSTA)	Branson and Franklin 77 are listed as detergents contributing to the RLW stream.
79	21	155	Tritium Science Test Assembly (TSTA)	Ultima Gold is listed as the scintillation cocktails contributing to the RLW stream.
80	21	155	Tritium Science Test Assembly (TSTA)	The sources of the water and tritium oxide are not listed, but the tritium oxide stream probably is initimately mixed with water stream. Not enough data was provided to calculate the concentration of tritium oxide.
83	21	155	Tritium Science Test Assembly (TSTA)	Branson and Franklin 77 are listed as detergents contributing to the RLW stream.
84	21	155	Tritium Science Test Assembly (TSTA)	Ultima Gold is listed as the scintillation cocktails contributing to the RLW stream.
85	21	155	Tritium Science Test Assembly (TSTA)	The sources of the water and tritium oxide are not listed, but the tritium oxide stream probably is initimately mixed with water stream. Not enough data was provided to calculate the concentration of tritium oxide.
234	21	155	Tritium Science Test Assembly (TSTA)	Chemical make-up and source of this are unknown.
81	21	209	Tritium Salt Fabrication Facility (TSFF)	This facility supports tritium ladden programs such as, weapons RD&T and weapons stockpile support. The amounts of tritium are low-level, however the majority would come from scintillation cocktails (Ultima Gold) and cleaning agents (Water-deionized, Seventy 7, Detergents/Surfactants) used for high purity experiments. There also appears to be a fairly significant organic constituency of Ethanol, Ethylene glycol. Due to the constituents, more than the flowrate, this facility has some partially significant design implications.
82	21	209	Tritium Salt Fabrication Facility (TSFF)	Chemical make-up and source of this are unknown.
86	21	223	Manhole Enclosure?	This facility is not a generation point and only holds/pumps wastes from other facilities therefore, it is considered insignificant.

No.	TA	Bldg	Facility Name	Notes
87	21	257	DP Site West Rad. Liquid Waste Disposal Facility	This facility was originally the radioactive liquid waste processing area for the DP complex, and the facility continues to pretreat wastes prior to pumping through the "cross-country" line to TA-50 WM-2. The chemicals added at pretreatment would include hydrated lime, ferric sulfate, and NaOCl (bleach) as well as chemicals used to support general facility operations such as wet mopping, etc. Based on the questoinnaire the facility will mostl likely be targeted for D&D within the next ten years.
88	21	257	DP Site West Rad. Liquid Waste Disposal Facility	Fantastik and Bleach are listed as contributing to the RLW stream but I do not know detergents if the bleach is used as a cleaning agent or simply as an oxidizing agent for a process. ,
89	21	315	?	The specific function of this facility is unclear to me; however, the questionnaire describes the general operations as chemical R&D which will include typical acids and detergents. The species and amounts listed are well within the process capabilities thus the facility will only be considered to be partially significant.
90	21	315	?	The alkalinity is reported as being determined by the phenophthalein method.
91	21	315	?	No proprietary detergents/surfactants are listed, only the generic listing.
92	35	2	Nuclear Safeguards Laboratory	Scheduled for D&D, no need for a permanent RLWCS connection
93	35	213	Target Fabrication Facility (TFF)	The TFF was orignally built to produce targets for accelerators. The facility does not now perform this function and because of facility hazards categorization will at no point in the future develop targets. Therefore the facility does not perform operations that utilize the RLWTF. Not to mention the fact that the configuration of the liquid waste collection system within the building do not lend themselves to future use of the RLWTF. The RLWCS and sanitary waste lines are one and the same from this facility with the RLWCS line valved off. This configuration is not acceptable for either system, wastes must be segregated from one another. This facility is considered insignificant for RLWTF design purposes.
94	43	1	Health Research Laboratory	Biological and DNA labeling research are primary sources of waste to the RLWTF. Due to the biological research there seems to be several organics that are used and disposed to the RLWTF. The facility is not directly connected but stores and trucks wastes 1 - 2 times a year. The other source of RLW is support functions within the building such as wet mopping.
95	48	1	Radiochemistry Laboratory	Based on the questionnarie, the operations within this building consist mainly of medical radioisotopes research, Hanford tank remediation, radiochemical separations, and environmental restoration activities. Due the high levels of radioactive constituents, this facility would be a key place to evaluate for segregation and pretreatment options.
96	48	1	Radiochemistry Laboratory	Total alpha contamination is listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration. It is unknown if the alpha radiation is being counted twice in listing the specific radionuclides as well as the total alpha.

No.	TA	Bldg	Facility Name	Notes
97	48	1	Radiochemistry Laboratory	Detergents/surfactants are listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration. Proprietary detergents/surfactants listed are Fantastik, Alconox and generic hand soap as well the general detergents/surfactants listing.
98	48	1	Radiochemistry Laboratory	Am-241 is listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
99	48	1	Radiochemistry Laboratory	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
100	48	1	Radiochemistry Laboratory	Total beta contamination is listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration. It is unknown if the beta radiation is being counted twice in listing the specific radionuclides as well as the total beta.
101	48	1	Radiochemistry Laboratory	Several values are listed but only two had enough information to calculate the concentration therefore a weighted average value is given. The amount of the unknown value may or may not be significant.
102	48	1	Radiochemistry Laboratory	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
103	48	1	Radiochemistry Laboratory	Several values are listed but only three had enough information to calculate the concentration therefore a weighted average value is given. The amount of the unknown value may or may not be significant.
104	48	1	Radiochemistry Laboratory	Several values are listed but only two had enough information to calculate the concentration therefore a weighted average value is given. The amount of the unknown value may or may not be significant.
105	48	1	Radiochemistry Laboratory	Total gamma contamination is listed twice but the sources are unknown, as well as not enough data has been provided to calculate the concentration. It is unknown if the gamma radiation is being counted twice in listing the specific radionuclides as well as the total gamma.
106	48	1	Radiochemistry Laboratory	Value is based on a weighted average.
107	48	1	Radiochemistry Laboratory	Several values are listed but only two had enough information to calculate the concentration therefore a weighted average value is given. The amount of the unknown value may or may not be significant.

No.	TA	Bldg	Facility Name	Notes
109	48	1	Radiochemistry Laboratory	Several values are listed but only two had enough information to calculate the concentration therefore a weighted average value is given. The amount of the unknown values may or may not be significant.
110	48	1	Radiochemistry Laboratory	Pu-238 is listed twice but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
111	48	1	Radiochemistry Laboratory	Pu-239 is listed twice but the sources are unknown, as well as not enough data has been provided to calculate the concentration.
112	48	1	Radiochemistry Laboratory	Scintillation cocktails are listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration. No proprietary scintillation cocktails are listed, only the generic listing.
113	48	1	Radiochemistry Laboratory	Several values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown values may or may not be significant.
114	48	1	Radiochemistry Laboratory	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown values may or may not be significant.
115	48	1	Radiochemistry Laboratory	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown values may or may not be significant.
116	48	1	Radiochemistry Laboratory	Several values are listed but only two had enough information to calculate the concentration therefore a weighted average value is given. The amount of the unknown value may or may not be significant.
117	48	1	Radiochemistry Laboratory	Value is based on a weighted average.
118	48	1	Radiochemistry Laboratory	Value is based on a weighted average.
119	48	1	Radiochemistry Laboratory	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown values may or may not be significant.
120	48	1	Radiochemistry Laboratory	Value is based on a weighted average.
120	48	1	Radiochemistry Laboratory	Value is based on a weighted average.
122	48	1	Radiochemistry Laboratory	Several listings were provided by the repondents, but the sources of the water are not listed.
123	48	1	Radiochemistry Laboratory	Several values are listed but only two had enough information to calculate the concentration therefore a weighted average value is given. The amount of the unknown value may or may not be significant.

No.	TA	Bldg	Facility Name	Notes
124	48	1	Radiochemistry Laboratory	Value is based on a weighted average.
235	48	1	Radiochemistry Laboratory	Value is based on a weighted average.
125	48	45	Ultrasensitive Elementary Analysis Laboratory	From this facility, acitivities such as geoscientific experiments, instrument design, non-proliferation experiments and YMP surface dating techniques are being performed. The waste characterization data does not imply any significant waste types or volumes; however the programs in this facility would probably be severly impacted by shutting down the RLWTF. Therefore the facility will be considered only partially significant.
126	48	45	Ultrasensitive Elementary Analysis Laboratory	The only proprietary detergents/surfactants listed is Alconox; however, there is also a generic detergents/surfactants listing. It is unknown whether these are one and the same.
127	48	45	Ultrasensitive Elementary Analysis Laboratory	Several values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown values may or may not be significant.
128	48	45	Ultrasensitive Elementary Analysis Laboratory	Value is based on a weighted average.
129	48	45	Ultrasensitive Elementary Analysis Laboratory	Two listings were provided by the repondents, but the sources of the water are not listed.
130	50	1	Radioactive Liquid Waste Treatment Plant (RLWTP)	The operations that are to considered here are only those operations within the RLWTP that contribute to the RLW influent to the plant. This includes the analytical labs, ES&H labs etc. According to conversations with the RLWPO, the only operations the analytical labs will be performing is supporting the operation of the RLWTF and not the many other analytical operation currently being performed. Although, the design team must still account for the wastes from the ES&H activities, the acitivities are not exotic and flows are minimal in comparison with other facilities. The support function RLW for the RLWTF is only partially significant.
131	50	1	Radioactive Liquid Waste Treatment Plant (RLWTP)	It is unknown if the alpha radiation is being counted twice in listing the specific radionuclides as well as the total alpha.
132	50	1	Radioactive Liquid Waste Treatment Plant (RLWTP)	It is unknown if the beta radiation is being counted twice in listing the specific radionuclides as well as the total beta.
133	50	1	Radioactive Liquid Waste Treatment Plant (RLWTP)	The proprietary detergent listed only includes Extran 1000 (bio-degradable); however, there is also a listing for mop water.
134	50	1	Radioactive Liquid Waste Treatment Plant (RLWTP)	No proprietary scintillation cocktail is listed; however, the proprietary agent is most-likely Ultima Gold as told to Merrick during interviews.

No.	TA	Bldg	Facility Name	Notes
205	50	1	RLWTP Influent Data 1985 - 1994	This data is based on the ninety percent confidence interval from data taken from 1985 - 1994. The flowrates are taken on a daily basis, but the constituent analysis data is based on weekly sampling.
206	50	1	RLWTP Influent Data 1985 - 1994	The alkalinity data is present as an average of the P and MO methods. This method of averaging these values is questionnable at best at should be reviewed to determine how this data should be evaluated.
207	50	1	RLWTP Influent Data 1985 - 1994	14 samples have been evaluated for Cs-134 from 85 - 94, and the radioisotope has never been determined to be present based on the analyses.
208	50	1	RLWTP Influent Data 1985 - 1994	Nitrogen is resultant from the summation of ammonia and nitrate analyses.
209	50	1	RLWTP Influent Data 1985 - 1994	Only one sample has been evaluated for Xe-133, therefore, statistical analysis cannot be performed on this constituent. The value listed is the concentration of Xe-133 found from the single analysis.
210	50	1	RLWTP Influent Data 1985 - 1994	Only one sample has been evaluated for Zr-85, therefore, statistical analysis cannot be performed on this constituent. The value listed is the concentration of Zr-85 found from the single analysis.
135	50	2	Acid Waste Pumping Station	This facility is not a generation point and only holds/pumps wastes from other facilities therefore, it is considered insignificant.
136	50	37	Controlled Air Incinerator	This facility houses the controlled air incinerator which will produce a potentially significant waste stream for the RLWTF. The waste stream that will cause the most concern will be that of the off-gas scrubber blow-down. Regulations permitting, this would be an excellent pretreatment site, and it would allow this blow-down stream source of disposal (RLWTF). If the pretreated blow-down cannot be sent to the RLWTF the only source of waste would be "incidental waste from rad. drains, showers, labs", house keeping, etc. Some of the wastes that the facility plans to release include hazardous listed constituents, of which, if they are below the LDRs then the RLWTF should be able to accept if LANL adopts the WWTU exemption. The facility should be considered a significant source based on the constituents, and the design team should consider pretreatment for the facility.
137	50	37	Controlled Air Incinerator	There are several listings of this constituent from this facility. No flowrate was provided from the questionnaires. The values provided from the questionnaire appear to be the influent to the incinerator as opposed to the concentrations the RLWTF would see from the scrubber blow-down water. Therefore, the values provided are not listed until further contact can be made with TA-50 WM-37.

No.	TA	Bldg	Facility Name	Notes
138	50	37	Controlled Air Incinerator	There are several listings of this constituent from this facility. No flowrate was provided from the questionnaires. The values provided from the questionnaire appear to be the influent to the incinerator as opposed to the concentrations the RLWTF would see from the scrubber blow-down water. Therefore, the values provided are not listed until further contact can be made with TA-50 WM-37.
139	50	37	Controlled Air Incinerator	There are several listings of this constituent from this facility. No flowrate was provided from the questionnaires. The values provided from the questionnaire appear to be the influent to the incinerator as opposed to the concentrations the RLWTF would see from the scrubber blow-down water. Therefore, the values provided are not listed until further contact can be made with TA-50 WM-37.
140	50	37	Controlled Air Incinerator	There are several listings of this constituent from this facility. No flowrate was provided from the questionnaires. The values provided from the questionnaire appear to be the influent to the incinerator as opposed to the concentrations the RLWTF would see from the scrubber blow-down water. Therefore, the values provided are not listed until further contact can be made with TA-50 WM-37.
141	50	37	Controlled Air Incinerator	There are several listings of this constituent from this facility. No flowrate was provided from the questionnaires. The values provided from the questionnaire appear to be the influent to the incinerator as opposed to the concentrations the RLWTF would see from the scrubber blow-down water. Therefore, the values provided are not listed until further contact can be made with TA-50 WM-37.
142	50	37	Controlled Air Incinerator	The calcium carbonated is listed as diatomaceous earth. No flowrate was provided from the questionnaires.
143	50	37	Controlled Air Incinerator	There are several listings of this constituent from this facility. No flowrate was provided from the questionnaires. The values provided from the questionnaire appear to be the influent to the incinerator as opposed to the concentrations the RLWTF would see from the scrubber blow-down water. Therefore, the values provided are not listed until further contact can be made with TA-50 WM-37.
144	50	37	Controlled Air Incinerator	There are several listings of this constituent from this facility. No flowrate was provided from the questionnaires. The values provided from the questionnaire appear to be the influent to the incinerator as opposed to the concentrations the RLWTF would see from the scrubber blow-down water. Therefore, the values provided are not listed until further contact can be made with TA-50 WM-37.

No.	TA	Bldg	Facility Name	Notes
145	50	37	Controlled Air Incinerator	There are several listings of this constituent from this facility. No flowrate was provided from the questionnaires. The values provided from the questionnaire appear to be the influent to the incinerator as opposed to the concentrations the RLWTF would see from the scrubber blow-down water. Therefore, the values provided are not listed until further contact can be made with TA-50 WM-37.
236	50	37	Controlled Air Incinerator	The state of the sodium borate is not listed by the facility and therefore the concentration cannot be determined.
146	50	69	Size Reduction Facility	This facility specializes in size reduction of TRU wastes, characterization and repackaging; along with the primary function of the facility there are also support functions such as wet mopping, showers, etc. that may contribute RLW to the RLWTF. Some of the process wastes include condensate from steam cleaning of contaminated surfaces
147	50	69	Size Reduction Facility	It is unknown if the alpha radiation is being counted twice in listing the specific radionuclides as well as the total alpha.
148	50	69	Size Reduction Facility	It is unknown if the beta radiation is being counted twice in listing the specific radionuclides as well as the total beta.
149	50	69	Size Reduction Facility	No proprietary detergents/surfactants are listed, only the generic listing.
150	50	69	Size Reduction Facility	It is unknown if the gamma radiation is being counted twice in listing the specific radionuclides as well as the total gamma.
151	50	69	Size Reduction Facility	The source of the water stream is primarily from high temperature/high pressure cleaning processes, but it is unknown if personnel decon showers, etc. are included.
152	50	90	RLW Holding Tank	This facility is not a generation point and only holds/pumps wastes from other facilities therefore, it is considered insignificant.
153	50	106	RLWTP Storage Shed	This facility is not a generation point and only holds/pumps wastes from other facilities therefore, it is considered insignificant.
154	50	185	Waste Management Decon Trailer	This facility performs decontamination of lead bricks and lead bearing surfaces using commercial deterginent and alumina oxide grit. This facility will produce approximately 55 gal/wk (~42 L/day), a certain percentage of which will also contain lead of course. This facility is not a large volume production facility, but based on the design of the process train, the lead decon operations may be potential site of pretreatment. The current plant accepts the waste as is and the volume is not really significant; therefore, this facility's waste stream will be considered only partially significant.
155	50	185	Waste Management Decon Trailer	The specific constituents that make-up the alpha radiation is unknown.

No.	TA	Bldg	Facility Name	Notes
156	50	185	Waste Management Decon Trailer	The source of the alumina oxide grit is from abrasive cleaning of lead bricks to remove surface contamination.
157	50	185	Waste Management Decon Trailer	The specific constituents that make-up the beta radiation is unknown.
158	50	185	Waste Management Decon Trailer	The specific constituents that make-up the gamma radiation is unknown.
159	50	185	Waste Management Decon Trailer	The lead source is from lead bricks used for shielding purposes, and the abrasive cleaning of lead bricks to remove surface contamination.
160	53	1	Los Alamos Meson Physics Facility (LAMPF) Laboratory	Currently, TA-53 releases no waste to the RLWTF; however, this may change if the rad. laoon at TA-53 is decommissioned. In that event, the non-tritium waste streams would probably be re-routed to the RLWTF. But the questionnaires filled out from TA-53 had NO CHARACTERIZATION DATA LISTED, and from this type of information it would be impossible to determine the potential significance of their waste streams. Therefore all facilities within TA-53 will be considered insignificant until further information can be obtained and analyzed. Bldg.1 is a chemistry lab that is "Develop[ing] treatment systems from all DOE sites, detox - organic, electroplating, analytical laboratory, hot lab (no activity)". This description is directly from the questionnaire and I have no idea what it encompasses.
161	53	3	LAMPF Laboratory Meson Bldg. (Beam Line)	Currently, TA-53 releases no waste to the RLWTF; however, this may change if the rad. laoon at TA-53 is decommissioned. In that event, the non-tritium waste streams would probably be re-routed to the RLWTF. But the questionnaires filled out from TA-53 had NO CHARACTERIZATION DATA LISTED, and from this type of information it would be impossible to determine the potential significance of their waste streams. Therefore all facilities within TA-53 will be considered insignificant until further information can be obtained and analyzed. This facility houses the beam and is known as the Beam Line. Any wastes that would be generated in this facility would be suspect tritium wastes and not allowed to the RLWTF. This facility's waste streams are considered insignificant to the design of the process train.

No.	TA	Bldg	Facility Name	Notes
162	53	7	LANSCE/WNR Bldg.	Currently, TA-53 releases no waste to the RLWTF; however, this may change if the rad. laoon at TA-53 is decommissioned. In that event, the non-tritium waste streams would probably be re-routed to the RLWTF. But the questionnaires filled out from TA-53 had NO CHARACTERIZATION DATA LISTED, and from this type of information it would be impossible to determine the potential significance of their waste streams. Therefore all facilities within TA-53 will be considered insignificant until further information can be obtained and analyzed. This facility houses the neutron scattering experimental portion of TA-53. Any wastes that would be generated in this facility would be suspect tritium wastes and not allowed to the RLWTF. This facility's waste streams are considered insignificant to the design of the process train.
163	53	8	Proton Storage Ring	Currently, TA-53 releases no waste to the RLWTF; however, this may change if the rad. laoon at TA-53 is decommissioned. In that event, the non-tritium waste streams would probably be re-routed to the RLWTF. But the questionnaires filled out from TA-53 had NO CHARACTERIZATION DATA LISTED, and from this type of information it would be impossible to determine the potential significance of their waste streams. Therefore all facilities within TA-53 will be considered insignificant until further information can be obtained and analyzed. This facility houses proton storage ring to aid in high-energy pulsed power experiments. Any wastes that would be generated in this facility would be suspect tritium wastes and not allowed to the RLWTF. This facility's waste streams are considered insignificant to the design of the process train.
164	53	28	Proton Storage Ring Equip. Bldg.	Currently, TA-53 releases no waste to the RLWTF; however, this may change if the rad. laoon at TA-53 is decommissioned. In that event, the non-tritium waste streams would probably be re-routed to the RLWTF. But the questionnaires filled out from TA-53 had NO CHARACTERIZATION DATA LISTED, and from this type of information it would be impossible to determine the potential significance of their waste streams. Therefore all facilities within TA-53 will be considered insignificant until further information can be obtained and analyzed. This facility houses the equipment for operation of the proton storage ring. Any wastes that would be generated in this facility would be suspect tritium wastes and not allowed to the RLWTF. This facility's waste streams are considered insignificant to the design of the process train.

No.	TA	Bldg	Facility Name	Notes
237	53	30	Neuton Scattering	Currently, TA-53 releases no waste to the RLWTF; however, this may change if the rad. laoon at TA-53 is decommissioned. In that event, the non-tritium waste streams would probably be re-routed to the RLWTF. But the questionnaires filled out from TA-53 had NO CHARACTERIZATION DATA LISTED, and from this type of information it would be impossible to determine the potential significance of their waste streams. Therefore all facilities within TA-53 will be considered insignificant until further information can be obtained and analyzed. This facility houses the neutron scattering portion of the accelerator, and is used for defense related experiments. Any wastes that would be generated in this facility would be suspect tritium wastes and not allowed to the RLWTF. This facility's waste streams are considered insignificant to the design of the process train.
165	53	36	LAMPF Detector Shed	Currently, TA-53 releases no waste to the RLWTF; however, this may change if the rad. laoon at TA-53 is decommissioned. In that event, the non-tritium waste streams would probably be re-routed to the RLWTF. But the questionnaires filled out from TA-53 had NO CHARACTERIZATION DATA LISTED, and from this type of information it would be impossible to determine the potential significance of their waste streams. Therefore all facilities within TA-53 will be considered insignificant until further information can be obtained and analyzed. A questionnaire was not returned on this facility.
166	53	368	LAMPF Pump Shep	Currently, TA-53 releases no waste to the RLWTF; however, this may change if the rad. laoon at TA-53 is decommissioned. In that event, the non-tritium waste streams would probably be re-routed to the RLWTF. But the questionnaires filled out from TA-53 had NO CHARACTERIZATION DATA LISTED, and from this type of information it would be impossible to determine the potential significance of their waste streams. Therefore all facilities within TA-53 will be considered insignificant until further information can be obtained and analyzed. A questionnaire was not returned on this facility.

No.	TA	Bldg	Facility Name	Notes
167	53	502	ES&H Laboratory Trailer	Currently, TA-53 releases no waste to the RLWTF; however, this may change if the rad. laoon at TA-53 is decommissioned. In that event, the non-tritium waste streams would probably be re-routed to the RLWTF. But the questionnaires filled out from TA-53 had NO CHARACTERIZATION DATA LISTED, and from this type of information it would be impossible to determine the potential significance of their waste streams. Therefore all facilities within TA-53 will be considered insignificant until further information can be obtained and analyzed. A questionnaire was not returned on this facility.
168	54	2	Waste Management Operations Bldg.	No waste generated at this site.
169	54	11	Waste Management CRT	This facility releases waste to the RLWTP only in times when the decon shower is used and the tank is filled and trucked to TA-50. This waste is neither exotic nor voluminous so the facility will be considered insignificant.
170	54	33	Waste Management TRU Waste Drum Prep	A questionnaire was not returned on this facility.
171	54	1009	Waste Management Chemistry Lab	A questionnaire was not returned on this facility.
172	55	2	Laboratory & Office Building	This facility is used primarily for ES&H work supporting the main plutonium facility (PF-4). There are significant waste types such as tritium, plutonium and detergents that would benefit from pretreatment if the concentrations were high enough or the volumes were high enough, but since neither criteria are met the stream will be considered only partially significant.
173	55	2	Laboratory & Office Building	It is unknown if the alpha radiation is being counted twice in listing the specific radionuclides as well as the total alpha.
174	55	2	Laboratory & Office Building	It is unknown if the beta radiation is being counted twice in listing the specific radionuclides as well as the total beta.
175	55	2	Laboratory & Office Building	The proprietary detergent listed only includes Extran 1000 (bio-degradable); however, there is also a listing for mop water. The value listed represent that of the Extran 1000.
176	55	2	Laboratory & Office Building	It is unknown if the gamma radiation is being counted twice in listing the specific radionuclides as well as the total gamma.
177	55	2	Laboratory & Office Building	Ultima Gold is listed as the proprietary scintillation cocktail contributing to the RLW from this faciltiy.

No.	TA	Bldg	Facility Name	Notes
178	55	4	Plutonium Facility	This stream is currently being pretreated and it appears a prime candidate for re-evaluation of the pretreatment process for design of the RLWTF. This facility provides the highest concentration radioactive constituents throughout the labs. It appears this is also a primary source of chlorides and nitrates influent to the RLWTP. This facility is one of the most important sources for design of the process train and will be considered significant.
179	55	4	Plutonium Facility	Total alpha contamination is listed several times but the sources are unknown, as well as not enough data has been provided to calculate the concentration. It is unknown if the alpha radiation is being counted twice in listing the specific radionuclides as well as the total alpha.
180	55	4	Plutonium Facility	Value is based on a weighted average.
181	55	4	Plutonium Facility	Value is based on a weighted average.
182	55	4	Plutonium Facility	No proprietary detergents are listed; however, there is a listing for mop water.
183	55	4	Plutonium Facility	Value is based on a weighted average.
184	55	4	Plutonium Facility	Value is based on a weighted average.
185	55	4	Plutonium Facility	Value is based on a weighted average.
186	55	4	Plutonium Facility	The nitrate is listed as nitrate salts; however, these are most-likely plutonium and uranium laden salts.
187	55	4	Plutonium Facility	Two values are listed but only the one had enough information to calculate the concentration therefore only the one value is given. The amount of the unknown value may or may not be significant.
188	55	4	Plutonium Facility	Value is based on a weighted average.
189	55	4	Plutonium Facility	Value is based on a weighted average.
190	55	4	Plutonium Facility	Value is based on a weighted average.
191	55	4	Plutonium Facility	Total uranium is listed with an activity level, but the individual radioisotopes are not listed that allows calculation of the concentration.
238	55	4	Plutonium Facility	Value is based on a weighted average.
192	55	41	Nuclear Materials Storage Facility	The only sources of RLW from this facility are mop water and decon shower water. This facility is a storage facility only, and no chemical operations are conducted in this facility. For these reasons, the facility will be considered insignificant.
193	55	41	Nuclear Materials Storage Facility	No proprietary detergents are listed.

No.	TA	Bldg	Facility Name	Notes
194	59	1	Occupational Health Laboratory	This facility specializes in analytical chemistry for both R&D purposes as well as lab support for environmental monitoring and restoration projects. The RLWCS/RLWTF is necessary for this facility to perform its functions; however, the waste streams generated at this facility are not significant in volume nor constituency. Thus the facility will be classified as a partially significant facility.
195	59	1	Occupational Health Laboratory	It is unknown if the alpha radiation is being counted twice in listing the specific radionuclides as well as the total alpha.
196	59	1	Occupational Health Laboratory	It is unknown if the beta radiation is being counted twice in listing the specific radionuclides as well as the total beta.
197	59	1	Occupational Health Laboratory	Proprietary detergents listed include Alconox, Fantastik, Liquinox, Microclean and MSA Cleaner/Santizer II.
198	59	1	Occupational Health Laboratory	It is unknown if the gamma radiation is being counted twice in listing the specific radionuclides as well as the total gamma.
199	59	1	Occupational Health Laboratory	Value is based on a weighted average.
200	59	1	Occupational Health Laboratory	The source of the perchloric acid is from hood wash-down.
201	59	1	Occupational Health Laboratory	Value is based on a weighted average.
202	59	1	Occupational Health Laboratory	Source of water was not specified although there are three separate entries for it.
203	59	19	Occupational Health Laboratory	This trailer performs chemical and radiological ES&H functions preparing soil samples for analysis of metals and rad. materials. Note the trailer does not perform the analysis, it only preps the samples. At one time, Merrick was told the RLWCS connection was going to be removed, but I don't know what action was taken if any.
204	59	19	Occupational Health Laboratory	The source of the water is from preparation of ES&H soil samples for metals and rad. materials.

TABLE OF CONTENTS

TITLE	SECTION
Phase II Work Break-Down Structure	A-1
Annotated Outline	A-2
Process Flow Diagram	A-3
Process Flow Diagram Line Database	A-4
Process Flow Diagram Equipment Database	A-5
Reference Database	A-6
Reference Drawing Database	A-7
Regulation Identification Document	B-1
Regulation Database	B-2
Regulation Review Log	B-3
Summary of Waste Water Treatment Design Projects	C-1
Summary of Design Standards	C-2
Reference of Design Standards from Hanford Site	C-3
TA-50 Influent Database	C-4
Radioactive Liquid Waste Stream Characterization Database	C-5

WASTE CHARACTERIZATION INFORMATION - SUMMARY OF INFLUENT DATA TO TA-50 TREATMENT FACILIT
RADIOACTIVE LIQUID WASTE COLLECTION SYSTEM AND TREATMENT FACILITY
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO

Parameter	Units	Stream ID: TA-50 Influent					
Activity Description		1988	1989	1990	1991	1992	Maximum
Chemicals Used							
Flow/Volume							
Avg Flow	gpm						
Max. Flow	gpm						
Min. Flow	gpm						
Total Monthly Flo	gal/month						
Total Annual Volu	gal	********	53,942	549,016	306,225	33,224	549,016
Discharge Mode	NA						
General							
Alkalinity	mg/l						
Alkalinity-MO	mg/l	30	56	*	2190	13	2,190
Alkalinity-P	mg/l	3.6	13	*	2070	0	2,070
Ammonia	mg/l	5	5.6		6.3	3	6.3
BOD	mg/l						-
Chloride	mg/l	0.0075	119	100		45	119
COD	mg/l	0.0075	99	116	10	55	116
Conductivity	mg/l	1980	2580	*	11,100	599	11,100
Hardness	mg/l	21	30	38.4	29.3	16	38.4
Nitrate	mg/l	0.3	0.25	0.09	0.0017	0.0045	0.3
Nitrite	mg/l	192	287	306	119	52	306
pH	mg/l	x					-
Phosphate	mg/l	3	5.8	4.4	5.7	4	5.8
Silica	mg/l						-
Sulfate	mg/l	23	27	39.9	32.3	17	39.9
TDS	mg/l	1480	2040	*	3,570	498	3,570
TOC	mg/l						-
Total Cations	mg/l	17	25	43.3	52.6	5	52.6
TSS	mg/l	33	34	58.8	70.4	15	70.4
Organics							
Inorganics							
Arsenic	mg/l	0.0026	0.0029	0.0034	0.0037	0.0033	0.0037
Barium	mg/l	0.12	0.11	0.2	0.1	0.083	0.2
Cadmium	mg/l	0.0031	0.0041	0.02	0.01	0.0049	0.02
Calcium	mg/l	17	26	34	24	13	34
Chromium, total	mg/l	78	0.12	0.1	0.1	0.1	78
Copper	mg/l	0.57	0.35	1.0	1.2	0.4	1.2
Cyanide	mg/l	0.15	0.21	0.2	0.2	0.059	0.21
Fluoride	mg/l	6	14	14.9	4	2	14.9
Lead	mg/l	0.19	0.14	0.2	0.3	0.4	0.4
Magnesium	mg/l	3	4.6	4.8	4.8		4.8
Mercury	mg/l	0.017	0.03	0.01	0.01	0.0092	0.03
Nickel	mg/l	0.088	0.17	0.3	0.3	0.3	0.3
Potassium	mg/l	123	168	146	34.4		168
Selenium	mg/l	0.001	0.0017	0.0018	0.0037	0	0.0037
Silver	mg/l	0.028	0.02	0.02	0.02	0.0064	0.028

WASTE CHARACTERIZATION INFORMATION - SUMMARY OF INFLUENT DATA TO TA-50 TREATMENT FACILIT
RADIOACTIVE LIQUID WASTE COLLECTION SYSTEM AND TREATMENT FACILITY
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO

Parameter	Units	Stream ID: TA-50 Influent					
Activity Description		1988	1989	1990	1991	1992	Maximum
Sodium	mg/l	246	0.0017	*	2,100	52	2,100
Zinc	mg/l	0.33	0.24	0.3	0.5	0.3	0.5
Radionuclides							
Alpha	uCi/l						-
Am-241	uCi/l	x		1.30E-07	4.90E-08	1.33E-08	1.30E-07
Beta	uCi/l						-
Co-56	uCi/l			2.50E-07			2.50E-07
Co-57	uCi/l	x		8.80E-07	5.90E-07	0.00E+00	8.80E-07
Co-58	uCi/l			8.40E-07			8.40E-07
Co-60	uCi/l	x		2.10E-07	5.10E-07	0.00E+00	5.10E-07
Cs-137	uCi/l	x		5.90E-07	3.10E-06	2.73E-08	3.10E-06
Gamma	uCi/l						-
MAP	uCi/l						-
MFP	uCi/l						-
Mn-54	uCi/l	x		1.20E-07	0.00E+00	0.00E+00	1.20E-07
Na-22	uCi/l						-
Pu-238	uCi/l	x		9.90E-09	1.40E-08	1.60E-08	1.60E-08
Pu-239	uCi/l	x		2.70E-08	4.40E-08	1.93E-08	4.40E-08
Rb-83	uCi/l			9.90E-06	1.20E-05		1.20E-05
Rb-84	uCi/l			1.10E-06	7.20E-07		1.10E-06
Se-75	uCi/l			4.70E-06	1.20E-06		4.70E-06
Sr-85	uCi/l	x		4.40E-06		8.50E-06	8.50E-06
Sr-89	uCi/l	x		3.60E-06	2.50E-07	0.00E+00	3.60E-06
Sr-90	uCi/l	x		1.50E-08	3.90E-06	0.00E+00	3.90E-06
Tc	uCi/l						-
Thorium	uCi/l						-
Tritium	uCi/l			5.90E-04	4.80E-04	0.000542	5.90E-04
TRU	uCi/l						-
U-234	uCi/l	x		3.40E-09	3.00E-09	2.65E-09	3.40E-09
U-235	uCi/l						-
U-238	uCi/l						-
Uranium	uCi/l						-
Y-88	uCi/l			8.10E-08	3.90E-07		3.90E-07
Zr-95	uCi/l						-
Data Source		D					

Notes:
Annual Report Summary of Operating Data, Liquid Waste Management, 1988-1992. The values reported are the yearly averages.

WASTE CHARACTERIZATION INFORMATION
RADIOACTIVE LIQUID WASTE COLLECTION SYSTEM AND TREATMENT FACILITY
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO

Stream ID																
		TA/Building/Room Number														
Parameter	Units	48/1/305B	48/1/309	48/1/325	48/1/307-2R	48/1/305	Not Assigned	21/3/	3/34/	3/SM66/	48/RC-1	3/1288	21/153/602A	16/459/101	3/66/H1003	TA-59
Activity Description		Extraction/Separation to isolate As-73, As-74, W-181 W-185, W-188 from NTS di	Trituation of water from Rocky Flats to remove radionuclides.	Low level chemistry laboratory	Preparation of low-activity soins of NTS older than 1 month	Preparation of low-activity soins of NTS older than 1 month	Test facility for accelerator transmutation of waste.	Research chemical tech. of making new complexes of U-235 and Thorium.	R&D on samples of U-238 and Thorium.	Casting, machining, plating, etc of depleted uranium.	Weapons radiochemical diagnostics	Material science laboratory	Technetium chemistry	Weapons eng. tritium facility	U-238 processing	Treatment plant influent
Chemicals Used		HNO3, HCl, NaOH	Ba-133	HCl	HNO3, HCl	HNO3, HCl										
Flow/Volume																
Avg Flow	gpm															
Max. Flow	gpm															
Min. Flow	gpm															
Total Monthly Flow	gal/month	>55	>55	>55	>55	>55										
Total Annual Volun	gal							528.35	26.42	5,283.46	26.42					549,016
Discharge Mode	NA															
General																
Alkalinity	mg/l															
Alkalinity-MO	mg/l															2,160
Alkalinity-P	mg/l															2,070
Ammonia	mg/l															6.3
BOD	mg/l															
Chloride	mg/l															119
COD	mg/l															116
Conductivity	mg/l															11,100
Hardness	mg/l															38.4
Nitrate	mg/l															0.3
Nitrite	mg/l															306
pH	mg/l															-
Phosphate	mg/l															5.8
Silica	mg/l															-
Sulfate	mg/l															39.9
TDS	mg/l															3,570
TOC	mg/l															-
Total Cations	mg/l															52.6
TSS	mg/l															70.4
Organics																
Inorganics																
Arsenic	mg/l															0.0037
Barium	mg/l															0.2
Cadmium	mg/l															0.02
Calcium	mg/l															34
Chromium, total	mg/l															78
Copper	mg/l															1.2
Cyanide	mg/l															0.21
Fluoride	mg/l															14.9
Lead	mg/l															0.4
Magnesium	mg/l															4.8
Mercury	mg/l															0.03
Nickel	mg/l															0.3
Potassium	mg/l															166
Selenium	mg/l															0.0037
Silver	mg/l															0.028
Sodium	mg/l															2,100
Zinc	mg/l															0.5

WASTE CHARACTERIZATION INFORMATION
RADIOACTIVE LIQUID WASTE COLLECTION SYSTEM AND TREATMENT FACILITY
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO

Stream ID																
		TA/Building/Room Number														
Parameter	Units	48/1/3058	48/1/309	48/1/328	48/1/307-2R	48/1/305	Not Assigned	21/3/	3/34/	3/SM66/	48/RC-1	3/1268	21/150/602A	16/459/101	366/H100B	TA-50
Activity Description		Extraction/Separation to isolate As-73, As-74, W-181 W-185, W-188 from NTS di	Trituration of water from Rocky Flats to remove radionuclides.	Low level chemistry laboratory	Preparation of low-activity solns of NTS older than 1 month	Preparation of low-activity solns of NTS older than 1 month	Test facility for accelerator transmutation of waste.	Research chemical tech. of making new complexes of U-235 and Thorium.	R&D on samples of U-238 and Thorium.	Casting, machining, plating, etc of depleted uranium.	Weapons radiochemical diagnostics	Material science laboratory	Technetium chemistry	Weapons eng. tritium facility	U-238 processing	Treatment plant influent
Radionuclides																-
Alpha	uCi/l		x		x	x										1.30E-07
Am-241	uCi/l															-
Beta	uCi/l	x	U x	x	x	x										2.50E-07
Co-56	uCi/l															8.80E-07
Co-57	uCi/l															8.40E-07
Co-58	uCi/l															5.10E-07
Co-60	uCi/l															3.10E-06
Cs-137	uCi/l															-
Gamma	uCi/l	x	x	x	x	x										-
MAP	uCi/l						x									-
MFP	uCi/l				x	x										1.20E-07
Mn-54	uCi/l											x				-
Na-22	uCi/l															1.80E-08
Pu-238	uCi/l															4.40E-08
Pu-239	uCi/l															1.20E-05
Rb-83	uCi/l															1.10E-06
Rb-84	uCi/l															4.70E-06
Se-75	uCi/l															8.50E-06
Sr-85	uCi/l															3.80E-06
Sr-89	uCi/l															3.90E-06
Sr-90	uCi/l												?			-
Tc	uCi/l															-
Thorium	uCi/l							x	x					?		5.80E-04
Tritium	uCi/l		x									x				-
TRU	uCi/l						x									3.40E-09
U-234	uCi/l							x								-
U-235	uCi/l								x	x					?	-
U-238	uCi/l											x			?	-
Uranium	uCi/l															3.90E-07
Y-88	uCi/l												x			-
Zr-95	uCi/l															
Data Source		A	A	A	A	A	B	B	B	B	B	C	C	C	C	D

Notes:
1/ An x in lieu of a value for a specific parameter indicates that the consistuent is believed present , however, there is no data available.

Data Source
A/ TA-48 RLW Generators, 8/4/93
B/ Radioactive Liquid Waste Data Base, 8/4/93
C/Radioactive Liquid Waste Data Base, Waste Coordinators, 8/4/93.
D/ Annual Report Summary of Operating Data, Liquid Waste Management, 1988-1992. The values reported are the maximum value for the parameter from the yearly averages. Radionuclide data is from the years 1988-1992 only.

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MHD09.001, LA-MIN03-NC.001	
Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D067
Acceptable Knowledge Documentation Type: ✔ TRU Waste Management Program Information ✔ Waste Stream-Specific Information Supporting Information	Category: C - Correspondence ✔ D - Documents M - Miscellaneous P - Procedures DR - Discrepancy Resolution U - Unpublished Documents
Title of Source Document: Radioactive Liquid Waste Treatment Facility Information Package	
Source Document Reference Information (author(s), document and revision number, date, publisher): LANL, July 28, 1995, LANL	

AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS4, WS8	iii, 2, 8, 12	Liquid waste to be treated in the new RLWTF may contain "small amounts of organics and heavy metals." The planned facility needed to be able to treat variable wastes from different R&D programs that change frequently. A relatively small volume of waste from TA-55 that contained a high concentration of radioactivity was expected to be treated, although it was pre-treated at TA-55 to remove Pu and Am. The facility was to segregate and pretreat radioactive acidic, caustic, and Cl-/F- waste originating from TA-55, the Size Reduction Facility at TA-50, and possible future processes.
WS8, WS11	4	Table 2 contains guidelines for radionuclides "presently identified as occurring in the RLWP effluent..." These include Am-241, Cs-137, Co-56 and -57, Pu-238, Pu-239, Sr-90, and tritium, among several others. The characteristics of influent waste shown in Table 3 as a design basis for the new facility include the presence of the following radionuclides and chemicals: Am-241, As and As-74, Ba, Be and Be-7 and -10, Bi-207, Cd, Cr(VI) and other species, Co-56 to -58 and -60, Cr-51, Cs-137, cyanide, Pb, Hg, Mn-54, Na-22, Nb-95, Pu-238, Pu-239, Ra-226, Rb-83, Rb-84, S-35, Sc-46, Se-75 and nonradioactive Se, Ag, Sn-113, Sr-82, Sr-85, Sr-89 and -90, Tc-99, Ti-44, tritium, U-234, U-235, U-238, and other U species, V-48, Y-88, Zn-65, Zr-88, and Zr-95.
PR4	Section C	Contains two Administrative Requirements, AR 10-2 on "Low-Level Radioactive Solid Waste" and AR 10-5 on "Transuranic (TRU) Solid Waste," that define requirements for preparing, packaging, labeling, and documenting contact-handled TRU and radioactive waste. Includes examples of required documentation such as TRU Waste Storage Records and Radioactive Solid Waste Disposal Records.

ORIGINAL

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D067

Source Document Data Limitations (if any):

1. 1995 document describes plans for a new RLWTF and calls the old treatment facility the RLWP; as a result, much of the information on plans and requirements is not applicable.
2. Document does not address how much of influent species may be present in sludge.
3. Only every other page is available in Section C.
4. Radionuclides in Table 2 may not exhaustively reflect all radionuclides treated and/or released by the plant during the 1979-1990 time period.

Acceptable Knowlege Expert:

Amy Johns — Amy Johns — Date: 6/4/09

Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MIN03-NC.001

Site(s): Los Alamos National Laboratory	**Source Document Tracking Number:** D067
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Supporting Information	**Category:** ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title of Source Document: Radioactive Liquid Waste Treatment Facility Information Package	
Source Document Reference Information (author(s), document and revision number, date, publisher): LANL, July 28, 1995, LANL	

AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS4, WS8	iii, 2, 8, 12	Liquid waste to be treated in the new RLWTF may contain "small amounts of organics and heavy metals." The planned facility needed to be able to treat variable wastes from different R&D programs that change frequently. A relatively small volume of waste from TA-55 that contained a high concentration of radioactivity was expected to be treated, although it was pre-treated at TA-55 to remove Pu and Am. The facility was to segregate and pretreat radioactive acidic, caustic, and Cl-/F- waste originating from TA-55, the Size Reduction Facility at TA-50, and possible future processes.
WS8, WS11	4	Table 2 contains guidelines for radionuclides "presently identified as occurring in the RLWP effluent..." These include Am-241, Cs-137, Co-56 and -57, Pu-238, Pu-239, Sr-90, and tritium, among several others. The characteristics of influent waste shown in Table 3 as a design basis for the new facility include the presence of the following radionuclides and chemicals: Am-241, As and As-74, Ba, Be and Be-7 and -10, Bi-207, Cd, Cr(VI) and other species, Co-56 to -58 and -60, Cr-51, Cs-137, cyanide, Pb, Hg, Mn-54, Na-22, Nb-95, Pu-238, Pu-239, Ra-226, Rb-83, Rb-84, S-35, Sc-46, Se-75 and nonradioactive Se, Ag, Sn-113, Sr-82, Sr-85, Sr-89 and -90, Tc-99, Ti-44, tritium, U-234, U-235, U-238, and other U species, V-48, Y-88, Zn-65, Zr-88, and Zr-95.
PR4	Section C	Contains two Administrative Requirements, AR 10-2 on "Low-Level Radioactive Solid Waste" and AR 10-5 on "Transuranic (TRU) Solid Waste," that define requirements for preparing, packaging, labeling, and documenting contact-handled TRU and radioactive waste. Includes examples of required documentation such as TRU Waste Storage Records and Radioactive Solid Waste Disposal Records.

SUPERCEDED
SG 9/23/09

ORIGINAL

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D067

Source Document Data Limitations (if any):

1. 1995 document describes plans for a new RLWTF and calls the old treatment facility the RLWP; as a result, much of the information on plans and requirements is not applicable.
2. Document does not address how much of influent species may be present in sludge.
3. Only every other page is available in Section C.
4. Radionuclides in Table 2 may not exhaustively reflect all radionuclides treated and/or released by the plant during the 1979-1990 time period.

Acceptable Knowlege Expert:

Sheri Nance , Sheri Nance Date: 12/12/06

Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

DIVIDER PAGE ONLY

Not part of page count

RECORDS SUBMITTAL

INSTRUCTIONS: This form is prepared by the record source when submitting individual records, batch data reports, or a records package to the RMDC Center. Each record submitted requires a complete form.

MANDATORY: ☒ To the best of my knowledge, the record(s) have no radioactive contamination.

Signature: _____

RECORD TYPE:

☒Project 2010 ☐ Facility

☐ Other: _____ ☐ UCNI ☐ Proprietary

RECORD SOURCE:

Submittal Date: 3/2/04 Z No.: 198464 Name: Randy Fitzgerald

Originator: ~~SEE~~ RANDY FITZGERALD Organization: ~~RRES-WD~~ CCP 03/15/04 B.S.G.

TYPE OF RECORD/ACTION TO BE TAKEN

☐ Individual Record ☐ Batch Data Report ☒Records Package

☒New ☐ Addition* ☐ Supersedes*

*Record Barcode Number: _____

RECORD ID NUMBER: (e.g., memo symbol number, procedure (include revision), deficiency number, batch data report number, unique record identifier if applicable):

PKG-01 4 1873/0/04

Record Date: 7/28/95 Physical Page Count: ~~88~~ 86 ☒Single Sided ☐ Double Sided

Category Number: (from page two): 07

RECORD TITLE, SUBJECT, AND/OR KEYWORDS:

D067, Radioactive Liquid Waste Treatment Facility Information Package

P2010-0064

MEDIA TYPE:

☐ CD ☐ Diskette ☐ VHS ☐ Zip ☐ Other (specify): _____

RECORD CENTER USE ONLY

☐ Accepted ~~Date:~~ 3/24/04

Signature: _____

RIDs Type: _____

(D067)

P2010-0064

RADIOACTIVE LIQUID WASTE TREATMENT FACILITY

INFORMATION PACKAGE

LOS ALAMOS NATIONAL LABORATORY

July 28, 1995

Information Package

Table of Contents

Sections

Functional and Operational Requirements.....A

Influent Design Basis

Effluent Limits

Assumptions on Regulations.....B

Secondary Waste Criteria.....C

Project Milestones.....D

The following information was developed by Los Alamos National Laboratory to comply with applicable regulations that pertained to the design, construction and operation of the aforementioned project. There may be information contained in this package that may not be applicable to a private company interested in privatization. Any information that is found to be questionable should be identified and brought to the attention of LANL to determine suitability to privatization activities.

RADIOACTIVE LIQUID WASTE TREATMENT FACILITY

INFORMATION PACKAGE

FUNCTIONAL AND OPERATIONAL REQUIREMENTS

SECTION A

July 28, 1995

RADIOACTIVE LIQUID WASTE TREATMENT FACILITIES
FUNCTIONAL AND OPERATIONAL REQUIREMENTS

EXECUTIVE SUMMARY

This Functional and Operational Requirements (F&OR) document defines requirements for design, construction, startup and operation of the Radioactive Liquid Waste Treatment Facilities (RLWTF) Project. This Project will manage radioactive and industrial liquid wastes generated by the many ongoing and future activities at Los Alamos National Laboratory (LANL or the Laboratory) that are essential for ensuring national security. The Project will ensure that LANL's operations that produce and manage radioactive liquid waste comply with environmental laws and Department of Energy (DOE) Orders. The Project will support LANL's research, development, and testing (RD&T) programs that produce transuranic, low-level radioactive, liquid waste and will enable LANL to continue meeting its mission goals (Reference 1). The possibility exists that the liquid waste may contain small amounts of organics and heavy metals

The Project will ensure that safety and environmental concerns are addressed and implemented to meet present and currently anticipated future requirements. The objectives of the project, relative to it's environmental stewardship, are to assure that: (1) Air emissions from the RLWTF will comply with the Clean Air Act (CAA); (2) Treated waste water discharged to the environment will meet National Pollutant Discharge Elimination System (NPDES) criteria established by the United States Environmental Protection Agency (EPA) and the New Mexico Environment Department (NMED) for Livestock Watering under the federal Clean Water Act (CWA) ; and (3) Effluent will also meet the concentration limits for radionuclides established by 10CFR 834 . New treatment processes will be designed with adequate capacity, availability, and reliability to meet the needs of LANL missions and will be flexible to allow for future additions and modifications in response to the changing mission assignments over a 40-year design lifetime. It must be emphasized that the flexibility to treat widely varying waste streams is important as most waste, unlike waste at production facilities, is generated by research and development (R&D) programs that are continually changing and have futures that are difficult to predict. Processes selected will minimize the quantity of secondary waste generated in the treatment processes while producing an acceptable effluent. Building designs will facilitate easy decontamination during their operational lifetime and easy decontamination and decommissioning (D&D) after their useful lives.

The overall function of the project is to effectively and properly manage radioactive liquid and some liquid industrial waste streams at the Laboratory. The major waste management process functions of the Project include collection, segregation temporary storage, treatment, sampling/analysis, and preparing the waste products produced during the treatment operations for disposal or storage. Treatment may include such processes as organic destruction, actinide removal, heavy metals removal, suspended solids removal, dissolved solids removal, pH adjustment, removal of beta and gamma emitting nuclides, and sludge solidification.

The RLWTF will be equipped with necessary utilities; with analytical laboratories for organic, inorganic, and radiochemical analyses, and for toxicity measurements; and with a state-of-the-art control system for on-line monitoring of process parameters and safety systems. Ventilation and containment systems will ensure that radiation exposures are As Low As Reasonably Achievable (ALARA) and that workers, the public, and the environment are protected from hazardous materials. Space for building support functions such as administrative offices, control rooms, and utility rooms will also be included.

Siting considerations include the impacts of solid waste management units, site development costs, interface with existing and future waste generators, proximity to faults, residential areas, and proximity to point of disposal of treated liquids.

Operations will be conducted in a manner consistent with good industrial practice. Operational requirements include space for personnel and equipment; for testing, calibration, and maintenance; and for human factors requirements.

Environmental, safety, and health performance standards will be integrated into the design making operations safe for workers while protecting public health. These include the National Environmental Policy Act (NEPA); Occupational Safety and Health Administration (OSHA) standards; criticality prevention; radiation, hazardous material, and fire protection; and necessary alarm systems.

RADIOACTIVE LIQUID WASTE TREATMENT FACILITIES
FUNCTIONAL AND OPERATIONAL REQUIREMENTS
TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY I

1.0 INTRODUCTION 1
- 1.1 Purpose of Document 1
- 1.2 RLWTF Project Description 1
- 1.3 Project Justification 2

2.0 OVERALL PERFORMANCE REQUIREMENTS 3
- 2.1 Discharge Limits 3
- 2.2 Influent Characteristics 4
- 2.3 Plant Capacity/Throughput 8
- 2.4 Availability 8
- 2.5 Mode of Operation 8
- 2.6 Waste Minimization 9
- 2.7 Future Capabilities 9
- 2.8 Decontamination and Decommissioning 10

3.0 FUNCTIONAL IDENTIFICATION AND REQUIREMENTS 11
- 3.1 Process Functions and Requirements 11
  - 3.1.1 Collection/Segregation 11
  - 3.1.2 Storage 13
  - 3.1.3 Treatment 13
  - 3.1.4 Disposal 14
  - 3.1.5 Sampling/Analysis 14
- 3.2 Process Support Functions and Requirements 15
  - 3.2.1 Utilities 15
  - 3.2.2 Controls 15
  - 3.2.3 Monitoring 15

3.2.4 Analytical Laboratories 15
3.2.5 Off-gas Treatment 16
3.3 Building Support Functions and Requirements 16
3.3.1 Confinement/Ventilation 16
3.3.2 Control Room 16
3.3.3 Office Space 16
3.3.4 Utility Rooms 17
3.3.5 Restrooms/Change Rooms 17
3.3.6 Administration Requirements 17
3.4 Site Requirements 17

4.0 OPERATIONAL IDENTIFICATION AND REQUIREMENTS 19
4.1 Space Requirements 19
4.2 Personnel Requirements 19
4.3 Equipment Requirements 19
4.4 Testing Requirements 20
4.5 Maintenance Requirements 21

5.0 ENVIRONMENTAL, SAFETY, AND HEALTH (ES&H) REQUIREMENTS 21
5.1 National Environmental Policy Act (NEPA) 21
5.2 Occupational Safety and Health Administration (OSHA) 22
5.3 Criticality 22
5.4 Radiation Protection 22
5.5 Fire Protection 22
5.6 Environmental and Safety Documentation 22
5.7 Alarms 22

6.0 SAFEGUARDS AND SECURITY 23

7.0 REFERENCES 23

RADIOACTIVE LIQUID WASTE TREATMENT FACILITIES FUNCTIONAL AND OPERATIONAL REQUIREMENTS

1.0 INTRODUCTION

1.1 Purpose of Document

This document defines the Functional and Operational Requirements (F&OR) for the proposed RLWTF Project at Los Alamos. This document is intended for use throughout the planning, the design, the construction, the testing, and the operation of the RLWTF. It will be controlled to meet configuration management requirements and updated as necessary.

This document lists the end-user requirements that the RLWTF must meet and also serves as the initial technical baseline for the RLWTF project.

1.2 RLWTF Project Description

The Project, as developed during pre-conceptual activities, consists of five related Radioactive Liquid Waste Management construction activities that are being proposed for funding as a single Line Item. The existing 30-year-old treatment plant has historically been dependable and cost effective, however, it will have passed the end of its effective life before its function can be replaced. Alternatives, ranging from performing all treatment activities at the source and combinations of segregation and treatment at the source to complete centralized treatment, will be considered as viable options. Costs, volume reductions, treatment efficiency, and improved treatability will be primary criteria for evaluating the RLWTF options. Reliability, availability, maintainability, and inspectability (RAMI) criteria must be considered as well as the primary criteria.

The construction activities are:

- Siting, design, construction, and startup of centralized treatment facilities that will either replace or upgrade the existing radioactive liquid waste treatment functions performed in Technical Area (TA)-50 (Radioactive Liquid Waste Plant (RLWP) and Room-60 Pretreatment);

- Siting, design, construction, and startup of facilities for segregated treatment of process wastes at the generator locations;

- Extension of Radioactive Liquid Waste (RLW) transfer pipelines from TA-50 to the main treatment facility and an effluent discharge pipeline from the main treatment facility to the existing NPDES permitted outfall 051, (dependent on which option is chosen);

- Replacement of RLW pipelines used for transferring process waste between TA-55 and TA-50 and if necessary, extension of these to the new pretreatment facility; and

- D&D of abandoned liquid waste pipelines between TA-55 and TA-50.

The Project will manage radioactive liquid waste produced by various research activities at LANL. The proposed Project may replace or refurbish the existing "Room-60" Pretreatment Plant and the RLWP at TA-50, Building 1 and may provide segregated treatment at generator locations where this is the best option.

The technical objectives of the RLWTF are to:

- Ensure that LANL's future management of radioactive and industrial liquid waste is environmentally sound and effective; and complies with environmental laws and regulations that protect employees, public health, and the environment.
- Have an effective design lifetime of 40 years and meet present nuclear facility requirements.
- Have the flexibility to meet future radioactive and/or industrial liquid waste generators' needs into the middle of the 21 st century.
- Protect the employees and the public from radiation exposure and meet the true spirit of ALARA.
- Identify the necessary upgrades to the present collection system to allow for increased generator accountability of their waste streams by the utilization of real-time monitoring, catch tanks, and other design solutions to enforce the facility's waste acceptance criteria.
- Minimize waste at the point of generation which will reduce the waste constituent types and volume of influent to the new facility.

1.3 Project Justification

While performing mission assignments for the DOE, radioactive and industrial liquid wastes are generated by many operations throughout the Laboratory. These wastes must be properly treated before releasing the treated liquid to the environment and either storing or disposing the solidified waste that contains the concentrated radioactive constituents. Both primary and secondary wastes must be managed in an environmentally sound and effective manner that complies with requirements to protect employees, the public, and the environment.

The main purpose for constructing the RLWTF is to replace or upgrade the RLWP which is over 30 years old and does not use treatment technologies that will produce an effluent that meets the more stringent discharge limits.

The RLWTF Project will correct serious deficiencies in LANL's existing radioactive liquid waste management program and decrease the risk of its failure forcing critical Laboratory programs to shut down. More detailed justification and background information for the Project are presented in the Mission Need Statement (Reference 1) and in the RLWTF Project Background document (Reference 2).

2.0 OVERALL PERFORMANCE REQUIREMENTS

The RLWTF must meet certain overall performance requirements. Establishment of these requirements sets the standards against which the design and operation of the RLWTF can be evaluated. The RLWTF is required to effectively treat radioactive liquid waste and to meet the environmental discharge limits and acceptance criteria for storage. The RLWTF will process liquid radioactive waste containing transuranic nuclides and other radioactive species, with batch and/or continuous operations, at a rate equal to or above their weekly generation rate. The RLWTF will have the capacity to treat water used to control and extinguish fires occurring in areas controlled for radiological reasons. The RLWTF will have the flexibility to treat new waste streams that are generated by future Laboratory programs. These new facilities will be designed for easy and safe decontamination and decommissioning at the end of their useful lives.

2.1 Discharge Limits

The primary purpose for the RLWTF is to treat the radioactive liquid waste in accordance with all applicable regulations. Levels of contaminants in aqueous effluent discharged to the environment must meet limits set by the EPA and the NMED under the NPDES requirements of the CWA. Regulatory agencies set water quality standards for discharges to the environment to maintain or enhance the quality of receiving waters. Since the canyons around Los Alamos do not contain

ANTICIPATED NPDES DISCHARGE LIMITS (mg/l)		
CONSTITUENT	PROBABLE	MOST STRINGENT
Aluminum	5.00	**0.10**
Arsenic	0.02	**0.02**
Barium	-	**1.00**
Beryllium	-	**0.005**
Boron	5.00	**0.75**
Cadmium	0.05	**0.05**
Chlorine	1.00	**1.00**
Chromium	0.20	**0.05**
Cobalt	1.00	**0.05**
Copper	0.50	**0.005**
Cyanide	0.43	**0.005**
Iron	2.00 (lb/d)	**2.00(lb/d)**
Lead	0.20	**0.10**
Mercury	0.015	**0.0001**
Nickel	0.95	**0.05**
Ammonia as	0.20	**0.20**
Nitrate	10.00	**10.00**
Radium (226 +	30.0 pCi/L	**30.0 pCi/L**
Selenium	0.63	**0.005**
Silver	-	**0.005**
Sulfate	600.	
Tritium (^3H)	3000.00(nCi/	**20.00(nCi/L)**
Vanadium	0.10	**0.10**
Zinc	95.40	**0.03**
pH	6.0-9.0	**6.0-9.0**
COD	125.00	**125.00**
TDS	1500	**1500**
TSS	150	**450**

Table 1. Anticipated NPDES Discharge Limits

permanent streams, discharged water may accumulate as surface water in the canyon at various times during the year. The discharge standards for the RLWTF must therefore be more stringent than those for discharge to a flowing stream because of the lack of dilution and the possibility that passing animals could drink the undiluted effluent. The RLWTF will meet the effluent requirements as shown in Table 1. The guidelines for allowable concentrations of radioactivity in water is tabulated in EPA regulation 10 CFR 834 for most radionuclides. Values for those presently identified as occurring in the RLWP effluent are listed in Table 2. These concentrations are guidelines that will be used as upper limits for radioactivity in water released to the environment. The RLWTF will be designed to meet the 10 CFR 834 limits (Table 2) and evaluate the possibility of meeting the anticipated NPDES discharge limits shown in Table 1.

2.2 Influent Characteristics

The RLWTF will receive waste water from a large number of generators at LANL. Because activities at LANL are quite diverse, the types and concentrations of contaminants in different batches of waste water from different generators can vary widely. Because many research programs are conducted at the Laboratory, future waste streams with characteristics quite different from the present and also quite unpredictable may be produced. However, design of a facility to treat all types of waste is impractical, therefore, the present influent characteristics must be defined for design purposes and the facility and equipment designed with the flexibility to add and change processes for treating future waste streams. Influent characteristics are shown by the influent design basis (Table 3) .

10 CFR 834 EFFLUENT REQUIREMENTS	
Constituent	**DCG Ingested Water (nCi/L)**
Americium-241	0.04
Arsenic-74	40.
Beryllium-7	1,000.
Cesium-137	1.0
Cobalt-56	10.0
Cobalt-57	200.
Cobalt-58	50.
Cobalt-60	10.0
Manganese-52	20.
Manganese-54	50.
Niobium-95	60.
Plutonium-238	0.04
Plutonium-239	0.03
Radium-226 and 228	0.10
Rubidium-83	20.0
Rubidium-84	10.0
Selenium-75	20.0
Sodium-22	10.0
Strontium-85	70.0
Strontium-89	20.0
Strontium-90	1.0
Tritium	2,000.
Vanadium-48	20.0
Yttrium-88	30.0
Zirconium-88	100.
Zirconium-95	40.0
All Derived Concentration Guidelines (DCG's) are from 10 CFR 834 - release of /94.	

TABLE 2. EPA Regulation 10 CFR 834 Effluent Requirements

INFLUENT DESIGN BASIS		
CONSTITUENT	**UNITS**	**IDB VALUE**
FLOW RATE	L/day	60,000
Alkalinity	mg/L	1.55E+02
Alpha	uCi/L	2.03E-01
Aluminum	mg/L	6.30E-01
Am-241	uCi/L	6.91E-02
Ammonia NH3-N	mg/L	5.09E+00
Arsenic	mg/L	2.69E-03
As-74	uCi/L	5.36E-03
Barium	mg/L	1.02E-01
Be-10	uCi/L	8.46E-08
Be-7	uCi/L	1.32E-02
Berylium	mg/L	8.97E-03
Bi-207	uCi/L	8.46E-08
Cadmium	mg/L	6.32E-03
Calcium	mg/L	2.30E+01
Chloride	mg/L	3.20E+01
Chromium (6+)	mg/L	7.16E-02
Chromium(total)	mg/L	1.54E-01
Cobalt	mg/L	6.18E-03
Co-56	uCi/L	2.11E-03
Co-57	uCi/L	3.62E-03
Co-58	uCi/L	5.83E-03
Co-60	uCi/L	1.60E-03
COD	mg/L	1.21E+02
Copper	mg/L	9.40E-01
Cr-51	uCi/L	1.61E-02
Cs-137	uCi/L	4.00E-04

INFLUENT DESIGN BASIS		
Cyanide	mg/L	2.06E-01
Fluoride	mg/L	1.27E+01
Iron	mg/L	1.61E+00
Lead	mg/L	2.90E-01
Magnesium	mg/L	3.79E+00
Manganese	mg/L	3.48E-04
Mercury	mg/L	1.60E-02
Mn-54	uCi/L	1.81E-03
Na-22	uCi/L	1.04E-03
Nb-95	uCi/L	2.79E-03
Nickel	mg/L	1.87E-01
Nitrate NO3-N	mg/L	1.33E+02
Nitrite NO2-N	mg/L	1.93E-01
pH		2 - 12
Phosphate	mg/L	4.18E+00
Potassium	mg/L	1.46E+01
Pu-238	uCi/L	4.08E-02
Pu-239	uCi/L	6.97E-02
Ra-226	uCi/L	2.06E-07
Rb-83	uCi/L	1.25E-02
Rb-84	uCi/L	5.59E-03
S-35	uCi/L	4.39E-04
Sc-46	uCi/L	1.97E-03
Se-75	uCi/L	9.97E-03
Selenium	mg/L	2.30E-03
Silica (SIO2)	mg/L	9.00E+01
Silver	mg/L	1.87E-02
Sn-113	uCi/L	1.75E-08

INFLUENT DESIGN BASIS		
Sodium	mg/L	1.04E+02
Sr-82	uCi/L	4.13E-03
Sr-85	uCi/L	1.13E-02
Sr-89	uCi/L	5.17E-04
Sr-90	uCi/L	9.90E-05
Sulfate SO4	mg/L	2.92E+01
Tc-99	uCi/L	2.32E-03
TDS	mg/L	1.50E-03
Thallium	mg/L	2.34E-03
Ti-44	uCi/L	8.46E-08
Tritium	uCi/L	5.37E-02
TSS	mg/L	6.78E+01
U-234	uCi/L	9.65E-03
U-235	uCi/L	2.24E-04
U-238	uCi/L	2.83E-04
Uranium	mg/L	1.84E-01
Vanadium	mg/L	6.69E-02
V-48	uCi/L	6.23E-04
Y-88	uCi/L	5.60E-03
Zinc	mg/L	4.00E-01
Zn-65	uCi/L	9.11E-03
Zr-88	uCi/L	4.24E-03
Zr-95	uCi/L	2.80E-03

TABLE 3. Influent Design Basis

2.3 Plant Capacity/Throughput

The design treatment rate for the proposed RLWTF will be determined by analyzing the following:

- Historical waste water treatment demands,
- Maximum firewater flowrates from predicted accidents, and
- Effects of existing and future LANL-wide waste minimization program.

The annual volumes historically treated at the RLWP over its lifetime from 1963 until the present have been 40±20 million liters. Through better monitoring to detect maverick flows and some mission changes at the Laboratory, the annual flow to the RLWP decreased to 20.2±1.1 million liters during the period 1989 through 1992. Another source states that the waste volume treated at the existing plant over the period 1987 to 1991 averaged about 22 million liters per year. Both historical data and a study to predict future waste streams indicate that volume predictions over the facilities life have an uncertainty as large as ±50%. These data indicate that a treatment facility to emulate the RLWP should be designed for an annual flow of 30 million liters. Calculations of a Design Basis Accident (DBA) for the Chemistry and Metallurgy Research (CMR) Project indicate that a major fire could release approximately 60,000 liters of contaminated water in a short period. Collection System Study and Influent Design Basis established the design flowrates. The maximum design flowrate from an accident will also be determined during the conceptual design.

2.4 Availability

The purpose of the RLWTF is to treat waste water produced by many different generators at LANL; these RLWTF exist to serve the generators' needs. Within reason, generators should be able to obtain treatment of waste water at any time, either at the generator facility or at a centralized treatment facility if the waste meets the RLWTF WAC. Influent holding capacity, both locally and at centralized facilities, should be large enough to contain the waste volume generated during one week of normal operations.

The RLWTF should be equipped and staffed at levels that provide a processing rate meeting generator demands. The processes should be available to reliably operate and with extended maintenance periods not to exceed storage capacity. Consideration should be given to providing adequate treatment capacity through multiple parallel process trains and/or redundant equipment where appropriate to meet maintenance and availability requirements. RAMI must be considered during the design; a RAMI analysis of the designs must be performed to ensure that the operations will sufficiently meet the generator needs.

In addition, the RLWTF will be designed to accommodate the following operating scenarios:

- Start-up,
- Normal operation,
- Shutdown, and
- Special, infrequent, or emergency operation.

2.5 Mode of Operation

Design of the RLWTF must consider batch mode operations, continuous mode operations, and any combination of these two modes. Evaluation of operating modes should include life cycle costs, flexibility, reliability, complexity, availability, maintenance, and effectiveness of processing.

The high concentration of radioactivity in the relatively small volume of waste from TA-55 may make segregated treatment of this waste the most desirable option. This waste is presently pretreated at a centralized location to greatly reduce the concentrations of plutonium and americium before it is sent to the RLWP for additional treatment. Studies

will be conducted during the conceptual design to determine if segregated treatment of the TA-55 waste and other current or future waste streams is the best choice.

The design must include holding tanks for both the TA-55 process influent and the effluent from the pretreatment process to meet sampling requirements. Influent must be sampled and analyzed, before it is processed, for plutonium inventory control and to ensure that it meets waste acceptance criteria. Effluent must be sampled to ensure that it meets the requirements for release to the environment. Hence, discrete liquid batches must be stored at the beginning and end of the process.

2.6 Waste Minimization

Waste minimization is a mandate for all DOE activities, and consistent with other performance requirements, the RLWTF will be designed to minimize the generation of secondary waste. Some secondary waste, after solidification, may be classified as transuranic (TRU) waste because it will contain plutonium and americium at a concentration greater than 100 nCi/g. The Waste Isolation Pilot Plant (WIPP) located in southern New Mexico is planned to provide permanent storage for TRU waste. Local storage must be provided until the WIPP can accept delivery of the TRU waste. Minimization of TRU waste volumes is highly desirable because of disposal cost, local storage requirements, transportation requirements, and the limited storage capacity at WIPP. Waste that is classified as mixed waste will be segregated, collected, and treated separately.

Low-Level Waste (LLW), waste with less than 100 nCi/g transuranic activity and meeting the LANL WAC for low-level solid radioactive waste disposal, can be disposed at TA-54, Area G. Although management costs for LLW are presently less than management costs for TRU waste, both volumes should be minimized.

Composition and quantity of chemicals added for treatment will affect the volume and mass of secondary solid waste requiring disposal. Design of the treatment process will consider strategies to minimize secondary waste volumes and still meet treatment requirements. Segregated collection and treatment of certain streams may help meet waste minimization goals. Waste minimization should also be considered during the iterative process of defining the RLWTF WAC. For instance, the presence of high levels of nitrates, chlorides, or fluorides in the raw liquid waste could cause the generation of large quantities of salts during treatment and increase the quantity of radioactive solid waste generated at the RLWTF.

Solidification processes used to immobilize the sludges produced should minimize the final waste volumes while meeting the WAC's for TA-54 Area G and for the WIPP. In no instance will the treatment process produce any product that poses an unacceptable risk to workers, equipment, public, or the environment.

2.7 Future Capabilities

Research programs and other activities that produce radioactive liquid waste at LANL will change over the expected 40-year life of the RLWTF. It is difficult, if not impossible, to predict future waste streams and the regulations that will control treatment and disposal. Therefore, the RLWTF should be designed with the flexibility to respond to future treatment and regulatory demands. Unit processes may need to be modified, replaced, or added to meet future treatment requirements. Parameters which could change include the volume of waste to be treated, chemical characteristics such as pH and Chemical Oxygen Demand (COD), and the concentrations of chemical and radioactive contaminants. Regulatory requirements for discharge to the environment or operational permits could also change over the life of the RLWTF.

Therefore, in order to mitigate costs and delays associated with future operational modifications that may be necessary because of changes, the RLWTF design should allow for future process modifications. Modifications and additions may

include additional tanks for segregating unusual waste and pretreatment before additional processing through the main plant. Segregation and pretreatment may occur at a main centralized facility, at the generation site, or at both.

Also, for flexibility, the RLWTF should be designed to include space for additional treatment processes such as small skid-mounted units. Equipment configuration should allow the addition of skid-mounted pretreatment units at the front end or polishing units at the end of the main treatment train.

2.8 Decontamination and Decommissioning

The RLWTF may replace the RLWP as the radioactive liquid waste treatment facility at LANL. If the replacement option is chosen for the RLWTF project, the old facility will be decontaminated and put in a safe shutdown condition, meeting conditions that are commensurate with the proposed future use of the building.

The RLWTF will need to be decommissioned at the end of their useful life, and decontamination activities will also be necessary during their useful lifetimes. Therefore, the RLWTF must be designed for easy decontamination. This may include the use of contamination-resistant materials, materials that can be easily cleaned with decontamination solutions, and flow channels for collection of wash-down liquids. Creation of hard-to-clean areas in building corners and behind equipment and rough porous surfaces should be avoided. Equipment, walls, and floors should be painted to allow easy decontamination and using colors that increase the visibility of spills and leaks.

3.0 FUNCTIONAL IDENTIFICATION AND REQUIREMENTS

This section identifies functions that should be performed to satisfy the overall RLWTF performance requirements and identifies the technical performance requirements for those functions. Identification of functions is a key step in the system engineering process applied to large DOE projects. For the RLWTF, identification and establishment of functional requirements form the basis on which the design criteria will be developed.

Preconceptual planning activities have identified four groupings for RLWTF functions:

- Process functions that directly involve segregation, collection, treatment and storage/disposal of liquid waste.
- Process support functions that are necessary for the process to operate effectively.

  -Analytical
  -Evaluation of process area

- Building support functions which involve the housing and containment of the treatment process, in-process waste, and temporary storage of secondary waste.
- Locations of the RLWTF for segregated collection and treatment which affect the design of waste collection systems, disposal operations, and interface with other generator site activities.

3.1 Process Functions and Requirements

Process systems will be designed in accordance with applicable regulations, codes, standards, and practices of federal, state, and local government, LANL, and industry. Process functions of the RLWTF include the following:

- Collection/Segregation,
- Storage,
- Treatment, and
- Storage/disposal.
- Sampling/Analysis
- Process Evaluation

3.1.1 Collection/Segregation

Prior to treatment, the waste water will be collected from the various waste generators. Transport of waste water to treatment facilities should be mostly via existing pipelines, although in some cases, radioactive liquid waste may be transported in newly constructed pipelines or in containers by vehicle. Storage capacity at both the centralized and RLWTF generator sites must be sufficient to store the average volume of liquid waste generated during one week of normal activity. Additional storage is needed at the centralized facilities for maverick wastes that must be diverted and segregated from the main waste storage tanks.

Some of the liquid waste that the RLWTF receives will require specialized treatment in addition to or in place of the standard treatment process. Segregation and collection may be necessary to isolate process wastes with treatability characteristics different from normal or to avoid mixing of wastes which are incompatible and for which mixing might cause undesirable chemical reactions. Segregated collection and treatment systems may be attractive ways to reduce the quantity and undesirable

characteristics of process secondary wastes generated and will be included as necessary and practical. Consideration will be given to placing segregated treatment systems:

- In the same building with the main process,
- In a nearby or adjacent building,
- In a building at TA-50, or
- In a building at the generator's facility.

The Collection System Study will determine whether radioactive waste water from waste sources may be transported to the facility through pipelines or by vehicle in Department of Transportation (DOT) approved containers. Over-road transportation of wastes will meet the requirements of 49 CFR Section 173.

Radioactive acidic, caustic, and chloride/fluoride-containing waste streams originating from the Plutonium Facility at TA-55, the Size Reduction Facility at TA-50, and future processes such as the TRU Waste Treatment Facility, that contain actinide activities greater than those that are permitted by the centralized main treatment facility WAC, will be segregated and pretreated by the RLWTF. Special holding and process tanks must be provided for these waste streams.

A. Waste Acceptance Criteria

The WAC sets standards for determining whether waste is acceptable for treatment by the RLWTF. Influent waste streams will be required to meet the criteria; waste water failing to meet the WAC cannot be accepted for treatment. However, this waste water may be collected, segregated, and treated separately. Generators of radioactive liquid waste at LANL are responsible for properly characterizing, segregating, and documenting their waste prior to its transport or release to the RLWTF.

The WAC for the RLWTF will be defined in the Collection System Study and during conceptual design.

B. Radioactive Liquid Waste Transfer Lines

Transfer lines must safely transport radioactive liquid waste. Discharges to the Radioactive Liquid Waste Collection System (RLWCS) must be in a manner that prevents the occurrence of undesirable chemical reactions from unrelated waste streams.

The transfer pipelines into the influent storage tank system must be able to be diverted or segregated into different tanks. The existing RLWCS consists of over 25,000 feet of pipeline that serves buildings located in the South Mesa technical area and other technical areas along Pajarito Road west of TA-50. The existing RLWCS can be used for transporting wastes as far as TA-50, however, a new pipeline may be needed to extend this pipeline to a new centralized treatment facility. Any new pipelines must be constructed to meet or exceed the specifications used for constructing and monitoring the existing RLWCS.

C. Vehicle Receiving/Loading Area

Some waste may be transported to the RLWTF in containers by vehicles, therefore, the RLWTF should include an enclosure(s) for the vehicles to load/unload waste. Airlocks will be provided as needed, and the loading/unloading area(s) will be equipped with equipment for handling both large tanker trucks and small jugs of waste as appropriate. Provisions for transferring waste from small containers into RLWTF influent tanks will be provided.

This, or an equivalent area, will be included for providing space and equipment for loading vehicles with containers of secondary solid waste for transport to storage/disposal facilities.

3.1.2 Storage

Tanks for storing aqueous waste, an area for storing immobilized sludges, and space for storing chemicals needed in the treatment processes must be provided. Adequate space for maintaining an inventory of spare parts and for storing empty containers will be provided.

A. Liquids

Sufficient storage must be provided, as needed, to hold and stage partially treated liquids at various points in the treatment scheme. Process accountability calls for storage and analysis of both influent and effluent. Prior to treatment, waste will be stored in influent storage tanks for sampling and characterization to verify that the WAC requirements are met. Storage must be provided for wastes that do not meet the WAC or need pretreatment. Storage may be at a centralized facility, at the waste generators' facility, or both. Treated liquid will be stored for sampling and characterization prior to final discharge to verify that it complies with requirements of the NPDES permit. Effluent storage volumes will depend on the time needed to characterize the liquid and the influent flow rates. .The process may require various intermediate storage or holding tanks to facilitate batch and semi-batch operations and for storing liquid during process interruptions.

Radioactive waste water must be stored in a manner that minimizes the potential for releases, a criticality accident, or uncontrolled chemical reactions. Construction materials for storage tanks must be compatible with chemicals present in the waste water and cleaning/decontamination solutions. Tanks should be designed in accordance with applicable regulations to prevent uncontrolled discharges to the environment.

B. Solids

The treatment process will include a step in which the sludges containing concentrated contaminants removed from the liquid waste will be solidified, contaminants immobilized, and packaged in a manner that is acceptable for transportation and storage/disposal. The RLWTF will provide space and equipment for temporarily storing sludge, chemicals used to immobilize the sludge, containers for the solidified sludge, empty transport containers, and the packaged solidified sludge produced by the process.

Segregated controlled covered areas to temporarily store containers of the concentrated immobilized contaminants prior to shipment for storage/disposal will be included. Furthermore, segregated uncontrolled areas for storing non-contaminated containers, chemicals, and other supplies are required. Areas will have adequate space to meet the storage requirements.

C. Other Storage

A staging area for loading solid waste containers on transport vehicles will be included. Decontamination areas and utility rooms will be included to provide storage as necessary.

3.1.3 Treatment

The primary function of the RLWTF is to safely and efficiently treat low-level radioactive and TRU waste water, including acidic waste, caustic waste, and chloride/fluoride waste. Before discharging the treated liquid to the environment, the treated aqueous waste must have contaminant concentration levels below the acceptable limits listed in the NPDES permit and in 10 CFR 834. The treatment processes will be designed to meet the regulatory requirements under the RCRA, the CWA, the CAA, and applicable DOE orders.

Treatment will use the most current Best Demonstrated Available Technology (BDAT) to reduce the concentrations of radionuclides and regulated constituents to levels below the acceptable effluent

discharge limits given in Tables 1 and 2. The treatment systems will produce effluents, both liquid and airborne, and solid waste that meet regulatory limits and applicable waste acceptance criteria for storage/disposal of these secondary wastes. The treatment will be designed to minimize the volume of solidified sludge generated and the volumes of other secondary waste. Treatment must be effective at all process flowrates.

Treatment may include, the following processes:

- Organic destruction,
- Actinide removal,
- Heavy metals removal,
- Suspended solids removal,
- Dissolved solids removal,
- pH adjustment,
- Gamma polishing, and
- Sludge solidification.

3.1.4 Disposal

Disposal criteria depend on specific media, waste type, and destination.

A. Air Emissions

Stack emissions from the buildings must be filtered and continuously monitored to comply with air emission standards. Redundant systems should be designed, if necessary, for meeting safety, regulatory, maintenance, and operational requirements. Off-gas emissions from the treatment process must be treated to remove hazardous and radioactive constituents, producing a gaseous effluent that complies with applicable air emission standards.

B. Treated Waste Water Discharge

Treated waste water, which meets liquid effluent discharge standards, may be reused or discharged to Mortandad Canyon via the NPDES permitted outfall #051. Liquid effluent not meeting the discharge limits will be reprocessed through the RLWTF. Before discharging, the treated water must be sampled and characterized to verify that the effluent complies with the NPDES permit and other environmental regulatory requirements.

C. Solidified Sludge Waste Disposal

Solidified radioactive sludge (LLW and TRU) from the RLWTF will be transferred to the LANL disposal/storage area at TA-54. Solidified TRU waste will be stored at TA-54 for an interim period, until the WIPP becomes operational. The processes of choice will be those that minimize the volumes of solid waste produced, both TRU and LLW. The waste must be treated to immobilize the radioactive and other constituents of interest and then packaged in a manner that meets regulatory requirements for safe transportation and storage/disposal.

3.1.5 Sampling/Analysis

The RLWTF will have sampling and both on-line and off-line analytical capabilities for verifying WAC compliance. On-line instrumentation will be provided to continuously monitor and provide signals and readouts for the volume and radiation levels for all influent storage tanks. Mixing and sampling ports will also be provided so a homogeneous sample of the tank contents can be obtained for off-line chemical analysis.

Before the solidified sludge is transported to TA-54 for storage/disposal, it must be sampled and analyzed to ensure that the waste is properly classified and labeled and that the WIPP-WAC and the WAC for the TA-54 storage/disposal facility are met for TRU and LLW waste.

3.2 Process Support Functions and Requirements

The RLWTF require utilities with ancillary control and monitoring, a computerized process control and monitoring system, analytical laboratories, an off-gas treatment process, and a controlled and monitored building ventilation system.

3.2.1 Utilities

Utilities serving the RLWTF; including power, instrument power, emergency power, natural gas, potable water, sanitary sewer, water for fire protection, industrial water for process system uses, and interfaces to the LANL computer network and LANL communication systems; must be included to permit proper operation in accordance with applicable federal, state, and local laws, DOE Orders, LANL design criteria, and industry codes and standards. Utility delivery systems will be adequately sized to serve the present and future RLWTF needs.

3.2.2 Controls

Computerized electronic systems are required to monitor and to control the RLWTF treatment processes and the collection and storage systems. They will be separate from the utilities control and monitoring system.

3.2.3 Monitoring

Monitoring is required to ensure the safety and regulatory compliance of the RLWTF. Influent and effluent streams will be monitored to ensure compliance with WAC and discharge requirements. Radiation monitoring is required to ensure that worker safety requirements are met. Air emissions to the environment must be continually monitored for radioactivity and hazardous constituents to ensure that the emissions comply with regulations. In addition, process variables necessary for the proper control of the process will be monitored. This includes, for example, temperatures, flowrates, pressures, and pH's at various locations as needed for process control.

3.2.4 Analytical Laboratories

The RLWTF will include analytical laboratories to support the treatment processes and waste characterization. Analytical capabilities will be used to determine the treatment effectiveness, to determine that effluent meets discharge requirements, to detect influent insults, and to determine process upsets. Analytical laboratories must also support process evaluation efforts.

Instrumentation will be capable of measuring the concentrations of regulated constituents and parameters in the effluent following accepted regulatory procedures. These analyses will support the process in a timely manner. Solids and gases will also be measured to ensure operations do not violate regulations and that solid waste meets appropriate waste acceptance criteria.

The analytical laboratories will include adequate space for equipment and for storing chemicals needed for the analysis.

3.2.5 Off-gas Treatment

Tanks and unit processes will exhaust non-condensable gases through a ventilation system that will be designed to ensure that the quantity of regulated gaseous materials released from the RLWTF are below regulatory limits. The treatment capacity of the off-gas system will be large enough to treat process and tank exhaust gases produced in the RLWTF. Off-gasses will be produced during such processes as neutralization, immobilization/solidification nitrate destruction, and by normal tank breathing as the tank fills.

3.3 Building Support Functions and Requirements

Building support functions include the following:

- Confinement,
- Process controls,
- Office facilities,
- Utility closets,
- Restrooms,
- Change Rooms, and
- Administration requirements.
- Analytical support

3.3.1 Confinement/Ventilation

Personnel will occupy both office and process areas, a comfortable and safe work environment must be provided in both areas. Areas such as control rooms and rooms containing special temperature sensitive electronic equipment will be evaluated on a case-by-case basis and HVAC provided as required to protect the equipment. The ventilation system will be designed to ensure air flows from areas of low contamination potential to areas of high contamination potential.

3.3.2 Control Room

The RLWTF will include a central control room from which the facilities and the collection systems will be monitored and controlled, and facility control rooms from which the remote or other centralized treatment facilities can be operated. From the central control room, operators will be able to control processes including waste transfer rates, chemical addition, and start up and shut down of the processes. The central control room will receive data that allows operators to monitor temperatures, neutron generation rates, flow rates, gamma activities, tank levels, pH, valve positions, pump status, room pressures, mixer status, sampling status, alarm status, and any other signals that are appropriate for maintaining the status of the RLWTF. The operators will be able to open, close, and modulate valves; start and stop pumps; start and stop mixer motors; vary chemical feed rates; position ventilation dampers; and other functions that are appropriate.

The central control room will be a communication center and central control point for the RLWTF and the RLWCS. Control system interface with human operators and computers will be provided for monitoring, data logging, and control of equipment and systems.

3.3.3 Office Space

The RLWTF will require sufficient office space for personnel assigned to the RLWTF. Office space will be needed to house personnel for operations, for maintenance, for administration, and for other ancillary functions.

3.3.4 Utility Rooms

Utility rooms will be needed for mechanical equipment, for electrical equipment, for telecommunications equipment, and for LANL computer informational networks. The rooms will be of sufficient size to house the necessary equipment. Janitor's closets to serve the various controlled and uncontrolled areas will also be needed.

3.3.5 Restrooms/Change Rooms

Men's and women's restrooms/change rooms will be included for personnel. They will include separate lockers for personal clothing and work clothing, showers, toilets, and sinks. They will be sized as required to serve the plant operations staff, maintenance personnel, and visitors.

3.3.6 Administration Requirements

Additional space will be included in the RLWTF as needed and appropriate for file cabinets, administrative storage, library space, conferences, and meetings. A receiving area will be provided for the delivery of administrative supplies.

3.4 Site Requirements

Possible locations for centralized treatment facilities are within an existing LANL technical area, TA-63 or at the existing RLWP. A potential location for the pretreatment facility is at TA-50. Locations for segregated treatment at generator facilities will be determined during the conceptual design as appropriate. There is no requirement that all of the RLWTF storage and treatment equipment be located in the same or adjacent buildings as treatment processes may be located at generator facilities where needed, however, there must be a clear definition of what constitutes the RLWTF for accountability purposes.

Site selection will be considered during development of the Environmental Impact Statement (EIS). During development of the EIS it must be shown that alternatives were considered and the best site(s) selected.

Criteria that should be considered for locating a facility include:

- **Surface faulting.** Some areas of the RLWTF will likely be classified as a hazard class 2 or 3 facility. The DOE would most likely prohibit placement of a hazard class 2 or 3 facility in close proximity to a region where fault displacement is possible. Adequate protection from the effects of other natural phenomena should also be considered.

- **Site size.** Adequate space for treatment, storage, and administrative requirements will be provided. Areas for future expansion should also be considered. Preliminary estimates are that approximately 5 acres is required to accommodate a centralized treatment facility.

- **Solid Waste Management Units (SWMUs).** Disturbing existing SWMUs should be avoided. Consideration of the many SWMUs at LANL affects the RLWTF sitings through not only the choice of locations for centralized treatment, but also the radioactive liquid waste transfer lines which may cross SWMUs.

- **Site Development Costs.** Costs of developing potential sites should be evaluated. This evaluation should include the costs of road extensions and improvements, utility line extensions, and construction of a collection system. The costs of locating processes for segregated treatment in generator facilities may be prohibitive if the new construction must

meet existing regulations. Cost should be a primary parameter when considering centralized versus segregated treatment in generator facilities.

- **Interface with and Impacts to Existing and Future Generators.** The proximity of the proposed facilities to the existing generators of radioactive liquid waste and to future generators of liquid waste are important. The shorter the distance the waste needs to be transported, the less potential there is for a leak or spill. Utility tunnels and portions of the existing waste collections system should be used, if practicable.

- **Public Hazard Analysis.** Close proximity of the facilities to public roadways is a safety concern. A minimum distance of 100 ft should be maintained from any public roadway to any facility structure.

- **Gravity Flow.** Location of centralized facilities should be downgrade of generators as much as possible, so that waste can be transported by gravity.

- **Access.** Site development for centralized facilities should include good vehicular and pedestrian traffic patterns. Safe road access for receiving liquid waste by truck and for receiving treatment chemicals and supplies should be provided. Physical location relative to other facilities will permit access to and from the site. These access requirements also apply to facilities for segregated treatment.

- **Interference.** Interferences with existing and proposed structures, both above and below ground, including paved roadways, should be minimized. This is an important requirement when refurbishing existing facilities or placing process equipment in generator managed buildings.

- **Other Environmental Impacts.** The presence of any jurisdictional wetland or floodplain on site is an important constraint. Efforts should be made to avoid or minimize impacts to the environment relating to any leaks or spills, including the potential for groundwater contamination.

- **Proximity to point of disposal.** The proximity of the facilities to the point of disposal shall be considered in the siting.

4.0 OPERATIONAL IDENTIFICATION AND REQUIREMENTS

The RLWTF will be operated in a manner consistent with good industrial practice, with highest priority given to providing a safe work environment for employees, and to protecting the public and the environment. To meet overall performance requirements, the RLWTF design must include certain operational features.

The following operational requirements are described in this section.

- Space requirements,
- Personnel requirements,
- Equipment requirements,
- Testing requirements,
- Maintenance requirements,
- Calibration requirements, and
- Human factors engineering requirements.

4.1 Space Requirements

A final space programming analysis will be conducted during the conceptual design of the RLWTF. The space programming will include a detailed description of the functional area requirements of the RLWTF to determine the required locations, areas and arrangements.

The functional areas needed for the RLWTF are: the Technical Support Area, the Liquid Waste Management Area, and the Analytical Laboratory Area. The analytical laboratory area supports monitoring and control of treatment and is expected to includes a hot volatiles laboratory; a hot radiochemical laboratory; a sample receiving, logging, and preparation area; and cold laboratories. The liquid waste management area includes the main process equipment, solidification equipment, process evaluation areas, hot and cold warehouses, a central control room, change rooms, and air locks. The technical support area includes an entry/lobby area, offices, meeting rooms, and restrooms.

Because the RLWTF may be spread out over several buildings at two or more technical areas, the functional areas identified may be duplicated in two or more buildings or they may be split into various buildings. However, all scenarios should be considered in the design of the RLWTF.

4.2 Personnel Requirements

Operation of the RLWTF will require trained personnel to serve in a number of functions. The functions include sampling, data collection, data analysis, and functions associated with operating unit processes.

Table 4 shows anticipated personnel required for RLWTF operation.

ANTICIPATED PERSONNEL
■ Administrative support personnel
■ Analytical chemists
■ Chemical waste technicians
■ Electricians
■ Engineers (Process, instrumentation, and safety)
■ Health and safety personnel
■ Instrument technicians
■ Maintenance personnel
■ Operators
■ Quality control personnel
■ Radiation control technicians
■ Waste Management Personnel

TABLE 4. Anticipated Personnel

4.3 Equipment Requirements

Equipment at the RLWTF will be designed for ease of transportation, ease of maintenance, and ease of replacing

POSSIBLE EQUIPMENT	
Type of Equipment	Description
Laboratory Analytical	■ Alpha-radiation counters ■ Atomic absorption instrument ■ Gas chromatographs ■ Glass ware ■ ICP instrument ■ Spectrophotometer
Treatment Process Equipment	■ Influent storage tanks ■ Effluent storage tanks ■ Sludge storage tanks ■ Intermediate storage tanks ■ Chemical oxidation units ■ Sorption polishing systems ■ Mixer/settler units(s) ■ Evaporator(s) ■ Ion exchange units ■ Sludge solidification ■ Filter systems ■ Off-gas abatement systems (including scrubbers, condensers, and gas polishing filters) ■ Neutralization tank ■ Organic removal unit ■ TDS removal system ■ Process system valves, pumps, piping, and other support equipment

Table 5 . Possible Equipment

4.5 Maintenance Requirements

obsolete equipment, while minimizing the contamination released and the potential for contaminating workers. Equipment should be segregated according to function, expected radiation levels, or other hazards as much as reasonably possible. Personnel radiation exposures must be considered in equipment layouts to maintain ALARA exposures during hands-on maintenance activities. When feasible, tanks should be designed using materials that will absorb penetrating radiation. Remote operation and maintenance capabilities should be used in controlled areas as practicable (on a cost-effective basis) to minimize both chemical and radiation exposures.

Equipment will be selected that is resistant to corrosion by the process solutions, and decontamination solutions. Table 5 shows the possible equipment anticipated for the RLWTF.

4.4 Testing Requirements

Components and systems will require test procedures and testing during manufacture, construction, and startup. Testing requirements must be considered during design, and provisions such as electrical and piping connections, valves, and plugs should be included to accommodate testing activities.

Standard operating procedures for calibrating, testing, operating, and maintaining process equipment and instruments will be written and approved during design. Full calibration, test, operating, and maintenance requirements will be developed during the design of the RLWTF.

The RLWTF will be designed to permit repair or replacement of any process component while minimizing hazardous chemical and radiation exposure to workers and public, minimizing maintenance costs, and minimizing down time.

Equipment will be designed to permit decontamination, inspection, replacement, and/or repair with ALARA radiation exposure to personnel. Access passages for introducing tools, equipment, and personnel will be provided in repair and processing areas. Electrical systems will be designed so that preventive and corrective maintenance can occur without compromising safety or environmental protection. Equipment or materials needed to ensure proper and safe replacement and/or maintenance of equipment in accordance with OSHA regulations will be provided.

A maintenance area for repairing mechanical equipment, an area for repairing electrical equipment, and an area for storing an inventory of uncontaminated spare parts and potentially contaminated spare parts for maintenance will be provided. These areas will be used for both periodic preventive maintenance and emergency repair services. Areas for storing cleaning equipment will be provided.

Facility and process system cleanliness is important during construction and operation. If construction is required in buildings that are presently occupied, dust and other airborne matter will not be allowed to escape from the construction area into these areas. Typical examples of provisions to allow easy maintenance of the facilities include sufficient personnel access area around equipment for cleaning, special finishes on surfaces, and provisions for flushing liquid systems. Building maintenance also includes painting, housekeeping, and repairs to utilities.

4.6 Human Factors Engineering Requirements

Human factors considerations will be incorporated into the design in accordance with applicable DOE orders. The facilities must provide comfortable and natural settings for personnel. Human factors including ergonomics must be considered in positioning equipment, switches, valves, and instruments both from an operational and a maintenance viewpoint.

5.0 ENVIRONMENTAL, SAFETY, AND HEALTH (ES&H) REQUIREMENTS

Safety requirements must be met during construction and operation of the RLWTF. Workers must be protected from unsafe conditions. ES&H requirements that must be met are listed in the following documents:

- DOE Order 5480 series, Environmental Protection, Safety, and Health Program for DOE Operations,
- DOE Orders 5480.21, Unreviewed Safety Questions; 5480.22, Technical Safety Requirements; 5480.23, Nuclear Safety Analysis Reports,
- 29 CFR 1910, Occupational Safety and Health Standards, and
- 29 CFR 1926, Safety and Health Regulations for Construction.

5.1 National Environmental Policy Act (NEPA) and Permitting

NEPA requirements for the Radioactive Liquid Waste Treatment Facility will be addressed in the Los Alamos National Laboratory (LANL) Site -Wide Environmental Impact Statement (SWEIS). The EIS will be prepared and a Record of Decision issued prior to initiation of detailed (Title II) design work.

Revisions to existing permits that are required for construction and operation will be completed before any construction is started. The existing RLWP operates under NPDES and NESHAPS permits and the new RLWTF will require similar permits.

5.2 Occupational Safety and Health Administration (OSHA)

The RLWTF will be designed to OSHA standards and operated in a manner consistent with OSHA. OSHA regulations must be met during both the RLWTF construction and operation phases. Good housekeeping and proper sanitation are of prime concern during construction and operation of the RLWTF. Construction procedures will follow OSHA guidelines and will be performed safely to prevent accidents involving workers or equipment.

5.3 Criticality

Nuclear criticality safety control provisions will meet the requirements of DOE Orders 5480.1 and 5480.24, Nuclear Criticality Safety. Although the concentration of fissile material in the waste streams are normally low, provisions must be taken to prevent accidental criticality events from abnormally high concentrations in a waste stream or from a large accumulation of fissile materials in the treatment process piping or equipment.

5.4 Radiation Protection

The requirements of DOE Order 5480.11 will be addressed during the RLWTF design. These requirements provide protection for the workers and prevent the spread of contamination from areas containing radioactive materials to uncontrolled administrative areas. Airlocks and areas for personnel monitoring must be provided where personnel may pass from an area into another area controlled at a different level to prevent the spread of radioactivity from contaminated areas to areas that are less contaminated or to the environment.

5.5 Fire Protection

Fire protection for the RLWTF will be provided in accordance with DOE Order 6430.1A, DOE Order 5480.7, NFPA codes, and LANL standards. The fire protection system will include a fire detection system that provides necessary evacuation alarms for RLWTF personnel, and a fire suppression system to provide necessary protection for personnel, equipment, and structures.

5.6 Environmental and Safety Documentation

Environmental and safety documentation are required by DOE Order before DOE facilities are operated. DOE Order 5480.1B, Environmental, Safety, and Health Programs for DOE Operations; DOE Order 5480.4 Environmental Protection, Safety, and Health Standards; and DOE Orders 5480.21, 5480.22, and 5480.23 set safety documentation standards.

A preliminary hazards analysis (PHA) must be completed early in the project to identify hazards that must be considered during design. A preliminary safety analysis report (PSAR) will be written during conceptual and Title design. A Final Safety Analysis Report (FSAR) will be completed after Title II, but before startup of the RLWTF. After startup, periodic Technical Safety Reviews (TSR) will be conducted to identify safety related problems and to reduce risks to workers, public, and the environment.

5.7 Alarms

Electrical signals will be provided to an emergency alarm system that produces an audible sound to alert workers when a situation exists, where for safety reasons, the facility needs to be evacuated. Signals from the fire detection system, criticality monitoring system, radiation monitoring system, and

manually-operated emergency evacuation pull stations should be provided to the emergency alarm system. The RLWTF emergency alarm system will be interfaced with the existing LANL emergency response system. An audible signal must be provided from the evacuation alarm system to all areas of the facility. A public address system will provide redundancy to the emergency alarm system.

6.0 SAFEGUARDS AND SECURITY

A fence for industrial security will be installed around centralized treatment facilities and buildings housing treatment facilities if a fence does not currently exist.

The RLWTF must maintain a roster of personnel that are in the area. Safeguards and security must be provided for the computer equipment that will also be used for inventory control and for managing records that must be maintained on wastes that enter and leave the facilities.

7.0 REFERENCES

1. Mission Need Statement for Radioactive Liquid Waste Treatment Facilities Project. Los Alamos National Laboratory and DOE Office of Environmental Restoration and Waste Management. March, 1993

2. RLWTF Project Background. RLWTF Project, Nov. 1994.

RADIOACTIVE LIQUID WASTE TREATMENT FACILITY

INFORMATION PACKAGE

ASSUMPTIONS ON REGULATIONS

SECTION B

July 28, 1995

Assumptions on Regulations:

Los Alamos National Laboratory has developed a Preliminary Requirements Identification Document. This document identifies all of the applicable regulations that govern LANL activities on this aforementioned project. It is LANL's position that any company interested in privatization should identify the regulations that would apply to this project if it were to be conducted without the DOE driven requirements. These regulations may include Code of Federal regulations , New Mexico Environmental Department requirements, EPA regulations and Pueblo discharge requirements.

RADIOACTIVE LIQUID WASTE TREATMENT FACILITY

INFORMATION PACKAGE

SECONDARY WASTE CRITERIA

SECTION C

July 28, 1995

Introduction

This administrative requirement (AR) specifies the rules and general procedures for the handling, storage, and disposal of low-level radioactive solid waste (LLW). Storage requirements for transuranic (TRU) waste and mixed waste (MW) are only partially addressed in this document. See AR 10-3, "Chemical, Hazardous, and Mixed Waste" and AR 10-5, "Transuranic (TRU) Solid Waste" for more information about these wastes.

LLW and TRU wastes are regulated under Department of Energy (DOE) Order 5820.2A, "Radioactive Waste Management." MW is also regulated in accordance with regulations adopted under the Resource Conservation and Recovery Act (RCRA) and by the New Mexico Hazardous Waste Management Act. Compliance with these federal and state requirements is mandatory for all operations at the Laboratory that generate, store, treat, or dispose of radioactive or MW. Following the requirements of this AR will help ensure full compliance with these regulations.

DOE Order 5820.2A requires that each waste generator establish an LLW certification plan to comply with the Los Alamos waste acceptance criteria for LLW. The order requires a fully auditable program for LLW operations and disposal practices in conformance with DOE Order 5700.6B, "General Operations Quality Assurance," and with the applicable referenced standards from "Quality Assurance Program Requirements for Nuclear Facilities," ANSI/ASME NQA-1. The Waste Management Group (HSE-7) is developing a plan to audit each waste generator for compliance with the quality assurance requirements. The DOE audits HSE-7 and the Laboratory for compliance with all provisions of the order.

HSE-7 is developing the "Los Alamos Low-Level Radioactive Solid Waste Certification Plan" and will begin working with waste management coordinators, assigned by the line managers of waste-generating organizations, to develop each of the certification attachments required to be in compliance with the HSE-7 waste acceptance criteria. The result of the certification program will be totally characterized waste streams, trained and certified waste management coordinators, a quality-assured LLW certification program, and random verification of waste.

Definitions

Compactible Waste—Solid waste that consists of trash-type material such as paper, plastic, rubber, small items of glassware (up to a 1-gal. size), small items such as pipe conduit <12 in. long, and small chips of wood or sheet metal. Excluded are larger noncompactible items, waste chemicals, free or absorbed liquids, biological waste, pressurized containers, powders, and any other hazardous materials, as defined by the Resource Conservation and Recovery Act (RCRA).

Disposal—Emplacement of waste, with no intent of retrieval, in a manner that provides isolation from the biosphere and that requires deliberate action to regain access to the waste.

Fissile Waste—Waste that contains nuclides that can undergo nuclear fission. For waste generated by Laboratory operations, fissile materials are plutonium, americium, ^{233}U, and ^{235}U. If the concentration of these isotopes in a waste package is ≥100 nCi/g of waste, the waste package must be handled as transuranic (TRU) waste as described in Administrative Requirement (AR) 10-5, "Transuranic (TRU) Solid Waste." Waste containing fissile isotopes, other than ^{235}U, in concentrations <100 nCi/g of waste will be disposed of as low-level radioactive solid waste (LLW). However, ^{235}U presents a potential criticality safety concern even at concentrations

Special Radioactive Waste—Radioactive waste that is not a mixed waste but because of various properties must be specially packaged and handled. Examples include radioactive asbestos and biological waste.

Storage—Retrievable retention of waste pending disposal or treatment. Transuranic waste is stored so that it may be retrieved for future disposal at the Waste Isolation Pilot Plant, and mixed waste (MW) is stored so that it may be retrieved for future treatment or disposal at a permitted disposal facility for MW.

Suspect Radioactive Waste—Waste that is generated in an area where radioactive materials are present but that cannot be verified as being radioactive or nonradioactive.

Transuranic Radionuclides—Any radionuclide having an atomic number >92.

Transuranic (TRU) Waste—Solid waste that is contaminated with alpha-emitting radionuclides with half-lives >20 years to levels >100 nCi/g of waste with the exception of natural and depleted uranium. (See Department of Energy/Albuquerque Operations Office Order 5820.2A, "Radioactive Waste Management.")

Tritium Waste—Solid waste that is contaminated with tritium. Tritium waste with concentrations <20 mCi/m^3 needs no special handling and is treated as routine LLW. Tritium waste with concentrations >20 mCi/m^3 (for example, 1 mCi per cardboard box measuring 1 x 1 x 2 ft) must be specially packaged as described in "Waste Packaging for Disposal," below.

Overall Responsibility

Line Managers. Unless otherwise stated in this document, line managers of the waste-generating organizations must ensure that the requirements specified herein are met.

Waste Management Coordinator. Line managers of waste-generating organizations must designate a waste management coordinator to be the primary contact for radioactive waste management and minimization efforts. The Waste Management Group (HSE-7) will assist coordinators so that they can effectively manage the waste operations in the generating organization. Depending on the volume of waste generated, waste management coordinators may be assigned at a group or division level. The coordinator must be trained and certified by the HSE-7 Radwaste and Chemical Waste Operations Sections, the radiation protection groups (HSE-1/-10/-11), and the Safety and Risk Assessment (HSE-3) Hazardous Materials Packaging Section (HAZPACT), as appropriate. Waste management coordinators will have approval authority on waste management matters for operations for which they are responsible.

The waste management coordinators will

- control the keys to radioactive waste dumpsters in their areas,
- review and sign all required documentation, and
- ensure that all waste generators under their authority are aware of the proper procedures for disposal and storage of radioactive waste.

Questions about proper handling of waste within the generating organizations must be directed initially to the trained waste management coordinator of that organization. Coordinators needing assistance or more information to resolve such questions should contact the appropriate Health, Safety, and Environment (HSE) personnel for guidance.

Housekeeping. Special care must be taken during Laboratory cleanup campaigns to ensure that uncontaminated waste is kept segregated from contaminated waste. The waste management coordinator must ensure that uncontaminated waste is not placed in radioactive waste dumpsters.

Size Reduction. Suspect contaminated bulky items such as desks, chairs, tables, shelving, framework, etc., must be disassembled into planar sections. Contaminated equipment must be disassembled to the extent possible. Contaminated piping, beams, etc., must be bundled whenever possible. If items much larger than an office desk are being disposed of and if the items are 50-75% void space, the generator must contact the waste management coordinator for disposal guidance.

Standard Operating Procedures

SOPs or special work permits (SWPs) are required for operations that generate LLW. SOPs are also required for operations that could generate sensitive waste, including waste from viral research, surety chemicals, and any other biological research that could cause concern at the storage and disposal sites.

The SOPs and SWPs must be prepared, reviewed, and approved as specified in AR 1-3, "Standard Operating Procedures and Special Work Permits." The SOPs must include the following information:

- a description of the waste-generating processes and operations;
- identification of the waste, including physical, chemical, and radionuclide characteristics;
- identification of procedures for reducing waste generation; and
- a description of how waste segregation, preparation, packaging, assay, and transportation will be handled in accordance with the requirements defined in this AR.

Waste Management Review. HSE-7 must review all SOPs involving LLW before they are implemented. To ensure compliance with the SOP and appropriate regulations and to determine whether program improvements are needed, HSE-7, along with the waste generators, area health protection staff (HSE-1/-10/-11), and other appropriate Laboratory personnel (such as the Hazardous Materials Packaging Section [HAZPACT] of HSE-3), must review the SOPs, the operation, and the facility on an annual basis.

Work Order and Small-Job Ticket Notification Memo

The waste generator and waste management coordinator, in cooperation with the Field Operations Group (ENG-5) representative, must notify HSE-7 by memo of any work orders or small-job tickets that result in activities that may generate >10 m^3 of radioactive waste.

This notification memo shall include

- generating group;
- generator site (TA, building number, and room number);
- name and telephone number of the waste management coordinator;
- name and telephone number of the engineering representative;
- estimated volume of radioactive waste;
- major radionuclides and the estimated number of curies or grams of each;
- general description of the waste;

Table I. Waste Segregation
Los Alamos National Laboratory—Waste Management

Waste Category	Guidance	Waste Form	Disposition
nonradioactive/nonhazardous	AR10-6	solid	redistribution ctr. or sanitary landfill
hazardous chemical	AR 10-3	liquid solid	Area L* storage Area L storage
mixed (hazardous/radioactive)	AR 10-2 AR 10-3	gas liquid solid	Area L storage Area L storage Area G storage
TRU	AR 10-2 AR 10-5	certified noncertified	Area G storage Area G storage
"routine" LLW	AR 10-2	compactible noncompactible	Area G disposal Area G disposal
suspect radioactive	AR 10-2	compactible noncompactible	Area G disposal Area G disposal
asbestos	AR 10-2 AR 10-3	nonradioactive radioactive	Area J* storage Area G disposal
PCBs	AR 10-2 AR 10-4	liquid solid	Area L storage Area G disposal
beryllium	AR 10-2	solid	Area G disposal
tritium	AR 10-2	solid	Area G disposal
biological	AR 10-2	nonradioactive radioactive	off-site disposal Area G disposal
mixed activation products	AR 10-2	solid	Area G disposal
mixed fission products	AR 10-2	solid	Area G disposal

* Areas L and J at TA-54 are managed by the Chemical Waste Operations Section of HSE-7.

Biological Waste. Only solid radioactive animal tissue or medical waste will be accepted for disposal at TA-54, Area G. Nonradioactive medical waste and sharp instruments must be disposed of elsewhere.

Tritium Waste. Tritium-contaminated waste contaminated at levels ≥20 mCi/m^3 must be segregated from other LLW. Packaging and disposal requirements are discussed in "Waste Packaging," below.

Powders. Radioactive powders, ashes, and similar particulates below 200 μ in diam must be segregated from other LLW. Before being accepted for disposal, all particulates must meet the requirements for immobilization of particulates discussed in "Pretreatment by Solidification or Immobilization," below.

Powders. Powders, ashes, and similar particulates must be immobilized if >1 wt % of the waste matrix in each package is in the form of particulates <10 μ in diam, or if >15 wt % is in the form of particulates <200 μ in diam. This requirement exists because of the potential inhalation hazard to operating personnel at Area G if a waste container of powdered or finely divided waste was breached during handling and disposal operations. Particles <200 μ in diam (fine sand size) are readily dispersible and would contaminate the immediate vicinity in a spill.

Contact HSE-7 for approval of solidification and immobilization techniques.

Radioactive Waste Dumpsters

General Information. Ultimate control of all radioactive waste dumpsters remains with HSE-7. Dumpsters will be assigned to designated waste management coordinators, who maintain control over them and are responsible for the keys.

Dumpsters will be assigned only to those sites that generate enough radioactive waste to warrant them. A waste management coordinator may call HSE-7 to arrange for delivery of a dumpster if waste-generation rates change and a dumpster is warranted.

HSE-7 will maintain a data base to track dumpster use at each location. To prevent infrequently filled dumpsters from accumulating radioactive waste and remaining at generator sites for several weeks or months until they are full, HSE-7 will pull these "orphan" dumpsters from use and will develop a routine waste pickup procedure.

Generators of small volumes of radioactive waste must set aside a temporary weather-protected area for storage between scheduled pickup times.

All waste placed in dumpsters must be properly packaged, surveyed before loading, and be free of removable external contamination. The maximum permissible beta-gamma reading at the surface of any package is 200 mrem/h. Exceptions must be approved by HSE-7 and HSE-1/-10/-11.

NOTE: Even if packaged, radioactive waste must never be left outside a dumpster.

Disallowed Waste. Waste that must never be placed in radioactive waste dumpsters includes the following:

- unpackaged waste (unless HSE-7 has granted prior approval);
- free liquids;
- MW, such as MW oils, chemicals, and spray cans;
- chemical waste;
- TRU waste;
- asbestos waste, which must be placed in special dumpsters;
- noncompactible waste in compactible waste dumpsters;
- unimmobilized powders;
- biological waste;
- tritium waste over 20 mCi/m^3;
- >700 g of ^{235}U; and
- PCB-contaminated waste.

Weight Limitations. Waste packages placed in compactible dumpsters must not exceed 35 lb. The total weight limit for any dumpster is 5000 lb.

Beryllium. Beryllium waste must be double-bagged and packaged in 30-gal. or 55-gal. Department of Transportation (DOT) 17-C drums for disposal. This waste must remain completely segregated and will be disposed of, whenever possible, in a monofill shaft. Beryllium waste must be accompanied by ES&H Form 10-2A and HS Form 10-3A.

PCBs. PCBs must be packaged as described in AR 10-4.

Radioactive Biological Waste. This waste must be disinfected, frozen, and packaged in a strong package such as a 30-gal. drum, labeled, and transported with ES&H Form 10-2A to Area G for disposal in a monofill shaft. HSE-7 must receive written assurances from the generators that there is no hazard to HSE-7 personnel from handling or disposal operations of this waste.

Biological waste or other medical waste must never be mixed with other radioactive waste.

Tritium Waste. Special packaging is required for tritium waste with concentrations ≥20 mCi/m^3. LLW from a tritium work area containing tritium concentrations <20 mCi/m^3 requires no special handling or packaging.

Tritium waste above 20 mCi/m^3 must be packaged as follows:

Tritium Waste ≤100 Ci/m^3. Tritium waste up to 100 Ci/m^3 must be packaged in DOT 17-C metal drums. The generator must coat the inside of each drum with an asphaltic emulsion, and the void spaces between the waste and the asphalt coating must also be filled with an asphaltic emulsion, asphalt-saturated vermiculite, or an asphalt-saturated absorbent such as corncob fractions. The recommended emulsion is Chevron Undercoating AF. The lids of the containers must also be sealed with asphalt. Approved containers are DOT 17-C or 17-H 30-gal. and 55-gal. drums with locking rings.

Contact HSE-7 for disposal requirements for tritium waste ≤100 Ci/m^3 that cannot be contained in drums.

Tritium Waste >100 Ci/m^3. Tritium waste >100 Ci/m^3 must be completely encapsulated in an asphaltic undercoating material such as Chevron Undercoating AF. Typically, the waste must be placed in a 30-gal. drum, which will be packaged inside a 55-gal. drum. The void space between the two drums is filled with asphalt or asphalt-saturated absorbent such as vermiculite or corncob fractions. Approved containers are DOT 17-C or 17-H 30-gal. and 55-gal. drums with locking rings.

Contact HSE-7 for disposal requirements for tritium waste >100 Ci/m^3 that cannot be contained in drums.

Uranium-235. The isotope ^{235}U is the only fissile isotope prevalent at the Laboratory with a specific activity low enough to present criticality concerns at concentrations <100 nCi/g. Thus, LLW containing ^{235}U must be handled and packaged as follows:

Maximum Storage in LLW Containers. No LLW container, no matter what size, may contain >700 g of ^{235}U. Operations involving more than this amount of ^{235}U must have current SOPs approved by the line manager and filed with the Criticality Safety Group (HSE-6) and the HSE-3 SOP Office. See AR 4-1, "Nuclear Criticality Safety."

- improperly loaded dumpsters,
- failure to meet transportation requirements, and
- failure to follow established procedures, including compliance with certification attachments.

HSE-7 personnel will check documentation and visually inspect all waste shipments at the gate to the disposal site. Any nonconformances found will be handled in one of the following ways:

- The waste may be accepted and disposed of as is, and a nonconformance report issued.
- The waste shipment will not be accepted for disposal but will be held in a staging area until the waste management coordinator, the waste generator, or a member of the waste-generating group arrives to remediate the nonconformance. A nonconformance report will be issued.
- The nonconformance may be remediated by HSE-7 personnel at the waste generator's expense. A nonconformance report will be issued.
- The waste shipment will not be accepted and will be returned to the waste generator for remediation. A nonconformance report will be issued.

A Waste Generator Nonconformance Report, ES&H Form 10-2B, will be issued for nonconformances discovered after the waste has been accepted for compaction, storage, or disposal. Remediation of these nonconformances may range from no action required to requiring the generator to supply personnel at the disposal facility for remediation. In some cases, the generator will be charged for the costs incurred.

The disposal facility may refuse to accept waste from a generator for repetitive nonconformances of the same nature. The line manager of the waste-generating organization must ensure that appropriate corrective action has been taken before waste will again be accepted at TA-54, Area G.

The generator must document the cause of the nonconformance on ES&H Form 10-2B and indicate the actions taken to eliminate its recurrence. Copies of ES&H Form 10-2B will be distributed to the HSE-7 disposal site engineer, the section leader of the HSE-7 Radwaste Section, the HSE-7 group leader, the waste management coordinator, and the line manager of the waste-generating group.

Disposing of Property-Numbered or Classified Waste

Disposal of a property-numbered or classified item requires ES&H Form 10-2A and a Disposal of Contaminated and/or Classified Property Form, Form 252-R. The waste-generating organization initiates Form 252-R.

HSE-7 personnel at the disposal site must attempt to verify that the property-numbered items in the waste load agree with the information on Form 252-R. To prevent unnecessary radiation exposures and possible injury to disposal site staff, generators must ensure that the load is packaged so that any property-numbered items are clearly visible to the disposal site inspector. HSE-7 will not verify that the items have been disposed of properly if they are not visible to inspectors.

Transportation

The following policies and procedures are required to transport LLW from waste-generating sites to the disposal/storage facility area at TA-54, Area G. Any deviation from the following must be in accordance with AR 3-5, "Shipment of Radioactive Materials." *NOTE: This section does not address shipments made outside of Los Alamos County.*

Tritium-Contaminated Oil in Drums. All drums of tritium-contaminated oil for storage must be handled as described in this AR and in AR 10-3. Each container must have the appropriate bar-code label affixed and if the oil is an MW, bear a "Hazardous Waste" label supplied by the HSE-7 Chemical Waste Operations Section. A completed Radioactive Material Tag must also be affixed to each container. Each container must have the date the container was closed and the total number of curies of tritium in the container on that date written on it in 1-in. letters.

Approvals, Scheduling, and Processing of Shipments

All shipments of radioactive waste received at TA-54, Area G, must have previously approved documentation and must be scheduled. The normal steps to follow in shipping a load of radioactive waste to TA-54, Area G, are as follows.

1. Sufficient volume of LLW is generated to require disposal (dumpster is full, load sufficient for dump truck, etc.).
2. The waste generator contacts the waste management coordinator, who initiates ES&H Form 10-2A and a Waste Profile Request Form (WPRF), HS Form 10-3B, for the generator to complete.
3. The waste management coordinator reviews the completed forms and inspects the waste before signing ES&H Form 10-2A.
4. The waste management coordinator sends ES&H Form 10-2A to HSE-7 for review. He or she also sends HS Form 10-3B to HSE-8 so they may identify any hazardous components in the waste.
5. If HSE-8 determines that there are hazardous components in the waste, the waste management coordinator is notified and HS Form 10-3A is generated; the waste is then handled through the Chemical Waste Operations Section of HSE-7. If HSE-8 needs more information to identify hazardous waste, or if further analysis of the waste is required, they contact the waste management coordinator.
6. If no hazardous components are identified in the waste by HSE-8, the original HS Form 10-3B is returned to the group's waste management coordinator, who will have the waste generator sign the form. A copy of HS Form 10-3B is sent to HSE-7 by HSE-8.
7. HSE-7 reviews ES&H Form 10-2A and the corresponding HS Form 10-3B and approves or disapproves the shipment. If the shipment is disapproved, the waste management coordinator contacts the waste generator to make the changes required for approval. If the shipment is approved, HSE-7 signs ES&H Form 10-2A, affixes a bar-code label, and returns the form to the waste management coordinator.
8. HSE-7 and the waste management coordinator schedule the delivery of the waste for disposal or storage at TA-54, Area G.
9. The waste management coordinator contacts ENG-5 to arrange with the support services contractor, if necessary, to deliver the waste to TA-54, Area G. Dumpsters are scheduled and picked up by HSE-7.
10. The manifest package for the waste must be assembled before the scheduled pickup date. The manifest package must include, at a minimum

"Waste Acceptance Criteria for Low-Level Radioactive Waste Disposal at TA-54, Area G," Los Alamos National Laboratory document RAD-HSE7-AD-02, R00 (January 1, 1991).

"Waste Minimization Program Plan," Los Alamos National Laboratory document (July 10, 1989).

Referrals

Accelerator Health Protection Group (HSE-11), 7-5890

Chemical Waste Operations Section of the Waste Management Group (HSE-7), 7-7579

Chemistry Health Protection Group (HSE-10), 7-7171

Criticality Safety Group (HSE-6), 7-4789

Emergency Management Office, 9-911

Environmental Protection Group (HSE-8), 7-5021

Field Support Group (ENG-5), 7-4657

Hazardous Materials Packaging Section (HAZPACT) of the Safety and Risk Assessment Group (HSE-3), 7-4127

Health, Safety, and Environment (HSE) Division Emergency Assistance, 7-7878 (7-4437 after normal working hours)

Material Control and Accountability Group (OS-2), 7-5886

Property and Transportation Management Group (MAT-2), 7-5217

Radiation Protection Group (HSE-1), 7-5296

Radwaste Section of the Waste Management Group (HSE-7), 7-6095 (for scheduling and coordination); telephone 5-WAST with questions

Safety and Risk Assessment Group (HSE-3) SOP Office, 7-9949

Forms

ES&H Form 10-2A, Radioactive Solid Waste Disposal Record

ES&H Form 10-2B, Waste Generator Nonconformance Report

Form 252-R, Disposal of Contaminated and/or Classified Property

HMT 1-1, Hazardous Materials Transfer Form (found in AR 3-5)

HS Form 10-3A, Chemical Waste Disposal Request (found in AR 10-3)

HS Form 10-3B, Waste Profile Request Form (found in AR 10-3)

Tag

Radioactive Material Tag

Vehicle Breakdown. If a vehicle becomes inoperative during the transportation of waste, the driver must contact his or her supervisor and request assistance without leaving the vehicle unattended. HSE-7 and the appropriate radiation protection group (HSE-1/-10/-11) should be contacted as soon as possible. (HSE-7 radios are provided to the dumpster truck driver.) If the vehicle must be taken to the repair shop, it must first be towed to an appropriate Laboratory secured area where the waste must be transferred to another truck or stored at the approved site until the next workday. If the vehicle cannot be moved, the waste must be transferred to another vehicle for transport to Area G. After being emptied, the disabled vehicle must be monitored by radiation protection technicians before it is moved.

Transportation Accident. Any accident involving a vehicle carrying LLW must be reported immediately to the Emergency Management Office (EMO) at 9-911. EMO will contact the appropriate emergency response personnel.

References

"Approved State Hazardous Waste Management Programs," 40 CFR 272 (most recent edition).

"Atomic Energy Act," Public Law 703 (1954).

"Beryllium," Administrative Requirement 6-7, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Chemical, Hazardous, and Mixed Waste," Administrative Requirement 10-3, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"EPA Administered Permit Programs: The Hazardous Waste Permit Program," 40 CFR 270 (most recent edition).

"Excess Government Personal Property," Administrative Requirement 10-6, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"General Operations Quality Assurance," Department of Energy Order 5700.6B (September 23, 1986).

Hazardous Materials Transportation Manual, Los Alamos National Laboratory document (most recent edition).

"Hazardous Waste Management System: General," 40 CFR 260 (most recent edition).

"Identification and Listing of Hazardous Waste," 40 CFR 261 (most recent edition).

"Interim Standards for Owners and Operators of New Hazardous Waste Land Disposal Facilities," 40 CFR 267 (most recent edition).

"Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," 40 CFR 265 (most recent edition).

"Land Disposal Restrictions," 40 CFR 268 (most recent edition).

"New Mexico Hazardous Waste Management Act," Chapter 74, Article 4, NMSA (1978).

"New Mexico Hazardous Waste Regulations," HWMR-5 (most recent).

"Nuclear Criticality Safety," Administrative Requirement 4-1, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

This Page For HSE-7 Use Only	HSE-7 USE ONLY

4. HSE-7 APPROVAL (No Waste Can Be Accepted Without Approval Signature)

HSE-7 APPROVAL STATEMENT: My signature certifies that the waste described on this application is acceptable AS DESCRIBED for storage or disposal by HSE-7

HSE-7 Approver (Print or Stamp)	Approver Signature	Date Approved	Date Returned to Generat

DISPOSITION

- ☐ MAP Shaft
- ☐ Be Shaft
- ☐ PCB Shaft
- ☐ MW Storage Shaft
- ☐ Other _____
- ☐ Low-Level H3 Shaft
- ☐ High-Level H3 Shaft
- ☐ Animal Tissue Shaft
- ☐ MFP Shaft
- ☐ LLW Pit
- ☐ Asbestos Pit
- ☐ Holding Shed
- ☐ MW H3 Shed
- ☐ Compactor
- ☐ MW Storage Dome
- ☐ Certified TRU Dome
- ☐ Uncertified TRU Storage

5. Receiving Site Information

Date Waste Received (MM,DD,YY)			
Gross Weight (lbs)			
Tare Weight (-)			
Net Weight			

Vehicle Code

- ☐ Dumpster (01)
- ☐ Dump Truck (02)
- ☐ Flatbed (03)
- ☐ Pickup (04)
- ☐ Shield Cask (05)
- ☐ HSE-7 Truck (06)
- ☐ Other (Specify Below) (07)

Treatment Code

- ☐ Compaction (01)
- ☐ Incineration (02)
- ☐ Other (03)
- ☐ None (04)

Exposure Rate Contact: ____ mR/h

Exposure Rate at 1 Meter: ____ mR/h

Driver Signature	HSE-1 Monitor Signature (TA-54)	Non-Conformances? ☐ No ☐ Yes	Non-Conformance Report No

6. Compaction Information

Bale No.	Compaction Date	Bale Volume (m^3)	Pit	Posts	Layer	Pad	Transit Seq. No.	Date Disposed

7. Disposal Location Information

Disposal Date	Area	Shaft	Pit	Transit Sequence No.	Post(s)	Layer	Position

8. Storage Location Information

Storage Date	Area	Shaft	Building	Column	Layer	Row	Pad	Post(s)	Layer	Position

9. Director Of Disposal Operations

DIRECTOR OF DISPOSAL OPERATIONS CERTIFICATION: My signature certifies that all waste receiving storage and/or disposal requirements were met.

Director of Disposal Operations (Print Name)	Signature	Date

10. Data Management Information

Date Entered in Logbook	Date Entered in Database	Date Entry Verified
Initial		Initia

Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

HSE-7 USE ONLY

RADIOACTIVE SOLID WASTE DISPOSAL RECORD
APPLICATION FOR STORAGE/DISPOSAL

Date
Group
Technical Area
Building
Return Mail Stop

INSTRUCTIONS:

1. Read and follow detailed instructions on last page.
2. For further assistance contact your Waste Management Coordinator.
3. Send completed form to "LLW Reviewer," HSE-7, MS J-595, for approval.

FORM 2 R (3/81)

DISPOSAL OF CONTAMINATED AND/OR CLASSIFIED PROPERTY

No.

QUANTITY	DESCRIPTION	CLASSIFICATION	PROPERTY NO.	GROUP CHARGE	MONITORING RESULTS/ISOTOPE	MONITORING DATE	COST	W/R NO. TO ZIA

I certify that the above items are:

- ☐ Highly contaminated and cannot be decontaminated and present a health hazard.
- ☐ Contaminated and not economical to decontaminate.
- ☐ It is recommended that these items be buried.
- ☐ Classified.

FORM HEALTH PHYSICS GROUP CLASSIFICATION GROUP

Approved: _____

HEALTH PHYSICS GROUP OFFICE

Information hereon verified with records and is complete.

DIVISION/GROUP PROPERTY REPRESENTATIVE

APPROVED:

LABORATORY PROPERTY MANAGER

The above articles were properly disposed of by Waste Management

at _____
DISPOSAL LOCATION

by _____ on / /
NAME DATE

CLASSIFIED MATERIAL DISPOSAL WITNESSED

_____

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

WASTE GENERATOR NONCONFORMANCE REPORT

Report Number								Date

To	From
	HSE-7 Radioactive Solid Waste Disposal Facility TA-54 Area G 667-6095 MS J592

RSWD Number	Date Received	Group	TA	Building	Mail stop	Phone	Fax	Program Code

Generator's Name	Waste Management Coordinator's Name

Discrepancy

Disposition

- ☐ Returned to generator for remediation
- ☐ Held until generator remediates
- ☐ Disposed of "as is"
- ☐ Remediated by HSE-7 at generators expense
- ☐ Other (specify) _____

Technical approval (signature) _____ Site Engineer (signature) _____

TO BE COMPLETED BY GENERATOR

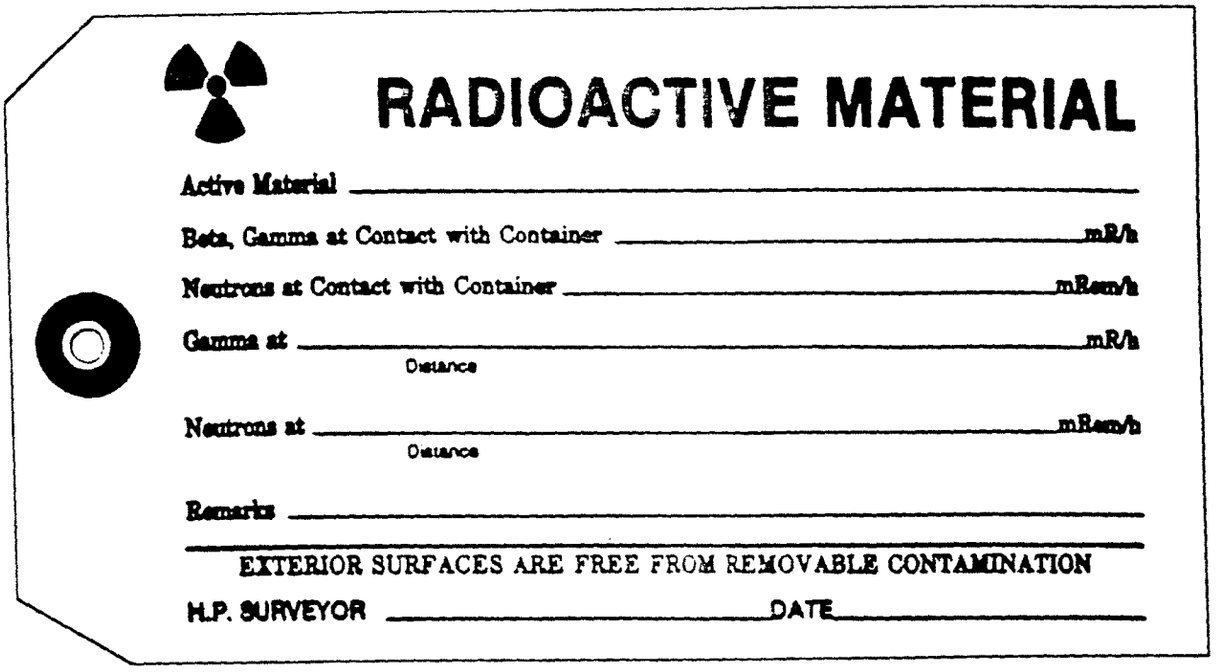
Cause of discrepancy

Corrective action taken to eliminate recurrence of discrepancy

Generator (signature)	Group	Date

Form ES&H 10-28 (2/91)

Radioactive Material Tag



RADIOACTIVE MATERIAL

Active Material _____

Beta, Gamma at Contact with Container _____ mR/h

Neutrons at Contact with Container _____ mRem/h

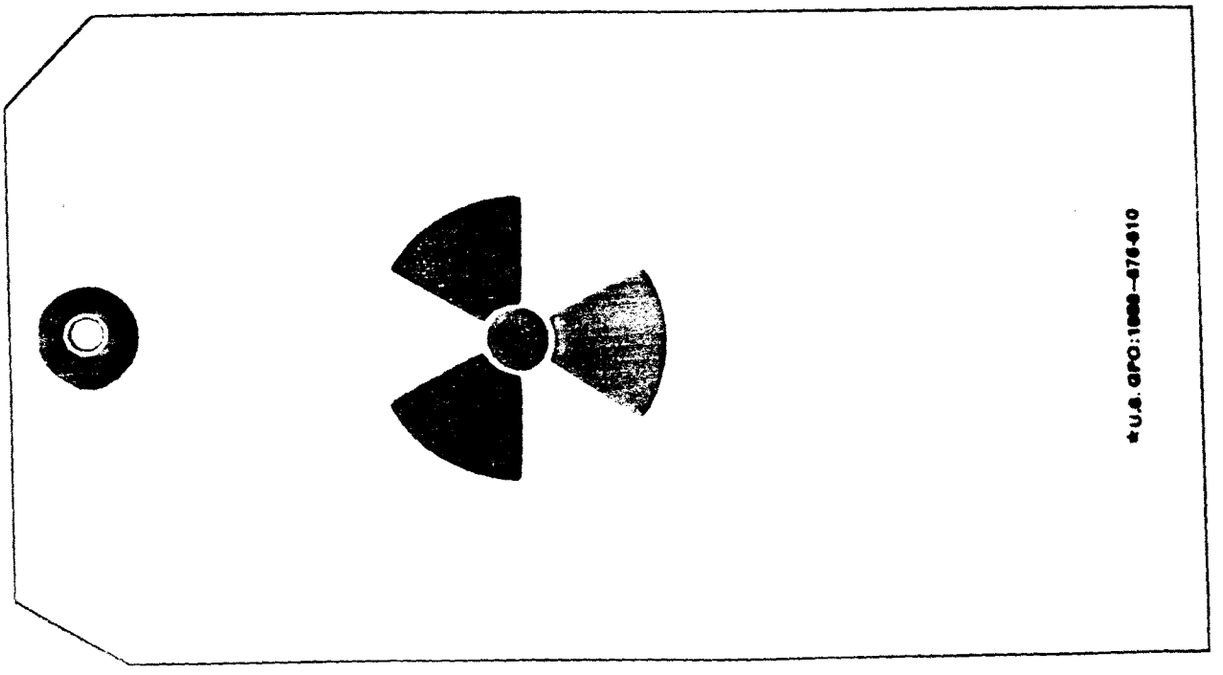
Gamma at _____ mR/h
Distance

Neutrons at _____ mRem/h
Distance

Remarks _____

EXTERIOR SURFACES ARE FREE FROM REMOVABLE CONTAMINATION

H.P. SURVEYOR _____ DATE _____



*U.S. GPO:1988—576-610

Administrative Requirements (AR)	AR Section 10: Waste Management	**Chemical, Hazardous, and Mixed Waste**

Introduction

This administrative requirement summarizes the generator requirements for controlling, storing, and disposing of chemical, hazardous, and mixed wastes at the Laboratory to help protect human health and the environment and to comply with federal and state regulations. Hazardous and mixed wastes are regulated by the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Management Regulations (HWMR). Compliance with these federal and state requirements is mandatory for all operations at the Laboratory that generate, store, treat, or dispose of hazardous or mixed waste.

High-explosive waste and radioactive waste are special cases and are only partially addressed in this document. Refer to Administrative Requirement (AR) 6-6, "Explosives," AR 10-1, "Radioactive Liquid Waste," AR 10-2, "Low-Level Radioactive Solid Waste," and AR 10-5, "Transuranic (TRU) Solid Waste."

Definitions

Chemical Waste—Any chemical or mixture of chemicals intended for disposal that is a hazardous waste or that presents a potential legal liability and thus requires special administrative control. Examples of chemical wastes include waste oils, nonregulated metal-containing solutions, nonregulated solvents, and asbestos.

Generator—A person who produces a chemical, hazardous, or mixed waste from a process, experiment, or other operation or by discarding unused or used material.

Hazardous Waste—Any nonradioactive solid waste intended for disposal that is corrosive to living tissue, toxic, flammable, reactive, carcinogenic, teratogenic, mutagenic, or infectious, or that in any way presents a potential hazard to human health or the environment. Hazardous wastes commonly generated at the Laboratory include all types of laboratory research chemicals, solvents, acids, bases, carcinogens, compressed gases, and other solid waste contaminated with hazardous waste. This may also include equipment, containers, structures, etc., intended for disposal and contaminated with hazardous waste (for example, compressed gas cylinders).

Mixed Waste—Any mixture of radioactive waste and hazardous waste. Contact the Environmental Protection Group (HSE-8) for additional information.

Solid Waste—As defined by RCRA, any discarded material, either abandoned or recycled, including liquids, solids, semisolids, and contained gases. Solid waste can be hazardous, radioactive, or mixed.

Radioactive Waste—Any discarded material that is contaminated or potentially contaminated with radionuclides only and does not contain hazardous waste as defined by RCRA. Contact the Waste Management Group (HSE-7) for additional information.

Overall Responsibility

Unless otherwise stated in this administrative requirement, line managers must ensure that the requirements specified herein are met.

Cresol	200.0	Silver	5.0
2,4-D	10.0	Tetrachloroethylene	0.7
1,4-Dichlorobenzene	7.5 mg/liter	Toxaphene	0.5 mg/liter
1,2-Dichloroethane	0.5	Trichloroethylene	0.5
1,1-Dichloroethylene	0.7	2,4,5-Trichlorophenol	400.0
2,4-Dinitrotoluene	0.13	2,4,6-Trichlorophenol	2.0
Endrin	0.02	2,4,5-TP (Silvex)	1.0
Heptachlor (and its hydroxide)	0.008	Vinyl chloride	0.2

Listed Waste. If a waste includes any of the chemical compounds listed in 40 CFR, Part 261, Subpart D (see Appendix A), it must be treated as a chemical, hazardous, or mixed waste. Because many chemicals have two or more different names (synonyms), each synonym must be checked in Appendix A. Chemicals known under manufacturers' trade names must also be considered if they contain chemicals listed in Appendix A. Sources of information on synonyms and trade names include MSDSs, manufacturers' representatives, technical bulletins, chemical dictionaries, and handbooks of trade names.

Containers. Containers or container liners that held materials that would be hazardous wastes when disposed of are themselves considered hazardous waste unless they meet regulatory criteria for an empty container (40 CFR, Part 261). Contact HSE-8 for assistance in determining whether containers meet these criteria. Contact HSE-7 for assistance in determining whether containers can be recycled.

Regulations Governing Chemical, Hazardous, and Mixed Wastes

Generators of hazardous or mixed waste must comply with HWMR 5, Part III, and 40 CFR, Part 262. For additional information on regulations (including conditions required by Laboratory environmental permits; clarification and interpretation of federal and state chemical, hazardous, and mixed waste regulations; and questions concerning Laboratory and DOE waste policies), contact personnel from HSE-8.

Standard Operating Procedures

Operations involving the handling and disposal of beryllium, carcinogens, suspected carcinogens, or other chemical, hazardous, or mixed waste require a Standard Operating Procedure (SOP) in accordance with AR 1-3, "Standard Operating Procedures and Special Work Permits." In addition, an SOP may be required for operations involving significant quantities of other particularly toxic or hazardous materials, as determined by HSE-5. If an SOP is required, the Safety and Risk Assessment Group (HSE-3) must review the SOP before it is implemented and as appropriate thereafter.

If an SOP is required, it must include procedures for segregating, storing, treating, packaging, and shipping the chemical, hazardous, or mixed waste while under the control of the generator. The SOP must also include special handling procedures related to characteristics of the waste such as ignitability, corrosiveness, reactivity, and toxicity. Personnel from HSE-7 are available to help the waste-generating group prepare these SOPs; other HSE groups, such as HSE-1, HSE-3, HSE-5, HSE-10, or HSE-11 may also be consulted.

	Engineering and Information Resources Group (WX-3), 7-4772
	Metal and Gas Processing Center (MAT-1), 7-5396
Forms	HS Form 10-3A, Chemical Waste Disposal Request
	HS Form 10-3B, Waste Profile Request
Appendixes	Appendix A. Listed Hazardous Waste Constituents
	Appendix B. Summary of Generator Requirements for Storing Chemical, Hazardous, and Mixed Waste

"Designation of Hazardous Substances," 40 CFR, Part 116 (most recent edition).

"Determination of Reportable Quantities of Hazardous Substances," 40 CFR, Part 117 (most recent edition).

"Explosives," Administrative Requirement 6-6, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Hazardous and Radioactive Mixed Waste Management," Department of Energy Order 5480.2 (most recent issuance).

"Hazardous and Solid Waste Amendment," 98 U.S. Statutes at Large, p. 3222 (1984).

"Hazardous Materials Tables and Hazardous Materials Communications Regulations," 49 CFR, Part 172 (most recent edition).

"Hazardous Waste Act," New Mexico Laws 1977, Chapter 313 (most recent issuance).

"Identification and Listing of Hazardous Waste," 40 CFR, Part 261 (most recent edition).

"Identification, Classification, and Regulation of Potential Occupational Carcinogens," 29 CFR, Part 1990 (most recent edition).

"Interim Standards for Owners and Operators of New Hazardous Waste Land Disposal Facilities," 40 CFR, Part 267 (most recent edition).

"Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," 40 CFR, Part 265 (most recent edition).

"Land Disposal Restrictions," 40 CFR, Part 268 (most recent edition).

"Low-Level Radioactive Solid Waste," Administrative Requirement 10-2, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

New Mexico Hazardous Waste Management Regulations, HWMR-5 (or current revision) (Environmental Improvement Board, Health and Environment Department, State of New Mexico, most recent edition).

"Occupational Safety and Health Standards," 29 CFR, Part 1910 (most recent edition).

"Polychlorinated Biphenyls," Administrative Requirement 10-4, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Radioactive Liquid Waste," Administrative Requirement 10-1, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Resource Conservation and Recovery Act, Subtitle C," 90 U.S. Statutes at Large, P. 2795 (1976).

"Shippers–General Requirements for Shipments and Packagings," 49 CFR, Part 173 (most recent edition).

Spill Prevention Control and Countermeasure Plan, Los Alamos National Laboratory document (most recent edition).

Storing Chemical, Hazardous, and Mixed Waste

Regulations. If chemical, hazardous, or mixed waste must be stored at the generating site before being removed for disposal, certain procedures must be followed to ensure compliance with applicable regulations (for example, RCRA and HWMR) and Laboratory policy. There are two types of temporary, on-site chemical, hazardous and mixed waste storage available to waste-generating groups: storage that is limited to less than 90 days in duration; and storage at satellite sites that is limited to less than 55 gal. of chemical, hazardous, or mixed waste or less than 1 qt of acutely hazardous waste, as defined in 40 CFR, Part 261.33 (e). Requirements for both types of storage are summarized in Appendix B.

Adherence to these requirements ensures compliance with 40 CFR, Part 262.34. HSE-8 must be contacted *before* chemical, hazardous, or mixed waste are stored on-site. Notify HSE-8 and HSE-7 of any existing temporary, on-site storage of chemical, hazardous, or mixed waste.

Documentation. Formal records that indicate the composition of the chemical, hazardous, or mixed waste and/or the generating process must be maintained by the waste-generating group. Waste-generating groups must submit a Waste Profile Request (HS Form 10-3B) to HSE-7 describing the type, character, and volume of waste generated and must update the waste profile when the waste stream changes. For copies of this form, contact the Waste Management Coordinator or HSE-7. When more than one batch of waste with varying compositions is placed in the same waste container, a list of the type, character, and approximate volume of each waste in the container shall be maintained. Good record keeping reduces the need for expensive, time-consuming analyses of the contents of waste containers.

Disposing of Chemical, Hazardous, and Mixed Waste

When chemical, hazardous, or mixed waste is ready for disposal, the waste-generating group shall complete a Chemical Waste Disposal Request (HS Form 10-3A) or a Radioactive Solid Waste Disposal Form (HS Form 10-2A, see AR 10-2, "Low-Level Radioactive Solid Waste"), as appropriate. These forms can be obtained from the Waste Management Coordinator or HSE-7. Send the completed form to HSE-7. For commercial products, a copy of the appropriate MSDS is available from HSE-5 or from the INFORM system, and this MSDS must be attached to the Chemical Waste Disposal Request. The guidance contained in an MSDS shall be reviewed and observed by waste-generating personnel.

Upon receipt of the Chemical Waste Disposal Request, HSE-7 determines the packaging, handling, treatment, transportation, and disposal requirements, based on the type and quantity of waste involved. The waste-generating group may be required to complete predisposal treatment, chemically analyze the waste, or repackage the waste before HSE-7 assumes responsibility for disposal. Waste-generating groups shall not transport chemical, hazardous, or mixed waste without prior approval from HSE-7.

NOTE: Do not pour chemicals down a drain without prior approval from HSE-7 or HSE-8. Hazardous or mixed waste must *not* be poured down any drain.

Gases. Do not vent or otherwise release gases from chemical, hazardous, or mixed waste to the atmosphere without prior approval from HSE-5, HSE-7, and HSE-8.

Metal-Containing or Corrosive Waste. Before hazardous or mixed waste containing metallic or corrosive compounds is disposed of, the waste must be treated by HSE-7 to remove hazardous properties.

Table A-1. Listed Hazardous Waste Constituents

Acetaldehyde
Acetic acid, ethyl ester
Acetone
Acetonitrile
Acetophenone
2-Acetylaminofluorene
Acetyl chloride
1-Acetyl-2-thiourea
Acrolein
Acrylamide
Acrylic acid
Acrylonitrile
Aflatoxins
Aldicarb
Aldrin
Allyl alcohol
Aluminum phosphide
4-Aminobiphenyl
5-(Aminomethyl)-3-isoxazolol
4-Aminopyridine
Amitrole
Ammonium vanadate
Aniline
Antimony
Antimony compounds, N.O.S.
Aramite
Arsenic
Arsenic acid
Arsenic compounds, N.O.S.
Arsenic pentoxide
Arsenic trioxide
Auramine
Azaserine
Barium
Barium compounds, N.O.S.
Barium cyanide
Benz(c)acridine
Benzal chloride
Benz(a)anthracene
Benzenamine, 4-chloro-2-methyl-, hydrochloride
Benzene
Benzenearsonic acid
Benzenesulfonyl chloride
Benzidine
Benzo(b)fluoranthene
Benzo(j)fluoranthene
Benzo(a)pyrene
p-Benzoquinone
Benzotrichloride
Benzyl chloride
Beryllium
Beryllium compounds, N.O.S.
Bromoacetone
Bromoform
4-Bromophenyl phenyl ether
Brucine
n-Butyl alcohol
Butyl benzyl phthalate
Cacodylic acid
Cadmium
Cadmium compounds, N.O.S.
Calcium chromate
Calcium cyanide
Carbon disulfide
Carbon oxyfluoride
Carbon tetrachloride
Chloral
Chlorambucil
Chlordane
Chlordane (alpha and gamma isomers)
Chlorinated benzenes, N.O.S.
Chlorinated ethanes, N.O.S.
Chlorinated fluorocarbons, N.O.S.
Chlorinated naphthalene, N.O.S.
Chlorinated phenol, N.O.S.
Chlornaphazine
Chloroacetaldehyde
Chloroalkyl ethers, N.O.S.
p-Chloroaniline
Chlorobenzene
Chlorobenzilate
p-Chloro-m-cresol
2-Chloroethyl vinyl ether
Chloroform
Chloromethyl methyl ether
beta-Chloronaphthalene
o-Chlorophenol
1-(o-Chlorophenyl)thiourea
Chloroprene
3-Chloropropionitrile
Chromium
Chromium compounds, N.O.S.
Chrysene
Citrus red no. 2
Coal tar creosote
Copper cyanide
Creosote
Cresol(s)
  m-
  o-
  p-
Cresylic acid
  m-
  o-
  p-
Crotonaldehyde
Cumene
Cyanides (soluble cyanide salts and complexes), N.O.S.
Cyanogen
Cyanogen bromide
Cyanogen chloride
Cycasin
Cyclohexane
Cyclohexanone
2-Cyclohexyl-4,6-dinitrophenol
Cyclophosphamide
2,4-D
2,4-D, salts and esters
Daunomycin
DDD
DDE
DDT
Diallate

NOTE: NOS means not otherwise specified.

Table A-1. Listed Hazardous Waste Constituents

Hydroperoxide, 1-methyl-1-phenylethyl-
Indeno(1,2,3-cd)pyrene
Iron dextran (removed by 53 FR 43881, October 31, 1988)
Isobutyl alcohol
Isodrin
Isosafrole
Kepone
Lasiocarpine
Lead
Lead acetate
Lead compounds, N.O.S.
Lead phosphate
Lead subacetate
Lindane
Maleic anhydride
Maleic hydrazide
Malononitrile
Melphalan
Mercury
Mercury compounds, N.O.S.
Mercury fulminate
Methacrylonitrile
Methanamine, N-methyl-
Methanol
Methapyrilene
Methomyl
Methoxychlor
Methyl bromide
Methyl chloride
Methyl chlorocarbonate
Methyl chloroform
4,4'-Methylenebis(2-chloroaniline)
3-Methylcholanthrene
Methylene bromide
Methylene chloride
Methyl ethyl ketone (MEK)
Methyl ethyl ketone peroxide
Methyl hydrazine
Methyl iodide
Methyl isobutyl ketone
Methyl isocyanate
2-Methyllactonitrile
Methyl methacrylate
Methyl methanesulfonate
Methyl parathion
Methylthiouracil
Mitomycin C
MNNG
Mustard gas
Naphthalene
1,4-Napthoquinone
alpha-Naphthylamine
beta-Naphthylamine
alpha-Naphthylthiourea
Nickel
Nickel compounds, N.O.S.
Nickel carbonyl
Nickel cyanide
Nicotine and salts
Nitric oxide
p-Nitroaniline
Nitrobenzene
Nitrogen dioxide
Nitrogen mustard
Nitrogen mustard, hydrochloride salt
Nitrogen mustard, N-oxide
Nitrogen mustard, N-oxide, hydrochloride salt
Nitroglycerine
p-Nitrophenol
2-Nitropropane
Nitrosamines, N.O.S.
N-Nitrosodi-n-butylamine
N-Nitrosodiethanolamine
N-Nitrosodiethylamine
N-Nitrosodimethylamine
N-Nitroso-N-ethylurea
N-Nitrosomethylethylamine
N-Nitroso-N-methylurea
N-Nitroso-N-methylurethane
N-Nitrosomethylvinylamine
N-Nitrosomorpholine
N-Nitrosonornicotine
N-Nitrosopiperidine
N-Nitrosopyrrolidine
N-Nitrososarcosine
5-Nitro-o-toluidine
Octamethylpyrophosphoramide
Osmium tetroxide
Paraldehyde
Parathion
Pentachlorobenzene
Pentachlorodibenzo-p-dioxins
Pentachlorodibenzofurans
Pentachloroethane
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
1,3-Pentadiene
Phenacetin
Phenol
Phenol, 2,4,6-trinitro-, ammonium salt
Phenylenediamine
Phenylmercuric acetate
N-Phenylthiourea
Phorate
Phosgene
Phosphine
Phthalic acid esters, N.O.S.
Phthalic anhydride
2-Picoline
Plumbane, tetraethyl-
Polychlorinated biphenyls (PCBs), N.O.S.
Potassium cyanide
Potassium silver cyanide
Pronamide
1,3-Propane sultone
Propargyl alcohol
n-Propylamine
Propylene dichloride
1,2-Propylenimine
Propylthiouracil
Pyridine
Reserpine

NOTE: NOS means not otherwise specified.

Appendix B

Summary of Generator Requirements for Storing Chemical, Hazardous, and Mixed Waste

	Storage at Sites for Less Than 90 Days	Storage at Satellite Sites
Special Conditions	No containers may be stored for more than 90 days from the date accumulation begins before they are delivered to TA-54 or TA-50. The 90-day period includes transport time by HSE-7. For disposal, contact HSE-7 and submit a Chemical Waste Disposal Request (HS Form 10-3A) or Radioactive Solid Waste Disposal Request Form (HS Form 10-2A) to HSE-7. Give HSE-7 a minimum notice of 10 working days.	Generators may accumulate a total of 55 gal. of hazardous or mixed waste or 1 qt of acutely hazardous waste as defined in 40 CFR, Part 261.33 (e); contact HSE-8 for more information. *This is the maximum allowable volume for a satellite storage area.* Waste in excess of these amounts must be picked up within 3 calendar days from the time the amount is exceeded. For disposal, contact HSE-7 and submit a Chemical Waste Disposal Request (HS Form 10-3A).
Loading and Unloading Areas	Loading and unloading areas must be free of obstacles or deterioration that could cause a spill or accident.	Same.
Storage Areas	Storage areas must be free of obstacles that could prevent access by emergency personnel and equipment. Containers must be placed at least 2 ft apart or placed in rows that are at least 2 ft apart to allow for visual inspection and access by emergency personnel with equipment. Area should be dry, sheltered, and if ignitable waste is stored, free of possible ignition sources. Secondary containment structures must be free of damage. Storage areas must be established by the Environmental Protection Group (HSE-8).	Chemical, hazardous, or mixed waste must be accumulated in containers at or near the point of generation and must be under the control of the generator. Storage areas must be free of obstacles or deterioration that could cause a spill or accident or prevent access by emergency personnel and equipment. Containers must be placed to allow for visual inspection and access by emergency personnel with equipment. Area should be dry, sheltered, and if ignitable waste is stored, free of possible ignition sources. Storage areas must be established by the Environmental Protection Group (HSE-8).

	Storage at Sites for Less Than 90 Days	Storage at Satellite Sites
Labeling	All hazardous or mixed waste containers must be properly labeled "HAZARDOUS WASTE" (stock number CM 2722), and the major hazardous constituents must be listed. (Do not use this label for containers of nonhazardous chemical waste.) In addition, mixed wastes must also be labeled as "RADIOACTIVE" (contact the area radiation protection technician). If more than one type of chemical, hazardous, or mixed waste is stored in different containers, then each container must also be labeled by content (for example, solvents, acids, caustics, etc.). An accumulation start date must be properly marked on all containers at the time the container *first* receives waste.	All hazardous or mixed waste containers must be properly labeled "HAZARDOUS WASTE" (stock number CM 2722), and the major hazardous constituents must be listed. (Do not use this label for containers of nonhazardous chemical waste.) In addition, mixed wastes must also be labeled as "RADIOACTIVE" (contact the area radiation protection technician). Waste in excess of the maximum allowable amount must also be labeled in this manner, and the containers must be marked with the date the excess amount began accumulating.
Warning Signs	Warning signs with the legend "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT" must be readable and prominently posted. The storage area must be identified by a sign that reads "HAZARDOUS WASTE LESS THAN 90 DAYS STORAGE AREA." Signs are provided by HSE-8.	Warning signs with the legend "SATELLITE HAZARDOUS WASTE STORAGE AREA" should be readable and prominently posted. Signs are provided by HSE-8.
Inspection	Storage areas must be inspected daily, and a *copy* of the inspection record form must be submitted weekly to HSE-8. All original records must be maintained for a minimum of 3 years by the waste generator.	Although regulations do not require formal inspection and record keeping, good management practices dictate that satellite storage site operators perform periodic inspections and keep a log of inspection records.
Leaks and Spills	Chemical, hazardous, or mixed waste leaks or spills must be cleaned up immediately, and the resulting material must also be handled as chemical, hazardous, or mixed waste.	Same.

Introduction

This administrative requirement summarizes the generator requirements for controlling, storing, and disposing of hazardous and mixed wastes at the Laboratory to help protect human health and the environment and to comply with federal and state regulations. Hazardous and mixed wastes are regulated by the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Management Regulations (NMHWMR). Compliance with these federal and state requirements is mandatory for all operations at the Laboratory that generate, store, treat, or dispose of hazardous or mixed waste.

High-explosive and radioactive wastes are special cases and are only partially addressed in this document. Refer to Administrative Requirement (AR) 6-6, "Explosives"; AR 10-1, "Radioactive Liquid Waste"; AR 10-2, "Low-Level Radioactive Solid Waste"; and AR 10-5, "Transuranic (TRU) Solid Waste."

Definitions

Controlled Area—Any area, as defined in the *LANL Radiological Control Manual*, to which access is controlled to protect individuals from exposure to radiation and radioactive materials.

Hazardous Waste—As defined by the Resource Conservation and Recovery Act (RCRA), any solid waste intended for disposal that is corrosive, toxic, ignitable, or reactive, or that contains a listed hazardous constituent (see Appendix A). Hazardous wastes commonly generated at the Laboratory include all types of laboratory research chemicals, solvents, acids, bases, carcinogens, compressed gases, metals, and other solid waste contaminated with hazardous waste. This may also include equipment, containers, structures, and other items intended for disposal and contaminated with hazardous waste (for example, compressed gas cylinders). For further information, see the paragraph about empty containers in this document.

Low-Level Mixed Waste—A low-level radioactive waste that is also a hazardous waste.

Low-Level Radioactive Solid Waste—Any solid waste that is derived from a radioactive material, or contaminated during a process, or activated by a high-energy particle beam, excluding spent nuclear fuel, high-level radioactive waste, and transuranic (TRU) waste.

Mixed Waste—Any material that is a hazardous waste (as described in this administrative requirement) that also contains a radioactive component. For the purpose of this definition, the "radioactive component" includes low-level radioactive solid waste and transuranic (TRU) waste as defined in this section.

Non-RCRA-Regulated Chemical Waste—Any chemical or mixture of chemicals ultimately destined for treatment or disposal that is not regulated as a hazardous waste by the Resource Conservation and Recovery Act (RCRA) but may present a threat to human health or the environment and requires special administrative controls. Such wastes include waste oils that have not been contaminated with a listed hazardous constituent and do not exhibit a hazardous characteristic, nonregulated chemical reagents or reactants, nonregulated heavy metals, nonregulated solvents, and asbestos.

NOTE: These materials may be subject to regulations other than RCRA.

Identifying Hazardous and Mixed Wastes

Hazardous materials (including hazardous wastes) in work areas must be identified, and the Industrial Hygiene and Safety Group (HS-5) must be contacted if workers could be exposed while handling such materials. In general, hazardous and mixed wastes are categorized as characteristic waste or listed waste. Containers may also be hazardous or mixed waste. Information useful in categorizing hazardous and mixed wastes can often be obtained from the container label, material safety data sheets (MSDSs), manufacturers' product descriptions, knowledge of the process (KOP) that generated the waste, past experience with the waste stream, or analysis of a waste sample. Waste sampling and analysis, provided by the Environmental Protection Group (EM-8), must be performed in accordance with methods specified in the Environmental Protection Agency (EPA) publication SW 846, "Test Methods for Evaluating Solid Wastes." Additional assistance in determining whether a material is a hazardous or mixed waste is also available from EM-8.

NOTE: The requirements for handling hazardous waste apply to so-called "consumer products" when they become waste, regardless of where they were purchased.

Listed Wastes. Listed wastes are chemical compounds included in 40 CFR 261, Subpart D, "Lists of Hazardous Wastes," that are found in nonspecific process wastes (F-listed), specific process wastes (K-listed), acutely hazardous chemical products (P-listed), and hazardous chemical products (U-listed). See Appendix A for F-, K-, P- and U-listed chemicals. Chemicals known under manufacturers' trade names must also be considered if they contain chemicals listed in Appendix A. Sources of information on synonyms and trade names include MSDSs, manufacturers' representatives, technical bulletins, chemical dictionaries, handbooks of trade names, and the information access system (IAS) on the LANL ALL-IN-1 Mail System. Assistance is available from HS-5 and EM-8. HS-5 maintains a file of all MSDSs at the Laboratory and can obtain additional MSDSs if necessary.

Listed Process Wastes (F- and K-listed wastes). The Laboratory generates a limited number of process wastes, which include spent solvents, spent plating baths, and waste from high-explosives processing. Appendix A, Table A-1, lists elements and compounds that are hazardous constituents of a listed process waste.

Discarded Unused Chemical Products (P- and U-listed wastes). Unused chemical products found in Appendix A, Tables A-2 and A-3, are regarded as hazardous waste. P-listed elements and compounds, found in Appendix A, Table A-2, are considered *acutely hazardous*.

Characteristic Waste. A material may be a hazardous or mixed waste if it exhibits one or more of the following characteristics:

- Ignitability: The waste is a liquid and has a flash point of less than 60°C (140°F); is an ignitable compressed gas or an oxidizer as defined in 49 CFR 173, "Shippers—General Requirements for Shipments and Packaging"; or is not a liquid and, at standard temperature and pressure (STP), can cause a fire from friction, absorption of moisture, or spontaneous chemical changes.
- Corrosivity: The waste is aqueous with a pH less than or equal to 2 or greater than or equal to 12.5, or the waste is a liquid and corrodes steel at a rate greater than 6.35 mm/yr (0.25 in./yr) at 55°C (130°F).

Silver	5.0
Tetrachloroethylene	0.7
Toxaphene	0.5
Trichloroethylene	0.5
Vinyl chloride (and its hydroxide)	0.2

Empty Containers. As defined by the Resource Conservation and Recovery Act (RCRA), containers of 110 gallons or less, holding less than 3% by weight of the total capacity, are considered *empty*. Empty containers are not hazardous waste. However, containers that once held an element or compound considered acutely hazardous (P-listed) are considered hazardous waste regardless of the volume of the residual product (see Appendix A, Table A-2). All empty drums must be disposed of through the Waste Management Group (EM-7).

Lead-Acid Batteries. Lead-acid batteries contain regulated amounts of lead and are also considered to be corrosive. However, RCRA exempts lead-acid batteries from certain requirements if they are reclaimed. The Laboratory's support services contractor (Johnson Controls World Services) provides recycling through its salvage operation.

Regulations Governing Hazardous and Mixed Wastes

Generators of hazardous or mixed waste must comply with the New Mexico Hazardous Waste Management Regulations (NMHWMR), Part III and 40 CFR 262, "Standards Applicable to Generators of Hazardous Waste." (Requirements for both regulations are included in this document.) For additional clarification and interpretation of federal and state hazardous and mixed waste regulations, conditions required by Laboratory environmental permits, and questions concerning Laboratory and Department of Energy (DOE) waste policies, contact personnel from EM-8.

Standard Operating Procedures

Operations involving the generation, management, and disposal of beryllium, carcinogens, suspected carcinogens, or certain other hazardous or mixed wastes require a standard operating procedure (SOP) in accordance with Administrative Requirement (AR) 1-3, "Standard Operating Procedures and Special Work Permits." In addition, an SOP may be required for operations involving significant quantities of other particularly toxic or hazardous materials, as determined by HS-5. If an SOP is required, the Risk Management Support Group (HS-3) must review and approve the SOP before it is implemented and as appropriate thereafter.

If an SOP is required, it must include procedures for segregating, storing, treating, packaging, and shipping the hazardous or mixed waste while under the control of the generator. The SOP must also include special handling procedures related to characteristics of the waste such as ignitability, corrosivity, reactivity, and toxicity. Personnel from EM-7 are available to help the waste-generating group prepare these SOPs; other groups from the Health and Safety (HS) Division, such as the Health Physics Operations Group (HS-1), HS-3, the Health Physics Measurements Group (HS-4), HS-5, and the Health Physics Policy and Programs Group (HS-12), may also be consulted.

Recyclable Materials. When practical, hazardous and mixed wastes must be recycled or salvaged according to appropriate Laboratory procedures. The following materials and items are prime candidates for recycling: elemental mercury, precious and strategic metals, compressed gas cylinders, lead-acid batteries, lead, solvents, unused laboratory chemicals, and empty drums. To recycle compressed gas cylinders (see Technical Bulletin 1402, "Compressed Gases"), return them to the Gas Processing Facility (MAT-14). Compressed gas cylinders above atmospheric pressure that cannot be returned to MAT-14 must be handled as waste. Contact EM-7 for information on decontamination and recovery of all other recyclable items. (Also, see the paragraph about lead-acid batteries in the section titled "Identifying Hazardous and Mixed Wastes.")

Storing Hazardous and Mixed Waste

Regulations. If hazardous or mixed waste must be stored at the generating site before being removed for disposal, certain procedures must be followed to comply with applicable regulations (for example, RCRA and NMHWMR) and Laboratory policy. There are two types of temporary, on-site, hazardous and mixed waste storage available to waste-generating groups: (1) storage that is limited to less than 90 days in duration and (2) storage at satellite sites that is limited to less than 55 gallons of hazardous or mixed waste or less than 1 quart of acutely hazardous waste, as defined in this administrative requirement and listed in Appendix A. Requirements for both types of storage are summarized in Appendix B.

NOTE: Chemical waste that is not a hazardous or mixed waste is not subject to the time or volume restrictions under RCRA . However, all other health and safety requirements appropriate for the type and volume of material do apply.

Adherence to these requirements ensures compliance with 40 CFR 262.34, "Accumulation Time." EM-8 must be contacted *before* hazardous or mixed wastes are stored on site.

Additional requirements exist for on-site storage of mixed waste. Satellite or <90-day storage areas for mixed waste must be identified as such and must be located as required by the *LANL Radiological Control Manual*. See the *LANL Radiological Control Manual* or contact HS-1 for further information. Generators must also know applicable fire codes. For information about fire codes contact the Fire Protection Group in the Emergency Management and Response (EM&R) Office.

Storage Containers. All containers used to store waste chemicals must meet the storage requirements specified in the Laboratory's *Spill Prevention Control and Countermeasure Plan*. Contact group spill coordinators or EM-8 for assistance. Contact the Nuclear Criticality Safety Group (HS-6) to determine the limits on the amount of fissile material allowed in containers.

A WPF and a CWDR will be accepted *only* if the waste generator has taken Hazardous Waste Generator Training, course number 4419. Contact the ES&H Training Section of HS-3 for more information.

NOTE: All waste, including hazardous, mixed, radioactive, and chemical waste, destined for TA-54 must have a valid WPF. EM-7 cannot accept waste at TA-54 without a valid WPF unless that waste is an unused, nonradioactive product in its original container.

All the forms listed above can be obtained from the waste management coordinator or EM-7. Send the completed WPFs to EM-8 for processing. Send CWDRs, RSWDs, and TWSRs to EM-7. For unused chemical products, attach a copy of the appropriate MSDS, if available, to the CWDR. The guidance contained in MSDSs must be reviewed and observed by all waste generators. For more information about MSDSs, see the paragraph about listed wastes in the section titled "Identifying Hazardous and Mixed Wastes."

After receiving the CWDR, EM-7 determines the packaging, handling, treatment, transportation, and disposal requirements, based on the type and quantity of waste involved. After the CWDR has been evaluated and the appropriate packaging has been determined, EM-7 will contact the generator and arrange to pick up the waste. In certain circumstances, the waste-generating group may be required to complete predisposal treatment, chemically analyze the waste, or repackage the waste before EM-7 assumes responsibility for disposal. (Contact EM-8 before treating any hazardous waste.) Waste-generating groups must have approval from EM-7 before they transport hazardous or mixed waste and must meet all transportation requirements. Contact the Packaging and Transportation Services Section of the Property and Transportation Management Group (MAT-2) for guidance on transportation requirements.

NOTE: Do not pour chemicals down any drain without approval from EM-7 or EM-8. Hazardous or mixed waste must not be poured down any drain. The radioactive liquid waste collection system (popularly known as the "acid waste line") is intended only for disposal of radioactive liquid wastes meeting the criteria in AR 10-1, "Radioactive Liquid Waste."

Gases/Vapors. Do not vent or intentionally release gases considered hazardous or mixed waste to the atmosphere without approval from HS-5, EM-7, and EM-8. Using evaporation to dispose of chemical compounds from items such as rags, adsorbents, or open containers is prohibited. See AR 9-1, "Air Pollution Control," for further information.

Reactive Chemicals. Some hazardous or mixed wastes that are reactive chemicals (for example, water-reactive substances) must be rendered nonreactive before disposal. Such treatment must be performed only by EM-7.

NOTE: Elementary neutralization of acids and bases, in tanks or containers, is the only waste treatment that generators may perform and requires reporting to EM-8.

If EM-7 and EM-8 determine that predisposal treatment cannot be performed safely on site or in accordance with regulatory requirements, EM-7 helps the waste-generating group determine alternate disposal methods.

Equipment Contaminated by High Explosives (HE). Nonhazardous waste potentially contaminated with HE, equipment potentially contaminated with HE, and

"Accumulation Time," 40 CFR 262.34 (most recent edition).

"Air Pollution Control," Administrative Requirement 9-1, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

Atomic Energy Act, as amended, 42 U.S.C. Sec. 2014, 2021–2021b, 2022, 2111, 2113, 2114.

"Compressed Gases," Technical Bulletin 1402, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Environment, Safety, and Health Training," Administrative Requirement 1-4, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Excess Government Personal Property," Administrative Requirement 10-6, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Explosives," Administrative Requirement 6-6, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Identification and Listing of Hazardous Waste," 40 CFR 261 (most recent edition).

LANL Radiological Control Manual, Los Alamos National Laboratory manual LM107-01 (most recent edition).

"Lists of Hazardous Wastes," 40 CFR 261, Subpart D (most recent edition).

"Low-Level Radioactive Solid Waste," Administrative Requirement 10-2, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Managing Infectious Waste," Administrative Requirement 10-7, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

New Mexico Hazardous Waste Management Regulations, NMHWMR-6, Part III.

"Polychlorinated Biphenyls," Administrative Requirement 10-4, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Radiation Protection for Occupational Workers," Department of Energy Order 5480.11 (most recent edition).

"Radiation Protection of the Public and the Environment," Department of Energy Order 5400.5 (most recent edition).

"Radioactive Liquid Waste," Administrative Requirement 10-1, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Radioactive Waste Management," Department of Energy Order 5820.2A (most recent edition).

Resource Conservation and Recovery Act, as amended, 42 U.S.C. Sec. 6901–6992k.

Health Physics Operations Group (HS-1), 7-7171

Health Physics Policy and Programs Group (HS-12), 7-5296

Industrial Hygiene and Safety Group (HS-5), 7-5231

Johnson Controls World Services, Inc., Redistribution and Marketing, 7-2109

Nuclear Criticality Safety Group (HS-6), 7-7628

Operational Safety Section of the Industrial Hygiene and Safety Group (HS-5), 7-4644

Packaging and Transportation Services Section of the Property and Transportation Management Group (MAT-2), 7-4127

Radioactive Waste Section of the Waste Management Group (EM-7), 7-6095 for scheduling and coordination, 5-4000 with questions

Risk Management Support Group (HS-3), 7-3363

SOP Office (HS-5), 7-9949

Waste Management Group (EM-7), 7-7391

Waste Minimization and Technical Analysis Office of the Environmental Management (EM) Division, 5-2467

Waste Minimization Program Office of the Environmental Management (EM) Division, 5-8293

Weapons Prototype Group (WX-3), 7-6310

Appendixes

Appendix A. Listed Hazardous Waste Constituents
Table A-1. F- and K-Listed Hazardous Waste Constituents
Table A-2. P-Listed Hazardous Waste Constituents (*Acutely Hazardous*)
Table A-3. U-Listed Hazardous Waste Constituents

Appendix B. Summary of Generator Requirements for Storing Hazardous and Mixed Waste

Forms

Form 252-R, Disposal of Contaminated and/or Classified Property (found in AR 10-2)

Form 1354 (ES&H Form 10-2A), Radioactive Solid Waste Disposal (RSWD) Record (found in AR 10-2)

Form 1541 (ES&H Form 10-3A, sample only) Chemical Waste Disposal Request (CWDR)

Form 1562 (ES&H Form 10-5A) TRU Waste Storage Record (found in AR 10-5)

Form 1346 (ES&H Form 10-9A), Waste Profile Form (found in AR 10-9)

Table A-2. P-Listed Hazardous Waste Constituents (*Acutely Hazardous*)

Legend
The following letter codes may appear in parentheses after some of the constituents.
(C) – Corrosive waste
(E) – Toxicity characteristic waste
(I) – Ignitable waste
(II) – Acute hazardous waste
(R) – Reactive waste
(T) – Toxic waste

Acetaldehyde, chloro-	P023
Acetamide, 2-fluoro-	P057
Acetamide, N-(aminothioxomethyl)-	P002
Acetic acid, fluoro-, sodium salt	P058
1-Acetyl-2-thiourea	P002
Acrolein	P003
Aldicarb	P070
Aldrin	P004
Allyl alcohol	P005
Aluminum phosphide (R,T)	P006
5-(Aminomethyl)-3-isoxazolol	P007
4-Aminopyridine	P008
Ammonium picrate (R)	P009
Ammonium vanadate	P119
Argentate(1-), bis(cyano-C)-, potassium	P099
Arsenic acid H_3AsO_4	P010
Arsenic oxide As_2O_3	P012
Arsenic oxide As_2O_5	P011
Arsenic pentoxide	P011
Arsenic trioxide	P012
Arsine, diethyl-	P038
Arsonous dichloride, phenyl-	P036
Aziridine	P054
Aziridine, 2-methyl-	P067
Barium cyanide	P013
Benzenamine, 4-chloro-	P024
Benzenamine, 4-nitro-	P077
Benzene, (chloromethyl)-	P028
1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-	P042
Benzeneethanamine, alpha,alpha-dimethyl-	P046
Benzenethiol	P014
2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%	P001
Benzyl chloride	P028
Beryllium	P015
Bromoacetone	P017
Brucine	P018
2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime	P045
Calcium cyanide	P021
Calcium cyanide $Ca(CN)_2$	P021
Carbon disulfide	P022
Carbonic dichloride	P095

Table A-2. (continued)

Hydrazinecarbothioamide	
Hydrocyanic acid	P116
Hydrogen cyanide	P063
Hydrogen phosphide	P063
Isodrin	P096
3(2H)-Isoxazolone, 5-(aminomethyl)-	P060
Mercury fulminate (R,T)	P007
Mercury, (acetato-O)phenyl-	P065
Methanamine, N-methyl-N-nitroso-	P092
Methane, isocyanato-	P082
Methane, oxybis[chloro-	P064
Methane, tetranitro- (R)	P016
Methanethiol, trichloro-	P112
6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10, 10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide	P118
4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	P050
Methomyl	P059
Methyl hydrazine	P066
Methyl isocyanate	P068
Methyl parathion	P064
2-Methyllactonitrile	P071
alpha-Napthylthiourea	P069
Nickel carbonyl	P072
Nickel carbonyl $Ni(CO)_4$, (T-4)-	P073
Nickel cyanide	P073
Nickel cynaide $Ni(CN)_2$	P074
Nicotine, & salts	P074
Nitric oxide	P075
p-Nitroaniline	P076
Nitrogen dioxide	P077
Nitrogen oxide NO	P078
Nitrogen oxide NO_2	P076
Nitroglycerine (R)	P078
N-Nitrosodimethylamine	P081
N-Nitrosomethylvinylamine	P082
Octamethylpyrophosphoramide	P084
Osmium oxide OsO_4, (T-4)-	P085
Osmium tetroxide	P087
7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	P087
Parathion	P088
Phenol, 2,4,6-trinitro-, ammonium salt (R)	P089
Phenol, 2,4-dinitro-	P009
Phenol, 2-(1-methylpropyl)-4,6-dinitro-	P048
Phenol, 2-cyclohexyl-4,6-dinitro-	P020
Phenol, 2-methyl-4,6-dinitro-, & salts	P034
Phenylmercury acetate	P047
Phenylthiourea	P092
Phorate	P093
Phosgene	P094
Phosphine	P095
	P096

Table A-2. (continued)

Thiourea, (2-chlorophenyl)-	P026
Thiourea, 1-naphthalenyl-	P072
Thiourea, phenyl-	P093
Toxaphene	P123
Trichloromethanethiol	P118
Vanadic acid, ammonium salt	P119
Vanadium oxide V_2O_5	P120
Vanadium pentoxide	P120
Vinylamine, N-methyl-N-nitroso-	P084
Warfarin, & salts, when present at concentrations greater than 0.3%	P001
Zinc cyanide	P121
Zinc cyanide $Zn(CN)_2$	P121
Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)	P122

Table A-3. (continued)

Benzene, 1-bromo-4-phenoxy-	U030
Benzene, 1-methyl-2,4-dinitro-	U105
Benzene, 2-methyl-1,3-dinitro-	U106
Benzene, chloro-	U037
Benzene, dimethyl- (I,T)	U239
Benzene, hexachloro-	U127
Benzene, hexahydro- (I)	U056
Benzene, methyl-	U220
Benzene, nitro-	U169
Benzene, pentachloro-	U183
Benzene, pentachloronitro-	U185
Benzenebutanoic acid, 4-[bis(2-chloroethyl) amino]-	U035
Benzenediamine, ar-methyl-	U221
1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	U028
1,2-Benzenedicarboxylic acid, dibutyl ester	U069
1,2-Benzenedicarboxylic acid, diethyl ester	U088
1,2-Benzenedicarboxylic acid, dimethyl ester	U102
1,2-Benzenedicarboxylic acid, dioctyl ester	U107
1,3-Benzenediol	U201
Benzenesulfonic acid chloride (C,R)	U020
Benzenesulfonyl chloride (C,R)	U020
Benzidine	U021
1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts	U202
Benzo[a]pyrene	U022
Benzo[rst]pentaphene	U064
1,3-Benzodioxole, 5-(1-propenyl)-	U141
1,3-Benzodioxole, 5-(2-propenyl)-	U203
1,3-Benzodioxole, 5-propyl-	U090
2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations of 0.3% or less	U248
p-Benzoquinone	U197
Benzotrichloride (C,R,T)	U023
2,2'-Bioxirane	U085
[1,1'-Biphenyl]-4,4'-diamine	U021
[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	U073
[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	U095
[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-	U091
Bromoform	U225
4-Bromophenyl phenyl ether	U030
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	U128
1-Butanamine, N-butyl-N-nitroso-	U172
1-Butanol (I)	U031
2-Butanone (I,T)	U159
2-Butanone, peroxide (R,T)	U160
2-Butenal	U053
2-Butene, 1,4-dichloro- (I,T)	U074
2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*), 7aalpha]]-	U143
n-Butyl alcohol (I)	U031
Cacodylic acid	U136
Calcium chromate	U032

Table A-3. (continued)

Dichlorodifluoromethane	
Dichloroethyl ether	U075
1,1-Dichloroethylene	U025
1,2-Dichloroethylene	U078
Dichloroisopropyl ether	U079
Dichloromethoxy ethane	U027
2,4-Dichlorophenol	U024
2,6-Dichlorophenol	U081
1,3-Dichloropropene	U082
1,2:3,4-Diepoxybutane (I,T)	U084
O,O-Diethyl S-methyl dithiophosphate	U085
Diethyl phthalate	U087
1,4-Diethyleneoxide	U088
Diethylhexyl phthalate	U108
N,N'-Diethylhydrazine	U028
Diethylstilbesterol	U086
Dihydrosafrole	U089
3,3'-Dimethoxybenzidine	U090
Dimethyl phthalate	U091
Dimethyl sulfate	U102
Dimethylamine (I)	U103
p-Dimethylaminoazobenzene	U092
7,12-Dimethylbenz[a]anthracene	U093
3,3'-Dimethylbenzidine	U094
alpha, alpha-Dimethylbenzylhydroperoxide (R)	U095
Dimethylcarbamoyl chloride	U096
1,1-Dimethylhydrazine	U097
1,2-Dimethylhydrazine	U098
2,4-Dimethylphenol	U099
2,4-Dinitrotoluene	U101
2,6-Dinitrotoluene	U105
1,4-Dioxane	U106
1,2-Diphenylhydrazine	U108
Dipropylamine (I)	U109
Epichlorohydrin	U110
Ethanal (I)	U041
Ethanamine, N-ethyl-N-nitroso-	U001
Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	U174
Ethane, 1,1'-oxybis-(I)	U024
Ethane, 1,1'-oxybis[2-chloro-	U117
Ethane, 1,1,1,2-tetrachloro-	U025
Ethane, 1,1,1-trichloro-	U208
Ethane, 1,1,2,2-tetrachloro-	U226
Ethane, 1,1,2-trichloro-	U209
Ethane, 1,1-dicholro-	U227
Ethane, 1,2-dibromo-	U076
Ethane, 1,2-dichloro-	U067
Ethane, hexachloro-	U077
Ethane, pentachloro-	U131
1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	U184
Ethanethioamide	U155
Ethanol, 2,2'-(nitrosoimino)bis-	U218
	U173

Table A-3. (continued)

1,3-Isobenzofurandione	
Isobutyl alcohol (I,T)	U190
Isosafrole	U140
Kepone	U141
Lasiocarpine	U142
Lead acetate	U143
Lead phosphate	U144
Lead subacetate	U145
Lead, bis(acetato-O)tetrahydroxytri-	U146
Lindane	U146
MNNG	U129
Maleic anhydride	U163
Maleic hydrazide	U147
Malononitrile	U148
Melphalan	U149
Mercury	U150
Methacrylonitrile (I,T)	U151
Methanamine, N-methyl- (I)	U152
Methane, bromo-	U092
Methane, chloro- (I,T)	U029
Methane, chloromethoxy-	U045
Methane, dibromo-	U046
Methane, dichloro-	U068
Methane, dichlorodifluoro-	U080
Methane, iodo-	U075
Methane, tetrachloro-	U138
Methane, tribromo-	U211
Methane, trichloro-	U225
Methane, trichlorofluoro-	U044
Methanesulfonic acid, ethyl ester	U121
Methanethiol (I,T)	U119
4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	U153
Methanol (I)	U036
Methapyrilene	U154
1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachloro-octahydro-	U155
Methoxychlor	U142
Methyl alcohol (I)	U247
Methyl bromide	U154
Methyl chloride (I,T)	U029
Methyl chlorocarbonate (I,T)	U045
Methyl chloroform	U156
Methyl ethyl ketone (MEK) (I,T)	U226
Methyl ethyl ketone peroxide (R,T)	U159
Methyl iodide	U160
Methyl isobutyl ketone (I)	U138
Methyl methacrylate (I,T)	U161
4-Methyl-2-pentanone (I)	U162
1-Methylbutadiene (I)	U161
3-Methylcholanthrene	U186
Methylene bromide	U157
Methylene chloride	U068
4,4'-Methylenebis(2-chloroaniline)	U080
	U158

Table A-3. (continued)

Phosphorodithioic acid, O,O-diethyl S-methyl ester	U087
Phosphorus sulfide (R)	U189
Phthalic anhydride	U190
2-Picoline	U191
Piperidine, 1-nitroso-	U179
Pronamide	U192
1-Propanamine (I,T)	U194
1-Propanamine, N-nitroso-N-propyl-	U111
1-Propanamine, N-propyl- (I)	U110
1,3-Propane sultone	U193
Propane, 1,2-dibromo-3-chloro-	U066
Propane, 1,2-dichloro-	U083
Propane, 2,2'-oxybis[2-chloro-	U027
Propane, 2-nitro- (I,T)	U171
Propanedinitrile	U149
1-Propanol, 2,3-dibromo-, phosphate (3:1)	U235
1-Propanol, 2-methyl- (I,T)	U140
2-Propanone (I)	U002
2-Propenamide	U007
1-Propene, 1,1,2,3,3,3-hexachloro-	U243
1-Propene, 1,3-dichloro-	U084
2-Propenenitrile	U009
2-Propenenitrile, 2-methyl- (I,T)	U152
2-Propenoic acid (I)	U008
2-Propenoic acid, 2-methyl-, ethyl ester	U118
2-Propenoic acid, 2-methyl-, methyl ester (I,T)	U162
2-Propenoic acid, ethyl ester (I)	U113
n-Propylamine (I,T)	U194
Propylene dichloride	U083
3,6-Pyridazinedione, 1,2-dihydro-	U148
Pyridine	U196
Pyridine, 2-methyl-	U191
2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-	U237
4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	U164
Pyrrolidine, 1-nitroso-	U180
Reserpine	U200
Resorcinol	U201
Saccharin, & salts	U202
Safrole	U203
Selenious acid	U204
Selenium dioxide	U204
Selenium sulfide	U205
Selenium sulfide SeS_2 (R,T)	U205
L-Serine, diazoacetate (ester)	U015
Streptozotocin	U206
Sulfur phosphide (R)	U189
Sulfuric acid, dimethyl ester	U103
1,2,4,5-Tetrachlorobenzene	U207
1,1,1,2-Tetrachloroethane	U208
1,1,2,2-Tetrachloroethane	U209
Tetrachloroethylene	U210
Tetrahydrofuran (I)	U213

Appendix B. Summary of Generator Requirements for Storing Hazardous and Mixed Waste

	<90-Day Storage Areas	Satellite Storage Areas
Special Conditions	No containers shall be stored for more than 90 days from the date accumulation begins before they are delivered to TA-54 or TA-50. The 90-day period includes transport time by the Waste Management Group (EM-7). For disposal, submit HS Form 10-3A, Chemical Waste Disposal Request (CWDR), or Form 1354 (ES&H Form 10-2A), Radioactive Solid Waste Disposal Record (RSWD), to EM-7. Give EM-7 a minimum notice of 10 working days. Form 1346 (ES&H From 10-9A), Waste Profile Form, if required, must be completed before submitting the CWDR to EM-7. See Administrative Requirement (AR) 10-9, "Waste Profile Form."	Generators may accumulate a total of 55 gallons of hazardous or mixed waste or 1 quart of acutely hazardous waste (see Appendix A); contact the Environmental Protection Group (EM-8) for more information. *NOTE: This is the maximum allowable volume for a satellite storage area.* Waste in excess of these amounts must be picked up within three calendar days from the time the amount is exceeded. See labeling and dating requirements below. For disposal, submit a CWDR.
Loading and Unloading Areas	Loading and unloading areas must be free of obstacles or deterioration that could cause a spill or accident.	Same.
Storage Areas	Storage areas must be free of obstacles that could prevent access by emergency personnel and equipment. Containers must be placed at least 2 feet apart or placed in rows that are at least 2 feet apart to allow for visual inspection and access by emergency personnel with equipment. The area should be dry, sheltered, and if ignitable waste is stored, free of possible ignition sources. Secondary containment structures must be free of damage. Storage areas must be established by EM-8. Storage areas used for mixed waste must be located according to *LANL Radiological Control Manual* guidelines. Drums and other containers that are stored outside must be placed on pallets or similar devices. Consult the *LANL Radiological Control Manual* for more information.	Hazardous or mixed waste must be accumulated in containers at or near the point of generation and must be under the control of the generator. Storage areas must be free of obstacles or deterioration that could cause a spill or accident or prevent access by emergency personnel and equipment. Containers must be placed to allow for visual inspection and access by emergency personnel with equipment. The area should be dry, sheltered, and if ignitable waste is stored, free of possible ignition sources. Storage areas must be established by EM-8. Storage areas used for mixed waste must be located according to *LANL Radiological Control Manual* guidelines. Drums and other containers that are stored outside must be placed on pallets or similar devices. Consult the *LANL Radiological Control Manual* for more information.

	<90-Day Storage Areas	Satellite Storage Areas
Warning Signs	Warning signs with the legend "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT" must be readable and prominently posted. The storage area must be identified by a sign that reads "HAZARDOUS WASTE LESS THAN 90 DAYS STORAGE AREA." Signs are provided by EM-8.	Warning signs with the legend "SATELLITE HAZARDOUS WASTE STORAGE AREA" should be readable and prominently posted. Signs are provided by EM-8.
Inspection	Storage areas must be inspected daily, and a *copy* of the inspection record form must be submitted weekly to EM-8. Copies of the form may be obtained from EM-8. All original records *must* be maintained by the waste generator for a minimum of three years.	Although regulations do not require formal inspection and record keeping, good management practices dictate that satellite storage site operators perform periodic inspections and keep a log of inspection records.
Leaks and Spills	Hazardous or mixed waste leaks or spills must be cleaned up immediately, and the resulting material must also be handled as hazardous or mixed waste. For mixed waste spills contact the area RCT. See the section titled "Cleaning up Leaks and Spills."	Same.
Disposal	For disposal of hazardous and mixed wastes, generators must properly complete a WPF and submit it to EM-8 at the address on the form. Incomplete or improperly completed WPFs will be returned to the generators for corrections. All WPFs submitted to EM-8 must be signed. When the generators receive their processed WPF, they should submit a CWDR to EM-7. The CWDR provides a space to record the waste profile number for each item to be disposed of. The original WPF must accompany the first CWDR for new waste streams.	Same.

LOS ALAMOS
NATIONAL LABORATORY

CHEMICAL WASTE DISPOSAL REQUEST (CWDR)

EM-7 USE ONLY
CWDR Identification Number

MAIL TO: CWDR, MAIL STOP J593

THE CHEMICAL AND MIXED WASTE OPERATIONS OF EM-7 WILL NOT PROCESS THIS FORM UNLESS ALL APPLICABLE BOXES HAVE BEEN COMPLETED, APPROPRIATE DOCUMENTS ATTACHED, AND CERTIFICATION STATEMENTS HAVE BEEN SIGNED. ITEM-BY-ITEM INSTRUCTIONS ARE ON THE LAST PAGE OF THIS FORM. CALL 665-4000 FOR ADDITIONAL ASSISTANCE IN COMPLETING THIS FORM.

1. Division/Group	Program Code

	Technical Area	Building	Room
2. Waste Generated At:			
3. Waste Accumulated At:			

4. Area Designation

Is the waste accumulated at:	☐ Satellite	☐ Less Than 90 Days (*Start* __/__/__)	☐ Other _____
Was the waste generated or accumulated in a Radioactive Materials Management		☐ Yes	☐ No
Is waste stored in a security area?		☐ Yes	☐ No
Is waste classified or a property numbered item?		☐ Yes	☐ No
Is waste generated from an environmental restorati		☐ Yes	☐ No
If materials are new or unused, has materi		☐ Yes	☐ No
Have waste minimization procedures from Was	ation Plan been followed?	☐ Yes	☐ No

List volume of waste reduced to date (*for calendar year*) _____

SAMPLE

WASTE GENERATOR CERTIFICATION: I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

5. Generator Name *(Print)*		Signature	
Z Number	Telephone	Mail Stop	Date

WASTE MANAGEMENT COORDINATOR CERTIFICATION STATEMENT: My signature certifies that all information on this form has been reviewed and is correct to the best of my knowledge

6. Waste Coordinator Name *(Print)*		Signature	
Z Number	Telephone	Mail Stop	Date

9. If any items in block 7 or 8 are suspect radioactive or radioactive:
Provide radioactive data for each item with the corresponding item letter or number.
Refer to page 4 for detailed instructions.

ITEM	RADIONUCLIDE	AMOUNT			UNITS (S)*	UNCERTAINTY (%)	METHOD+	DOSE RATE**
Example 1	H 3	.	E	+/-		%		. E +/-
Example 2	U 2 3 8	1 . 6 2	E	+/- 0 4	C	10 %	C	5 . 0 0 E +/- 0 1
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E			%		. E +/-
		.				%		. E +/-
		.				%		. E +/-
		.		/ -		%		. E +/-
		.		+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-

SAMPLE

*Units: C = Curies M = Grams
NOTE: nCi/g is not an acceptable unit

+ Methods: A = Analysis M = Measurement
C = Calculated E = Estimated

** Dose Rate: Contact dose rate in mR/hr

"SPENT" OR "PROCESS" WASTE CONTINUATION SHEET

EM-7 USE ONLY
CWDR Identification Number

Refer to instructions for section 7 on page 4 of 4

ITEM	NUMBER OF CONTAINERS	VOLUME PER CONTAINER	UNIT [1]	GROSS WEIGHT PER CONTAINER	UNIT [2]	TYPE OF CONTAINER [3]	DESCRIPTION OF WASTES AS DESCRIBED IN WPF	WPF NUMBER

Attachment page _____ of _____

Form 1541A (10/92)

Introduction

All transuranic (TRU) waste generated at the Laboratory must be certified by the Laboratory to meet the Waste Isolation Pilot Plant (WIPP) waste acceptance criteria as required by Department of Energy Albuquerque Operations Office (DOE/AL) Order 5820.2A, "Radioactive Waste Management." This administrative requirement specifies the procedures for preparing, packaging, labeling, documenting, and transporting contact-handled TRU waste so that it may be certified and deposited in the retrievable storage site at TA-54 to await future shipment to WIPP. This waste also must meet the requirements of DOE Order 5400.3, "Hazardous and Radioactive Mixed Waste Program."

The hazardous components of TRU mixed waste are regulated by the state of New Mexico under the Resource Conservation and Recovery Act (RCRA). TRU mixed waste is defined as waste that, in addition to qualifying as TRU, contains a listed hazardous waste or possesses one of the characteristics identified in 40 CFR 261, "Identification and Listing of Hazardous Waste." The regulations in 40 CFR 262, "Standards Applicable to Generators of Hazardous Waste," require the generator of the waste to properly characterize, label, mark, and accumulate the waste and to ensure the integrity of the container. Mixed waste (radioactive hazardous waste) is subject to the hazardous waste management standards imposed by 40 CFR 261–262, 265–266, 268, and 270–271. Hazardous waste treatment and storage are subject to the Laboratory's RCRA operating permit; mixed waste is currently managed under RCRA interim status standards. Until the permit is modified to address specific conditions that relate to TRU mixed waste, which may necessitate a revision of the TRU waste certification procedures, the requirements in this document will apply.

Definitions

Certified Transuranic (TRU) Waste—TRU waste packages that have been verified to meet the criteria established in the "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant," WIPP/DOE-069.

Chemical Waste—Any chemical or mixture of chemicals intended for disposal that is a hazardous waste or that presents a potential health or environmental risk and thus requires special administrative control. Examples of chemical waste include waste oils, nonregulated metal-containing solutions, nonregulated solvents, and asbestos.

Contact-Handled Transuranic (TRU) Waste—A TRU waste package with a combined beta-gamma and neutron radiation dose rate less than or equal to 200 mrem/h at the surface of the package.

EM-7 TRU Waste Certification Office (TWCO)—The organization that coordinates all transuranic (TRU) waste certification activities for the Laboratory and serves as the interface between the Laboratory and other agencies such as the Waste Isolation Pilot Plant (WIPP) and the Department of Energy on issues related to TRU waste certification. EM-7 TWCO also interacts with all Laboratory TRU waste generators, the Laboratory's quality assurance officer, and the WIPP Waste Acceptance Criteria Certification Committee to exchange information about TRU waste certification. EM-7 TWCO works with Laboratory TRU waste generators to communicate, identify, and resolve problems and to ensure consistent implementation of the TRU waste certification program.

Overall Responsibility

Unless otherwise specified in this document, the line manager of the waste-generating organization must ensure that the requirements specified herein are met.

Financial Responsibility

During the period preceding operation of the Waste Isolation Pilot Plant (WIPP), the Waste Management Group (EM-7) will provide storage and handling for newly generated transuranic (TRU) waste packages. During this period, waste generators must pay all costs associated with preparing, packaging, documenting, meeting all waste certification requirements (including waste analysis costs where applicable), and delivering the waste package to EM-7.

When WIPP becomes operational, waste generators will also be responsible for the cost of transporting waste packages to WIPP. EM-7 will pay only for transportation of waste that is in storage at that time.

Regulation of TRU Mixed Waste

Generators of hazardous or mixed waste must comply with Administrative Requirement (AR) 10-3, "Hazardous and Mixed Waste." Contact the Environmental Protection Group (EM-8) for additional information on these regulations, including conditions required by Laboratory environmental permits; clarification and interpretation of federal and state chemical, hazardous, and mixed waste regulations; and questions concerning Laboratory and Department of Energy (DOE) waste policies.

Standard Operating Procedures

Standard operating procedures (SOPs) for operations that generate TRU waste are required in accordance with AR 1-3, "Standard Operating Procedures and Special Work Permits."

Waste Management Coordinator

A waste management coordinator must be identified by each waste-generating group or division (depending on the rate of generation and volume) to serve as the primary contact with the Environmental Management (EM) Division. The waste management coordinator must ensure that

- waste collection and storage areas are regularly inspected and are safe,
- appropriate regulations are complied with,
- accurate records are kept, and
- storage inspection reports are prepared correctly.

The waste management coordinator will have approval authority on waste management matters for the waste-generating site. The waste management coordinator may be the same person as the spill coordinator identified in AR 9-4, "Accidental Oil, Chemical, and Airborne Releases."

New Operations

Before initiating any operation that will generate new TRU waste and/or TRU mixed waste or increase existing waste volume, the waste-generating group must discuss available treatment, storage, certification, and disposal options with the EM-7 TRU Waste Certification Office (TWCO). In most cases the existing waste management facilities, technology, and personnel at the Laboratory can handle new waste or

Waste Acceptance Criteria

Waste acceptance criteria (WAC), which apply to every waste package intended for emplacement at WIPP, are defined in WIPP/DOE-069, "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant." DOE requires that newly generated TRU waste and TRU waste that is retrieved from storage meet these WAC. The document is available from EM-7 TWCO.

Documentation

Forms. Each container of TRU waste must be accompanied by a data package containing (as a minimum) the following documents:

- Form 1562 (ES&H Form 10-5A), TRU Waste Storage Record, and
- Form 1346 (ES&H Form 10-9A), Waste Profile Form.

These forms must be completed by the waste generator and sent to EM-7 TWCO for review and approval before the waste container may be shipped to the TA-54 storage site.

TRU Waste Storage Record. This form is available only from EM-7 TWCO. It must be labeled with the same 13-digit bar-code serial number that is on the TRU waste container. The bar-code labels are provided by EM-7 TWCO. The weight of the waste package (in pounds) must be marked on the package in letters at least 1/2 in. high.

Waste Profile Form. To ensure that (1) adequate information is provided about the hazardous waste components in TRU mixed waste and (2) sufficient documentation is provided about the absence of hazardous waste components in TRU waste, this form must be prepared for all TRU and TRU mixed waste. For routine waste streams, one form may be prepared or renewed annually, and a photocopy must be affixed to the data package for each shipment. After it is completed by the generator, the form is reviewed by the appropriate EM-8 personnel to determine if the characterization information is sufficient and which hazardous waste codes (if any) apply to the waste. The form must be updated when the waste stream changes. See AR 10-9, "Waste Profile Form," for instructions on filling out the form.

Labeling

TRU mixed waste must be documented in accordance with AR 10-3 and labeled in accordance with Appendix B of AR 10-3. All non-TRU mixed waste packages must be labeled as non-RCRA-regulated as specified in AR 10-3.

Packaging

Department of Transportation (DOT) Type-7A Packaging. TRU waste packages must be vented DOT Type-7A packages using containers that have been procured according to approved quality assurance procedures of the Packaging and Transportation Services (PATS) Section of the Property and Transportation Management Group (MAT-2). Before shipping, those packaging the waste must check the vents to ensure they are securely tightened on the drums. EM-7 TWCO, in conjunction with the Packaging and Transportation Services Section of MAT-2, determines if the waste and its packaging constitute a DOT Type-7A package or if a demonstration test is required.

Venting. Because of the potential for radiolytic gas generation in the waste and other specific waste characteristics, each container must be vented. The only approved venting device is a carbon-composite vent filter available from Laboratory stock, stock number TS2685.

Waste generators who routinely produce TRU waste must write an attachment to the "Los Alamos TRU Waste Certification Plan" and operate according to the plan and the attachments.

Each attachment to the "Los Alamos TRU Waste Certification Plan" must include the following information:

- methods used for processing, packaging, and documenting the waste, including the hazardous waste components (see the Waste Profile Form);
- quality assurance controls in place to ensure that the waste packages are exactly as described in the document; and
- documentation of compliance with the Laboratory RCRA operating permit and applicable hazardous waste regulations.

Each attachment must be approved by the waste generator's line manager, EM-7 TWCO, and WIPP/DOE. As a minimum, operations described in the attachments are subject to audits by the WIPP/DOE and internal Laboratory self-appraisal teams.

References

"Accidental Oil, Chemical, and Airborne Releases," Administrative Requirement 9-4, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Additional Design Requirements for Type A Packages," 49 CFR 173.412 (most recent edition).

Atomic Energy Act, as amended, 42 U.S.C. Sec. 2014, 2021–2021b, 2022, 2111.

"Data Package Format for Certified TRU Waste for the Waste Isolation Pilot Plant," WIPP/DOE-157 (most recent edition).

"EPA Administered Permit Programs: The Hazardous Waste Permit Program," 40 CFR 270 (most recent edition).

"General Design Requirements," 49 CFR 173.114 (most recent edition).

"Hazardous and Mixed Waste," Administrative Requirement 10-3, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Hazardous and Radioactive Mixed Waste Program," Department of Energy Order 5400.3 (most recent edition).

"Hazardous Material Packaging for Transport—Administrative Procedures," Department of Energy Order 1540.2 (most recent edition).

Hazardous Waste Act, New Mexico Laws 1977, Chapter 313 (most recent edition).

"Identification and Listing of Hazardous Waste," 40 CFR 261 (most recent edition).

"Interim Standards for Owners and Operators of New Hazardous Waste Land Disposal Facilities," 40 CFR 267 (most recent edition).

"Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," 40 CFR 265 (most recent edition).

"Land Disposal Restrictions," 40 CFR 268 (most recent edition).

"Type A Packaging Tests," 49 CFR 173.465 (most recent edition).

"Waste Profile Form," Administrative Requirement 10-9, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

Referrals

Chemical and Mixed Waste Operations Section of the Waste Management Group (EM-7), 5-4000

Emergency Management and Response (EM&R), 7-6211

Environmental Management (EM) Division, 5-3778

Environmental Protection Group (EM-8), 7-5021

Field Operations Group (ENG-5), 7-4657

Health Physics Operations Group (HS-1), 7-7137

Los Alamos Fire Department, 9-911 or 911

Los Alamos Police Department, 9-911 or 911

Packaging and Transportation Services Section of the Property and Transportation Management Group (MAT-2), 7-4127

Quality Assurance and Surveillance Section of the Property and Transportation Management Group (MAT-2), 7-4127

Radioactive Solid Waste Disposal/Storage Area of the Waste Management Group (EM-7) (TA-54, Area G, for routine disposal or storage arrangements), 7-6095

Radioactive Waste Section of the Waste Management Group (EM-7), 7-6095

Technical Support Section of the Waste Management Group (EM-7), 7-7391

TRU Waste Certification Office (TWCO) of the Waste Management Group (EM-7), 5-2630

TRU Waste Size Reduction Facility of the Waste Management Group (EM-7), 7-539

Waste Management Group (EM-7), 7-7391

Waste Minimization Program Office of the Environmental Management (EM) Division, 5-8293

Forms

Form 1586 (ES&H Form 3-5A, sample only), Radioactive Materials Transfer

Form 1562 (ES&H Form 10-5A, sample only), TRU Waste Storage Record

Form 1346 (ES&H Form 10-9A), Waste Profile Form (found in AR 10-9)

LOS ALAMOS
NATIONAL LABORATORY

RADIOACTIVE MATERIALS TRANSFER

RM No.	SM No.	Date

GENERAL INSTRUCTIONS: This form is an official shipping document for transporting radioactive material within LANL boundaries. Type or print all entries. Material Safety Data Sheets (*MSDS*) and appropriate Emergency Response Guide information must be attached to this document. Distribution of completed forms is indicated below.

FROM	Name					TO	Name				
	Telephone	Group	TA	Building	Room		Telephone	Group	TA	Building	Room

Item	No. of Pkgs.	Proper Shipping Name	Hazard Class	UN/NA Number	Quantity (*Grams*)
A					

Radionuclide (*s*)	Physical Form	Chemical Form	Activity	Label Category

Transport Index	Fissile Class	DOE or USNRC Identification Number	Additional Description (*s*)

Gross Weight	Rad. Level (*Surface*)	Required Placards	Packaging Used	Packaged By	Z Number	Date

Item	No. of Pkgs	Proper Shipping Name	Hazard Class	UN/NA Number	Quantity (*Grams*)
B					

Radionuclide (*s*)	Physical Form	Chemical Form	Activity	Label Category

Transport Index	Fissile Class	DOE or USNRC Identification Number	Additional Description (*s*)

Gross Weight	Rad. Level (*Surface*)	Required Placards	Packaging Used	Packaged By	Z Number	Date

Radiation Control Technician (*Signature*)	Z Number	Date	
Pro-Force Representative (*Signature*)	Z Number	Date	Tamper ID

EMERGENCY RESPONSE TELEPHONE NUMBER: (505) 667-6211

EMERGENCY CONTACT TELEPHONE NUMBERS FOR ON-SITE TRANSFERS

Name	Z Number	Group	Telephone Number	Emergency Response Guide Number(*s*) Item A
Name	Z Number	Group	Telephone Number	Item B

SHIPPER'S CERTIFICATION

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Shipper (*Signature*)	Z Number	Mail Stop	Date

ADDITIONAL TRANSPORTATION INFORMATION

Driver/Transporter	Z Number	Transport Vehicle License Tag Number		
Estimated Date and Time of Arrival		Material Received By	Z Number	Date

SAMPLE

LOS ALAMOS
NATIONAL LABORATORY

RADIOACTIVE MATERIALS TRANSFER

RM No. (1)	SM No. (2)	Date (3)

GENERAL INSTRUCTIONS: This form is an official shipping document for transporting radioactive material within LANL boundaries. Type or print all entries. Material Safety Data Sheets (*MSDS*) and appropriate Emergency Response Guide information must be attached to this document. Distribution of completed forms is indicated below.

FROM	Name (4)					TO	Name (5)				
	Telephone	Group	TA	Building	Room		Telephone	Group	TA	Building	Room

Item A	No. of Pkgs. (6)	Proper Shipping Name (7)	Hazard Class (8)	UN/NA Number (9)	Quantity (*Grams*) (10)

Radionuclide (*s*) (11)	Physical Form (12)	Chemical Form (13)	Activity (14)	Label Category (15)

Transport Index (16)	Fissile Class (17)	DOE or USNRC Identification Number (18)	Additional Description (*s*) (19)

Gross Weight (20)	Rad. Level (*Surface*) (21)	Required Placards (22)	Packaging Used (23)	Packaged By (24)	Z Number (25)	Date (26)

Item B	No. of Pkgs.	Proper Shipping Name	Hazard Class	UN/NA Number	Quantity (*Grams*)

Radionuclide (*s*)	Physical Form	Chemical Form	Activity	Label Category

Transport Index	Fissile Class	DOE or USNRC Identification Number	Additional Description (*s*)

Gross Weight	Rad. Level (*Surface*)	Required Placards	Packaging Used	Packaged By	Z Number	Date

Radiation Control Technician (*Signature*) (27)	Z Number (28)	Date (29)	
Pro-Force Representative (*Signature*) (30)	Z Number (31)	Date (32)	Tamper ID (33)

EMERGENCY RESPONSE TELEPHONE NUMBER: (505) 667-6211

EMERGENCY CONTACT TELEPHONE NUMBERS FOR ON-SITE TRANSFERS

Name	Z Number	Group	Telephone Number	Emergency Response Guide Number(*s*)
Name (34)				Item A
Name (35)				Item B (36)

SHIPPER'S CERTIFICATION

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Shipper (*Signature*) (37)	Z Number (38)	Mail Stop (39)	Date (40)

ADDITIONAL TRANSPORTATION INFORMATION

Driver/Transporter (41)	Z Number (42)	Transport Vehicle License Tag Number (43)	
Estimated Date and Time of Arrival (44)	Material Received By (45)	Z Number (46)	Date (47)

Form 1586 (2/93) (ES&H Form 3-5A)

LOS ALAMOS
NATIONAL LABORATORY

TRU WASTE STORAGE RECORD

WASTE PACKAGE SERIAL NUMBER

1. GENERATOR'S PRE-USE VISUAL INSPECTION

Drum Lot Code	Inspected Items		
Year of Manufacture	☐ Ring, Bolt, and Nut	☐ Chime	☐ Dents
Box Serial Number	☐ Lid and Gasket	☐ Gouges	☐ Paint
This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.	Printed Name		Date
	Signature		

2. GENERATOR'S PACKAGE INFORMATION

ORIGIN OF WASTE	Group	Technical Area	Building	Program Code
Additional Information				

CODE	CONTAINER	INTERNAL SHIELDING	
		☐ None	
		Type	Thickness (in.)
01	☐ Steel Drum (55 gal.)		
02	☐ Standard Waste Box		. E
03	☐ Other (Call TWCO)		
04	☐ RH Canister		

Waste Profile Request Number	
Carbon Filter ID	01
Process Batch Code	
Gross Weight (lb.)	E +
Organic Material Wt. (lb.)	. E +
Organic Material Volume (%)	
TRUCON Code	
Date Closed (MMDDYY)	

RADIONUCLIDE CONTENT

Nuclide	Amount	Uncertainty	C=Curie M=Gram
	. E	. E	
	. E	. E	
	. E	. E	
	. E	. E	
	. E	. E	
	. E	. E	

NONRADIOACTIVE HAZARDOUS MATERIALS

Name	EPA Code	Quantity (#)
		. E
		. E
		. E

SAMPLE

The data in this section were collected, and the waste described herein was packaged and labeled according to approved procedures. The data are correct and complete to the best of my knowledge.

Printed Name	Signature	Date

3. GENERATOR SITE HEALTH PHYSICS INFORMATION

Gamma Dose Rate (*mrem/h*)	. E	Survey Meter Model	Property Number
Neutron Dose Rate (*mrem/h*)	. E	Survey Meter Model	Property Number
Total Dose Rate (*mrem/h*)	. E	*The data in this section were collected according to approved procedures.*	
Alpha Contamination (*dpm/100cm²*)	. E +	Printed Name	Date
Beta-Gamma Cont. (*dpm/100cm²*)	. E +	Signature	

4. EM-7 REVIEW/AUTHORIZATION

The data package for this waste has been reviewed by EM-7. The generator is authorized to arrange transportation to TA-54 by AR 10-5.	Printed Name	Date
	Signature	

Form 1562 (10/92) (ES&H Form 10-5A)

Best Available Copy

RADIOACTIVE LIQUID WASTE TREATMENT FACILITY

INFORMATION PACKAGE

PROJECT MILESTONES

SECTION D

July 28, 1995

Project Milestones:

Los Alamos National Laboratory has developed a project milestone and schedule which complies with DOE anticipated schedules. This schedule has an operational milestone of the year 2003. LANL would request information as to interested companies anticipated operational milestones.

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MHD09.001, LA-MIN03-NC.001	
Site(s): Los Alamos National Laboratory	**Source Document Tracking Number:** D073
Acceptable Knowledge Documentation Type: ✔ TRU Waste Management Program Information ✔ Waste Stream-Specific Information ✔ Supporting Information	**Category:** C - Correspondence ✔ D - Documents M - Miscellaneous P - Procedures DR - Discrepancy Resolution U - Unpublished Documents
Title of Source Document: Los Alamos TRU Waste Certification Plan for Newly Generated TRU Waste	
Source Document Reference Information (author(s), document and revision number, date, publisher): B. Reich, WCP-HES7-CPL-01, 2, November 1984, LANL	

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR4, PR8	1-4, 6, 9, 20	TRU was segregated at LANL from low-level waste since 1970 and stored retrievably. Requirements for TRU waste management came from WIPP-DOE-069 "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant," WIPP-DOE-114 "TRU Waste Certification Compliance Requirements for Newly-Generated Contact-Handled Waste for Shipment to the WIPP," as well as DOE Orders specifying waste certification and QA requirements. The primary entity responsible for TRU waste management was HSE-7 (Waste Management Group), which also managed the Liquid Waste Treatment Plant. This facility "shall be subject to the same controls as other waste generators." Waste generators were to submit attachments to this plan describing details of certification of their waste in compliance with specified requirements. Audits of the certification program were to be performed by a LANL QA organization, MST-9, at least twice per year.
PR4	16, 31, Appendix A	Activities that could affect waste characteristics or certifiability were to be performed according to written procedures referenced in generator attachments to the plan. This was required for "all applicable activities from the initial determination of waste composition, through package closure," addressing each waste form and how it will be packaged. All certification-related procedures were to be controlled within the HSE-7 document control system.
PR8, WS10, S16	22-26	The only WIPP-acceptable container was a 55-gallon DOT 17-C steel drum. This was the "preferred TRU waste drum." Containers were to be visually inspected prior to use and be identified in data packages by its serial number or lot code. Corrosive waste (defined as pH <=4.0) was prohibited unless neutralized or treated or packaged "to ensure package integrity through the packaging design life." It was also to be listed on required documentation. Removable radioactive contamination was to be measured in at least three places on the drum surface and kept below WIPP limits of 50 pCi/100 cm2 alpha or 450 pCi/100 cm2 beta-gamma. Drums were to be labeled with a unique serial number of thirteen characters and the package weight in kg. The first four characters were LA for LANL and two numbers indicating the calendar year of package closure. The fifth and sixth numbers were the last two digits of a code on the Certified Waste Storage Record. The last 7 digits were taken from a tag supplied by HSE-7. If overpacked, the packaged were to be assigned new numbers. Color coded bands were also required for drums with surface dose rate > 10 mrem/hr, containing toxic constituents, or having combustible vol% > 25%.
PR4	28	For processes generating more than a single container of homogeneous waste, each data sheet for the process was to be labeled with a code assigned to the applicable process batch. Process batch records were to be maintained for 25 years by the generator.

ORIGINAL

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: D073
AK # [a]	**Source Doc. Page # [b]**	**AK Information Summary**
PR4, WS10	29-30, 32-33, Appendix D	Minimum required documentation for TRU waste included a Certified Waste Storage Record (shown in Appendix D) with completed sections on Generator's Package Information and Generator Site Health Physics Information. Data packages were to be retained by HSE-7 for 25 years and stored on microfilm. Also, a "WIPP Data Package" was to be produced by HSE-7 in accordance with WIPP-DOE-157 "Data Package Format for Certified Transuranic Waste for the Waste Isolation Pilot Plant." Each data sheet was reviewed for validity and compliance with this certification plan. As part of the certification plan attachment each generator was required to prepare, for each waste form, a content code was to be assigned by HSE-7, as well as a waste stream description and/or flow chart and packaging such as liners and inner containers. The content codes that might have been used by the Liquid Waste facility were 0002 "cemented sludge" and 0003 "dewatered sludge." Cemented sludge is defined as caustic sludge stabilized with Portland cement and packaged in drums with 5-mil plastic liners. Dewatered sludge is defined as caustic sludge containing 30-45% solids and packaged in drums "with 90 mil and 5 mil plastic liners and dry Portland cemented" to absorb any separating liquids. A detailed description of the waste-generating process was NOT required. Generators were to address each certification criterion separately and specify how each would be met. Procedures for handling nonconforming drums were also to be specified.
PR4	43-45	Certified Waste Storage Record form and instructions

Source Document Data Limitations (if any):

1. Document date is Rev 2 in 1984; older versions might be helpful.
2. Plan covered only unclassified newly-generated (not stored) contact-handled TRU solid waste.
3. Plan does not contain attachments submitted by generators, including the RLWTF, which is listed in Appendix A as the second required attachment.

Acceptable Knowlege Expert:

Amy Johns — Amy Johns — Date: 6/14/07

Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MIN03-NC.001

Site(s): Los Alamos National Laboratory	**Source Document Tracking Number:** D073
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Supporting Information	**Category:** ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents

Title of Source Document: Los Alamos TRU Waste Certification Plan for Newly Generated TRU Waste

Source Document Reference Information (author(s), document and revision number, date, publisher): B. Reich, WCP-HES7-CPL-01, 2, November 1984, LANL

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR4, PR8	1-4, 6, 9, 20	TRU was segregated at LANL from low-level waste since 1970 and stored retrievably. Requirements for TRU waste management came from WIPP-DOE-069 "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant," WIPP-DOE-114 "TRU Waste Certification Compliance Requirements for Newly-Generated Contact-Handled Waste for Shipment to the WIPP," as well as DOE Orders specifying waste certification and QA requirements. The primary entity responsible for TRU waste management was HSE-7 (Waste Management Group), which also managed the Liquid Waste Treatment Plant. This facility "shall be subject to the same controls as other waste generators." Waste generators were to submit attachments to this plan describing details of certification of their waste in compliance with specified requirements. Audits of the certification program were to be performed by a LANL QA organization, MST-9, at least twice per year.
PR4	16, 31, Appendix A	Activities that could affect waste characteristics or certifiability were to be performed according to written procedures referenced in generator attachments to the plan. This was required for "all applicable activities from the initial determination of waste composition, through package closure," addressing each waste form and how it will be packaged. All certification-related procedures were to be controlled within the HSE-7 document control system.
PR8, WS10, S16	22-26	The only WIPP-acceptable container was a 55-gallon DOT 17-C steel drum. This was the "preferred TRU waste drum." Containers were to be visually inspected prior to use and be identified in data packages by its serial number or lot code. Corrosive waste (defined as pH <=4.0) was prohibited unless neutralized or treated or packaged "to ensure package integrity through the packaging design life." It was also to be listed on required documentation. Removable radioactive contamination was to be measured in at least three places on the drum surface and kept below WIPP limits of 50 pCi/100 cm2 alpha or 450 pCi/100 cm2 beta-gamma. Drums were to be labeled with a unique serial number of thirteen characters and the package weight in kg. The first four characters were LA for LANL and two numbers indicating the calendar year of package closure. The fifth and sixth numbers were the last two digits of a code on the Certified Waste Storage Record. The last 7 digits were taken from a tag supplied by HSE-7. If overpacked, the packaged were to be assigned new numbers. Color coded bands were also required for drums with surface dose rate > 10 mrem/hr, containing toxic constituents, or having combustible vol% > 25%.
PR4	28	For processes generating more than a single container of homogeneous waste, each data sheet for the process was to be labeled with a code assigned to the applicable process batch. Process batch records were to be maintained for 25 years by the generator.

SUPERCEDED
SH 9/23/09

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: D073
AK # [a]	**Source Doc. Page # [b]**	**AK Information Summary**
PR4, WS10	29-30, 32-33, Appendix D	Minimum required documentation for TRU waste included a Certified Waste Storage Record (shown in Appendix D) with completed sections on Generator's Package Information and Generator Site Health Physics Information. Data packages were to be retained by HSE-7 for 25 years and stored on microfilm. Also, a "WIPP Data Package" was to be produced by HSE-7 in accordance with WIPP-DOE-157 "Data Package Format for Certified Transuranic Waste for the Waste Isolation Pilot Plant." Each data sheet was reviewed for validity and compliance with this certification plan. As part of the certification plan attachment each generator was required to prepare, for each waste form, a content code was to be assigned by HSE-7, as well as a waste stream description and/or flow chart and packaging such as liners and inner containers. The content codes that might have been used by the Liquid Waste facility were 0002 "cemented sludge" and 0003 "dewatered sludge." Cemented sludge is defined as caustic sludge stabilized with Portland cement and packaged in drums with 5-mil plastic liners. Dewatered sludge is defined as caustic sludge containing 30-45% solids and packaged in drums "with 90 mil and 5 mil plastic liners and dry Portland cemented" to absorb any separating liquids. A detailed description of the waste-generating process was NOT required. Generators were to address each certification criterion separately and specify how each would be met. Procedures for handling nonconforming drums were also to be specified.
PR4	43-45	Certified Waste Storage Record form and instructions

Source Document Data Limitations (if any):

1. Document date is Rev 2 in 1984; older versions might be helpful.
2. Plan covered only unclassified newly-generated (not stored) contact-handled TRU solid waste.
3. Plan does not contain attachments submitted by generators, including the RLWTF, which is listed in Appendix A as the second required attachment.

Acceptable Knowlege Expert:

Sheri Nance, Sheri Nance — Date: 12/12/06

Print **/Sign**

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

DIVIDER PAGE ONLY

Not part of page count

D073

[redacted]

TWCP-QP-1.1-004,R.3
6/16/97

LA-UR-02-6085

TWCP-697

TWCP RECORDS SUBMITTAL

INSTRUCTIONS: This form is prepared by the record source when submitting records or a records package to the RMDC. This form can be used for submitting either individual records or records packages. Indicate the type of record below. For records packages, a table of contents must be submitted. Each record or records package submitted requires a form.
RECORD SOURCE (Submitted By):

Name Pamela Legacs E-mail: pgr@lanl.gov Organization: CST-7

Phone: 7-1265 Mail Stop: J594 Date: 8/6/97

TYPE OF RECORD:

☒ Individual Record
file in "AK Reference Library"

☐ Revision of existing Record
Record ID Number _____

☐ Records Package (including table of contents)

RECORD ID NUMBER, e.g., memo symbol number or procedure number (be sure to include revision if applicable): WCP-HSE7-CPL-01, R2

RECORD DATE: 11/84

RECORD TITLE OR SUBJECT:
Los Alamos TRH Waste Certification Plan for Newly Generated TRH Waste, November 1984

PAGE COUNT: 56 total

WBS NUMBER:

RETURN THIS FORM TO RMDC, MS E517

RECORD CENTER USE ONLY

☑ ACCEPTED ☐ RETURN

Date Accepted: 8/13/97 Resubmittal Date: _____

☐ Complete

Signature: Michelle Rath

LOS ALAMOS
TRU WASTE CERTIFICATION PLAN
FOR NEWLY GENERATED TRU WASTE

November 1984

Los Alamos National Laboratory

APPROVALS:

Jesse Aragon, HSE Division Leader — 11/30/84 Date

Leon C. Borduin, HSE-7 Waste Management Group Leader — 11/29/84 Date

John L. Warren, HSE-7 Assciate Group Leader for Solid Waste Operations — 11/28/84 Date

Bruce T. Reich, HSE-7 Author — 11/28/84 Date

SUMMARY OF REVISIONS

1. Group HSE-1 has been reorganized as HSE-1 and HSE-10.

   - o HSE-1 has retained the instrument recall and calibration system and will continue to provide health physics services to the Waste Management Group (HSE-7).

   - o HSE-10 now provides health physics services to CHM-1 and MST Division using instruments maintained by HSE-1.

2. Inclusion of Attachment No. 10, covering wastes produced at the Inhalation Toxicology Research Institute (ITRI) in Albuquerque, required several changes to the QA plan (Section 3). QA and Internal Auditing organizations existing at ITRI have been utilized for quality assurance operations and audits in the same manner that MST-9 performs those functions for MST division waste generators. ITRI will provide audit reports to HSE-7. None of the associated changes to the plan will affect any waste certification activities at Los Alamos.

CONTENTS

1.0 INTRODUCTION

2.0 ORGANIZATION

3.0 QUALITY ASSURANCE PLAN

3.1 Introduction

3.2 Organization

3.3 Control Measures

3.4 Inspections and Tests

3.5 Control of Measuring and Test Equipment (M&TE)

3.6 Inspection, Test, and Operating Status

3.7 Records Management and Document Control

3.8 Non-Conforming Items and Corrective Action

3.9 Audits

4.0 WASTE PACKAGING

5.0 LABELING

6.0 STORAGE

7.0 RETRIEVAL FROM CERTIFIED STORAGE

8.0 CERTIFICATION RECORDS

9.0 INSTRUCTIONS FOR PREPARATION OF ATTACHMENTS

APPENDIX A - ATTACHMENTS

APPENDIX B - CONTENT CODES

APPENDIX C - APPROVED CONTAINERS

APPENDIX D - CERTIFIED WASTE STORAGE RECORD FORM

APPENDIX E - NON-CONFORMANCE REPORT

APPENDIX F - ATTACHMENT CHECK SHEET

1.0 INTRODUCTION

1.1 Background

In the operation of the Los Alamos National Laboratory, large amounts of transuranic (TRU) waste are generated. Since 1970, TRU wastes have been segregated from low-level wastes and have been stored retrievably in accordance with federal (AEC/ERDA/DOE) requirements. The eventual disposition of TRU waste is now planned to be temporary storage at Los Alamos, followed by permanent emplacement at the Waste Isolation Pilot Plant (WIPP).

The prerequisites for transfer of the waste to the WIPP are well defined:

- DOE Order 5820.2 (2-6-84)[1] states, "Each site that generates TRU waste shall prepare, document, and implement a certification program to demonstrate that the waste meets disposal site acceptance criteria."

- The acceptance criteria are defined in WIPP-DOE-069, "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant," (as updated)[2] which specifies basic requirements for disposal of contact-handled and remote-handled transuranic waste at the WIPP.

- The criteria have been supplemented by WIPP-DOE-114, "TRU Waste Certification Compliance Requirements for Newly-Generated Contact-Handled Waste for Shipment to the WIPP," (as updated)[3] which details the procedures required to demonstrate compliance with WIPP-DOE-069.

- DOE Order 5700.6A (8-13-81)[4] requires the establishment of Quality Assurance (QA) programs for all DOE programs. WIPP-DOE-120, "Quality Assurance Requirements for Certification of TRU Waste for Shipment to the WIPP," (as updated)[5] details the requirements for the QA plan and for quality related documentation required for demonstrating compliance with WIPP-DOE-069.

- DOE Order 5820.2 specifies that "...approval authority for certification programs, standard containers, transportation, waste acceptance criteria and all other aspects related to TRU emplacement at the WIPP have been delegated to the Manager, Albuquerque Operations Office." In a memorandum[6] from J. M. McGough, a WIPP Certification Review Committee was established to review and approve certification plans and QA plans submitted by DOE contractors.

Since the above documents were issued, WIPP Certification Review Committee (later changed to WAC Certification Committee) members have offered clarification and further guidance at numerous meetings and in informal reviews[7,21] of earlier submittals of the Los Alamos TRU Waste Certification Plan.

1.2 Overview

1.2.1 The Laboratory's Waste Management Group (HSE-7), as the receiver, holder, and eventual certifier of the TRU waste, must assure that the waste received from the Los Alamos waste generators meets all of the WIPP criteria so that the required certification statement can be made to the WIPP.

1.2.2 The certification statement will be signed by the Los Alamos Waste Management Group (HSE-7) Leader, or by his designee, when the waste package is shipped to the WIPP. Certification will be based on an accumulated set of documentation provided by the waste generator personnel responsible for the data gathering, packaging, and storage, supported by a system of inspections, tests, and audits.

1.2.3 This certification plan, with its attachments, defines the Los Alamos plan for assuring the WIPP operators that the waste shipped to them from Los Alamos complies with the WIPP waste

acceptance criteria (WAC) defined by the DOE. Only unclassified, newly generated, contact-handled, TRU solid waste is covered by this issue of the plan. Remote-handled waste and waste drawn from retrievable storage will be addressed in amended versions of this plan or, if necessary, in separate plans.

1.2.4 This plan details the certification requirements and activities that apply uniformly to all TRU waste generators. Waste generators must each develop and submit attachments to this plan, wherein they define the details of the certification functions and controls that apply to their specific processes and waste stream. Guidance is contained in Section 9.0 for preparing and processing those attachments.

1.2.5 The QA Plan applicable to TRU waste certification is defined in Section 3.0.

1.2.6 Certified waste will be segregated from other TRU waste and will be stored until shipment to the WIPP begins. Because actual shipment to the WIPP is still a number of years off, only a general description can be given of the anticipated procedure for waste package preparation and certification (see Section 7.0). Later, the plan will be extended to provide the necessary details of inspection of the waste packages upon removal from storage.

1.2.7 Nothing herein is intended to prohibit waste generators from implementing any additional controls dictated by safety or process control needs.

2.0 ORGANIZATION

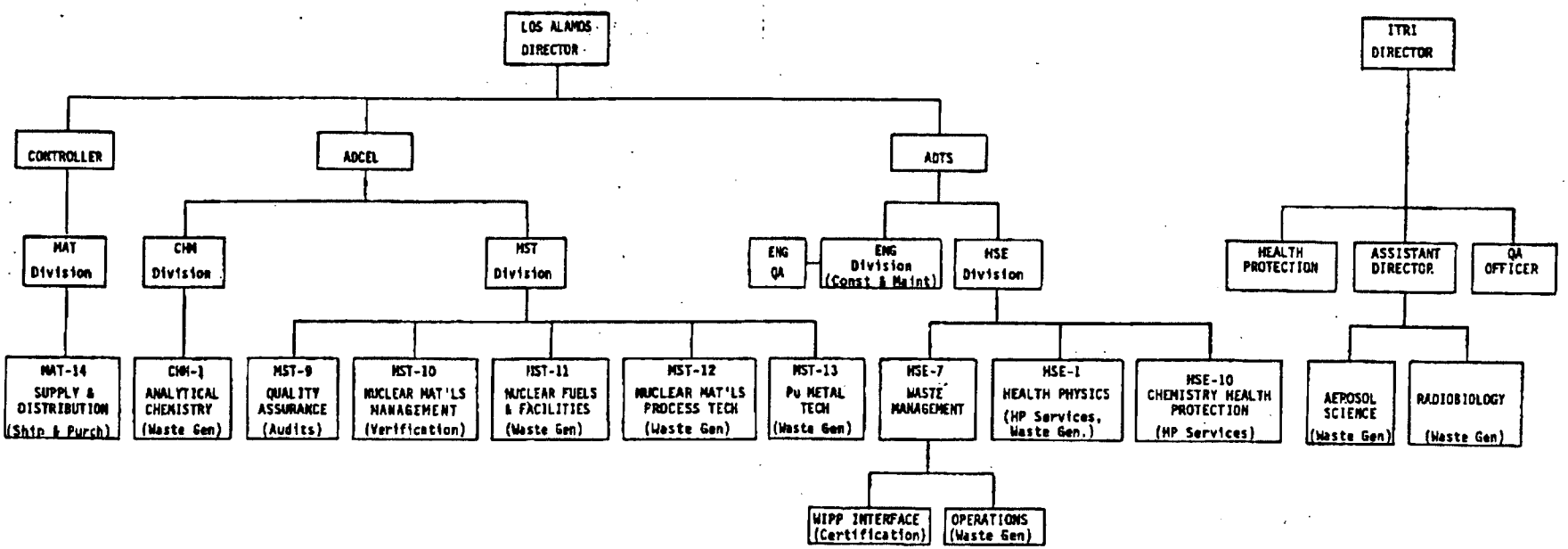
2.1 The organization chart (Fig. 1) depicts a simplified structure (as of this date) showing only the organizations that are major TRU waste generators or are otherwise involved in the production of certified waste. Their functions are listed briefly below. Not shown are a number of other organizations throughout the Laboratory which occasionally produce small quantities of TRU waste.

Each waste generating organization shown shall prepare, and maintain current, an organization chart showing personnel associated with TRU waste generation and certification. The chart shall indicate levels of authority and lines of communication. Interfaces and lines of communication with other organizations in the TRU Waste Certification Program, including the quality assurance organization, shall also be included on the chart.

2.1.1 The Analytical Chemistry Group, (CHM-1), the Nuclear Fuel Development and Facilities Operation Group (MST-11), the Nuclear Materials Process Technology Group (MST-12), and the Plutonium Metal Technology Group (MST-13) are the major TRU waste generators outside of the Waste Management Group (HSE-7).

2.1.2 The Quality Assurance Group (MST-9) operates a complete quality assurance program for the MST Division waste generators and for other waste generators that work closely with MST. The details of this program are provided in Attachment 3 to this plan.

MST-9 also performs QA audits of the overall TRU Waste Certification Program at Los Alamos and of the waste generating operations



SIMPLIFIED ORGANIZATION CHART

Figure 1

within HSE-7 (see Section 3.9).

2.1.3 MAT-14 is the official shipper of the waste to the WIPP, and is also the group responsible for procuring containers.

2.1.4 The Health, Safety, and Environment Division Leader is the Laboratory contact for TRU waste certification correspondence.

2.1.5 The Waste Management Group (HSE-7), by virtue of its position as the receiver and holder of the TRU waste, is the focal point for the TRU Waste Certification Program. The group's functions have been expanded to include development and maintenance of the Certification Plan, review of attachments for completeness and compatibility with the plan and the waste management program, and preparation and loading of the waste shipments. The certification statement will be signed by the Group Leader or his designated representative.

Group HSE-7 also has three waste treatment facilities, the Size Reduction Facility, the Treatment Development Facility, and the Liquid Waste Treatment Plant, which are all treated as waste generators because that waste is uncharacterized until it is processed.

2.1.6 The Radiation Protection Group (HSE-1) provides radiation protection and monitoring support services to some waste generators and to the waste management facilities. HSE-1 also maintains and calibrates health physics instrumentation used for certification purposes[17,18].

2.1.7 The Chemistry Health Protection (HSE-10) Group provides radiation protection and monitoring support services to MST

and CHM Divisions.

2.1.8 ITRI (Inhalation Toxicology Research Institute) is a small off-site waste generator. ITRI is not part of Los Alamos but their TRU wastes have historically been sent here because the small volume generated (5 to 10 drums per year) does not warrant developing and maintaining separate storage facilities. An attachment to this plan has been written for the ITRI waste because it is not practical for them to develop a separate certification program and it is not convenient to treat the waste as miscellaneous. ITRI has QA and Radiation Safety organizations in-house that are utilized rather than attempting to provide those functions from Los Alamos.

2.2 Administrative Requirement (AR) 10-2 of the Health and Safety Manual[9] lists the responsibilities of waste producing and handling organizations at the Laboratory. Waste generating operations within HSE-7 are subject to all of the responsibilities and controls encumbent upon all other waste generators.

2.3 The final approval authority for the Certification Plan and its attachments rests with the WAC Certification Committee (WACCC).

3.0 QUALITY ASSURANCE PLAN

3.1 Introduction

3.1.1 This QA plan was developed specifically to meet the requirements of WIPP-DOE-120[5]. This QA Plan applies only to the Los Alamos TRU Waste Certification Plan.

3.1.2 WIPP-DOE-120 defines the requirements that shall be included in the QA program, and the scope and purpose as stated below:

> "The extent of quality program requirements and the level of the associated QA activity will be commensurate with the scope and importance to the certification program."
>
> "The waste is not the product, and QA/QC is not applied to the waste as a product, but to the certification activities for shipment of waste to WIPP."

3.2 Responsibilities

QA is a line management function; quality assurance functions are performed by members of line organizations following procedures defined in the appropriate attachments to this plan, or by trained quality assurance personnel. Routine review of certification activities is normally performed by qualified members of line organizations who are independent of the activities being performed. In addition, the laboratory has QA organization personnel available for assisting in program development and TRU waste certification program audits, as requested.

3.2.1 The QA program applied to TRU waste certification is the responsibility of the HSE-7 Group Leader. Because most waste generators are outside the line of authority of the HSE-7 Group Leader, control is exercised by HSE-7 both directly and indirectly by:

- defining, in this QA plan, the requirements for the QA activities to be included in the generators' attachments to the certification plan;
- review of generators' attachments before they are forwarded to the WACCC (see Section 9.3)
- review of each generator's data package before accepting the waste[22];
- inspection of the waste packages when they are received at the storage site[16];

- o audits of the waste generators' certification activities (see Section 3.9.2); and,
- o certification of the waste (see Section 2.1.5).

Waste processing functions within the HSE-7 Liquid Waste Treatment Plant, the Size Reduction Facility, and the Treatment Development Facility, shall be subject to the same controls as other waste generators (see Section 2.2).

3.2.2 Development of attachments to this plan which define the QA activities associated with specific waste streams and the ongoing documentation of those activities is the responsibility of the appropriate waste generating organizations (see Section 9.1).

3.2.3 QA activities associated with Los Alamos procurement of waste containers acceptable to WIPP are the responsibility of the supply group (MAT-14), (see Section 4.3). Containers used by ITRI are obtained by the ITRI Procurement Unit. Pre-use inspection for shipping and handling damage is the container user's responsibility (see Section 4.3.2).

3.2.4 QA for new facility design, construction, and maintenance at Los Alamos is the responsibility of the ENG Division which has its own QA program in place.[8]

3.2.5 When maintenance of equipment important to certification is the responsibility of the operating organization, the scheduling and documentation must be defined in the operating group's procedures. Equipment important to certification, maintained by other organizations, shall be identified in the appropriate attachment to the plan.

3.2.6 Los Alamos radiation survey instrumentation is maintained by HSE-1 which has a calibration recall and documentation system in place[17,18]. ITRI instrument calibration is done by the Health Protection Operations (HPO) Unit.

3.2.7 Responsibility for verification that waste package closure was accomplished according to procedure, and for documentation of levels of surface contamination and external radiation, are the responsibility of HSE-1 and HSE-10 according to the Los Alamos Health and Safety Manual[9]. AT ITRI this is the responsibility of HPO.

3.2.8 Verification of the completeness of the data provided by the waste generator, of the waste package marking, and of the physical condition of the waste package are responsibilities of HSE-7[16,22].

3.3 Control Measures

3.3.1 Design Control

This section will apply to waste certification activities that include, but are not limited to, the design or modification of the equipment and processes used to convert wastes into certifiable forms. Not included is the design of processes or equipment that are already in use and producing certifiable waste forms. Design of quality affecting processes and equipment shall be governed by the following.

3.3.1.1 Applicable design inputs, such as performance requirements, codes, and standards, shall be identified and documented.

3.3.1.2 Design analysis documentation should be sufficiently detailed as to purpose, methods, assumptions, design input, references, and units such that a person technically qualified in the subject can review and understand the analyses and verify the adequacy of the results without recourse to the originator.

3.3.1.3 Design verification shall be performed by individuals or groups not responsible for the original design. At a minimum, this will include Group HSE-7 personnel, along with other personnel as requested by management of the originating organization and/or HSE-7, based upon expertise with the equipment and/or process involved.

3.3.1.4 Design verification will be a two step process. Initial verification will be through reviewer sign-off on a review record. Final verification will be through a determination of the certifiability of the output product; Group HSE-7 has this overall responsibility. The verification method used shall be documented.

3.3.1.5 Technical management has overall responsiblity for resolving individual review comments.

3.3.1.6 Changes to final designs, including field changes, shall be reviewed in the same manner as the original design. Minor changes, such as changing to a

different acceptable waste container require approval of HSE-7. Changes involving waste form must be approved by the WACCC.

3.3.2 Control of Purchased Items and Services

Areas where this section is expected to apply to waste certification include, but are not limited to, the procurement of waste containers, liners, and other designated materials used in waste processing that might affect the certification of the waste packages.

3.3.2.1 Commercial items produced to established industry standards, such as bolts, Portland cement, gypsum cement, vermiculite, welding rods, and plastic bags are excluded from this requirement.

3.3.2.2. Drums and steel boxes used for waste packaging are purchased from DOE facilities that maintain approved QA programs for waste package procurement. Purchase orders for waste containers shall require a statement from the DOE supplier that the containers were produced and inspected according to approved procedures. Receival inspections at MAT-14 are not required because users are required to visually inspect packaging for shipping damage before use (4.3.2).

3.3.3 Identification and Control of Items

This requirement will apply to, but not be limited to, the identification of waste containers, waste packages, and/or batches of wastes that are different because, for example, they might contain

toxics or corrosives. This requirement also helps prevent the mixing of non-TRU with TRU waste streams.

3.3.3.1 Items requiring identification and control shall be specified in the attachment if not specified in this plan.

3.3.3.2 Identification shall be maintained on the item when practical, otherwise in documents traceable to the item.

3.3.3.3 Process batch identification shall be referenced in each appropriate waste generator's data package so that all waste packages from a batch can be identified after closure.

3.3.4 Control of Processes

Processes that affect waste characteristics or container quality shall be controlled by written procedures, drawings, or checklists, that define limits of acceptability and the method used to verify conformance.

3.3.5 Handling and Storage

Waste packages, packaging, and waste handling and storage shall be controlled to prevent damage to the containers or changes in the waste that may affect certifiability.

3.4 Inspections and Tests

Inspections and/or tests shall be planned and performed at appropriate points in the certification process to ensure conformance to applicable waste acceptance and certification criteria.

3.4.1 Procedures for inspections and/or tests, the responsible organization unit, and the standards for acceptance/rejection, shall be defined or referenced in the appropriate attachment to the certification plan. If sampling is used, the sampling method shall be similarly defined.

3.4.2 The identity of the inspector shall be documented and the documentation retained by the generating organization, or as specified in the attachment to the plan.

3.4.3 The results of inspection and/or tests shall be included in the waste generator's data package.

3.5 Control of Measuring and Test Equipment (M&TE)

3.5.1 General

3.5.1.1 Appropriate controls over the accuracy and precision of M&TE are necessary to assure that conforming items are accepted and that nonconformities are detected. This section applies to M&TE used for purposes of determining waste and waste package characteristics and acceptability. It also applies to the standards used for calibrating such M&TE.

3.5.1.2 The waste generator shall establish a calibration program, including requirements and controls, for M&TE used for certification.

3.5.1.3 Radiation detection instruments maintained and calibrated by HSE-1 need not be included in the waste generator's program.

3.5.1.4 Calibration and control measures are not required for rulers, tape measures, levels, and other such devices if normal commercial equipment provides adequate accuracy for certification.

3.5.2 Requirements

3.5.2.1 Adequacy of Standards - Standards established for calibrating M&TE shall be accurate and stable over the range of calibration necessary to ensure that certification needs are met, and that any deviations from certification requirements are known. Referenced standards shall be appropriate to the relative importance of the equipment with respect to certification activities and/or health and safety.

3.5.2.2 Intervals of Calibration - Calibration periods shall be established on the basis of stability, purpose, and frequency of usage.

3.5.2.3 Calibration Procedures - M&TE shall be calibrated to written calibration procedures. The procedures may be the equipment manufacturer's instructions, subcontractor's procedures, or they may be written by program personnel. All procedures shall be referenced in the attachment to the certification plan.

3.5.2.4 Records - The application of these requirements shall be supported by records demonstrating that established schedules are followed and the results documented.

3.5.3 Use of Calibrated M&TE

M&TE shall have a calibration sticker that identifies the date calibrated and the date due for recalibration, along with identification of the person who performed the calibration.

3.6 Inspection, Test, and Operating Status

When it is necessary to assure that inspections and tests have been performed or to assure that items that have not passed the required inspections and tests are not inadvertently used or shipped, status indicators, such as a physical location, tags, markings, shop travelers, stamps, inspection records, or other suitable means, shall be used. The authority for application and removal of tags, markings, labels, and stamps shall be specified or referenced in the attachment to the certification plan.

3.7 Records Management and Document Control

3.7.1 Procurement Document Controls

Purchase orders for materials of equipment which affect certifiability of the waste shall specify the appropriate characteristics and limits of acceptability. In critical cases, it may be necessary to require the suppliers to have a QA program. Documentation of compliance shall be maintained by the purchaser's group for materials other than those drawn from Laboratory stocks (see Section 4.3).

3.7.2 Instructions, Procedures, and Drawings

Those activities affecting significant waste characteristics or certifiability shall be performed according to a documented

procedure that shall be part of, or referenced in, the attachment to this plan. This requirement applies to all applicable activities from the initial determination of waste composition, through package closure.

3.7.3 Document Control

The preparation, issue, and change of documents such as procedures, data form formats, and attachments to the plan, shall be controlled to assure that only current issues of documents are being used and that current approved documents shall be available in areas where work affecting certification is to be performed. A hard copy of computer program listings shall be stored as a back-up for computer software.

3.7.3.1 Waste generators within MST division or participating in the MST-9 QA program shall utilize the MST system for document control.

3.7.3.2 Waste generators within HSE-7 shall utilize the group document control system[19] for all certification related procedures.

3.7.3.3 The ITRI attachment to this plan (Attachment No. 10) is part of the HSE-7 document control system. ITRI procedures referenced in the attachment are controlled within that organization.

3.7.3.4 Group HSE-7 shall be responsible for issuing, updating, and obtaining the required approvals for this plan in the manner defined in the group document control system.

3.8 Nonconforming Items and Corrective Action

3.8.1 Nonconforming items are waste packages and data packages that do not meet the requirements of the Certification Plan because:

- o the waste form differs from that defined in the appropriate attachment to the certification plan;
- o the waste package does not meet the WIPP acceptance criteria;
- o the documentation does not meet the requirements defined in the certification plan or its appropriate attachment; or
- o the waste was not prepared and certified according to approved procedures.

3.8.2 A Nonconformance Report (NCR) is a written report identifying the nonconforming item, the nature of the nonconformance, and the point at which the nonconformance was detected. The NCR generated in each case must be attached to the Waste Generator's Data Package.

3.8.3 An NCR is not required for nonconformances detected prior to an established inspection point or prior to container closure if the waste is re-worked to make it conform to the original requirements.

3.8.4 Nonconformances detected within facilities covered by the MST-9 QA program shall be reported to MST-9 on the MST-9 NCR form, and handled according to that program.

3.8.5 Nonconformances detected at ITRI are handled in the manner described in Attachment No. 10.

3.8.6 Nonconformances detected elsewhere shall be handled through the HSE-7 Solid Waste Section on the HSE-7 NCR form shown in Appendix E.

3.8.6.1 Nonconformances in the data package, detected when it is received at HSE-7, require an HSE-7 NCR and a case by case evaluation by HSE-7.

3.8.6.2 Nonconformances identified after the waste package is received at the TA-54 storage and disposal site all require HSE-7 NCR's.

Minor problems (defective or missing labeling or color coding, damaged seal, etc.) may, at HSE-7's discretion, be corrected by either the storage site personnel or by the waste generator.

Unacceptable waste packages (leaking, damaged in transit, etc.) may require action by both the waste generator and by HSE-7. An HSE-7 NCR shall be initiated by the storage site supervisor and forwarded, according to procedure, to the waste generator. The disposition of the noncomforming item shall be determined by HSE-7 and the waste generator.

3.8.6.3 If a package of unacceptable waste originated in an organization covered by the MST-9 QA program, the HSE-7 NCR will be sent to MST-9 where it may be used to trigger issuance of an NCR within that system.

3.8.7 Nonconformances that result in waste that does not meet WIPP waste acceptance and certification requirements shall render the waste not certifiable. The waste will not be shipped to the WIPP until the problem has been identified and corrected.

3.8.8 When a nonconforming item or series of nonconforming items indicate that the certification process is inadequate or unreliable, certification (not production) of that waste stream shall be halted until the appropriate attachment can be modifed by the waste generator and approved by HSE-7 and the WACCC.

3.8.9 Nonconforming items shall be segregated from conforming items until the required disposition is completed and approved.

3.8.10 Supervisors of waste generating or waste handling organizations shall review NCR's and/or audit findings and when necessary, require that corrective action be taken (and documented) to prevent recurrence of nonconformances. The documentation shall include a statement of the condition requiring corrective action, the action taken, and the name of the individual responsible for implementing that action. Completed reports shall be forwarded to either MST-9 or the HSE-7 Solid Waste Records Office, as appropriate, for filing.

3.9 Audits

3.9.1 DOE or DOE-appointed auditors may perform audits at DOE's discretion. Copies of internal audits shall be available to them.

3.9.2 Internal audits of the program or any part of the program, including HSE-7 activities, shall be performed by MST-9 to

assure compliance with the certification plan and its attachments, especially items related to program controls. Internal audits at ITRI shall be performed by the ITRI Internal Auditor and QA Officer. The adequacy of the plan and its attachments shall be determined only by DOE.

3.9.3 Audit frequency shall be at least twice each year, with more audits being conducted if the scheduled audits disclose serious or recurring problems. The HSE-7 Group Leader will identify whether any programs should be audited more than twice per year from his review.

3.9.3.1 Los Alamos audits shall be performed in accordance with written procedures or checklists by personnel who do not have direct responsibility for performing the activities being audited as defined in the MST-9 Quality Assurance Manual[20].

3.9.3.2 Los Alamos auditors shall be trained and qualified as defined in the MST-9 Quality Assurance Manual[20].

3.9.3.3 The auditors' findings shall be documented and reported to the HSE-7 Group Leader, the HSE Division Leader, and the Division Leaders of all divisions being audited.

4.0 WASTE PACKAGING

Transuranic waste shall be packaged according to the Health and Safety Manual[9] except as noted below.

4.1 Only containers acceptable to WIPP (see Appendix C) may be used for TRU packaging. The following are preferred. Other containers acceptable to WIPP are permitted with written approval from HSE-7.

4.2 The 54 in. by 68 in. by 38 in. steel truck box is the preferred TRU waste box. The DOT 17C (stock no. LG-1115) is the preferred TRU waste drum.

4.3 Both of the preferred containers are available from Rockwell International at Rocky Flats, Colorado or from Los Alamos stock (also obtained from Rockwell). Purchase orders for procurement of containers from Rockwell shall specify the appropriate Rockwell standards (SX-200[10] for drums or SX-231[11] for steel boxes) because these standards define the construction, dimensions, tests, limits of acceptability, and inspection requirements. The purchase order shall also require a statement from Rockwell that the containers were produced and inspected according to these standards (3.3.2.2).

4.3.1 For other containers, procurement shall be exercised in a manner similar to the above.

4.3.2 Containers shall be inspected visually by the user, for shipping and handling damage that would affect the ability of the container to meet the DOT container requirements or the WIPP storage requirements. Rejected containers shall be clearly marked as such.

4.3.3 Each container used shall be identified in the generator's data package by either serial number or lot code as specified in the instructions for completing the CWSR form (Appendix D).

4.4 Special packaging for unusual waste is not expressly forbidden but the cost and effort of development, testing, and certification are the responsibility of the waste generator. The Waste Management group's approval and the WIPP project office's approval are both required in all cases.

4.5 Corrosive waste (pH 4.0 or less) is unacceptable unless the waste has been neutralized or otherwise rendered noncorrosive, or it has been packaged to ensure package integrity through the packaging design life. Corrosive material must be listed on the CWSR form.

4.6 Contamination Control

4.6.1 The level of removable radioactive contamination on the external surfaces of each closed waste package shall be kept below WIPP limits and as low as reasonably achievable.

4.6.2 The level of removable radioactive contamination may be determined by first wiping a 100 cm^2 area of the surface with an absorbent material, using moderate pressure, and then measuring the activity on the wiping material.

4.6.3 At least three measurements shall be taken in the most appropriate locations to yield a representative assessment of the removable contamination levels.

4.6.4 The amount of radioactivity measured on any single wiping material, when averaged over the surface wiped, shall not exceed 50 pCi/100 cm^2 of alpha contamination or 450 pCi/100 cm^2 of beta-gamma contamination.

4.6.5 Other methods of assessment of equal or greater efficiency may be used if they are defined fully in an approved attachment to the plan.

5.0 LABELING AND COLOR-CODING

Waste packages shall be labeled as defined in the Laboratory HS&E Manual,[9] except as noted in this section.

5.1 Labeling

5.1.1 The waste package label consists of a unique package serial number and the package weight (in whole kilograms), stenciled on the package in black, 1-in. minimum height characters.

5.1.1.1 Drum labels shall be placed on the top (removable) head of the drum.

5.1.1.2 Box labels shall be placed near the center of the box lid and on each of the four sides. The label on top shall be parallel to, and on the flats between, the corrugations. The side labels shall be approximately centered along the length and located preferably on the 4th and 5th flats from the top.

5.1.2 The package serial number consists of thirteen characters in the form LAYYCCXXXXXXX, where

- o LA is our site code assigned by DOE.
- o YY is the calendar year when the package was closed.
- o CC is the last two digits of the container code taken from the Certified Waste Storage Record (CWSR) form (Appendix D). Codes for containers not listed on the CWSR can be obtained from HSE-7.

- o XXXXXXX is a seven-digit number taken from a self-locking tag supplied by HSE-7. The leading zeros may not be omitted. The manufacturer's serial number which is on the steel boxes, is not part of the package serial number.

5.1.3 The package weight shall be listed below the package serial number and shall be followed by "kg". If the weight in kilograms is calculated from the weight measured in pounds, the number of significant figures shall be consistent with the accuracy of the measuring device.

5.1.4 Example: a drum, closed in 1984, bearing tag number 0051386, and weighing 420 lb. is stenciled thus:

LA84010051386

190 kg

5.1.5 The serial number tag shall be attached to the waste package after closure. The tag is not intended to be a seal.

5.1.5.1 On steel drums, the tag shall be attached to the bolt, between the lugs.

5.1.5.2 On boxes, the tag shall be wired to one of the lifting lugs.

5.1.6 The aluminum tags specified for crates in AR10-2 shall not be used for TRU waste packages.

5.1.7 When waste packages are overpacked by the Solid Waste Disposal Section of HSE-7, the new package shall be assigned a new identification number.

5.2 Color Coding

WIPP-DOE-114 requires specific color coding on TRU waste packages.

5.2.1 Waste packages containing more than 25 vol% combustibles, or reportable concentrations of toxic materials, or having external radiation levels exceeding 10 mrem/h shall be identified by polyethylene tape color bands as indicated below:

5.2.1.1. Steel drums shall have 1 in. wide bands encircling the drum near the center.

5.2.1.2 Boxes shall have 1 in. wide strips, 10-12 inches long, set between the corrugations on the top and into the corrugations on the four sides, just below the label, in the sequence given below. The coding tape shall not be laid across the weld joints.

5.2.2 Surface Dose Rate

Color: Yellow

Ranges: 10 - 50 mrem/h - one band

50 - 100 mrem/h - two bands

100 - 200 mrem/h - three bands

5.2.3 Toxics

Color: Black

Ranges: Reportable concentrations, one band

5.2.4 Combustibles/Flammable

Color: Red

Ranges: Over 25 vol%, one band

5.2.5 Tape shall be applied only to clean, dry surfaces when the air and surface temperatures are above 32° F.

5.2.6 Color tolerances for the color-coding bands are defined in Table 1, Appendix A of 49CFR 172.

6.0 STORAGE

6.1 Certifiable TRU waste is received and stored by HSE-7 according to the requirements of the Area G Procedures[16].

7.0 RETRIEVAL FROM STORAGE

The method of removal of certifiable TRU waste from storage is only vaguely defined because much depends on the capabilities of facilities not yet designed. Although at least one revision of this section is anticipated before waste is retrieved for shipment to the WIPP, the following outlines the expected procedure.

7.1 The order of package withdrawal will be determined by its placement in storage. No attempt will be made to select packages in any numerical sequence.

7.2 Data concerning the selected packages will be obtained from the Solid Waste Records Office.

7.3 Waste packages will be cleaned and at least visually inspected. Some form of nondestructive examination (NDE) will be used on a sample of each type of waste retrieved. The nature of this NDE will be determined later.

7.4 Surface contamination levels and contact radiation levels will be determined and documented.

7.5 The thermal power of each waste package will be calculated.

7.6 Paint, color coding, and labeling will be touched up or corrected as required. The serial number tags will be removed when the labeling is verified and touched up.

7.7 Security seals will be applied to drums if required by WIPP or DOT.

7.8 Drums will be assembled into six-packs according to instructions from the Solid Waste Records Office. Six-pack weights will be determined to verify the computer generated expected weight.

8.0 CERTIFICATION RECORDS

8.1 Record Categories and Retention Requirements

Certification consists of providing a complete, auditable set of records documenting that all WIPP criteria[2] have been considered and that the compliance requirements[3] have been met. This documentation can be divided conveniently into the following four categories.

8.1.1 Waste Generator Supporting Records

This category includes instrument calibration records, purchasing documentation, dates when process changes were effected, etc., that do not apply to the waste package itself. These records shall be kept by the waste generating organization and shall be available for audit for 5 years following the end of the calibration period or the date when the equipment went out of service.

When a process generates homogenous waste in quantities greater than one full container, each process batch shall be assigned a code that shall appear on all of the data sheets pertaining to that batch. Process batch records shall be retained by the waste generator in a form suitable for audit for a period of 25 years.

8.1.2 Waste Generator's Data Package

The records that contain the definitive information about the waste and its packaging shall be collected into a single "data package" by the generator. As a minimum, a Generator's Data Package consists of a CWSR with the Generator's Package Information section and Generator Site Health Physics Information section properly completed and signed. The data package may also contain supplementary documentation to support the data contained on the CWSR, such as nonconformance reports. This data package shall be retained by the HSE-7 Solid Waste Records Office for 25 years so that it will be available for audits and for analysis throughout the WIPP retrieval period and the intervening storage period. Copies of each Generator's Data Package will be stored on microfilm[22].

8.1.3 Subsequent Storage and Handling Records

Processors who handle the waste packages after the waste generator shall provide a signed statement to the Solid Waste Records Office of HSE-7, indicating that the work performed in their operations was done correctly and according to approved procedures. The CWSR form provides for signatures of appropriate storage site personnel. These and similar records produced during receiving, repackaging, overpacking, and withdrawal from storage, shall be attached to, retained with, and microfilmed with, the Waste Generator°s Data package if produced during the calendar year when the waste is received at TA-54. Subsequent records may be filed and retained in hard copy[22].

8.1.4 WIPP Data Package

The WIPP Data Package is produced by the HSE-7 Solid Waste Records Office according to the ~~requirements of WIPP-DOE-157~~[12] for electronic transmission to the WIPP. The WIPP Data Package contains waste package data, six-pack make-up data, and shipment make-up data. The information contained in the transmission shall be duplicated on paper, attached to the signed certification statement, and sent to the WIPP with the waste. A second copy of each shall be retained on microfilm for 25 years.

8.2 General Requirements

8.2.1 Each page of the generator's data package shall bear the Waste Package Serial Number.

8.2.2 Each set or block of data entered on the data forms shall be accompanied by the initials or signature of the person who collected that data.

8.2.3 Each data sheet shall be reviewed for validity and compliance with certification plan requirements. The reviewer shall be sufficiently knowledgeable of the operation to recognize inappropprite data entries and shall have sufficient organizational freedom authority to perform his task independently.

8.2.4 Every signature and initial that occurs in the package must be matched with the appropriate printed name.

8.2.5 The original waste generator's data package, signed by the waste generator (not initialed) shall be sent to the Solid Waste Records Office where it must be received, reviewed, and approved

before the waste package may be transported to the storage and disposal site. (See CWSR form instructions in Appendix D).

8.2.6 A copy of the CWSR form shall be retained by HSE-7 with the Generator's Data Package. The original CWSR form, signed by HSE-7, shall be returned to the waste generator to indicate acceptability of both the data package and the waste package[22].

8.2.7 The original CWSR form shall accompany the waste to the storage and disposal site.

8.2.8 After the waste is placed in storage, the original CWSR form, signed by appropriate storage site personnel, shall be returned to the Solid Waste Records Office for retention with the Generator's Data Package[16].

9.0 INSTRUCTIONS FOR PREPARATION OF ATTACHMENTS

9.1 Most of the details of the data gathering, documentation, and packaging of the waste must be provided by the waste generating organizations. Each generator of a TRU waste stream shall develop an attachment to this plan, identifying each waste form produced and describing how it will be packaged, and what controls will be used to ensure that it meets the WIPP acceptance criteria.[2] The QA requirements of Section 3.0 of this plan shall be applied to the certification activities described in the attachment.

9.2 Each attachment to the plan shall include at least the following:

9.2.1 Introduction

Identify the organization producing the waste. Provide an

organization chart as described in Section 2.1, showing the relationships among individuals who generate, package, and verify the waste, and who assemble and sign the Generator's Data Package (by position, not name.) Include interfaces with other organizations that affect the certifiability of the waste (see Section 2.1).

9.2.2 Waste Form Description

Describe the waste form(s) produced. A content code will be assigned to the waste form by HSE-7. When mixing of compatible waste forms in a single waste, a content code will be assigned to each permitted combination. A description of the process that produced the waste is not part of the waste form description.

9.2.3 Waste Form and Packaging Control Methods

9.2.3.1 This section should include a waste stream description and/or flow chart that illustrates the waste package progression, beginning at the point it becomes waste, through packaging, and including preparation of the Waste Generator's Data Package for HSE-7. List the packaging to be used, including liners and inner containers. Provide copies of data collection forms, process control forms, and other related forms. List the instruments important to certification. Define or reference the frequency of instrument calibrations and the method of ensuring current calibrations. When using references to other documents, be specific. Include a list of references.

Be brief. Do not include unnecessary details that do

not affect the certifiability of the waste. Do not include a detailed description of the process that produced the waste.

9.2.3.2 Address each WIPP criterion separately and specify how each will be met. If the waste packages contain more than one waste form, present this information in tabular form. WIPP-DOE-114[3] clearly defines the information needed to demonstrate compliance with each criterion.

- When a demonstration can establish compliance with a given criterion, for all waste of a given form, perform that demonstration, document it, and add the documentation as an appendix to the attachment.
- When periodic sampling can demonstrate compliance, establish and document the sampling method, frequency, and applicable limits.
- When measurement or analysis of the contents of each container is required to demonstrate compliance, the attachment shall define the method used, and the limits of acceptability.
- If a criterion is not applicable, demonstrate that this is so. Nothing is assumed to be obvious.

9.2.3.3 Define the procedure for handling nonconforming waste packages (see Section 3.8).

9.2.4 Waste Generator's Data Package Requirements

When the waste is ready for transfer to the WIPP, a representative from HSE-7 will review all available data and will certify that the waste meets the WIPP acceptance criteria.

The documentation supplied by the waste generator (the Waste Generator's Data package) provides nearly all of the information about the waste form. The data collection and recording activities required for preparing the data package are critical to the success of the certification program.

9.2.4.1 Define which record forms are to be included in the data package and which are not. For example, instrument calibration data are not included. Measurements made with the instrument are included. Define who will store supporting documentation and where it will be kept.

9.2.4.2 Define who (by organizational description) assembles the data package, who reviews it, and who signs the CWSR before it is sent to HSE-7.

9.2.4.3 Provide a place for the Waste Package Serial Number on every page in the data package.

9.2.4.4 Establish and define a method for handling data packages found to be nonconforming because they have incomplete or apparently erroneous entries.

9.3 Attachments require approval within the generating organization, by HSE-7, and by the WACCC.

9.4 Complete an attachment check sheet (see Appendix F) to verify that all the requirements of the Certification Plan have been addressed in the attachment or in referenced documents. List only the document and section where each item is addressed. Every item on the checksheet must be addressed. If an item is not applicable, enter N/A and explain why.

REFERENCES

1. DOE ORDER 5820.2 "Radioactive Waste Management," with Attachment 1, (February 6, 1984).

2. DOE Report WIPP-DOE-069, Rev. 1, "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant," (September 1981).

3. DOE Report WIPP-DOE-114, "TRU Waste Certification Compliance Requirements for Newly Generated Contact-Handled Wastes for Shipment to the WIPP," (October 1981).

4. DOE Report 5700.6A, "Quality Assurance," (August 13, 1983).

5. DOE Report WIPP-DOE-120, Rev. 1, "Quality Assurance Requirements for Certification of TRU Waste for Shipment to the WIPP," (January 1983).

6. Memorandum, WMTDD:JFB:0198A, J. M. McGough of Albuquerque Operations Office to Managers, DOE Operations Office (January 1982).

7. Memorandum, WIPP:WAC:83-003, J. E. Johnson to J. Aragon, HSE-Divison Leader (1983).

8. "Quality Assurance Manual for Engineering and Construction," Site Engineering Division, Los Alamos National Laboratory document (1982).

9. "Health and Safety, Los Alamos National Laboratory Manual," Chapter 1 (March 1984).

10. Rocky Flats Plant Std. No. SX-200, Standard for DOT-17C 55-gal drums (August 5, 1980).

11. Rocky Flats Plant Std. No. SX-231, Standard for corrugated metal waste container, (October 1982).

12. DOE Report WIPP-DOE-157, "Data Package Format for Certified Transuranic Waste for the Waste Isolation Pilot Plant (WIPP)," (March 1983).

13. Rocky Flats Plant Report RFP-3345 "Safety Analysis Report for Packaging - Corrugated Steel Container (Sand Box) for DOT Specification 7A Packaging," (January 24, 1983).

14. Memorandum WMTDD:MHM:04468, M. H. McFadden of Albuquerque Operations Office to Distribution (April 22, 1983).

REFERENCES (con't.)

15. "Design and Testing of the TX-4 Type A Container for Packaging Radioactive Waste," Lawrence Livermore National Laboratory Report UCRL-53377 (March 4, 1983).

16. "Operating Instructions for Receiving, Stacking, and Covering Certified Waste," SWD-HSE7-OPI-02, Waste Management Group, Los Alamos National Laboratory.

17. "Recall and Calibration Procedures for Portable Alpha, Beta-gamma, and Neutron Instrumentation." Health Physics Group (HSE-1), Los Alamos National Laboratory. (TBD)

18. "Calibration Procedures for the Model PC-5 Gas Flow Proportional Counter." Health Physics Group (HSE-1), Los Alamos National Laboratory. (TBD)

19. "Waste Management Group Document Control Procedure." GOP-HSE7-DC-01 (DRAFT), Waste Management Group (HSE-7), Los Alamos National Laboratory.

20. "MST-9 QA Manual," Quality Assurance Group (MST-9), Los Alamos National Laboratory (DRAFT).

21. Memorandum, WIPP:DLG 83-0984, D. L. Gillas to J. Aragon, HSE-Division Leader (1983).

22. "Solid Waste Records Office Procedure for Review and Processing of Waste Generators° Data Package." WCP-HSE7-0I-01 (DRAFT), Waste Management Group (HSE-7), Los Alamos National Laboratory.

APPENDIX A

ATTACHMENTS TO THE PLAN

INDEX

1. Los Alamos Transuranic Waste Size Reduction Facility
   Includes Content Code 0001

2. Liquid Waste Treatment Plant
   Includes Content Codes 0002 and 0003

3. MST Division Certification Plan Attachment
   Includes Content Codes 0004 and 0005

4. CHM-1 Certification Plan Attachment
   Includes Content Codes 0004 and 0005

5. Miscellaneous Non-Routine Waste Certification

6. MST Division Process Residue Certification
   Includes Content Code 0006

7. MST-14 Contact and Remote-Handled Waste Certification
   Includes Content Code 0007

8. Treatment Development Facility
   Includes Content Code 0008

9. MST Division Attachment for Pu^{238} Wastes
   Includes Content Codes 0004 and 0005

10. Inhalation Toxicology Research Institute
    Includes Content Content Codes 0004 and 0005

APPENDIX B

WASTE CONTENT CODES

Code	Description
0001	Mixed metal scrap and combustibles primarily from operations at the SRF. Contains primarily metals or metal equipment, either whole or sectioned, along with its combustible components and the combustibles generated during decommissioning, sectioning, and packaging. Packaged in plastic lined boxes or drums.
0002	Cemented sludges Caustic sludge stabilized with Portland cement. Packaged in drums with 5 mil plastic liners.
0003	Dewatered sludges Caustic sludge from a liquid waste treatment facility. Contains 30-45 percent solids. Packaged in drums with 90 mil and 5 mil plastic liners and dry Portland cement added to stabilize any liquids that may separate.
0004	Combustible Solids - Paper, rags, plastic, rubber, etc., which may contain some small fraction of noncombustible solids as scrap metals, etc.
0005	Noncombustible Scrap - Small tools, cans, small equipment items, broken glass, etc., which may contain some small fraction of combustible solids.
0006	Cemented Process Residues - Process leached solids, filter cakes, evaporator bottoms, etc., stabilized in Portland or Gypsum cement.
0007	Contact and remote-handled solids from hot-cell operations.
0008	Cemented Incinerator Ash - Incinerator ash stabilized with Portland cement.
0009	Cemented Aqueous Liquid Wastes - Neutralized or caustic aqueous liquids stabilized with portland cement.
TBD	Slag and Porcelain/Metal Crucibles
TBD	Soil Stabilized with Portland cement.

TBD = To Be Determined

APPENDIX C

ACCEPTABLE WASTE CONTAINERS

* 1. Steel drum, 55 gal. (210 liter), DOT spec. 17-C. Approved per DOE Order 5820.1, Attachment 2. For details see SX-200[10].

2. Steel box, 74.5" L x 50.5" W x 38.5" H. Approved per DOE Order 5820.1, Attachment 2. For details see SX-231[11] and RFP-3345[13].

3. Steel box, 68" L x 54" W x 38 " H. See No. 2 above

4. Steel box, 88" L x 54" W x 54" H. See No. 2 above

5. Steel box, 112" L x 68" W x 77" H. See No. 2 above

6. Steel box, TX-4, 7' L x 4' W x4' H. Approved per memo WMTDD:MHM:04468[14]. For details see UCRL-53377[15].

APPENDIX D

CERTIFIED WASTE STORAGE RECORD FORM

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

CERTIFIED WASTE STORAGE RECORD

WASTE PACKAGE SERIAL NUMBER

LA 8 4 _ _ _ _ _ _ _

I. GENERATOR'S PACKAGE INFORMATION

ORIGIN OF WASTE	PN Items C&D No.	Additional Information
Group		
TA		
Building		
Room		

CONTAINER	CODE
☐ Steel Drum (55 gal.)	01
☐ Steel Overpack (Drums)	02
☐ Steel Box (68 in. X 54 in. X 38.5 in.)	03
☐ Steel Overpack (FRP Box)	04
☐ Other *(Describe)*	

Drum Lot Code _ _ Year of Mfr. _ _

Manufacturer's Box Serial Number _ _ _ _ _ _

SS MATERIALS WRITE-OFF		RADIONUCLIDE CONTENT (C = Curie, M = Gram)		
Account	Project Code	Nuclide	Amount	+/−
			0	E
			0	E
			0	E
			0	E
			0	E
			0	E

Process Batch Code _ _ _ _

Gross Wt. (kg) _ 0 E +

Organic Mat'l Wt. (kg) _ 0 E +

Organic Mat'l Vol (%) _ _ _

Content Code _ _ _ _

Date Closed (MMDDYY) _ _ _ _ _ _

TOXIC OR CORROSIVE MATERIALS

Name	Code	Quantity (g)
	_ _ _ _ _	0 E +
	_ _ _ _ _	0 E +
	_ _ _ _ _	0 E +
	_ _ _ _ _	0 E +

The data in this section were collected, and the waste described herein was packaged and labeled according to the procedures defined in the Los Alamos TRU Waste Certification Plan and its appropriate attachment(s). The data are correct and complete to the best of my knowledge.

Printed Name	Signature	Date

II. GENERATOR-SITE HEALTH PHYSICS INFORMATION

Surface Dose Rate (mrem/h) _ 0 E +

Survey Meter Model

Survey Meter Serial No.

Alpha Contamination (dpm/100cm2) _ 0 E +

Beta-Gamma Cont. (dpm/100cm2) _ 0 E +

The data in this section were collected as prescribed in approved procedures. The package is properly closed and is safe to handle and transport.

Printed Name	Date
Signature	

III. HSE-7 SOLID-WASTE RECORDS OFFICE INFORMATION

The data package for this waste has been reviewed by HSE-7. The generator is authorized to arrange transportation to TA-54 per AR 10-2.

Printed Name	Date
Signature	

IV. STORAGE-SITE HEALTH PHYSICS INFORMATION

Surface Dose Rate (mrem/h) _ 0 E +

Survey Meter Model

Survey Meter Serial No.

Alpha Contamination (dpm/100cm2) _ 0 E +

Beta-Gamma Cont. (dpm/100cm2) _ 0 E +

The data in this section were collected at the TA-54 waste storage/disposal site as defined in approved procedures. The package is acceptable for handling and storage.

Printed Name	Date
Signature	

V. STORAGE SITE INFORMATION

This package was visually inspected when received and was found to be properly labeled and in good condition. It was accepted according to approved procedures.

Printed Name	Date
Signature	

Pad No. | Layer | ☐ E ☐ C ☐ W

Post No. | Date Stacked

This waste package was stored at this location according to approved procedures.

Printed Name	Date
Signature	

HS Form Number 10-28 (12/83)

This form must be used to document packages of TRU waste that have been generated according to the Los Alamos TRU Waste Certification Plan. Complete each section thoroughly in the order given on the form before proceeding to the next section. Accompany all signatures with a printed or typed name.

Use scientific notation. Whenever the notation E plus or minus is given in a data block, enter the plus or minus as appropriate. Examples: Record 0.012 as 1.2E-2; 1.2 as 1.2E+0; and 1200.0 as 1.2E+3. Where E+ appears in a data block, enter values less than E+0 as 0.0E+0.

I. GENERATOR'S PACKAGE INFORMATION

Waste Generator: Complete the entire section as follows; then send the form to the area HSE-1 Health Physics Representative.

Waste Package Serial Number. Use the full 13-digit number beginning with "LA" as marked on the waste package.

Origin of Waste. Give the data for the organization offering the waste to HSE-7.

PN Items. Enter the C&D (Form 252-R, Disposal of Contaminated and/or Classified Property) number(s) in the space provided. Enter the associated property number(s) in the space marked "ADDITIONAL INFORMATION."

Additional Information. Use this space to enter any information about the waste that may be useful later, such as property numbers or the specific origin of the waste. Use of this space is optional except for listing property numbers when a C&D number has been entered.

Container. Check the correct box. Drum lot number is a code of one or more characters stamped or painted on the outside of the drum between the upper rolling hoop and the top curl. Year of manufacture is the last two digits in the code stamped in the bottom head of the drum. Example: 16-55-82, enter 82. Manufacturer's serial number is the manufacturer's number for containers other than drums.

SS Materials Write-Off. Provide the account and project codes. (This is for the waste generator's use only.)

Radionuclide Content. List the radionuclides by using either the normally accepted notations (for example, U235, Pu239, Co60, H3, etc.) or, for accountable materials, by using the element identification plus the SS Material Type Code (for example, Pu52 for plutonium code 52, U38 for uranium code 38, etc.). The acceptable code for Mixed Fission Products is MFP. In cases where more than one contaminant is identifiable, list each (with appropriate data) on a separate line. Where there are more than six (6) radionuclides, contact Group HSE-7 at 7-5397 for information about this entry. Identify units, that is M = Grams, C = Curies.

Process Batch Code. Use this code only when a homogeneous batch of waste fills more than one container; otherwise, enter "N/A."

Gross Weight. Enter the weight of the complete package in kilograms (kg).

Organic Mat'l Weight. Enter the total weight of organic material in the package, including the packaging, in kilograms (kg).

Organic Mat'l Volume. Round off to the nearest 10% and enter.

Content Code. Enter the number assigned by the Certification Plan attachment.

Date Closed. Enter as MMDDYY without spaces or punctuation.

Toxic or Corrosive Materials. Use name and code number as given in 49 CFR 172.101. Enter only if the amount in the package exceeds the radioactive quantity (RQ) value; otherwise, enter "NONE." An amount is required for each code listed.

II. GENERATOR-SITE HEALTH PHYSICS INFORMATION

The area HSE-1 Health Physics Representative at the Generator's site completes and signs this section. The Waste Generator then sends the form to the HSE-7 Solid Waste Records Office (MS E516) for review and approval.

III. HSE-7 SOLID WASTE RECORDS OFFICE INFORMATION

The HSE-7 Solid Waste Records Office Representative completes and signs this section. This represents authorization to transport. The Waste Generator must arrange for transportation ONLY AFTER RECEIVING SUCH AUTHORIZATION FROM THE HSE-7 SOLID WASTE RECORDS OFFICE. Refer to Administrative Requirement 10-2. Ensure that the CWSR accompanies the waste to the TA-54 storage site.

IV. STORAGE-SITE HEALTH PHYSICS INFORMATION

The HSE-1 Health Physics Representative at TA-54 must complete and sign the Storage-Site Health Physics Information section.

V. STORAGE-SITE INFORMATION

The HSE-7 Storage-Site Personnel must complete this section and sign (1) when the waste is accepted and (2) after the waste is stacked.

APPENDIX E

NON-CONFORMANCE REPORT

TRU WASTE CERTIFICATION PROGRAM
NON-CONFORMANCE REPORT

ORIGINATOR'S SECTION		
Location:	Hold Tag No.:	
Waste Pkg. Serial No.:		
Description of Non-Conformance:		
Print Name:	Signature:	Date:

WASTE MANAGEMENT OFFICE SECTION		
Instructions for Disposition:		
Print Name:	Signature:	Date:
The above instructions have been completed as specified.		
Printed Name:	Signature:	Date:

APPENDIX F

ATTACHMENT CHECK LIST

ITEMS REQUIRED TO BE ADDRESSED	LOCATION WHERE ADDRESSED
3.2.5 Requires maintenance scheduling and documentation for equipment maintained within the organization.	
3.2.5 Requires identification of equipment maintained by other parties.	
3.3.1.1 Requires identification of codes applicable to process or equipment design.	
3.3.1.3 Requires design verification.	
3.3.1.4 Requires design sign-off and output waste verification.	
3.3.3.1 Requires identification of items requiring control.	
3.3.3.3 Requires batch identification.	
3.3.4 Requires process controls.	
3.3.5 Requires controls to prevent waste package damage.	
3.4.1 Requires procedures for inspections and/or tests.	
3.4.2 Requires identification of inspectors.	
3.4.3 Requires reporting of inspection results.	
3.5.1.2 Requires calibration program for M&TE.	

ITEMS REQUIRED TO BE ADDRESSED	LOCATION WHERE ADDRESSED
3.5.2.2 Requires that calibration be periodic.	
3.5.2.3 Requires calibration procedures be referenced in the attachment.	
3.5.2.4 Requires calibration records.	
3.5.3 Requires calibration stickers on M&TE.	
3.6 Requires that status indicators, where used, must be defined.	
3.7.1 Requires quality documentation on purchase orders.	
3.7.2 Requires that operating instructions be referenced in the attachment.	
3.7.3 Requires a document control system.	
3.8 Requires a procedure or method for handling nonconforming waste packages and data packages.	
3.9 Requires that the applicable audit program be referenced or defined.	
4.3.2 Requires a pre-use inspection of waste containers.	
5.0 Requires labeling of the waste package.	
5.2 Requires color coding of the waste package.	
8.1.3 Requires forms and procedures from subsequent waste processors.	

ITEMS REQUIRED TO BE ADDRESSED	LOCATION WHERE ADDRESSED
9.2.1 Requires a detailed organization chart.	
9.2.2 Requires a waste description and content code.	
9.2.3.1 Requires a flow chart and/or waste stream description.	
9.2.3.1 Requires a listing of packaging to be used.	
9.2.3.1 Requires copies of forms to be used.	
9.2.3.1 Requires a list of references.	
9.2.3.2 Requires a tabulation of waste form compatibility with the WIPP waste acceptance criteria.	
9.2.4.1 Requires a definition of the contents of the waste generator's data package.	

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MHD09.001, LA-MIN03-NC.001

Site(s): Los Alamos National Laboratory	**Source Document Tracking Number:** P005
Acceptable Knowledge Documentation Type: ✔ TRU Waste Management Program Information ✔ Waste Stream-Specific Information Supporting Information	**Category:** C - Correspondence D - Documents M - Miscellaneous ✔ P - Procedures DR - Discrepancy Resolution U - Unpublished Documents

Title of Source Document: Safe Operating Procedures for Radioactive Liquid Waste Treatment Operations

Source Document Reference Information (author(s), document and revision number, date, publisher): L. Theye, SOP-50RLWTF-01, TWCP-700, August 1997, EM Division, LANL

AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS4, WS8, WS11	11-12, 43-44	Summarizes sludge-generating operations in the main TA-50-1 plant and pretreatment of TA-55 liquid waste in Rooms 59 and 60 of the same plant. Also summarizes the WAC for influent liquid waste.
WS9	13	States that sludge is concentrated "to greater than 27% solids by filtering on a rotary vacuum filter" and is typically low-level.
WS8	16, 24-25, 34-35	Summarizes chemicals used in the various treatment processes and administrative controls.
PR4	42	To meet the WAC, the facility must have adequate training for RLWTF waste generators, handled waste from radiologically controlled areas in accordance with procedures, and properly characterize and document waste to be sent to TA-54 on a Waste Profile Form, usually using MSDSs, process knowledge, and sample analyses.

Source Document Data Limitations (if any):

1. Document date is 1997 and earliest superseded document is from 1996 - so administrative controls described herein, such as prohibition of RCRA-hazardous constituents of influent liquid waste, probably were not in place during the period of interest.
2. Information on the DP-257 plant is not relevant because this plant was not functioning during the period of interest, 1979-1990.

Acceptable Knowlege Expert:

Amy Johns Amy Johns Date: 4/4/09
Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

ORIGINAL

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MIN03-NC.001

Site(s): Los Alamos National Laboratory	**Source Document Tracking Number:** P005
Acceptable Knowledge Documentation Type: ✓ TRU Waste Management Program Information ✓ Waste Stream-Specific Information Supporting Information	**Category:** C - Correspondence D - Documents M - Miscellaneous ✓ P - Procedures DR - Discrepancy Resolution U - Unpublished Documents

Title of Source Document: Safe Operating Procedures for Radioactive Liquid Waste Treatment Operations

Source Document Reference Information (author(s), document and revision number, date, publisher): L. Theye, SOP-50RLWTF-01, TWCP-700, August 1997, EM Division, LANL

AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS4, WS8, WS11	11-12, 43-44	Summarizes sludge-generating operations in the main TA-50-1 plant and pretreatment of TA-55 liquid waste in Rooms 59 and 60 of the same plant. Also summarizes the WAC for influent liquid waste.
WS9	13	States that sludge is concentrated "to greater than 27% solids by filtering on a rotary vacuum filter" and is typically low-level.
WS8	16, 24-25, 34-35	Summarizes chemicals used in the various treatment processes and administrative controls.
PR4	42	To meet the WAC, the facility must have adequate training for RLWTF waste generators, handled waste from radiologically controlled areas in accordance with procedures, and properly characterize and document waste to be sent to TA-54 on a Waste Profile Form, usually using MSDSs, process knowledge, and sample analyses.

Source Document Data Limitations (if any):

1. Document date is 1997 and earliest superseded document is from 1996 - so administrative controls described herein, such as prohibition of RCRA-hazardous constituents of influent liquid waste, probably were not in place during the period of interest.
2. Information on the DP-257 plant is not relevant because this plant was not functioning during the period of interest, 1979-1990.

Acceptable Knowlege Expert:

Sheri Nance, Sheri Nance — Date: 1/3/08

Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED

ORIGINAL

DIVIDER PAGE ONLY

Not part of page count

FMU 84 – VARIANCE REQUEST

Date	Document Identification		VR #
4/11/99	SOP-50RLWTF-01, R00a		VR-99-01
Requester	**Reference (Cite Document Section)**	**Ma Stop**	**Effective Dates**
Michael Chochoms	**Revision OC** Section 5.1	J593	Permanent **From:** **To:**

Description

Replace the existing Training Section 5.1 with the following text:

5.1 Training

The training requirements for specific job functions has been determined through job analysis and are listed in qualification standards for nuclear job functions. Training requirements for non-nuclear job functions are determined by RLW Management and by Laboratory policy and recorded in individual training plans. Job-specific training requirements include the regulatory training requirements applicable to the job function and additional training identified by management to enhance safety, quality, skills, knowledge, and job performance. Training plans in each individual's training plan and are reviewed and approved by RLW management periodically.

ESH-13 provides LANL training to ensure personnel are aware of the hazards and safe work practices, environmental concerns, regulatory compliance issues, and LANL requirements related their operation.

As a minimum; all personnel, including office workers, are required to complete:

- General Employee Training (GET)
- Hazardous Communication Introduction
- The site-specific video administered by ESH-1 on TA-50-1 hazards and alarms.
- Training in accordance with site emergency plan applicable to their work location.

In addition workers may need to be trained as follows:

- Personnel requiring access to a controlled area and radiological areas shall be trained in accordance with LIR402-718-01.1, *Radiological Training* as required based on the type of work they will perform and the type of areas they need unescorted access to.
- Personnel requiring unescorted access to the work areas of the RLW TSD shall complete HAZWOPER in accordance with LIR402-100-02.0, *Hazardous Waste Operations and Emergency Response Training Requirements*.

Training implementation requirements are described in AP-RLWT-27, *Training Management Plan*, and AP-50RLWTF-13, *On-the-Job Training and Qualification*. Refer to those documents for details concerning training implementation requirements.

Justification

The existing SOP training section is inconsistent with Laboratory and regulatory requirements.

Disposition	**Analyst/SME/CCM Comments**
Approved Approved with Modifications Closure Date _____ Not Approved Insufficient Information	**SCF – NONE**

Submittal / Approval

M. C. — 4/12/99

Subject Matter Expert — **Date**

Rick Holmes — 4-12-99

Change Control Manager — **Date**

Memo

To: Rick Alexander, MS E518
Debora Hall, MS E518
David Knapp, MS E518
Julie Meadows, MS E518
David Salazar, MS E518

From: Gerry Cook, Business Management / Document Control, MS E518, Room 6

CC: RMDC files

Date: 04/16/99

Re: **Variance Request VR-99-01**

Please notice the attached Variance Request has been approved and results in a revision to Section 5.1, Training, of SOP-50RLWTF-01, R00. This revision is to reflect the recently issued Training Management Plan.

Please read and familiarize yourself with this change and **then attach this change to your controlled copy** of SOP-50RLWTF-01. If you no longer hold a controlled copy of this procedure, please notify Document Control so that your name can be removed from the controlled copy distribution list.

Thanks

SAFE OPERATING PROCEDURES
for
Radioactive Liquid Waste Treatment Operations

HISTORY OF REVISIONS **8**

1.0 INTRODUCTION **9**
1.1 Purpose 9
1.2 Scope 9

2.0 DESCRIPTION OF OPERATIONS **10**
2.1 Detailed Operating Procedures 10
2.2 Treatment Facilities 11
2.2.1 Main Plant 11
2.2.2 Pretreatment Plant 11
2.2.3 DP-257 11
2.3 Treatment History 11
2.3.1 Current Treatment Processes 11
2.3.2 Future Treatment Processes 11
2.4 Plant Influent 12
2.4.1 Waste Acceptance 12
2.4.2 Batch Addition 12
2.5 Plant Effluent 12
2.5.1 Main Plant 12
2.5.2 DP-257 and Pretreatment Plant 12
2.5.3 Standards 12
2.6 Sludge 13
2.6.1 Main Plant and DP-257 13
2.6.2 Pretreatment Plant 13
2.7 Sampling Operations 13
2.8 Waste Transfer Operations 15
2.8.1 The RLWCS and Associated Vaults 15
2.8.2 PF-4 Lines and WM-66 15
2.8.3 The Cross-country Waste Line 15
2.8.4 Transportation of Liquid Waste 16
2.9 Chemical Operations 16

3.0 INTERFACES AND RESPONSIBILITIES **16**
3.1 EM/RLW 16
3.1.1 Group Leader 16
3.1.2 Personnel 17
3.1.3 Training Coordinator 17
3.1.4 Records Management/Document Control Manager 17
3.1.5 Functional Area Leaders 17

3.2 Environment, Health, and Safety 17
3.2.1 Health Physics Operations Group 17
3.2.2 Industrial Hygiene and Safety Group 18
3.2.3 Nuclear Criticality Safety Group 18
3.2.4 Training Group 18
3.2.5 Water Quality and Hydrology Group 18
3.2.6 Hazardous and Solid Waste Group 19
3.3 Environmental Management/Solid Waste Operations 19
3.4 Chemical Science and Technology (CST) Division 19
3.4.1 Analytical Services Group 19
3.4.2 Inorganic Trace Analysis Group 19
3.4.3 Nuclear and Radiochemistry Group 20
3.4.4 Organic Analysis Group 20
3.5 Johnson Control World Services, Inc. 20
3.5.1 Management 20
3.5.2 Personnel 20
3.6 Materials Management Group 21
3.7 Waste Generating Groups 21
3.8 Facility Management Unit - 84 21
3.8.1 Waste Management Coordinator 21
3.8.2 Storm Water Pollution Prevention Team Leader 21
3.8.3 Spill Coordinator 21

4.0 ENVIRONMENT, SAFETY, AND HEALTH CONCERNS 22
4.1 Radiological Hazards 22
4.1.1 Controlled and Contaminated Areas 22
4.1.2 Spills and Leaks 23
4.2 Confined Spaces 23
4.2.1 Hazardous Atmospheres 23
4.2.2 Vehicular Traffic 23
4.2.3 Radon 23
4.2.4 Engulfment 24
4.3 Physical Hazards 24
4.3.1 Vehicle Accidents 24
4.3.2 Thermal Stress 24
4.3.3 High Noise Levels 24
4.3.4 Muscle Strain 24
4.4 Ingestion of Hazardous Materials 24
4.5 Biological Hazards 24
4.6 Chemical Hazards 24
4.6.1 Acids 25
4.6.2 Caustics 25
4.6.3 Oxidizers 25
4.6.4 Chemical Reactions 25

4.7 Electrical, Pressurized, and Mechanical Systems 25
4.7.1 Electrical Systems 25
4.7.2 Pressurized Systems 25
4.7.3 Mechanical Systems 26
4.8 Nuclear Criticality 26

5.0 GENERAL CONTROLS 26
5.1 Training 26
5.1.1 LANL 26
5.1.2 Site-specific 27
5.2 Personal Protective Equipment 27
5.3 Respiratory Protection Equipment 27
5.4 Alarm Systems 27
5.4.1 Operational Alarms 27
5.4.2 Hard Alarms 28
5.4.3 Emergency Alarms 28
5.5 Safety Showers and Eyewashes 28
5.6 Communications Systems 28
5.6.1 Telephone and Paging Systems 28
5.6.2 Two-way Radios 28
5.7 Number of Personnel Required for an Operation 29
5.8 MSDSs 29
5.9 Document Control 29
5.10 Work Control 29
5.11 Pre-job Hazard Analysis 30
5.12 Outside Contractor Work 30
5.13 Access Control 30
5.14 Visitors and Auditors 30
5.15 Eating, Drinking, Smoking, and Applying Cosmetics 30
5.16 Good Housekeeping 30
5.17 Staff and Functional Area Meetings 31
5.18 Office Areas 31

6.0 RADIOLOGICAL CONTROLS 31
6.1 RCT or HPT Support 31
6.2 Controlled Areas 31
6.2.1 Entry and Exit 31
6.2.2 Dosimetry 31
6.3 Contaminated Areas 31
6.3.1 Entry and Exit 32
6.3.2 Booties Boundaries 32
6.4 Continuous Air Monitoring 32
6.5 Radiological Surveying and Surface Monitoring 32
6.6 Radiological Analysis of Samples 32
6.7 Radiological Work Permits 32

7.0 CONTROLS FOR PHYSICAL AND BIOLOGICAL HAZARDS 32
7.1 Barricades and Postings 32
7.2 Motorized Vehicles 33
7.3 Forklifts and Cranes 33
7.4 Inclement Weather 33
7.5 Slips, Trips, and Falls 33
7.6 Moving Heavy Objects 33
7.7 Foot Injuries 34
7.8 Overhead Objects 34
7.9 Fall Protection 34
7.10 High Noise Levels 34
7.11 Biological Hazards 34

8.0 CONTROLS FOR CHEMICAL HAZARDS 34
8.1 NaOH Operations 34
8.2 Acid Neutralization 34
8.3 Identification and Labeling 35
8.4 Chemical Inventory 35
8.5 Storage 35
8.5.1 Incompatible Chemicals 35
8.5.2 Strong Oxidizers 35
8.5.3 Flammables and Caustics 35
8.6 Respirators 35

9.0 CONTROLS FOR ELECTRICAL AND PRESSURIZED SYSTEMS 36
9.1 Lockout/Tagout 36
9.2 Pressurized Systems 36
9.2.1 Carbon Dioxide 36
9.2.2 Compressed Gases and Liquids 36
9.3 De-energized Electrical Work 37
9.3.1 Training and Qualifications 37
9.3.2 Postings and Barriers 37
9.3.3 Power Tools 37
9.3.4 Two-person Rule 37
9.3.5 Required Work Space 38
9.3.6 Electrical Penetrations 38
9.4 Energized Electrical Work 38
9.4.1 Qualifications 38
9.4.2 Permits 38
9.4.3 Precautions 38
9.4.4 Personal Protective Equipment 39
9.5 Electrical Accidents 39

10.0 CONTROLS FOR CONFINED SPACE HAZARDS 39
10.1 Training 39
10.2 Permits and Postings 39
10.3 Safety Equipment 39
10.4 Atmosphere Monitoring 39
10.5 Radiation Control 40
10.6 Communications 40
10.7 Vehicle Traffic 40
10.8 Emergencies 40

11.0 NUCLEAR CRITICALITY CONTROLS 40
11.1 Pretreatment Plant 40
11.1.1 Summary Log and Plot 40
11.1.2 Neutron and Gamma Surveying 40
11.1.3 Sludge 41
11.1.4 Alarms 41
11.2 Bench and Pilot Studies 41

12.0 MAINTENANCE 41
12.1 Calibration 41
12.2 Radiological and Special Work Permits 41
12.3 Spark or Flame Producing Work 41

13.0 WASTE MINIMIZATION AND MANAGEMENT 41
13.1 Waste Acceptance Guidelines 41
13.2 Solid Waste 42
13.2.1 Training 42
13.2.2 Radiological Controlled Areas 42
13.2.3 Waste Characterization 42
13.3 Hazardous Waste 42
13.3.1 Training 42
13.3.2 RCRA Storage Areas 42
13.3.3 Waste Disposal Areas 42
13.4 Waste Minimization 43
13.4.1 Waste Generator Interfaces 43
13.4.2 Waste Management Interfaces 43
13.4.3 Current Treatment Processes 43
13.4.4 New Treatment Processes 44
13.4.5 Chemicals 44
13.4.6 Segregation 44
13.4.7 Compacting Low-level Waste 44
13.4.8 Recycling and Salvage 44
13.5 Packaging and Transportation 44
13.5.1 Training Requirements 44
13.5.2 DOT and DOE Regulations 45

13.5.3 LANL Requirements 45
13.5.4 Vehicle Inspections 45
13.5.5 Transportation of NaOH 45

14.0 ENVIRONMENTAL AND SPILL CONTROLS 45
14.1 The Cross-country Waste Line 45
14.2 Spill and Leak Control 45
14.2.1 Spill Plans 45
14.2.2 Procedural Controls 46
14.2.3 Engineering Controls 46
14.3 Air Quality 46
14.4 Storm Water Pollution 46

15.0 DISTRIBUTION 47

16.0 REFERENCES 47
16.1 RLWTF Documents 47
16.1.1 Administrative Procedures 47
16.1.2 Detailed Operating Procedures 48
16.1.3 Facility Management Unit Procedures 48
16.2 LANL Documents 48
16.2.1 Administrative Requirements 48
16.2.2 Laboratory Implementation Requirements and Laboratory Manuals 49
16.2.3 Laboratory Procedures and Laboratory Standards 49
16.2.4 Program Requirements Documents and Technical Bulletins 49
16.3 Other LANL Group Documents 49
16.4 Code of Federal Regulations 50
16.5 DOE Orders 50
16.6 Other Documents 50

APPENDIX 51
ACRONYMS 51
DEFINITIONS 52

SAFE OPERATING PROCEDURES
for
Radioactive Liquid Waste Treatment Operations

HISTORY OF REVISIONS

Superseded document	date	Superseded by	date
AP-50RLWTF-02,R02	05/96	SOP-50RLWTF-01,R00	08/97
AP-50RLWTF-03,R02	07/96	SOP-50RLWTF-01,R00	08/97
SOP-50RLWTF-01,R06	05/97	SOP-50RLWTF-01,R00	08/97
SOP-50RLWTF-03,R07	03/97	SOP-50RLWTF-01,R00	08/97
SOP-50RLWTF-04,R06	08/96	SOP-50RLWTF-01,R00	08/97
SOP-50RLWTF-06,R06	09/96	SOP-50RLWTF-01,R00	08/97
SOP-50RLWTF-07,R05	09/96	SOP-50RLWTF-01,R00	08/97
SOP-50RLWTF-08,R07	11/96	SOP-50RLWTF-01,R00	08/97
SOP-50RLWTF-09,R06	11/96	SOP-50RLWTF-01,R00	08/97
SOP-50RLWTF-10,R06	03/97	SOP-50RLWTF-01,R00	08/97
SOP-50RLWTF-12,R07	07/97	SOP-50RLWTF-01,R00	08/97
SOP-50RLWTF-13,R07	09/96	SOP-50RLWTF-01,R00	08/97
SOP-50RLWTF-16,R02	05/97	SOP-50RLWTF-01,R00	08/97

SAFE OPERATING PROCEDURES
for
Radioactive Liquid Waste Treatment Operations

1.0 INTRODUCTION

The Radioactive Liquid Waste Treatment Facility (RLWTF) within Facility Management Unit (FMU)-84 is managed and operated by the Environmental Management/Radioactive Liquid Waste (EM/RLW) Group. The RLWTF consists of three treatment plants: the Main Plant at TA-50-1, a pretreatment plant at TA-21-257 (DP-257), and the Pretreatment Plant in Room 60 at TA-50-1. These facilities treat radioactive liquid waste generated throughout Los Alamos National Laboratory (LANL).

EM/RLW maintains collection systems that transfer radioactive liquid waste to the treatment plants from waste generating operations. If a waste generator is not connected to the RLWTF by pipeline, EM/RLW personnel may package and transport the waste to a treatment plant for treatment.

RLWTF operations generate solid waste that is packaged and transported to appropriate LANL treatment, storage, and disposal facilities (TSDF) for storage or disposal. Other routine operations include sampling wastewater and neutralizing waste acid to ensure efficiency of operations and compliance with regulations.

1.1 Purpose

This safe operating procedure (SOP) establishes the commitment of EM/RLW to addressing environment, safety, and health (ES&H) issues related to routine RLWTF operations. It is written to ensure

- consistency of operations;
- health and safety of personnel;
- protection of the environment;
- exposure to radioactivity is kept as low as reasonably achievable (ALARA); and
- compliance with applicable federal, State, Department of Energy (DOE), and LANL requirements.

This SOP ensures compliance with AR 1-3, "Standard Operating Procedures and Special Work Permits" and the Occupational Safety and Health Act (OSHA) in Title 29 of the Code of Federal Regulations (CFR) 1910.1200, "Hazard Communication." OSHA requires that employers "develop, implement, and maintain at each workplace a written hazard communication program."

1.2 Scope

This SOP does not address emergency procedures or hazards associated with work done by other groups at TA-50-1. Emergency procedures are addressed in Administrative Procedure (AP) -FMU84-08, "TA-50 Site Emergency Plan" and AP-50RLWTF-04, "TA-21-257 Site Emergency Plan." The hazards associated with work done by other groups are addressed in AP-FMU84-04, "Safety Analysis Report for RLWTF at TA-50-1." Everyone who takes part in RLWTF operations should be familiar with these documents.

Detailed instructions for routine RLWTF operations are explained in detailed operating procedures (DOP) (see Subsection 2.1). Administrative Requirements (AR), Laboratory Implementation Requirements (LIR), Laboratory Manuals (LM), Laboratory Procedures (LP), Laboratory Standards (LS), as well as Program Requirements Documents (PRD) are also used as references.

This procedure applies to *all* persons participating in operations described in this document.

2.0 DESCRIPTION OF OPERATIONS

This section provides a brief description of routine RLWTF operations.

2.1 Detailed Operating Procedures

DOPs provide instructions to perform operations in a safe, correct, and environmentally sound manner that complies with federal, State, DOE, and LANL requirements. DOPs specific to each operation contain

- safety and environmental hazards, controls, and precautions;
- a list of equipment and materials associated with the operation;
- a list of required personal protective equipment (PPE);
- operations-specific training requirements;
- required documentation; and
- locations of associated material safety data sheets (MSDSs).

Personnel must follow all safety and environmental precautions and use the controls and procedures given in the DOP. Table 1 lists the DOPs associated with this document.

TABLE 1: Detailed Operating Procedures

DOCUMENT ID NO.	TITLE
DOP-50RLWTF-01	TA-50-1, Room 60 - Pretreatment Plant
DOP-50RLWTF-03	Transfer of Lime and NaOH Solutions
DOP-50RLWTF-04	Responding to Hard Alarms (includes responding to RLWCS Alarms)
DOP-50RLWTF-05	Ventilation System Tests (SCAM Alarms)
DOP-50RLWTF-06	Sampling Associated with TA-21-257 Operations
DOP-50RLWTF-07	Using Respiratory Protection Equipment Associated with RLWTF Operations
DOP-50RLWTF-08	Sampling Associated with TA-50-1 Main Plant Operations
DOP-50RLWTF-09	TA-50-1 Main Radioactive Liquid Waste Treatment Plant.
DOP-50RLWTF-10	TA-21-257 Radioactive Liquid Waste Treatment Plant
DOP-FMU84-11	Blind Penetration of Walls, Floors, or Ceilings
DOP-50RLWTF-12	Waste Acid Neutralization and Nonhazardous Chemical Disposal
DOP-50RLWTF-13	Packaging and Transportation of Radioactive Waste
DOP-50RLWTF-14	Packaging and Transportation of Samples
DOP-50RLWTF-15	Confined Space Operations

2.2 Treatment Facilities

Procedures to operate the three RLWTFs are described in DOP-50RLWTF-09 for the Main Plant, DOP-50RLWTF-01 for the Pretreatment Plant, and DOP-50RLWTF-10 for the DP-257 plant.

2.2.1 Main Plant

The Main Plant treats low-level radioactive liquid waste generated from throughout LANL and piped to TA-50-1 through the Radioactive Liquid Waste Collection System (RLWCS). The Main Plant also receives treated effluent from DP-257 and the Pretreatment Plant in Room 60. Depending on influent volumes, this plant typically operates eight hours a day, five days a week.

2.2.2 Pretreatment Plant

The Pretreatment Plant in Rooms 59 and 60A at TA-50-1 treats radioactively contaminated process acid (primarily nitric) and caustic liquid waste from TA-55-PF-4 (PF-4), the Plutonium Processing Facility. The volume of this waste stream is significantly lower than that of the Main Plant but concentration of radionuclides is significantly higher, so this operation incorporates additional safety controls. Volume and normality of each PF-4 waste stream are variable and independent of each other. Operation of the plant is variable because of its dependence on PF-4 operations.

2.2.3 DP-257

DP-257 treats low-level radioactive liquid waste generated at DP West and DP East. Wastewater is stored in influent tanks until sufficient volume accumulates to operate the plant for one-half to one day (approximately bi-monthly). Since DP East and DP West facilities are being decommissioned, flow to the plant has significantly decreased.

2.3 Treatment History

2.3.1 Current Treatment Processes

Currently all three plants use similar waste treatment processes, however a new treatment processes is being added at the Main Plant to improve effluent quality. This SOP describes the processes currently used at the RLWTF but does not describe differences associated with each plant. These differences are described in the DOP associated with each plant.

Influent is neutralized before entering the flocculator where ferric sulfate and lime are added to enhance flocculation and settle the radionuclides. If necessary a coagulating agent, Betz™ polymer, is added to further enhance flocculation. The precipitated radionuclides settle to the bottom of the clarifier section as sludge and clarified water flows to a filter where fine particles are removed. After passing through the filter, the water is sampled and stored in an effluent tank. Filters at DP-257 and the Main Plant are backwashed as needed to minimize head losses created by the buildup of particles that deposited on the filter media.

2.3.2 Future Treatment Processes

The RLWTF is installing ultrafilter (UF) and reverse osmosis (RO) units at the Main Plant to improve quality of effluent discharged to the Mortandad Canyon Outfall. The UF is a pretreatment step for the RO. A centrifugal UF treats the UF concentrate and the UF treated water (permeate) flows to the RO. The RO permeate is discharged to Mortandad Canyon, and the concentrate is currently being studied to determine options for characterizing and handling it.

2.4 Plant Influent

2.4.1 Waste Acceptance

WASTEMGT-PLAN-002, "Waste Management's Waste Acceptance Criteria" (WM WAC) specifies allowable concentration limits for waste treated through the treatment plants. Limits for radioactivity entering the Main Plant and DP-257 are 0.5 µCi/L. The limit for the Pretreatment Plant is appreciably higher, total alpha activity of 4,500 µCi/L for caustic and 60 µCi/L for acid. The radionuclides in the influent are primarily ^{241}Am, ^{238}Pu, and ^{239}Pu.

The RLWTF accepts waste for treatment on a case-by-case basis based on information provided by the waste generator on the Waste Profile Form (WPF), affect on the treatment processes, and conformance with the WAC. Waste transferred through the Cross-country Waste Line (CCWL) and Pretreatment Plant effluent may be accepted after reviewing analysis of the waste.

The Main Plant and DP-257 will not accept waste defined as hazardous by the Resource Conservation and Recovery Act (RCRA), mixed waste, or waste defined in the Toxic Substance Control Act (TSCA) such as polychlorinated biphenyls (PCB). Exceptions to the WAC are reviewed thoroughly to ensure the RWLTF does not violate permit requirements and the Main Plant or DP-257 do not generate sludge that is a mixed waste. The Pretreatment Plant in Room 60 is a RCRA interim status facility and is allowed to treat hazardous constituents.

2.4.2 Batch Addition

Before waste can be added directly to an influent tank, the plant operator is notified to ensure the waste is compatible with waste already in the tank and there is enough room in the tank to hold the waste. A supervisor must ensure the waste is compatible. The mixer blades must be submerged during transfer to prevent localized pH differences in the influent tank that may cause operational problems.

2.5 Plant Effluent

2.5.1 Main Plant

The Main Plant effluent is discharged to Mortandad Canyon, so this effluent must meet the limits in the NPDES permit. To ensure compliance with the permit, pH of the Main Plant effluent may be lowered by adding carbon dioxide (CO_2) before discharge. Air may be bubbled into the effluent tanks to ensure the chemical oxygen demand (COD) is within the limits of the permit.

2.5.2 DP-257 and Pretreatment Plant

Pretreatment Plant and DP-257 effluent flows to the Main Plant for further treatment, so effluent limits for these plants are based on the WM WAC. If effluent quality does not meet the WM WAC, it must be treated again through the applicable plant before going to the Main Plant.

2.5.3 Standards

National Pollutant Discharge Elimination System Permit: A LANL general National Pollutant Discharge Elimination System (NPDES) Permit sets standards that effluent must meet in order to be discharged to the environment. The Mortandad Canyon Outfall (Outfall 051) at TA-50 is included in this permit. It sets limits on chemical, physical, and mineral components in the effluent but only sets limits on a minimal number of radionuclides.

Derived Concentration Guidelines: The derived concentration guidelines (DCGs) in DOE Order 5400.5, Chapter III, "Radiation Protection of the Public and the Environment" set limits for all radionuclides in effluent discharged to the environment.

2.6 Sludge

2.6.1 Main Plant and DP-257

Sludge at DP-257 and the Main Plant is concentrated to greater than 27% solids by filtering on a rotary vacuum filter and packaged in Department of Transportation (DOT)-approved drums. This sludge is typically a low-level radioactive waste (LLW).

2.6.2 Pretreatment Plant

Sludge generated by Pretreatment Plant operations is a retrievable transuranic (TRU) mixed waste and must meet the WAC for disposal at the Waste Isolation Pilot Plant (WIPP). The sludge accumulates in a sludge holding tank until 250 grams of Pu have been treated through the facility. Then it is solidified using a prescribed formula from the WIPP WAC (DOE/WIPP-069). Drums are vented and fitted with carbon filters before curing. After curing, non-destructive analysis is done on the drums to ensure free liquids are not present as required by the WIPP WAC.

2.7 Sampling Operations

Samples are collected during operations to ensure -

- health and safety of personnel;
- efficiency of plant operations; and
- compliance with the NPDES permit, DCGs, and RCRA.

Samples of influent, effluent, and sludges are collected and submitted according to standard sampling protocols; including using chain-of-custody documentation, ensuring sample holding times are met, and preserving samples when appropriate. DOP-50RLWTF-08 details sampling procedures at the Main Plant, DOP-50RLWTF-06 details sampling procedures for DP-257, and DOP-50RLWTF-01 details sampling procedures for the Pretreatment Plant.

Personnel from the Inorganics and Trace Analysis Group (CST-9), Organics Analysis Group (CST-12), or EM/RLW analyze samples. CST-9 and EM/RLW personnel analyze samples at laboratories in TA-50-1. Samples are analyzed for RCRA compliance with methods in EPA SW 846, "Test Methods for Evaluating Waste, Physical/Chemical Methods" and NPDES compliance sing methods in 40 CFR 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutant."

The Analytical Services Group (CST-3) or EM/RLW personnel transport samples off-site for analyses. If samples are transported off-site, they must be packaged and transported according to DOT regulations and LANL requirements. These procedures are detailed in DOP-50RLWTF-14. Historical da a indicate these samples can be packaged and transported as a DOT "limited quantity" of radioactive mate ials.

The different samples collected at the RLWTFs and information related to them is given in Table 2 below.

TABLE 2: Samples and Analysis

Sample	Type	Frequency	Analyses
Main Plant RLWCS influent before the pH neutralization chamber (TK-13) (1)	composite	each day an operator is at the plant	tritium, gross alpha, beta, gamma, VOCs, SVOCs, pH, COD
Main Plant raw feed from WM-2 influent tanks (2)	composite & grab	composite each time the plant is operated, weekly grab samples of VOCs and SVOCs	tritium, gross alpha, beta, gamma, pH, VOCs, SVOCs
TA-55 Industrial Waste Line (3)	composite	weekly	gross alpha, ^{241}Am, pH
Main Plant gravity filter effluent (discharged from the gravity filter to the effluent tanks) (4)	composite	each time effluent discharges to Mortandad Canyon	tritium, gross alpha, beta, gamma, pH
NPDES (final effluent discharge to Mortandad Canyon)	grab	weekly and monthly	all of the NPDES-permitted constituents
Main Plant gamma (RLWCS influent) before pH neutralization chamber (TK-13)	grab	as needed, per alarms	gamma emitters
the Main Plant % LEL (RLWCS influent) before pH neutralization chamber (TK-13)	grab	as needed, per alarms	LEL - combustible organics
the Main Plant and DP-257 dewatered sludge collected while drums are being filled (7)	grab	for each batch of sludge	radionuclides, RCRA metals, VOCs, SVOCs
the Pretreatment Plant sludge collected as drums are filled (7)	grab	for each batch of sludge	radionuclides, RCRA metals, VOCs, SVOCs, % solids, pH
TK-1, neutralization tank for the Pretreatment Plant (6)	grab	after neutralization	^{241}Am, gross alpha, pH
WM-66 acid or caustic tank for Pretreatment Plant (5)	grab	before transfer to TK-1 (after approximately 10,000 liters of waste collects in either tank)	initial analysis: gross alpha, ^{241}Am, normality further analysis : Pu, ^{241}Am, and gross alpha
TK-3, TK-7 decant, TK-7 rinse, TK-8 decant, and final CL-1 effluent at Pretreatment Plant	grab	as the plant is operated	gross alpha, ^{241}Am, pH
DP-257 influent	composite	each time the plant is operated	Gross alpha, beta, gamma, tritium, VOCs, SVOCs, pH
DP-257 effluent	composite	as plant runs and before transfer through the CCWL	alpha, beta, gamma, tritium; pH, COD

(1) These samples are from the RLWCS and do not contain waste added to the influent tanks from other sources, therefore they may not be representative of the waste treated through the Main Plant.

(2) These samples contain waste added directly to TA-50-2 (WM-2) tanks, such as treated Pretreatment Plant or DP-257 effluent and decontamination water; therefore they are representative of waste treated through the Main Plant. Some of these samples may be transported off-site for analysis.

(3) This sample represents TA-55 industrial waste before it enters the pH neutralization chamber.

(4) The plant operator analyzes this sample before discharging to Mortandad Canyon, to determine if the alpha radioactivity in the effluent is within the limits for discharge to the Canyon.

(5) This sample is used to track Pu treated through the Pretreatment Plant. Initial Pu content is determined by subtracting ^{241}Am from gross alpha. Correlation between the two analyses on this sample has been found to be satisfactory.
(6) The total Pu content of the neutralized waste is found by subtracting the ^{241}Am alpha activity from the gross alpha activity.

(7) Each batch of sludge is sampled and analyzed to provide data needed to store sludge in Area G at TA-54, and comply with DOT packaging and transportation requirements and RCRA regulations.

2.8 Waste Transfer Operations

Waste may be transported

- through the RLWCS to the Main Plant;
- through the industrial waste line leading from TA-55 to the Main Plant;
- through the acid or caustic waste lines leading from PF-4 to the Pretreatment Plant;
- through the CCWL to the Main Plant; or
- to a treatment plant in containers carried on a LANL vehicle.

2.8.1 The RLWCS and Associated Vaults

The RLWCS is a system of pipelines connecting radioactive liquid waste generators to the Main Plant. Vaults associated with the RLWCS provide access points to monitor, service, or test pipelines that transfer radioactive liquid waste. They vary in depth and are located in parking lots, streets, canyons, or forests throughout LANL. Each vault is classed as a permit-required confined space under 29 CFR 1910.146, "Permit-Required Confined Spaces." When open, each vault is classified as a radiological buffer area.

Vaults are entered to operate valves or analyze and correct the cause of an alarm. Alarms may require changing a faulty probe, looking for leaks, or pumping out water that accumulated from natural runoff or a leak. A description of procedures for entering RLWCS vaults is found in DOP-50RLWTF-15 and procedures for responding to alarms are described in DOP-50RLWTF-04.

2.8.2 PF-4 Lines and WM-66

Radioactive acid and caustic waste are piped from PF-4 into holding tanks in WM-66 before transfer to the Pretreatment Plant. WM-66 provides secondary containment for the holding tanks. Industrial waste from PF-4 is piped through the industrial waste line to WM-66, then to the pH neutralization chamber, TK-13, and on into the WM-2 influent tanks.

WM-66 is entered infrequently to adjust valves or maintain or modify equipment. WM-66 is a permit-required confined space and is classified as a radiologically contaminated area. DOP-50RLWTF-01 provides a description of transfer operations and equipment related to WM-66.

2.8.3 The Cross-country Waste Line

The CCWL is a single-walled pipeline designed in 1981 and constructed in 1983 to transfer low-level radioactive liquid waste from TA-2 and DP-257 to WM-2. It is 13,270-feet long; crosses Los Alamos, Sandia, and Mortandad Canyons at depths of three to five feet; and is made of 3-inch, schedule 80, butt-welded carbon steel pipe with an outside protective coating and cathodic protection to inhibit corrosion.

TA-2 is currently not operating, but transfer from DP-257 occurs when there is sufficient effluent in the tanks to justify a transfer (usually monthly). During cold winter months, particularly when snow cover is lacking, waste is transferred at least weekly for about 15 minutes to keep lines from freezing. Procedures for transferring waste from DP-257 to TA-50 are found in DOP-50RLWTF-10.

2.8.4 Transportation of Liquid Waste

Occasionally LANL vehicles are used to transport radioactive and/or acid liquid waste from generator sites to RLWTF facilities for treatment and/or storage. Generators who supply the container maintain ultimate responsibility for it. Waste is packaged and transported in accordance with LANL and DOT regulations. Procedures for these operations is found in DOP-50RLWTF-13 (see Subsection 13.5).

2.9 Chemical Operations

Chemical operations at the RLWTF include:

- Delivery of aqueous 50% by weight solution of NaOH to TA-50-1 by commercial carrier and transfer to the caustic storage tank, CST-1.
- Transfer of concentrated NaOH from CST-1 to the dilution tanks, CST-2 and CST-3.
- Transfer of dilute NaOH in CST-3 to the pH neutralization chamber, TK-13, to raise the pH.
- Transfer of NaOH from a caustic storage tank through the caustic transfer line (CTL) to neutralize waste acid in the neutralization tanks.
- Transfer of nonradioactive waste acid from the neutralization tank (TK-9) or an influent tank through the acid transfer line (ATL).
- Direct addition of waste acid or nonhazardous chemicals into an influent tank for treatment and disposal.
- Direct addition of flake NaOH or lime to the influent or effluent tanks to adjust the pH.
- Direct addition of oxidizers to the influent or effluent tank to reduce concentration of organics in difficult-to-treat wastes. This is not a part of standard operations.
- Transport of waste acid and nonhazardous chemicals by vehicle from LANL waste generators to the RLWTF for treatment.
- Transport of powdered lime by vehicle to waste generating facilities for neutralization of waste acid solutions.

3.0 INTERFACES AND RESPONSIBILITIES

3.1 EM/RLW

3.1.1 Group Leader

The Group Leader ensures operations are conducted in a safe and environmentally sound manner and according to federal and State regulations, DOE orders, and LANL policies and procedures. He/she ensures

- persons visiting or working at the RLWTF have the required training,
- persons visiting or working at the RLWTF are properly supervised or escorted,

- personnel understand and follow the relevant RLWTF and FMU-84 procedures and LANL requirements ,
- personnel take all reasonable precautions to protect themselves and the environment, and
- personnel perform only those tasks that can be accomplished safely.

3.1.2 Personnel

Personnel participating in RLWTF operations

- attend and complete all scheduled LANL and site-specific training courses required to perform their tasks in a safe and environmentally sound manner;
- understand and follow relevant RLWTF and FMU-84 procedures and LANL requirements;
- take all reasonable precautions to protect themselves, other personnel, and the environment;
- only perform tasks they can accomplish safely;
- consult a supervisor before performing operations in which doubts concerning safety exist;
- maintain work areas according to prescribed standards; and
- report to their supervisor any release of hazardous substances to the environment.

3.1.3 Training Coordinator

The Training Coordinator

- maintains and tracks employee training and
- ensures personnel have the required training by scheduling employees for initial training and retraining as required for each course and the person's individual training needs.

3.1.4 Records Management/Document Control Manager

The Records Management/Document Control (RM/DC) Manager

- maintains RLWTF records/documents according to AP-FMU84-01, "Facility Management Plan"; PRD115-01.0, "Document Control"; and PRD115-02.0, "Records Management";
- controls and distributes documents to ensure use of only most recent revisions of a document;
- tracks documents to ensure they are revised and reviewed in a timely manner; and
- maintains records for the prescribed length of time in an auditable manner.

3.1.5 Functional Area Leaders

EM/RLW is separated into two functional areas: operations and engineering projects. Functional Area Leaders ensure work is conducted safely and according to applicable RLWTF and FMU-84 procedures and LANL requirer. ents. They arrange and track work and supervise personnel in the area.

3.2 Environment, Health, and Safety

3.2.1 Health Physics Operations Group

The Health Physics Operation Group (ESH-1) provides radiation protection support for the RLWTF operations according to *LANL's Radiation Protection Program.* Support services include

- surveys and swipes of areas, items, samples, or drums to identify radioactive contamination;
- surveys personnel leaving a radiologically contaminated area to ensure they were not exposed to radioactivity;
- maintains the continuous air monitors (CAMs) at TA-50-1 and DP-257;
- maintains the hand and foot monitors at TA-50-1 and DP-257;
- provides respirators when needed;
- supports confined space work, including performing radiological surveys on confined spaces and serving as an attendant or entrant if properly trained;
- specifies PPE required for working in radiologically controlled or contaminated areas or for handling potentially radioactive materials;
- specifies requirements for entry and work in radiologically controlled and contaminated areas;
- reviews site-specific procedures for radiological concerns;
- provides fixed head monitoring for WM-66; and
- surveys tanks and pipes in the Pretreatment Plant for gamma and neutron contamination.

3.2.2 Industrial Hygiene and Safety Group

The Industrial Hygiene and Safety Group (ESH-5) provides industrial hygiene support including

- respirator and self-contained breathing apparatus (SCBA) fitting and training and issuing authorization cards for respirators and SCBAs;
- annual tests of High Efficiency Particulate Air (HEPA) filters in operations areas and WM-66;
- participation in quarterly safety inspections;
- review of site-specific procedures for industrial hygiene concerns;
- recommendation of PPE for handling potentially hazardous materials;
- support for issues related to electrical safety;
- inspection of potentially hazardous operations for industrial hygiene concerns;
- workspace monitoring and hazard assessment for potentially hazardous operations; and
- oversight of the LANL confined space program, including assisting in determining the source of an unsafe atmospheric condition within a confined space and advising about the health and safety aspects of entering and working in a confined space.

3.2.3 Nuclear Criticality Safety Group

The Nuclear Criticality Safety Group (ESH-6) reviews the nuclear safety aspects of operations at the Pretreatment Plant and provides an annual criticality safety briefing for RLWTF personnel.

3.2.4 Training Group

The ES&H Training Group (ESH-13) provides LANL training to ensure health and safety of personnel and compliance with regulatory and DOE requirements.

3.2.5 Water Quality and Hydrology Group

The Water Quality and Hydrology Group (ESH-18) provides environmental surveillance support related to water quality and oversees regulatory compliance issues related to the Clean Water Act including

- review of data on regulatory compliance samples and determination of regulatory classification based on analysis of those samples;
- completing the Discharge Monitoring Report (DMR) for submittal to the State;
- furnishing samples to the State and assuming responsibility for safe transport of those samples;
- oversight of the NPDES Permit in conjunction with the State, and
- oversight of environmental issues related to the CCWL.

3.2.6 Hazardous and Solid Waste Group

The Hazardous and Solid Waste Group (ESH-19) oversees regulatory issues related to RCRA, including overseeing the RCRA permit for LANL.

3.3 Environmental Management/Solid Waste Operations

LANL has on-site disposal for New Mexico special solid waste, Low Level Rad waste, and TRU waste only. They are disposed at Areas J and G of TA-54 respecively. Hazardous waste is stored or treated at Area L of TA-54 but sh ed off-site for disposal. Environmental Management/Solid Waste Operations Group (EM/SWO) manages/operates the Solid Waste Disposal (Areas J), Solid Waste and Hazardous Mixed Waste Storage (Area L), Mixed Waste and Low Lever and Tru Storage (Area G). EM/SWO also provides customer support services to LANL waste generators including the RLWTF through their Waste Services Team. The Waste Services Team

- transports waste to the applicable disposal area;
- administers the Waste Management Coordinator (WMC) Program;
- provides guidance on waste management and transportation issues;
- manages the WPF and Chemical Waste Disposal Request (CWDR) system;
- generates the Radioactive Materials Transfer Form (RMTF);
- serves as the central contact point for WPFs and CWDRs reviewed by the RLWTF; and
- enters information from the WPF and CWDR on their database for use by the RLWTF.

3.4 Chemical Science and Technology (CST) Division

3.4.1 Analytical Services Group

The Analytical Services Group (CST-3) transports samples from TA-50-1 to the appropriate analytical laboratory. After taking custody of the samples, CST-3 tracks the disposition of the samples, performs quality assurance/quality control checks on the samples, ensures holding times are kept, and reports the data to the RWLTF and applicable ES&H organizations.

3.4.2 Inorganic Trace Analysis Group

The Inorganic Trace Analysis Group (CST-9) provides analytical support to the RLWTF that includes

- analyzing samples such as NPDES samples;
- reporting analytical data to the RLWTF and applicable ES&H personnel;
- logging in samples received from the RLWTF;
- distributing samples to other analytical laboratories for analysis, if necessary; and
- ensuring the quality of their analysis, including ensuring holding times, are adhered to.

3.4.3 Nuclear and Radiochemistry Group

The Nuclear and Radiochemistry Group (CST-11) operates the Omega Site (TA-2) and supports the RLWTF by

- ensuring safety of its personnel and operations during transfer of waste from TA-2 to the Main Plant through the CCWL and
- accurately characterizing waste for the RLWTF before it is transferred through the CCWL.

3.4.4 Organic Analysis Group

The Organic Analysis Group (CST-12) provides analytical support for the RLWTF that includes

- analyzing samples for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs);
- reporting analytical data to the RLWTF and applicable ES&H personnel;
- logging in samples received from the RLWTF;
- distributing samples to other analytical laboratories for analysis, if necessary; and
- ensuring the quality of their analysis, including ensuring holding times are adhered to.

3.5 Johnson Control World Services, Inc.

3.5.1 Management

Johnson Control World Services, Inc. (JCI) management ensures operations are conducted safely and efficiently and in compliance with federal and State regulations, DOE orders, and LANL requirements. This includes ensuring

- employees have the required training,
- equipment is properly maintained, and
- required documentation is properly completed.

3.5.2 Personnel

JCI personnel provide

- necessary equipment maintenance and earth moving equipment to contain a major radioactive or hazardous material spill at TA-50-1, DP-257, or the CCWL;
- packaging and transportation support that includes packaging and disposing of LLW placed in dumpsters and transporting and delivering batch waste to TA-50 for other operating groups;
- a pump maintenance program for the CCWL;
- on-site welding support;
- electrical maintenance support; and
- preventative, corrective, and predictive maintenance for RLWTF equipment.

3.6 Materials Management Group

The Materials Management Group (BUS-4) provides DOT regulatory compliance support that is related to packaging and transportation of hazardous materials. This includes

- authorizing drivers to operate a commercial motor vehicle for LANL,
- approving the Hazardous Materials Packaging and Transportation (HMPT) form, and
- oversight of HMPT training to ensure personnel are trained according to DOT requirements.

3.7 Waste Generating Groups

Waste generating groups follow requirements of the WM WAC and LIR404-00-01, "Waste Acceptance Characterization and Certification Plan (WACCP)."

3.8 Facility Management Unit - 84

FMU-84 maintains buildings and structures at TA-50-1 and provides support services to the RLWTF.

3.8.1 Waste Management Coordinator

The FMU-84 WMC serves as WMC for the RLWTF according to LS105-01.0, "Waste Management Coordinator Program." The WMC

- oversees packaging and transportation operations at the RLWTF (see Subsection 13.5),
- inspects satellite and less-than-90 day storage areas to ensure they comply with all applicable regulations and waste minimization practices,
- performs periodic walk-through inspections of building and storage facilities to detect and help correct house-keeping problems,
- becomes familiar with processes and systems that generate waste,
- reviews WPFs for acceptance of waste to be treated at the RLWTF,
- reviews the accuracy of WPFs for waste being transported to TA-54 for storage or disposal,
- reviews the CWDR for waste transported to the RLWTF,
- completes the CWDR for waste transported to TA-54,
- reviews the LANL ES&H-IDs for impact on RLWTF systems, and
- seeks to identify specific ways to reduce waste on an ongoing basis.

3.8.2 Storm Water Pollution Prevention Team Leader

The Storm Water Pollution Prevention (SWPP) Team Leader

- ensures RLWTF operations and work do not interfere with storm water runoff and
- ensures RLWTF compliance with FMU-84-03, the "Storm Water Pollution Prevention Plan" and maintains the plan.

3.8.3 Spill Coordinator

The Spill Coordinator

- documents reportable spills,
- maintains spill control equipment, and
- maintains the Group Spill Implementation Plan (GSIP).

4.0 ENVIRONMENT, SAFETY, AND HEALTH CONCERNS

EM/RLW institutes administrative and engineering controls to encourage health and safety of its personnel and ensure exposure to radioactivity is kept ALARA. If feasible, the RLWTF minimizes use of hazardous materials, equipment, or processes by eliminating them, reducing their use, or substituting similar products. Depending on the operation, ES&H concerns related to operations may include

- radiological hazards;
- confined spaces;
- physical hazards;
- ingesting hazardous materials;
- biological hazards;
- chemicals hazards;
- electrical, pressurized, and mechanical systems; and
- nuclear criticality.

Table 3 shows hazards associated with various operations described in this SOP.

TABLE 3: Hazards Associated with Routine Operations

HAZARD	Main Plant	Pretreat. Plant	DP-257	Chemical Operations	Packaging /Transport	Sampling	Collection System
radiological	X	X	X	X	X	X	X
confined spaces		X	X		X		X
physical injury	X	X	X	X	X	X	X
thermal stress	X	X	X	X	X	X	X
ingesting hazardous materials	X	X	X	X	X	X	X
biological hazards	X		X	X	X		X
acids	X	X	X	X	X	X	
caustics	X	X	X	X	X		
oxidizers	X		X	X		X	
chemical reactions	X	X	X	X			
electrical systems	X	X	X				X
pressurized systems	X	X	X				X
mechanical systems	X	X	X	X	X	X	X
nuclear criticality		X					

4.1 Radiological Hazards

4.1.1 Controlled and Contaminated Areas

Personnel may be exposed to radioactivity while working in areas posted as radiologically controlled or contaminated. The applicable FMU-84 site emergency plan, AP-50RLWTF-04 for DP-257 and AP-FMU84-08 for TA-50, provides the location of controlled and contaminated areas (see Section 6.0).

4.1.2 Spills and Leaks

Personnel, the public, and/or the environment may be exposed to radioactivity as a result of a spill or leak. Some examples of situations that could lead to a spill or leak are

- a pipeline or shipping container leaks or breaks,
- a spill occurs while pumping radioactive liquid waste into or out of a shipping container,
- a sample is dropped or spilled, or
- a vehicle carrying radioactive waste is in a traffic accident damaging the shipping container.

Pretreatment Plant: A leak or spill in the Pretreatment Plant could cause radioactive surface contamination and high counts of airborne radioactivity.

CCWL: The remote location of the CCWL with three high and low points magnifies the difficulty of draining and servicing the line or cleaning up a spill. If the line leaks or breaks, the release should pose no immediate threat to personnel or to the population because of the very low level of radioactivity in the waste, its remote location, and its depth underground. The water would, however, leak to the environment because the pipes are not double-contained.

Transportation of Samples: Because samples are double-contained, leaks and spills from samples should be completely contained in the package. Routine influent and effluent samples contain low levels of radioactivity. A spill of a sludge sample should not migrate very far because of the high consistency of the waste, however the levels of radioactivity would be higher.

4.2 Confined Spaces

Vaults associated with the RLWCS and WM-66 are the most commonly entered confined spaces. Other confined spaces associated with the RLWTF are the valve pits at DP-257 and the vent valve pits at TA-2, Sandia, and Mortandad Canyons. Occasionally personnel enter tanks during installation, decommissioning, or maintenance; but outside contractors normally do this work.

In addition to biological, physical, and electrical hazards that are described later in this section of this SOP; hazards that may be present during confined space work are

- hazardous atmospheres,
- vehicular traffic,
- radon, and
- engulfment.

4.2.1 Hazardous Atmospheres

Possible hazardous atmospheric conditions in a confined space are an oxygen-deficiency, presence of toxic gases (carbon monoxide), or a flammable or explosive atmosphere (methane or oxygen-enriched atmosphere). Hydrogen sulfide is unlikely, but may be found if plants or dead animals are present.

4.2.2 Vehicular Traffic

Vaults may be located in roadways, parking lots, or other areas where moving vehicles are a hazard.

4.2.3 Radon

Radon may be found in vaults, especially after long closure.

4.2.4 Engulfment

Engulfment by contaminated wastewater is possible if a major break in a line occurs.

4.3 Physical Hazards

Personnel may slip, trip, or fall on objects while working. Icy and snowy weather increase the chances for slipping or falling. A person may be injured by overhead objects, dropping heavy objects, or falling into a confined space that is uncovered. The terrain and location of the CCWL compound the possibility of injury to personnel. Personnel may be cut, particularly if laboratory glassware breaks during sampling.

4.3.1 Vehicle Accidents

LANL vehicles driven by RLWTF personnel include trucks, vans, a tanker truck, confined space truck, all-terrain vehicles (ATVs), forklifts, and cranes. Vehicles are often driven to DP-257, waste generator sites, TA-54, off-site meetings, or to maintain the CCWL or RLWCS. An accident resulting in injury to personnel or the public may result while traveling. Accidents incurred while maintaining the CCWL or RLWCS may be in a remote location creating a longer emergency response time to an injury.

4.3.2 Thermal Stress

Thermal stress may occur when personnel work in extreme temperatures. This is of particular concern when protective clothing is required in hot weather or work is done outside in cold weather. Confined space operations, NaOH delivery, and batch waste disposal are operations conducted outdoors.

4.3.3 High Noise Levels

High noise levels may cause concern when working with generators, air compressors, or power tools. These may cause hearing problems or interfere with communications. Noise causing communications problems is especially a problem if power tools are used inside a RLWCS vault.

4.3.4 Muscle Strain

Personnel may strain muscles while moving or lifting heavy objects such as bags of lime or cement, barrels of sludge, long lengths of reinforced hose associated with the RLWTF tanker truck, or heavy equipment such as pumps.

4.4 Ingestion of Hazardous Materials

The primary causes of accidental ingestion of hazardous substances are eating, smoking, drinking, chewing gum or tobacco, and applying lip balm and other cosmetics. These are particularly hazardous if done after handling hazardous substances or in radiologically controlled areas that may contain hazardous substances.

4.5 Biological Hazards

While working outside or in confined spaces, personnel may contact biological hazards. Biological hazards include rattlesnake bites and stings from venomous insects and arachnids. Possible venomous insects and arachnids in the Los Alamos area include bees and wasps, brown recluse spiders, black widow spiders, and scorpions. Ticks may also be a concern while working outdoors. Dead rodents that are associated with the hantavirus and plague as well as spiders may be found in RLWCS vaults.

4.6 Chemical Hazards

Personnel may use acids, caustics, and oxidizers during operations. Severe irritation or burns may result from contact with corrosives or strong oxidizers. Contact with the eyes may severely damage the eyes and cause blindness. Vapors may irritate and damage the eyes or lead to breathing difficulty by damaging the lungs or irritating the mucous membranes and upper respiratory tract.

4.6.1 Acids

Personnel may come into contact with acid if a spill or leak occurs while using preservatives during the sampling operations. Hydrochloric and nitric acids are commonly used as sample preservatives. The environment or personnel may come into contact with acids during waste acid transfer, neutralization operations, or waste disposal. Nitric and sulfuric acids are typical of the acids received at TA-50-1 for neutralization or disposal.

4.6.2 Caustics

Personnel or the environment may come into contact with caustics if a spill occurs during a transfer of caustic. Exposure to NaOH could readily occur if a spill or leak occurs while transferring NaOH for storage or dilution or during neutralization operations. During transfer and dilution, personnel may be exposed to NaOH because of splashing, leaking pipes, or leaking pumps.

4.6.3 Oxidizers

Personnel may use oxidizers to reduce COD in influent tanks, but this is not part of normal operations. Hydrogen peroxide (30%) may be used at DP-257 and the Main Plant, and potassium permanganate may also be used at the Main Plant. Contact with hydrogen peroxide may produce delayed effects.

4.6.4 Chemical Reactions

Many organic chemicals react violently when in contact with strong oxidizers such as nitric or sulfuric acid. Potassium permanganate explodes on contact with some acids such as acetic and concentrated hydrochloric acid, and it reacts with reducing agents. Hydrogen peroxide is incompatible with organic material at elevated temperatures, combustible material, strong reducing agents, most common metals, and organic material. Fire may result if combustible materials contact hydrogen peroxide.

Heat may be generated when mixing acids and caustics for neutralization and during dilution of NaOH. If water is added to concentrated NaOH, boiling and spattering may occur because of excessive heat. Excess heat increases the potential for mechanical and electrical failure and for burns. Aerosols can be formed while mixing NaOH with water, thus increasing the opportunity for inhalation of NaOH.

4.7 Electrical, Pressurized, and Mechanical Systems

4.7.1 Electrical Systems

Personnel may be exposed to shock during routine maintenance such as changing pumps or valves and calibration of equipment like pH, temperature, and level probes. Exposure to high voltage in energized electrical systems can lead to permanent injury or death.

4.7.2 Pressurized Systems

The CO_2 lines associated with Main Plant operations constitute a pressurized system. Compressed gas cylinders are located near operations areas at DP-257 and TA-50-1 even though they are not routinely used in operations. Cylinder locations are in the applicable FMU-84 Emergency Plan, AP-50RLWTF-04 for DP-257 and AP-FMU84-08 for TA-50.

Compressed fluid and gas systems may contain large amounts of energy. A rupture or an uncontrolled release of fluid or gases from containers, lines, or systems may severely injure personnel or damage the facilities. Improper handling of compressed gases could cause their inadvertent release and exposure to high pressures. There may also be chemical hazards associated with compressed gases or liquids.

High water pressure may be present during transfer operations. In particular, improper valve settings may cause high pressures to build up and rupture lines. New equipment for upgrading plant treatment processes will operate at high pressures. Projected operating pressures are 90 psi for the UF, 50 psi for the centrifugal UF, and 400 psi for the RO.

4.7.3 Mechanical Systems

Mechanical equipment (i.e.: chemical feeders) that are used in plant operations; may present rotation, entanglement, or impingement hazards.

4.8 Nuclear Criticality

The Pretreatment Plant treats higher concentrations of fissile material than the Main Plant and DP-257. If fissile material accumulates, the material may become critical causing nuclear criticality to be a concern at the Pretreatment Plant. Although the waste is projected to contain only a few milligrams per liter of ^{239}Pu, the total processed through the plant may approach 1 kilogram a year.

5.0 GENERAL CONTROLS

5.1 Training

Before performing any operation unsupervised, personnel complete LANL and site-specific training related to the operation they will be performing. The RLWTF Training Coordinator maintains training records for RLWTF personnel in each person's individual training files which are kept in TA-50-1, Room 6.

5.1.1 LANL

ESH-13 provides LANL training to ensure personnel are aware of the hazards and safe work practices, environmental concerns, regulatory compliance issues, and LANL requirements related their operation. LANL training requirements for RLWTF personnel are also kept in the individual training files.

All Personnel: As a minimum; all personnel, including office workers, are required to complete General Employee Training (GET) and Radiation Worker I Training.

Operations Personnel: As a minimum; operations personnel are required to complete

- 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER*) Training and 8-hour refreshers,
- Hazardous Communication Introduction, and
- Radiological Worker II Training.

*Requirements for HAZWOPER are in 29 CFR 1910.120, 29 CFR 1926.65, and LIR402-100-02, "HAZWOPER Training Requirements."

Additional Training: Other recommended LANL training includes

- American Red Cross first aid,
- American Red Cross cardiopulmonary resuscitation (CPR), and
- certification by ESH-5 in the use of respirators and SCBAs.

5.1.2 Site-specific

All Personnel: All personnel, including office workers, watch the site-specific video administered by ESH-1 on TA-50-1 hazards and alarms. They must also be familiar with the applicable site emergency plan, AP-FMU84-08 for TA-50 and AP-50RLWTF-04 for DP-257.

Operations Personnel: The RLWTF qualifies personnel to perform the operations unsupervised after completing performance-based on-the-job training (OJT) for the operation. During this training, qualified training personnel ensure trainees understand ES&H issues associated with operations, are familiar with this SOP and associated DOPs, and learn to perform operations safely and efficiently.

Additional Training: Additional on-site training requirements for operations personnel includes

- reading this SOP and passing a quiz on its contents and
- understanding LANL's stop work policy in LIR401-10.01, "Stop Work and Restart."

5.2 Personal Protective Equipment

Only American National Standards Institute (ANSI) -approved PPE appropriate to the degree and type of hazard associated with an operation can be worn. The PPE required for an operation is listed in the DOP associated with that operation. If in doubt, consult the applicable MSDS, ESH-1, or ESH-5; depending on the type of hazard. ESH-1 specifies PPE for working near radiological hazards and ESH-5 specifies PPE for working with chemical hazards. Depending on the exposure potential, ESH-5 and ESH-1 may require PPE in addition to that specified in a DOP. The RLWTF adheres to requirements for the safe and effective use of personal protective equipment as specified in AR 12-1, "Personal Protective Equipment"; Technical Bulletin (TB) 1201, "Eye and Face Protection"; and TB 1202, "Protective Clothing."

5.3 Respiratory Protection Equipment

Respiratory protection equipment (RPE) is worn when working in areas of potential exposure to airborne radioactivity or hazardous materials. Personnel wearing RPE must be currently certified by ESH-5 to use the equipment and follow all requirements in AR 12-1 and TB 1203, "Respiratory Protective Equipment." Additionally they should maintain their certification on the equipment.

Storage and maintenance requirements for RPE used by the RLWTF are described in DOP-50RLWTF-07. ESH-1 supplies respirators. Locations of SCBAs at TA-50-1 are given in AP-FMU84-08. SCBAs are not kept at DP-257.

5.4 Alarm Systems

The RLWTF has a computerized monitoring system programmed to sound an alarm if operating conditions go beyond a preset limit; for example, if the liquid level in a tank goes above a predetermined level. Alarms are separated into two types, operational and hard alarms.

5.4.1 Operational Alarms

Operational alarms indicate a change in the status of a system used in routine plant operations such as pump shut-off or tank level, and do not indicate an urgent situation.

5.4.2 Hard Alarms

Hard alarms indicate a plant system situation that may require immediate attention. These alarms send a message to the Room 116C computer and initiate an audible alarm and flashing warning lights. Hard alarms are connected to a computer (Miser Talk) monitored 24 hours a day that automatically dials an RLWTF operator if an alarm is not responded to in ten minutes. For further information on responding to alarms see DOP-50RLWTF-04. Some typical hard alarms are as follows:

- Alarms for WM-66 and the RLWCS vaults which alarm when water is present in a vault.
- Alarms signifying a significant difference in volume between sending and receiving lines during a transfer through the CCWL, indicating a leak in the line.
- Alarms signaling potentially flammable contents [10% of the lower explosive limit (LEL)] or a gamma activity of 1450 counts per minute (cpm) in the RLWCS. These alarms will activate an autosampler which draws an influent sample from the pH neutralization chamber.
- Alarms on the process tanks; including influent, effluent, caustic, and neutralization tanks; that indicate the tank's contents have reached a preset level.
- Alarm sets signaling the pH in the effluent discharged to the outfall is outside the preset limits.

5.4.3 Emergency Alarms

The RLWTFs are connected to the Central Alarm Station (CAS), that notifies Los Alamos emergency services. Pulling a fire alarm automatically notifies the CAS. Location of fire alarms at RLWTF sites are given in AP-50RLWTF-04 for DP-257 and AP-FMU84-08 for TA-50-1.

5.5 Safety Showers and Eyewashes

Safety showers and eyewashes are placed in accessible locations near operations that may expose personnel to chemicals or radioactive materials. The locations are shown in the respective site emergency plans, AP-50RLWTF-04 for DP-257 and AP-FMU84-08 for TA-50-1. Safety showers and eyewashes are inspected and tested weekly to ensure they are operational. Before starting any operations that may expose personnel to chemicals or radioactivity, safety showers and eyewashes are tested to ensure they operate properly.

5.6 Communications Systems

5.6.1 Telephone and Paging Systems

TA-50-1 has a building-wide paging system accessible by all telephones in the building and is audible throughout FMU-84 at TA-50. All work areas where chemical or radiological hazards may exist have telephones available. Supervisors ensure personnel are aware of the location of phones closest to their operation before doing any hazardous work. Personnel such as supervisory staff may carry a portable telephone or pager so they can be contacted in an emergency.

5.6.2 Two-way Radios

To ensure an operator stationed at TA-50-1 can be contacted in an emergency, personnel working off-site carry a two-way radio or other means of communication while off-site. Personnel working off-site inform personnel at TA-50-1 when they begin and when they end an operation.

5.7 Nu nber of Personnel Required for an Operation

Working alone is not permitted in a situation where an injury or illness might render a person incapable of self-rescue. Personnel, other than personnel conducting office work, should not be out of sight or hearing range of another person for more than a few minutes at a time while working. These regulations are found in AR 1-8, "Working Alone." DOPs specify the number of persons required to conduct operations. Unless a DOP specifies only one person is needed to conduct an operation, a Working Alone Permit is required for any operation conducted by one person.

5.8 MSDSs

The hazard communication program should address maintenance of MSDSs for each hazardous material in a workplace according to 29 CFR 1910.1200, "Hazard Communication." The RLWTF maintains MSDS binders at TA-50-1, Room 116C and at the desk of the operator in DP-257. To ensure binders are current, anytime a chemical is purchased, a copy of the MSDS for the chemical is obtained and added to the binder.

Chemicals, compressed gasses, and compressed liquids are handled according to a product's MSDS and the manufacturer's specifications. Before starting operations; the MSDS must be reviewed to identify hazards, protective measures, and safe handling procedures for hazardous materials associated with the operations. To ensure the MSDSs are readily accessible, the MSDS for a hazardous material is kept near the operation using that material. DOPs and the applicable emergency plans list other MSDS locations. MSDSs can be obtained from ESH-5 or through the Internet.

5.9 Document Control

To ensure personnel work only from the most recent revision of a document, they may only work from a controlled copy of a document. These may be obtained from the RM/DC Manager at TA-50-1, Room 6.

5.10 Work Control

Personnel make significant changes to operations or conduct nonroutine work according to AP-FMU84-01 and DOE Order 5480.21, "Unreviewed Safety Question." This DOE Order may require a safety evaluation of operations before implementing a new procedure.

Before starting nonroutine work or significantly changing a work process, ES&H issues and requirements related to the work process must be considered. Identification of these issues and requirements early in the planning stage is essential to ensure safety of personnel and compliance with regulatory requirements. To ensure these issues are addressed, the work requester or a supervisor must complete the appropriate form, a LANL ES&H-ID for nonroutine work or an FMU-84 Work Request to change a work process. An FMU-84 Work Request is required in pilot scale and bench scale studies. These studies may have unique hazards associated with them, so each project must be evaluated separately.

Other required permits associated with operations may include a Special Work Permit (SWP), Radiological Work Permit (RWP), Excavation and Fill Permit, or Dredge and Fill Permit. See Subsections 6.7 and 12.4 for further information. Requirements for Excavation and Fill Permits are found in AR 1-12, "Excavation and Fill Permits Review." Notice No. 005 describes requirements for a Dredge and Fill Permit. Personnel may not start work or significantly change an operation until all forms and permits are approved.

Changes in DOE orders, federal and State regulations, and LANL policies may affect RLWTF operations and procedures. Supervisory personnel notify affected personnel of changes as they occur. The change is added as an addendum to the current procedure and incorporated into the next revision of the procedure.

5.11 Pre-job Hazard Analysis

Each day before starting any nonroutine and potentially hazardous work, hazards associated with the work are discussed and the point at which work should be stopped for reevaluation is determined.

5.12 Outside Contractor Work

Knowledgeable RLWTF personnel supervise work done by outside contractors such as JCI. To ensure the contractors work safely and efficiently, RLWTF personnel and the contractor complete an FMU-84 Work Order Control Checklist. For work to proceed, the contractor must have copies of the following documents:

- Work Order, Small Job Ticket, Work Ticket, or Corrective Maintenance Ticket;
- Activity Hazard Analysis;
- Preliminary Hazard Analysis;
- required permits;
- certification of required training; and
- Job Hazards Assessment to evaluate hazards in potentially hazardous jobs.

5.13 Access Control

FMU-84 controls access to TA-50-1 with badge readers. To deter uncontrolled access, personnel ensure doors are closed and locked. Requirements and controls for accessing the RLWTF are contained in AP-50RLWTF-07, "Access Control Requirements for Visitors at TA-50-1 (includes Visitor Briefing)." The access to DP-257 is controlled by Facility Operations-Chemistry Facilities (CST-25).

5.14 Visitors and Auditors

To ensure the safety of visitors (including auditors), all new visitors are briefed on hazards and emergency procedures at TA-50-1. Access control requirements and procedures for visitors at TA-50-1 are described in AP-50RLWTF-07. Visitor accountability procedures are described in site emergency plans for DP-257 (AP-50RLWTF-04) and TA-50-1 (AP-FMU84-08).

Visitors and auditors must contact the RLWTF for permission to enter any plant area. If entry will be in a contaminated area, they must also contact ESH-1 for permission to enter and meet all ESH-1 requirements to enter this area. Procedures for audits and evaluations conducted by off-site evaluators and auditors are described in AP-50RLWTF-09, "Conduct of External Evaluations."

5.15 Eating, Drinking, Smoking, and Applying Cosmetics

Eating, drinking, smoking, chewing gum or tobacco, and applying lip balm or other cosmetics is prohibited in areas that may contain potentially hazardous or radioactive materials. A best management practice is to avoid any type of hand-to-mouth contact while working with or around hazardous or radioactive substances and to wash hands after handling hazardous materials.

5.16 Good Housekeeping

The work areas are visually inspected to ensure good housekeeping is practiced. All work areas, including overhead grating areas, are kept orderly and free of unnecessary tools and debris. Stairs, corridors, aisles, doorways, and exits are kept clear of obstructions. Materials are stored only in work areas or designated storage areas and arranged to prevent tipping, falling, collapsing, rolling or spreading. Items not needed in the work area for extended periods are placed in designated storage areas. Areas are regularly inspected during work to ensure good housekeeping practices are followed.

5.17 Staff and Functional Area Meetings

The RLWTF conducts regular staff and functional area meetings to discuss and resolve ES&H issues and concerns, scheduling and work issues, and the status of projects. Examples of topics discussed at meetings include new hazards, new procedures, training requirements, upcoming jobs and associated hazards, waste management and minimization, environmental concerns, and lessons learned from audits and occurrences. These meetings also ensure coordination of work within and between the functional areas.

5.18 Office Areas

Only routine office activities are conducted in office areas. Hazardous materials and equipment, with the exception of common office supplies and machines, are not allowed in office areas.

6.0 RADIOLOGICAL CONTROLS

ESH-1 helps keep radioactive exposure ALARA. EM/RLW complies with guidelines found in DOE Order 5480.11, "Radiation Protection for Occupational Workers" and LM 107-01.1, LANL's *Radiation Control Manual*. An ESH-1 radiological control technician (RCT) or a health physics technician (HPT) may specify additional requirements to those described in this section.

6.1 RCT or HPT Support

At least one RCT/HPT must be available in TA-50 when the Main Plant or Pretreatment Plant is operating. An RCT/HPT must also be present while personnel collect TA-55 industrial waste line samples and while personnel work inside a radiologically contaminated confined space. An RCT/HPT performs a radiological survey on an RLWCS vault before personnel enter it to perform work.

6.2 Controlled Areas

ESH-1 personnel identify areas that may contain radiological hazards and post entry requirements to these areas near the entrance. If necessary, RLWTF personnel may assist in posting these areas. As a minimum, persons entering these areas must meet all posted ESH-1 requirements.

6.2.1 Entry and Exit

Personnel use only designated entrances and exits to these areas. Just before exiting, all persons survey their hands and feet. Items taken from these areas must be surveyed or swiped. If the portable monitor alarm sounds, personnel remain in the area and contact ESH-1 to determine further action.

6.2.2 Dosimetry

All personnel entering these areas must wear a dosimetry badge. ESH-1 may add additional dosimetry requirements. ESH-1 may not require visitors to wear a dosimetry badge if the expected dose is less than 100 mrem/yr. for all DOE sites.

6.3 Contaminated Areas

Contaminated areas associated with RLWTF operations are the Pretreatment Plant, WM-2 pump station, and WM-66. Persons entering these areas must meet all requirements for entering controlled areas with the additional requirements listed below.

6.3.1 Entry and Exit

To enter a contaminated area, personnel (including visitors) must have LANL Radiological Worker II training and be on the Pu access list. However, the Pu access list is not required for non-routine entry into contaminated areas (<10 x /yr.). All persons must notify ESH-1 before entering or exiting a contaminated area. Upon leaving the area, an RCT/HPT surveys persons who entered the area and surveys or swipe items taken from the area. An RCT/HPT at TA-50-1 may be paged or reached by telephone at 7-6917.

6.3.2 Booties Boundaries

All persons put on booties before crossing a booties boundary. When they leave these areas, personnel take booties off before placing an uncovered shoe in a clean area. Personnel never return to clean areas with booties on or place an uncovered shoe in an area posted as a booties area.

6.4 Continuous Air Monitoring

CAMs detect airborne radioactivity. ESH-1 maintains CAMs in any area that has a potential for airborne contamination. CAMs must operate during routine operation of the Main Plant, Pretreatment Plant, DP-257, and WM-107 sampling operations. Locations of TA-50-1 CAM alarms are given in AP-FMU84-08.

Do the following if you hear a CAM alarm:

1) if you know switch locations and feel it is safe to do so, shut off all feed pumps;
2) evacuate the room;
3) notify ESH-1 on the paging system and wait for their arrival; and
4) notify the Operations Manager or designee.

6.5 Radiological Surveying and Surface Monitoring

An RCT/HPT conducts surface surveys to identify contamination sources at TA-50-1 and DP-257. They also survey samples and containers of radioactive waste, including drummed sludge and boxes of trash, for dose rate; and smear it for removable surface contamination before transport. To ensure this information is readily available, an RCT/HPT marks or tags the outside of each container.

6.6 Radiological Analysis of Samples

The RLWTF analytical chemist analyses all samples for gross alpha, beta, and gamma activity before the sample is analyzed for nonradioactive components.

6.7 Radiological Work Permits

ESH-1 helps determine if an RWP is required. If an RWP is required, it is approved by ESH-1 and posted outside the area. Before entering a radiologically contaminated area, entrants must read and sign the RWP and agree to follow its requirements. RWPs are handled according to LP107.02.1, "Handling Radiological Work Permits."

7.0 CONTROLS FOR PHYSICAL AND BIOLOGICAL HAZARDS

7.1 Barricades and Postings

Hazardous work areas are barricaded or posted to deter unauthorized personnel from entering the area.

7.2 Motorized Vehicles

Safe driving must be practiced while driving vehicles. Seat belts must be worn when conducting RLWTF business in a vehicle as stated in AR 12-2, "Seat Belts." If an vehicle accident occurs, follow instructions posted in the vehicle and contact TA-50-1 immediately. If an ATV accident occurs, contact TA-50 on the radio immediately for assistance. Notify the Group Leader or a supervisor as soon as possible.

7.3 Forklifts and Cranes

Forklifts are equipped with safety belts and a rollover bar. Safety belts must be securely fastened before operating a forklift or crane as required by AR 12-2. Before operating a forklift or crane, complete the training and obtain the certifications specified by LANL in the document for the type of equipment. See LIR402-1110-01.0, "Forklifts and Powered Industrial Trucks" for operation of a forklift and AR 13-2, "Cranes, Hoists, Lifting Devices, and Rigging" for operation of a crane.

To prevent injury from faulty equipment, qualified forklift and crane operators perform a preoperational inspection of the equipment once per shift in which the vehicle is in use. Routine forklift inspections are documented on the "Inspection Checklists for Forklifts and Powered Industrial Trucks" and routine crane inspections are documented on the "Preoperational Inspection Checklist for Overhead Cranes and Hoists." A qualified crane operator also performs a monthly inspection of the crane mounted on the confined space truck, and documents it on the "RLWTF's Monthly Inspection Record for Truck-Mounted Crane."

7.4 Inclement Weather

Whenever possible, work is not performed outdoors during inclement weather such as a thunderstorm or a snow storm. When working in extremely hot or cold temperatures, workers must consume ample liquids to prevent heat stress or hypothermia.

7.5 Slips, Trips, and Falls

Good housekeeping is practiced (see Subsection 5.16) to minimize risks from slipping, tripping, or falling. Personnel must be constantly alert for obstacles and open or drop off locations in their work area. When confined spaces are open, the area is secured and grates are placed on the opening to prevent people from falling into it. Whenever possible, personnel do not work outdoors when conditions are icy.

7.6 Moving Heavy Objects

To reduce physical injuries from moving heavy objects, obtain assistance from a coworker or use a forklift or other lifting device. If it is necessary to lift or move a container manually (as with a drum dolly);

- minimize handling;
- obtain assistance when the container is too heavy or bulky for one person to move safely;
- wear leather gloves when the container may contain pinch points; and
- use the following proper lifting and moving techniques:

  1) stand close to the load with your feet firmly on the ground,
  2) squat down with back straight and knees bent,
  3) grab the load firmly,
  4) hold the load close to the body,
  5) stand up slowly while lifting with the leg muscles and keeping the back straight, and
  6) put the load down smoothly and slowly while using leg muscles and keeping the back straight.

7.7 Foot Injuries
ANSI-approved safety shoes must be worn when working with heavy objects or in operations areas.

7.8 Overhead Objects
To minimize risk of injury from overhead objects, good housekeeping is practiced (see Subsection 5.16). An ANSI-approved hard-hat is worn when working in a construction area or confined space where falling objects or overhead obstructions could be a hazard. Confined space attendants ensure areas around the entrance to the space are kept clear while entrants are inside, to prevent objects from falling into the space.

7.9 Fall Protection
OSHA-approved fall protection must be used when working at an elevated height that does not have railing or other means of protecting a person from falling. Fall protection devices such as harnesses, life lines, and lanyards must be inspected before use.

7.10 High Noise Levels
Wear hearing protection in high noise level areas such as near noise-producing equipment.

7.11 Biological Hazards
To avoid wasp or bee stings, do not use scented products (deodorants, hair spray, perfume, or cologne) that attract these insects. Use insect repellent if appropriate. Wear heavy work gloves to examine the underside of items under which a scorpion or spider could be present before moving the items. To protect against the hantavirus or plague, avoid rodents and areas contaminated by rodents. Be particularly aware of poisonous spiders and dead rodents in confined spaces.

8.0 CONTROLS FOR CHEMICAL HAZARDS

8.1 NaOH Operations
Engineering procedural controls used during NaOH operations to ensure safe operations and protection of the environment are described in DOP-50RLWTF-03. Controls include

- closing caustic tank covers while NaOH is being added to a tank or while the mixers are running to minimize aerosol spread and prevent splashing,
- using diluted NaOH instead of concentrated NaOH,
- wearing the PPE specified in the DOP for the operation (includes the commercial truck driver who delivers the concentrated NaOH to TA-50-1), and
- pumping industrial water or neutralized acid before NaOH to minimize the heat generated.

8.2 Acid Neutralization
- Acid Neutralization at TA-50 was replaced by RO. The RO permeate is discharged to Mortandad Canyon, and the concentrate is currently be studied to determine options for characterization and handling. The concentrate will be managed as Rad or Mixed Waste based on an alanysis for metals and semi-volatile organics.

8.3 Identification and Labeling

A written hazard communication program addresses identification and labeling of hazardous materials used in the workplace according to 29 CFR 1910.1200. Unless a container is immediately used by an employee; it must be labeled, marked, or tagged with the name of hazardous chemicals with health or physical hazard warnings prominently displaying in legible English. Original container labels should contain the name and address of the manufacturer, and must not be removed or defaced unless immediately replaced with current information. Storage areas housing unlabeled containers are posted to clearly identify containers and their required hazard information. Stationary process containers may have signs, placards, process sheets, batch tickets, or operating procedures affixed to various parts of the system instead of labels.

8.4 Chemical Inventory

The RLWTF designates an employee to maintain and track the inventory of potentially hazardous materials used during routine operations. The Automated Chemical Inventory System (ACIS) maintained by ESH-5 is used to track these chemicals. The employee assigns a bar-code number from ESH-5 to all potentially hazardous materials. This is returned to ESH-5 to update the inventory when these materials are used up.

8.5 Storage

Chemicals are stored indoors in designated chemical storage areas, such as under a laboratory hood or in a designated cabinet.

8.5.1 Incompatible Chemicals

Do not store incompatible chemicals together. Before storing a chemical, refer to the MSDS for the chemical to determine chemical incompatibilities and ensure incompatible chemicals are not stored together (see Subsection 4.6).

8.5.2 Strong Oxidizers

Containers of strong oxidizers are tightly closed and removed from combustible/flammable materials, incompatible materials, and ignition sources. Hydrogen peroxide containers are covered, vented, and kept away from sun and heat. Potassium permanganate is kept from acids like acetic and concentrated hydrochloric and from reducing agents. Hydrogen peroxide is kept away from combustible materials.

8.5.3 Flammables and Caustics

All flammable and combustible liquids are stored according to AR 6-5, "Flammable and Combustible Liquids." Small volumes of flammable or caustic chemicals not used for routine laboratory analysis are stored in cabinets designated and labeled flammable or caustic storage respectively when not in use. The FMU-84 WMC maintains these cabinets. Location of these cabinets is found in AP-50RLWTF-04 for DP-257 and AP-FMU84-08 for TA-50.

8.6 Respirators

When working with NaOH or acids, workers must have a current certification for using a respirator. When responding to an emergency involving NaOH, they must have a current SCBA certification.

9.0 CONTROLS FOR ELECTRICAL AND PRESSURIZED SYSTEMS

9.1 Lockout/Tagout

In working on energized or pressurized systems or equipment, lockout/tagout procedures must be followed. When using lockout/tagout procedures, personnel must complete LANL lockout/tagout training and follow applicable LANL procedures: LP106-01.2, "Lockout/Tagout for Control of Hazardous Energy Sources"; LP106-02.1, "Lockout/Tagout for Control of Equipment and System Status"; or LP106-03.0 "Tagout for Removing Unsafe Equipment from Service."

9.2 Pressurized Systems

To work on pressurized systems, a minimum of LANL's Pressure Safety Awareness training is required. See AR 14-1, "Pressure Systems Including Compressed Gas Systems" or TB 1402, "Compressed Gases." Operations personnel ensure valve settings are correct so pressure does not build in lines. Never deadhead a positive displacement pump.

9.2.1 Carbon Dioxide

The Main Plant uses CO_2 to lower the gravity filter effluent pH to between 6 and 7 to prevent scaling in the filter. Without proper bleeding, pressure may build up in CO_2 lines associated with Main Plant operation and result in leaking, bursting, or surging during servicing. Past monitoring indicates CO_2 does not build up in the plant area during operation.

9.2.2 Compressed Gases and Liquids

Personnel working with compressed gas cylinders must have Gas Cylinder Safety training. Following are safety requirements that apply to working with compressed gas cylinders:

- Handle compressed gases according to the product's MSDS.
- The cylinders should comply with DOT regulations specifying construction, pressures, content, and identification for transportation.
- Do not exceed the pressure rating specified for the pressure regulators and system.
- Securely chain gas cylinders to a permanent, stable fixture to prevent them from falling.
- Keep caps on cylinders if not in use, except when installing or connecting to a pressure system.
- Only knowledgeable and authorized personnel are allowed to service cylinders.
- Always wear eye protection when connecting pressure cylinders.
- Protect cylinders against heat, corrosive atmospheres, rain, snow, and full sunlight.
- Store cylinders in paved areas that are easily accessible to movement with cylinder carts.
- Separate oxidizing gasses from flammable gasses and combustible liquids for storage. A five feet high fire barrier with half-hour fire rating or a distance of 20 ft is acceptable separation.

The following procedures apply to moving compressed gas cylinders:

- Ensure the cylinder cap is securely in place before moving a cylinder from its secured position.
- Move cylinders upright, on cylinder carts or with other approved cylinder transporting devices.
- Never roll or drop cylinders.
- Never lift cylinders by their protective caps.
- Wear safety shoes or toe protection.

9.3 De-energized Electrical Work

If possible, all electrical work is done de-energized; usually by unplugging the unit. Before starting work, a qualified electrical worker rechecks operations to verify the unit is de-energized and the plug is in exclusive control of a person doing the electrical work. Sealed units such as power supply units or power amplifiers are never serviced while energized (see Subsection 9.1).

9.3.1 Training and Qualifications

Personnel doing electrical work meet training and qualification requirements given in LIR402-600-01, "Electrical Safety" for the type of work performed. To ensure associated workers understand hazards and requirements related to the work, they must also read LIR402-600-01 and AR 1-8.

9.3.2 Postings and Barriers

When working with exposed leads, work areas must be sealed with barrier tape to prevent unauthorized personnel from entering. If possible, workers must close and secure the panel in which they have been working when leaving electrical cabinets unattended. The cabinet must be tagged out or posted with a sign saying "Keep Out." When equipment repairs are not completed in the projected time of service, workers must place a locking plug cover over the plug end.

9.3.3 Power Tools

Power tools are double-insulated and electrical outlets used for power tools have a ground fault circuit interrupter (GFCI).

9.3.4 Two-person Rule

At least two people must be present for any work on electrical equipment with its protective barriers removed. If possible, a JCI journeyman electrician should be present while electrical work is being performed. The "two-person" rule does not apply when personnel work on less than 50-V nominal solid-state logic and analog systems if the power supply is totally isolated from the low voltage. The "two-person" rule applies whenever one or more of the following conditions is present:

- primary Vac greater than 300 V (rms) to ground,
- primary ac current greater than 30 A (circuit rating),
- stored energy greater than 10 J, or
- dc or internal Vac greater than 50 V nominal between terminals to the ground, and
- power limits greater than 150 Vac.

One person acts as a consulting observer during the electrical work and must

- have a current certification in CPR and first aid,
- be clear of the hazard,
- have completed electrical awareness training,
- be familiar with the equipment and the hazards involved, and
- be present until the unit is "positively de-energized."

9.3.5 Required Work Space

Electrical cabinets must be at least 30 in. wide and 6-½ ft high. At least three feet of clearance must surround the work area; or appropriate shielding, such as rubber matting, must be placed between the person doing the electrical work and the public. National Electrical Code (NEC) 110-16 and 110-32 designates minimum work clearances.

9.3.6 Electrical Penetrations

If excavating or penetrating walls, ceilings, floors, masonry surfaces, ground surfaces, or any structure where electrical hazards may be a concern; follow procedures in LIR402-600-01 and DOP-FMU84-11 and use the FMU-84 Facility Penetration Permit.

9.4 Energized Electrical Work

9.4.1 Qualifications

Personnel permitted to work on energized electrical system must meet ESH-5's minimum requirements and be approved by the EM/RLW Group Leader for this work. The EM/RLW Group Leader submits the names of all persons qualified to do this work to ESH-5. The only persons permitted to do field or bench service on electrical systems in an energized state are

- manufacturer service representatives,
- personnel authorized by the RLWTF Group Leader to do this type of work, and
- JCI electrical journeyman requisitioned to work on the equipment.

EM/RLW personnel are not permitted to do nonroutine electrical work. This includes all new projects requiring major construction work and replacement of major equipment requiring connecting items to a motor control center (MCC).

9.4.2 Permits

Before installing, servicing, or decommissioning equipment or instrumentation with potential to contact an energized electrical system; ESH-5 may require completion of an Energized Electrical Work (EEW) permit. ESH-5 approves the permits and workers post the approved permit in front of the work area.

9.4.3 Precautions

Before diagnosing, servicing, or repairing equipment; workers remove all conductive apparel such as metallic wristbands, rings, long necklaces, or badges on metal chains. All of the following conditions must be met for workers to work on the electrical system while energized:

- equipment is properly hooked up before energizing it,
- equipment disconnects and circuit breakers are identified and opened,
- barriers and postings are in place,
- only one hand may be in the cabinet at any time while taking a voltage measurement or another knowledgeable person must be present,
- equipment is de-energized before connecting test leads,
- service is done according to manufacturer's service procedures, and
- a GFCI is used when working outdoors or in a wet location.

9.4.4 Personal Protective Equipment

Workers performing energized electrical work with more than or equal to 110 Vac must, as a minimum, wear ANSI-approved safety glasses with side shields or safety goggles and electrically-insulated gloves appropriate for the voltage level. Rubber mats may also be used if appropriate.

9.5 Electrical Accidents

Do the following in the event of an electrical accident:

1) survey the scene;

2) 2) break the circuit by turning off the power, or separate the victim from the energy source if you cannot turn off the power or are not sure it is turned off;

> **WARNING**: *Use a nonconductive object to do this. Do NOT directly touch the person.*

3) if certified, begin CPR/first aid (for one full minute initially);

4) call 911 for help (call between breaths if CPR is required and you are the only person available).

> **WARNING**: *If there is an electrical fire, exit the area before reporting the accident.*

10.0 CONTROLS FOR CONFINED SPACE HAZARDS

EM/RLW complies with OSHA requirements from 29 CFR 1910.146, "Permit Required Confined Spaces" and AR 8-1, "Confined Spaces." Currently RLWCS vaults are permit-required confined spaces. Confined space operations are detailed in DOP-50RLWTF-15. Also see Subsections 7.5, 7.8, and 7.11.

10.1 Training

Workers performing confined space operations complete LANL's Confined Space Awareness training and read AR 8-1. Employees who operate the crane on the confined space truck also must receive the training and adhere to the requirements for crane operation (see Subsection 7.3).

10.2 Permits and Postings

Confined space workers complete a Confined Space Permit and maintain the permits as described in DOP-50RLWTF-15. JCI personnel complete an SWP before entering and working in confined spaces that are uncontrolled for radioactivity. ESH-1 may also require an RWP. Each permit-required confined space is posted "Danger, Confined Space, Enter by Permit Only" (see Subsection 6.7).

10.3 Safety Equipment

When entering or exiting a space, entrants are attached to an OSHA-approved lifting device with fall catch mechanism to prevent a serious fall. To facilitate non-entry rescue, entrants always remain attached to the retrieval line unless it increases the overall risk of entry or would not contribute to a rescue.

10.4 Atmosphere Monitoring

RLWTF personnel maintain and calibrate direct-reading gas detectors according to the specifications of the manufacturer. Personnel must be trained to operate a gas detector. Before monitoring the atmosphere, the calibration of the detector is verified to be current. Before entry, workers test the atmosphere for oxygen content, carbon monoxide, combustible gases, and hydrogen sulfide. The RLWTF uses atmosphere limits for entry prescribed by ESH-5. To ensure atmospheric conditions do not become hazardous, the attendant continuously monitors the atmosphere inside the space while entrants are inside.

If personnel detect a hazardous atmosphere, they ventilate the confined space with a blower that draws air out through a HEPA filter and circulates clean outside air into the space. The EM/RLW Group Leader or supervisor must approve entry into any confined space in which the atmosphere could be hazardous. If the attendant or entrant detects a hazardous atmosphere after entry, entrants leave the space immediately. If this occurs, confined space personnel notify their supervisor and the ESH-5 confined space program.

10.5 Radiation Control

Personnel who enter a confined space where radioactivity may be present follow all requirements given in Section 6.0. Before anyone enters an RLWCS vault, an RCT/HPT does a preliminary radiological survey of the space. No one enters the vault until ESH-1 determines it is safe or specifies additional entry criteria. Upon exiting a space, entrants survey themselves using a portable radiation instrument.

10.6 Communications

One attendant is always present outside of a space when an entrant is in the space. Attendants and entrants always maintain verbal and/or line of sight communication when entrants are inside a confined space.

10.7 Vehicle Traffic

If the confined space entry affects vehicle traffic, flaggers alert drivers and slow the traffic.

10.8 Emergencies

The Los Alamos Fire Department (LAFD) is designated as the confined space rescue team for all rescues requiring entry into a space. Unless a space is exempted by ESH-5 or EM/RLW management from this requirement, the LAFD must be notified before entry and immediately after finishing an entry.

Non-entry rescues are always preferred. Rescue procedures are in DOP-50RLWTF-15. EM/RLW holds an annual rescue drill simulating a confined space emergency that does not require entry. The EM/RLW Training Coordinator documents these drills.

11.0 NUCLEAR CRITICALITY CONTROLS

11.1 Pretreatment Plant

Because of higher concentrations of fissile radionuclides treated in this plant, extra controls are in place for routine operations and processing equipment to ensure criticality does not occur. Instructions for operating this plant, including safety controls built into operations and equipment are found in DOP-50RLWTF-01.

11.1.1 Summary Log and Plot

The Operation's Supervisor maintains a summary log and plot to track the cumulative ^{239}Pu content in Rooms 60 and 60A.

11.1.2 Neutron and Gamma S rveying

After processing 250 grams of ^{239}Pu through the plant; employees empty, visually inspect, and survey process tanks and equipment for accumulation of ^{239}Pu and ^{241}Am using neutron and gamma monitors. An RCT/HPT also surveys each ank when it is empty and spot-checks pipes using neutron and gamma monitors. EM/RLW personnel rvey TK-7 before adding sludge to it and conduct additional neutron surveying using a portable monitor.

11.1.3 Sludge

The RLWTF processes a maximum of 250 grams of ^{239}Pu through the Pretreatment Plant before the sludge is solidified. The plant generates 14 to 16 drums of homogeneous sludge at one time. These factors ensure that each drum contain less than the allowable 200 grams of fissile material.

11.1.4 Alarms

Both CL-1 and TK-7 are equipped with neutron monitoring and alarms that activate when radioactivity reaches a prescribed level.

11.2 Bench and Pilot Studies

Criticality could be of concern in a bench or pilot scale study that concentrates fissile radionuclides. As a minimum, personnel do material balances to project concentrations of radionuclides and complete an RWP and an FMU-84 Work Request before starting a project where this may be a concern (see Subsection 5.10).

12.0 MAINTENANCE

The RLWTF uses manufacturer specifications and inspection findings to maintain its equipment. Maintenance schedules for crucial RLWTF equipment are in AP-50RLWTF-11, "Maintenance Implementation Plan." Maintenance is conducted according to safe work practices specified in this SOP. Related DOPs list equipment associated with each operation.

12.1 Calibration

RLWTF personnel or the Standards and Calibration Group, ESH-9, calibrate equipment according to the manufacturer's specifications. RLWTF personnel calibrate instrumentation used for routine operations; including air monitors used in confined spaces and instrumentation such as flow, level, LEL, gamma, and pH meters. These calibrations are done according to internal operating procedures, LANL's "Calibration Handbook," and AP-50RLWTF-24, "Calibration Plan."

12.2 Radiological and Special Work Permits

ESH-1 must be notified when work may expose personnel to radioactivity, in which case an RWP will be required (see Subsection 6.7). Depending on type and degree of hazard, ESH-5 may require an SWP for a maintenance job. If an SWP is required, ESH-5 must approve the permit before work can begin. Workers follow all requirements specified on the permit and post it in the work area.

12.3 Spark or Flame Producing Work

Work involving cutting, welding, or other spark or flame producing operations must be done according to AR 8-4, "Welding, Cutting, and Other Spark-/Flame-Producing Operations." This includes completing a Special Work Permit for Spark/Flame Producing Operations.

13.0 WASTE MINIMIZATION AND MANAGEMENT

13.1 Waste Acceptance Guidelines

The WAC (see Subsection 2.4.1) specifies waste acceptable for treatment at the RLWTF and requirements for waste generators. To ensure efficiency and safety of operations and compliance with federal and DOE requirements, waste generating operations must follow requirements in the WM WAC and WACCP. The WM WAC and WACCP are the administrative controls that ensure compliance with

- DOE Order 5820.2A, "Radioactive Waste Management";
- DOE Order 5400.5;
- the NPDES permit; and
- RCRA.

13.2 Solid Waste

The Main Plant and DP-257 operations generate a LLW sludge that is packaged and transported to TA-54, Area G for storage or disposal. The Pretreatment Plant generates a sludge that is a TRU-mixed waste.

13.2.1 Training

RLWTF waste generators take LANL's "Waste Generator Training." This training is also required for personnel who complete waste management forms such as the CWDR or WPF.

13.2.2 Radiological Controlled Areas

Waste from radiologically controlled areas (RCAs) is handled according to LS105-05.0, "Removing Waste from RCAs" and LP107-04.2, "Releasing Materials and Equipment."

13.2.3 Waste Characterization

To ensure waste sent to TA-54 is properly documented; RLWTF waste generators provide information on identity and composition of the waste generated, document this information on the WPF, and retain it for their records. MSDSs, process knowledge, and sample analysis are used to characterize waste.

13.3 Hazardous Waste

Hazardous waste is only stored or treated in areas designated hazardous waste such as less-than-90-day storage areas, satellite storage areas, or the areas listed in LANL's RCRA Permit or interim status documents for storing hazardous waste. Hazardous waste is handled according to LIR404-00-03, "Hazardous and Mixed Waste Requirements for Generators."

13.3.1 Training

Personnel who inspect or work with hazardous wastes in interim status or RCRA-permitted storage areas or < 90 day areas must take the training required by LANL and the RCRA permit. This includes Rooms 60A and 59 of TA-50-1. Initial 40 hour HAZWOPER training and 8-hour refreshers to maintain certification are required to work in hazardous waste storage areas.

13.3.2 RCRA Treatment and Storage Areas

Each RCRA-permitted or interim status storage and treatment unit is inspected and maintained according to permit requirements. Inspections are documented on separate Hazardous and Mixed Waste Facility Inspection Record Forms and retained in the plant operations notebook.

13.3.3 Waste Disposal Areas

Hazardous and mixed waste is packaged according to the DOT regulations and transported to TA-54, for storage. Hazardous waste must not go in sanitary sewer lines, lines leading to the RLWCS, or any other uncontrolled disposal route such as trash bins, salvage bins, and office waste cans. Radioactive waste is packaged and transported to TA-54 for storage or disposal.

13.4 Waste Minimization

Waste minimization practices conserve environmental resources and energy. The RLWTF minimizes the waste it generates to the greatest extent technically and economically feasible. Waste minimization ensures compliance with

- RCRA;
- Pollution Prevention Act;
- DOE Order 5820.2A;
- DOE Order 5400.1, "General Environmental Protection Program"; and
- AR 10-8, "Waste Minimization."

13.4.1 Waste Generator Interfaces

By setting standards for waste, the WM WAC requires waste generators to consider volume and type of waste generated and volume reduction options. RLWTF personnel and waste generators identify options to minimize waste such as pretreatment and volume reduction using flow recycle systems.

13.4.2 Waste Management Interfaces

The RLWTF works with other waste management groups to determine if waste stored or disposed of at their area can be treated through the RLWTF. For example, the RLWTF may accept inorganic acids, caustics, or oxidizers that otherwise would be stored at TA-54, Area L, and later disposed of off-site.

13.4.3 Current Treatment Processes

The RLWTF continually reviews processes and operations to provide further waste minimization. The following waste treatment processes are used to minimize waste.

Sludge: Sludge generated during DP-257 and Main Plant operations contains 5-10% solids and is filtered on a rotary filter to concentrations up to 30% solids, thus reducing the sludge volume destined for disposal. Sludge is recycled to minimize volume of sludge generated per volume of waste treated while obtaining the maximum activity level and yet remain below the threshold value for acceptance as LLW.

Gravity flow: Gravity filtration and flow are used when possible in place of pressure filtration or flow. Periodically backwashing the gravity filter prevents an excessive head loss and improves the efficiency of the filtration process.

Lime: The RLWTF changed the lime used for flocculation from a low-grade industrial quality to a high-grade food quality. Since high-grade lime contains fewer impurities, less lime is needed for the flocculation stage. Greater solubility of high-grade lime also reduces equipment failure by reducing wear on mechanical equipment, which subsequently reduces the quantity of used equipment that must be disposed.

Chemical feeders: Chemical feeders used for adding chemicals to the flash mixer were improved to provide better control of chemicals that are fed into the system, thus reducing the quantity of chemicals used.

Monitoring system: A daily review of influent monitoring data provided discussions with waste generators that led to adoption of an influent monitoring system that reduced volume by 50%.

13.4.4 New Treatment Processes

Alternative waste treatment technologies to reduce waste generation and improve effluent quality are evaluated regularly. Recent RLWTF studies indicated the viability of incorporating RO and UF units with Main Plant processes, thus greatly reducing the volume of waste generated.

Personnel work with other LANL groups researching innovative methods for treating radioactive liquid waste that may minimize waste generated at the RLWTF or other LANL sites. High-gradient magnetic separation is one technology tested on RLWTF influent.

13.4.5 Chemicals

The RLWTF maintains inventories of chemicals and other products required for plant operations and purchases these materials in the minimum amounts feasible for efficient operations. Only authorized personnel who are knowledgeable in the quantities of chemicals needed may buy chemicals for RLWTF operations. Minimizing the number of people with purchase authority reduces the amount of chemicals purchased and outdated chemicals disposed.

To reduce the volume of hazardous waste disposed; safe and viable alternatives to hazardous chemicals such as caustics, acids, and solvents are researched and tested for substitution at the RLWTF. When feasible, the chemical exchange program (CHEAPER) administered by EM/SWO is used for obtaining chemicals and redistribution of unused chemicals.

13.4.6 Segregation

As required in DOE Order 5820.2A, uncontaminated waste and radioactive waste must be separated to facilitate cost-effective treatment and disposal. When possible, uncontaminated or hazardous materials are not taken into radiological areas in order to reduce LLW or mixed waste volumes.

13.4.7 Compacting Low-level Waste

As required by the EM/SWO WAC, LLW is separated into compactible and noncompactible waste. Bulky items are compacted and disassembled to the maximum extent possible to reduce the volume of radioactive waste.

13.4.8 Recycling and Salvage

The RLWTF recycles paper, aluminum, copper, steel, printer cartridges, cardboard, and oil removed from vacuum pumps. All possible items are salvaged instead of being disposed of in a solid waste disposal area.

13.5 Packaging and Transportation

The WMC ensures packaging and transportation activities are done according to DOT, LANL, and DOE requirements. Procedures for packaging and transportation of routine RLWTF wastes are described in DOP-50RLWTF-13. This document contains information on documentation, labeling, placarding, vehicle inspection, and container requirements.

13.5.1 Training Requirements

Personnel who package or transport DOT-regulated waste or materials must be trained for these duties as specified by BUS-4. Drivers transporting these materials should also have Smith Defensive Driving and be authorized by BUS-4 to drive a commercial vehicle. Depending on the size of the vehicle and the quantity and type of material or waste transported, the driver may need a New Mexico commercial driver's license (CDL). Licensing requirements for drivers are given in DOP-50RLWTF-13.

13.5.2 DOT and DOE Regulations

DOT regulations for radioactive materials are in 49 CFR 173.401 Subpart I, "Radioactive Materials." DOE Order 5480.3, "Safety Requirements for Packaging and T nsportation of Hazardous Materials, Hazardous Substances, and Hazardous Wastes" regulates the packaging and transportation of waste at DOE sites.

13.5.3 LANL Requirements

LANL requirements for packaging and transportation are in BUS-4's "Packaging and Transportation Manual" and AR 3-5, "Shipment of Radioactive Materials." LANL requires all drivers of commercial vehicles to be authorized by BUS-4 to drive those vehicles. Waste stored of disposed of at TA-54 must meet the EM/SWO WAC and WACCP requirements. These require transported waste to have a WPF and CWDR approved by EM/SWO.

13.5.4 Vehicle Inspections

To ensure vehicles transporting DOT-regulated materials are in safe operating condition, DOT requires drivers to inspect their vehicles before and after shipment. See DOP-50RLWTF-13 for the inspection requirements.

13.5.5 Transportation of NaOH

RLWTF personnel may transport flake NaOH to a LANL generator site to neutralize acid waste at the site; but this is not a part of routine operations. A Hazardous Materials Transfer Form (HMTF) must accompany all DOT regulated hazardous materials when transported. (BUS-4 validates the HMTF for NaOH for 90 days.) To ensure the quantity transported is below the reportable quantity limit of 1000 lbs., the truck should not carry more than 550 lbs. of NaOH at one time. NaOH must never be stored on the transport vehicle.

14.0 ENVIRONMENTAL AND SPILL CONTROLS

The RLWTF incorporates engineering and administrative controls, including spill control measures to ensure protection of the environment.

14.1 The Cross-country Waste Line

Personnel walk the entire line biannually to visually inspect the area surrounding the line.

14.2 Spill and Leak Control

The FMU-84 Spill Coordinator provides spill and leak control at the RLWTF. The spill control equipment locations are given in site emergency plans AP-50RLWTF-04 for TA-257 and AP-FMU84-08 for TA-50-1. Good housekeeping (see Subsection 5.16) is practiced to minimize the possibility of spills. If a leak in the pipeline or spill to the environment occurs, operations are stopped immediately and a supervisor is notified of the accident's severity. DOPs describe equipment controls and procedural measures to prevent spills.

14.2.1 Spill Plans

The RLWTF follows the "Spill Prevention, Control, and Countermeasures (SPCC) Plan for LANL" for spill control and prevention and FMU-84's "Group Spill Implementation Plan" as required by the Clean Water Act.

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MHD09.001, LA-MIN03-NC.001	
Site(s): Los Alamos National Laboratory	**Source Document Tracking Number:** P008
Acceptable Knowledge Documentation Type: ✔ TRU Waste Management Program Information Waste Stream-Specific Information ✔ Supporting Information	**Category:** C - Correspondence D - Documents M - Miscellaneous ✔ P - Procedures DR - Discrepancy Resolution U - Unpublished Documents
Title of Source Document: Transuranic (TRU) Solid Waste	
Source Document Reference Information (author(s), document and revision number, date, publisher): ES&H Manual, AR 10-5, August 15, 1993, LANL	

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR8, S2	1, 7	All TRU waste generated at the Laboratory must be certified by the Laboratory to meet the WIPP waste acceptance criteria as required by DOE Order 5820.2A, Radioactive Waste Management." Definitions - Certified TRU Waste - TRU waste packages that have been verified to meet the criteria established in the "TRU Waste Acceptance Criteria for the WIPP. P. 7. Waste generators who routinely produce TRU waste must write an attachment to the "Los Alamos TRU Waste Certification Plan" and operate according to the plan and attachments. Each attachment must include the following: Methods used for processing, packaging, and documenting the waste.. Quality Assurance Controls in place to ensure that the waste packages are exactly as described in the document, and Documentation of compliance with the Laboratory RCRA operating permit and applicable hazardous waste regulations.
PR4	4	New Operations - Before initiating any operation that will generate new TRU waste and/or TRU mixed waste or increase existing waste volume, the waste-generating group must discuss available treatment, storage, certification, and disposal options with the EM-7 TRU Waste Certification Official (TWCO).
PR5	4, 5	Segregation. TRU waste and low-level radioactive solid waste (LLW) must not be mixed. (A substance is categorized as a TRU waste based on results of monitoring or assay; measurements may be averaged for each waste package, but TRU waste must not be deliberately diluted to make it LLW.) TRU mixed waste must be segregated from TRU waste that contains only a radioactive component. Any solid waste removed from a TRU glove box or hood is defined as TRU waste. Forms. Each container of TRU waste must be accompanied by a data package containing (as a minimum) the following documents: Form 1562 (ES&H Form 10-5A), TRU Waste Storage Record, and Form 1346 (ES&H Form 10-9A), Waste Profile Form. Labeling - TRU mixed waste must be documented in accordance with AR-10-3 and labeled in accordance with AR 10-3. All non-TRU mixed waste packages must be labeled as non-RCRA-

ORIGINAL

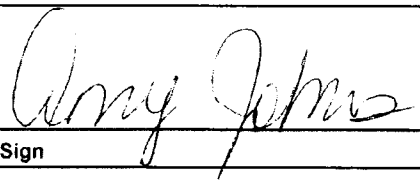
Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: P008
AK # [a]	Source Doc. Page # [b]	AK Information Summary
S16	5, 6	regulated as specified in AR 10-3. Packaging - Department of Transportation (DOT) Type-7A Packaging. TRU waste packages must be vented DOT Type-7A packages using containers that have been procured according to approved quality assurance procedures of the Packaging and Transportation Services (PATS) Section of the Property and Transportation Management Group (MAT-2). Venting - The only approved venting device is a carbon-composite vent filter... Drums - The only drums approved for packaging TRU waste are the white-painted, 55-gal. DOT-17C steel drums... Boxes - The only boxes approved for packaging TRU waste are the white-painted, DOT SPEC 7A standard waste boxes (SWBs), which measure 71x54x37 in (l x w x h). Dry TRU waste that is large, heavy, and unsuitable for packaging in drums must be packaged in vented SWBs. The required SWB has a bolt-on lid.

Source Document Data Limitations (if any):

1. This AR is not specific to any waste stream.

Acceptable Knowlege Expert:

Amy Johns  Date: 4/4/09

Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-CIN02.001, LA-MIN03-NC.001	
Site(s): Los Alamos National Laboratory	**Source Document Tracking Number:** P008
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☐ Waste Stream-Specific Information ☑ Supporting Information	**Category:** ☐ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☑ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title of Source Document: Transuranic (TRU) Solid Waste	
Source Document Reference Information (author(s), document and revision number, date, publisher): ES&H Manual, AR 10-5, August 15, 1993, LANL	

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR8, S2	1, 7	All TRU waste generated at the Laboratory must be certified by the Laboratory to meet the WIPP waste acceptance criteria as required by DOE Order 5820.2A, Radioactive Waste Management." Definitions - Certified TRU Waste - TRU waste packages that have been verified to meet the criteria established in the "TRU Waste Acceptance Criteria for the WIPP. P. 7. Waste generators who routinely produce TRU waste must write an attachment to the "Los Alamos TRU Waste Certification Plan" and operate according to the plan and attachments. Each attachment must include the following: Methods used for processing, packaging, and documenting the waste... Quality Assurance Controls in place to ensure that the waste packages are exactly as described in the document, and Documentation of compliance with the Laboratory RCRA operating permit and applicable hazardous waste regulations.
PR4	4	New Operations - Before initiating any operation that will generate new TRU waste and/or TRU mixed waste or increase existing waste volume, the waste-generating group must discuss available treatment, storage, certification, and disposal options with the EM-7 TRU Waste Certification Official (TWCO).
PR5	4, 5	Segregation. TRU waste and low-level radioactive solid waste (LLW) must not be mixed. (A substance is categorized as a TRU waste based on results of monitoring or assay; measurements may be averaged for each waste package, but TRU waste must not be deliberately diluted to make it LLW.) TRU mixed waste must be segregated from TRU waste that contains only a radioactive component. Any solid waste removed from a TRU glove box or hood is defined as TRU waste. Forms. Each container of TRU waste must be accompanied by a data package containing (as a minimum) the following documents: Form 1562 (ES&H Form 10-5A), TRU Waste Storage Record, and Form 1346 (ES&H Form 10-9A), Waste Profile Form. Labeling - TRU mixed waste must be documented in accordance with AR-10-3 and labeled in accordance with AR 10-3. All non-TRU mixed waste packages must be labeled as non-RCRA-

SUPERCEDED ORIGINAL
SEP 11/09/09

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: P008
AK # [a]	**Source Doc. Page # [b]**	**AK Information Summary**
S16	5, 6	regulated as specified in AR 10-3. Packaging - Department of Transportation (DOT) Type-7A Packaging. TRU waste packages must be vented DOT Type-7A packages using containers that have been procured according to approved quality assurance procedures of the Packaging and Transportation Services (PATS) Section of the Property and Transportation Management Group (MAT-2). Venting - The only approved venting device is a carbon-composite vent filter... Drums - The only drums approved for packaging TRU waste are the white-painted, 55-gal. DOT-17C steel drums... Boxes - The only boxes approved for packaging TRU waste are the white-painted, DOT SPEC 7A standard waste boxes (SWBs), which measure 71x54x37 in (l x w x h). Dry TRU waste that is large, heavy, and unsuitable for packaging in drums must be packaged in vented SWBs. The required SWB has a bolt-on lid.

Source Document Data Limitations (if any):

1. This AR is not specific to any waste stream.

Acceptable Knowlege Expert:

Sheri Nance, Sheri Nance Date: 1/3/08

Print **/Sign**

[a] *Obtain from Acceptable Knowledge Documentation Checklist*
[b] For microfilm or microfiche, identify box, tape, reel number and location.

DIVIDER PAGE ONLY

Not part of page count

Introduction

All transuranic (TRU) waste generated at the Laboratory must be certified by the Laboratory to meet the Waste Isolation Pilot Plant (WIPP) waste acceptance criteria as required by Department of Energy Albuquerque Operations Office (DOE/AL) Order 5820.2A, "Radioactive Waste Management." This administrative requirement specifies the procedures for preparing, packaging, labeling, documenting, and transporting contact-handled TRU waste so that it may be certified and deposited in the retrievable storage site at TA-54 to await future shipment to WIPP. This waste also must meet the requirements of DOE Order 5400.3, "Hazardous and Radioactive Mixed Waste Program."

The hazardous components of TRU mixed waste are regulated by the state of New Mexico under the Resource Conservation and Recovery Act (RCRA). TRU mixed waste is defined as waste that, in addition to qualifying as TRU, contains a listed hazardous waste or possesses one of the characteristics identified in 40 CFR 261, "Identification and Listing of Hazardous Waste." The regulations in 40 CFR 262, "Standards Applicable to Generators of Hazardous Waste," require the generator of the waste to properly characterize, label, mark, and accumulate the waste and to ensure the integrity of the container. Mixed waste (radioactive hazardous waste) is subject to the hazardous waste management standards imposed by 40 CFR 261–262, 265–266, 268, and 270–271. Hazardous waste treatment and storage are subject to the Laboratory's RCRA operating permit; mixed waste is currently managed under RCRA interim status standards. Until the permit is modified to address specific conditions that relate to TRU mixed waste, which may necessitate a revision of the TRU waste certification procedures, the requirements in this document will apply.

Definitions

Certified Transuranic (TRU) Waste—TRU waste packages that have been verified to meet the criteria established in the "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant," WIPP/DOE-069.

Chemical Waste—Any chemical or mixture of chemicals intended for disposal that is a hazardous waste or that presents a potential health or environmental risk and thus requires special administrative control. Examples of chemical waste include waste oils, nonregulated metal-containing solutions, nonregulated solvents, and asbestos.

Contact-Handled Transuranic (TRU) Waste—A TRU waste package with a combined beta-gamma and neutron radiation dose rate less than or equal to 200 mrem/h at the surface of the package.

EM-7 TRU Waste Certification Office (TWCO)—The organization that coordinates all transuranic (TRU) waste certification activities for the Laboratory and serves as the interface between the Laboratory and other agencies such as the Waste Isolation Pilot Plant (WIPP) and the Department of Energy on issues related to TRU waste certification. EM-7 TWCO also interacts with all Laboratory TRU waste generators, the Laboratory's quality assurance officer, and the WIPP Waste Acceptance Criteria Certification Committee to exchange information about TRU

waste certification. EM-7 TWCO works with Laboratory TRU waste generators to communicate, identify, and resolve problems and to ensure consistent implementation of the TRU waste certification program.

Hazardous Waste—As defined by the Resource Conservation and Recovery Act (RCRA), any solid waste intended for disposal that is corrosive, toxic, ignitable, or reactive, or that contains a listed hazardous constituent (see Appendix A of Administrative Requirement [AR] 10-3, "Hazardous and Mixed Waste"). Hazardous wastes commonly generated at the Laboratory include all types of laboratory research chemicals, solvents, acids, bases, carcinogens, compressed gases, metals, and other solid waste contaminated with hazardous waste. These wastes may also include equipment, containers, structures, and other items intended for disposal and contaminated with hazardous waste (for example, compressed gas cylinders). For further information, see the paragraph titled "Empty Containers" in AR 10-3.

Low-Level Radioactive Solid Waste (LLW)—Solid radioactive waste that is not classified as high-level waste, transuranic (TRU) waste, or spent nuclear fuel. See Administrative Requirement 10-2, "Low-Level Radioactive Solid Waste," for a detailed definition.

Packaging—The waste container, which is the assembly of components (such as waste container, liner, and closure) necessary to ensure compliance with Department of Transportation Type-7A packaging requirements. It may include one or more of the following: receptacles, absorbent material, spacing structure, thermal insulation, and radiation shielding.

Remote-Handled Transuranic (TRU) Waste—TRU waste materials packaged so that the dose rate at the surface of the waste package is greater than 200 mrem/h and less than or equal to 1000 mrem/h.

Solid Waste—As defined by the Resource Conservation and Recovery Act (RCRA), any discarded material, either abandoned or recycled, including liquids, solids, semisolids, and contained gases. Solid waste can be hazardous, radioactive (including transuranic), or mixed hazardous and radioactive. Waste consisting *solely* of source, special nuclear, or by-product material, as defined by the Atomic Energy Act (AEA), is *not* a solid waste.

Transuranic (TRU) Mixed Waste—Any waste that contains a mixture of TRU waste and hazardous waste and is regulated under the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act.

Transuranic (TRU) Radionuclides—Any radionuclide with an atomic number greater than 92.

Transuranic (TRU) Waste—Waste contaminated with alpha-emitting radionuclides that have an atomic number greater than 92 and half-lives greater than 20 years in concentrations greater than 100 nCi/g of waste. Waste contaminated with only natural or depleted uranium shall be handled as low-level radioactive solid waste. This definition is consistent with DOE Order 5820.2A, "Radioactive Waste Management." TRU waste is contaminated with radionuclides only and does not contain hazardous waste. TRU mixed waste is waste containing both hazardous and TRU waste components.

Transuranic (TRU) Waste Package—The final configuration of the waste in its container and ready for transport to the storage or disposal site. A waste

package is composed of the TRU waste material; a plastic liner; internal radiation shielding, if necessary; and the waste container. The package is intended for future emplacement at the Waste Isolation Pilot Plant (WIPP).

Overall Responsibility

Unless otherwise specified in this document, the line manager of the waste-generating organization must ensure that the requirements specified herein are met.

Financial Responsibility

During the period preceding operation of the Waste Isolation Pilot Plant (WIPP), the Waste Management Group (EM-7) will provide storage and handling for newly generated transuranic (TRU) waste packages. During this period, waste generators must pay all costs associated with preparing, packaging, documenting, meeting all waste certification requirements (including waste analysis costs where applicable), and delivering the waste package to EM-7.

When WIPP becomes operational, waste generators will also be responsible for the cost of transporting waste packages to WIPP. EM-7 will pay only for transportation of waste that is in storage at that time.

Regulation of TRU Mixed Waste

Generators of hazardous or mixed waste must comply with Administrative Requirement (AR) 10-3, "Hazardous and Mixed Waste." Contact the Environmental Protection Group (EM-8) for additional information on these regulations, including conditions required by Laboratory environmental permits; clarification and interpretation of federal and state chemical, hazardous, and mixed waste regulations; and questions concerning Laboratory and Department of Energy (DOE) waste policies.

Standard Operating Procedures

Standard operating procedures (SOPs) for operations that generate TRU waste are required in accordance with AR 1-3, "Standard Operating Procedures and Special Work Permits."

Waste Management Coordinator

A waste management coordinator must be identified by each waste-generating group or division (depending on the rate of generation and volume) to serve as the primary contact with the Environmental Management (EM) Division. The waste management coordinator must ensure that

- waste collection and storage areas are regularly inspected and are safe,
- appropriate regulations are complied with,
- accurate records are kept, and
- storage inspection reports are prepared correctly.

The waste management coordinator will have approval authority on waste management matters for the waste-generating site. The waste management coordinator may be the same person as the spill coordinator identified in AR 9-4, "Accidental Oil, Chemical, and Airborne Releases."

New Operations

Before initiating any operation that will generate new TRU waste and/or TRU mixed waste or increase existing waste volume, the waste-generating group must discuss available treatment, storage, certification, and disposal options with the EM-7 TRU Waste Certification Office (TWCO). In most cases the existing waste management facilities, technology, and personnel at the Laboratory can handle new waste or increased waste volume; however, the existing hazardous waste permit may have to be modified. In other cases the EM-7 staff can help identify methods for waste minimization.

Waste Minimization Methods

Waste generators must make every reasonable effort to minimize the volume of TRU waste at the source. Specific requirements are given below.

Segregation. TRU waste and low-level radioactive solid waste (LLW) must not be mixed. (A substance is categorized as a TRU waste based on results of monitoring or assay; measurements may be averaged for each waste package, but TRU waste must not be deliberately diluted to make it LLW.) TRU mixed waste must be segregated from TRU waste that contains only a radioactive component.

Any solid waste removed from a TRU glove box or hood is defined as TRU waste. LLW must not be deliberately introduced into TRU glove boxes or hoods so that it may be disposed of more conveniently.

Decontamination. If only a small portion of an item is contaminated with TRU radionuclides, that portion must be removed or decontaminated, if possible, so that the TRU concentration is reduced to less than 100 nCi/g, and the item shall then be handled as LLW.

Incineration. If the TRU waste contains large amounts of combustible material, the combustibles must be packaged in separate containers for incineration at a later time. Noncombustible items must be carefully excluded from this waste.

NOTE: Not all combustible waste is suitable for incineration.

Contact the Technical Support Section of EM-7 for further details.

Size Reduction. Large metallic items, such as glove boxes, may require size reduction in the EM-7 TRU Waste Size Reduction Facility. Contact EM-7 for details.

Minimization of TRU Mixed Waste

The generation of TRU mixed waste must be minimized. The following waste-minimization methods shall be used when appropriate: minimizing the quantity of materials purchased, substituting and recycling material, using waste-minimization technology, and segregating waste at the point of generation (for example, radioactive waste must not be combined with hazardous waste after the waste is generated). Organizations anticipating continuous, large-volume generation of TRU mixed waste must contact EM-7 TWCO for assistance in ensuring that all permit requirements are met. Refer to AR 10-3 for additional requirements.

Waste Generator On-Site Storage

TRU waste packages must be stored so that water does not accumulate on the top surface.

Storage areas must be established by EM-8, and the appropriate warning signs must be posted. Incompatible wastes must be segregated (contact EM-8 for additional information). TRU mixed waste must not be stored for longer than 90 days at a less-than-90-day accumulation site or accumulated in excess of 55 gallons at a satellite accumulation site. See AR 10-3 for more information.

Waste Acceptance Criteria

Waste acceptance criteria (WAC), which apply to every waste package intended for emplacement at WIPP, are defined in WIPP/DOE-069, "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant." DOE requires that newly generated TRU waste and TRU waste that is retrieved from storage meet these WAC. The document is available from EM-7 TWCO.

Documentation

Forms. Each container of TRU waste must be accompanied by a data package containing (as a minimum) the following documents:

- Form 1562 (ES&H Form 10-5A), TRU Waste Storage Record, and
- Form 1346 (ES&H Form 10-9A), Waste Profile Form.

These forms must be completed by the waste generator and sent to EM-7 TWCO for review and approval before the waste container may be shipped to the TA-54 storage site.

TRU Waste Storage Record. This form is available only from EM-7 TWCO. It must be labeled with the same 13-digit bar-code serial number that is on the TRU waste container. The bar-code labels are provided by EM-7 TWCO. The weight of the waste package (in pounds) must be marked on the package in letters at least 1/2 in. high.

Waste Profile Form. To ensure that (1) adequate information is provided about the hazardous waste components in TRU mixed waste and (2) sufficient documentation is provided about the absence of hazardous waste components in TRU waste, this form must be prepared for all TRU and TRU mixed waste. For routine waste streams, one form may be prepared or renewed annually, and a photocopy must be affixed to the data package for each shipment. After it is completed by the generator, the form is reviewed by the appropriate EM-8 personnel to determine if the characterization information is sufficient and which hazardous waste codes (if any) apply to the waste. The form must be updated when the waste stream changes. See AR 10-9, "Waste Profile Form," for instructions on filling out the form.

Labeling

TRU mixed waste must be documented in accordance with AR 10-3 and labeled in accordance with Appendix B of AR 10-3. All non-TRU mixed waste packages must be labeled as non-RCRA-regulated as specified in AR 10-3.

Packaging

Department of Transportation (DOT) Type-7A Packaging. TRU waste packages must be vented DOT Type-7A packages using containers that have been procured according to approved quality assurance procedures of the Packaging and Transportation Services (PATS) Section of the

Property and Transportation Management Group (MAT-2). Before shipping, those packaging the waste must check the vents to ensure they are securely tightened on the drums. EM-7 TWCO, in conjunction with the Packaging and Transportation Services Section of MAT-2, determines if the waste and its packaging constitute a DOT Type-7A package or if a demonstration test is required.

Venting. Because of the potential for radiolytic gas generation in the waste and other specific waste characteristics, each container must be vented. The only approved venting device is a carbon-composite vent filter available from Laboratory stock, stock number TS2685.

NOTE: It is impossible for water to intrude into the waste package through the carbon-composite vent filter.

Drums. The only drums approved for packaging TRU waste are the white-painted, 55-gal. DOT-17C steel drums available from Laboratory stock, stock number LG1115. Drums drawn from stock must meet all quality assurance requirements, users must visually inspect the drum and liner for handling damage, and this inspection must be documented on the TRU Waste Storage Record before the drums are used. All drums require liners unless otherwise authorized by EM-7 TWCO. It is acceptable to put dry, light waste in a single, 0.25-mm-thick polyethylene liner, and the opening must be taped shut after the bag is filled. Damp, potentially corrosive, or heavy waste must be placed in a 90-mil rigid polyethylene liner that is closed and vented. Heavy, sharp waste must also be blocked securely to protect drum and liner from puncture.

Boxes. The only boxes approved for packaging TRU waste are the white-painted, DOT SPEC 7A Type-A standard waste boxes (SWBs), which measure approximately 71 ∞ 54 ∞ 37 in. (l ∞ w ∞ h). Dry TRU waste that is large, heavy, and unsuitable for packaging in drums must be packaged in vented SWBs. The required SWB has a bolt-on lid. The SWBs must be obtained from EM-7 TWCO. The user must visually inspect the SWB for shipping and handling damage before it is used and document the results of the inspection on the TRU Waste Storage Record. If an SWB is loaded with sharp or heavy objects (for example, scrap metal), internal blocking is required to protect the SWB from damage during handling.

Transportation

The packaging transportation of TRU mixed waste must meet all applicable requirements of AR 3-5, "Shipment of Radioactive Materials," and must comply with all applicable DOT regulations. The shipment initiator is responsible for compliance with these packaging and transportation regulations.

The initiator's waste management coordinator is the first point of contact for packaging and shipping guidance. PATS is available to provide additional regulatory guidance. PATS will review documentation for packaging, on-site transfers, intra-Laboratory transfers, and off-site shipments; coordinate the procurement of waste packaging; and maintain the relevant packaging certifications and maintenance records.

Form. Before the waste package may be transported, the shipment initiator must complete Form 1586 (ES&H Form 3-5A), Radioactive Materials Transfer (RMTF),

and it must be approved by PATS. The form and instructions are available from PATS.

NOTE: Shipment initiators must not transport radioactive materials until the approved RMTF has been returned to them because it must accompany the shipment.

The Quality Assurance and Surveillance Section of MAT-2 will provide periodic audits to identify and document problems as well as good practices.

Los Alamos TRU Waste Certification Plan

Copies of WCP-EM7-CP-01, "Los Alamos TRU Waste Certification Plan," and the WIPP WAC documents are available from EM-7 TWCO. The following requirements are included in the certification plan.

Waste generators who routinely produce TRU waste must write an attachment to the "Los Alamos TRU Waste Certification Plan" and operate according to the plan and the attachments.

Each attachment to the "Los Alamos TRU Waste Certification Plan" must include the following information:

- methods used for processing, packaging, and documenting the waste, including the hazardous waste components (see the Waste Profile Form);
- quality assurance controls in place to ensure that the waste packages are exactly as described in the document; and
- documentation of compliance with the Laboratory RCRA operating permit and applicable hazardous waste regulations.

Each attachment must be approved by the waste generator's line manager, EM-7 TWCO, and WIPP/DOE. As a minimum, operations described in the attachments are subject to audits by the WIPP/DOE and internal Laboratory self-appraisal teams.

References

"Accidental Oil, Chemical, and Airborne Releases," Administrative Requirement 9-4, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Additional Design Requirements for Type A Packages," 49 CFR 173.412 (most recent edition).

Atomic Energy Act, as amended, 42 U.S.C. Sec. 2014, 2021–2021b, 2022, 2111.

"Data Package Format for Certified TRU Waste for the Waste Isolation Pilot Plant," WIPP/DOE-157 (most recent edition).

"EPA Administered Permit Programs: The Hazardous Waste Permit Program," 40 CFR 270 (most recent edition).

"General Design Requirements," 49 CFR 173.114 (most recent edition).

"Hazardous and Mixed Waste," Administrative Requirement 10-3, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Hazardous and Radioactive Mixed Waste Program," Department of Energy Order 5400.3 (most recent edition).

"Hazardous Material Packaging for Transport—Administrative Procedures," Department of Energy Order 1540.2 (most recent edition).

Hazardous Waste Act, New Mexico Laws 1977, Chapter 313 (most recent edition).

"Identification and Listing of Hazardous Waste," 40 CFR 261 (most recent edition).

"Interim Standards for Owners and Operators of New Hazardous Waste Land Disposal Facilities," 40 CFR 267 (most recent edition).

"Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," 40 CFR 265 (most recent edition).

"Land Disposal Restrictions," 40 CFR 268 (most recent edition).

LANL Radiological Control Manual, Los Alamos National Laboratory manual LM107-01 (most recent edition).

"Los Alamos TRU Waste Certification Plan," Los Alamos National Laboratory document WCP-EM7-CP-01 (most recent edition).

"Low-Level Radioactive Solid Waste," Administrative Requirement 10-2, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

New Mexico Hazardous Waste Management Regulations, NMHWMR-6, Part III.

"Radioactive Materials," 49 CFR 173, Subpart I (most recent edition).

"Radioactive Waste Management," Department of Energy Albuquerque Office Order 5820.2A (most recent edition).

"Requirements for Authorization of State Hazardous Waste Programs," 40 CFR 271 (most recent edition).

Resource Conservation and Recovery Act, as amended, 42 U.S.C. Sec. 6901–6992k.

Resource Conservation and Recovery Act (RCRA) Operating Permit for Los Alamos National Laboratory, Permit #NM0890010515-1, November, 1989.

"Safety Requirements for the Packaging and Transportation of Hazardous Materials, Hazardous Substances, and Hazardous Wastes," Department of Energy Order 5480.3 (most recent edition).

"Shipment of Radioactive Materials," Administrative Requirement 3-5, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Shippers—General Requirements for Shipments and Packaging," 49 CFR 173 (most recent edition).

Solid Waste Disposal Act, 42 U.S.C. Sec. 6901.

"Specification 7A: General Packaging, Type A," 49 CFR 178.350 (most recent edition).

"Standard Operating Procedures and Special Work Permits," Administrative Requirement 1-3, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Standard Requirements for All Packages," 49 CFR 173.24 (most recent edition).

"Standards Applicable to Generators of Hazardous Waste," 40 CFR 262 (most recent edition).

"Standards Applicable to Transporters of Hazardous Waste," 40 CFR 263 (most recent edition).

"Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," 40 CFR 264 (most recent edition).

"Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities," 40 CFR 266 (most recent edition).

"TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant," WIPP/DOE-069 (most recent edition).

"Type A Packaging Tests," 49 CFR 173.465 (most recent edition).

"Waste Profile Form," Administrative Requirement 10-9, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

Referrals

Chemical and Mixed Waste Operations Section of the Waste Management Group (EM-7), 5-4000

Emergency Management and Response (EM&R), 7-6211

Environmental Management (EM) Division, 5-3778

Environmental Protection Group (EM-8), 7-5021

Field Operations Group (ENG-5), 7-4657

Health Physics Operations Group (HS-1), 7-7137

Los Alamos Fire Department, 9-911 or 911

Los Alamos Police Department, 9-911 or 911

Packaging and Transportation Services Section of the Property and Transportation Management Group (MAT-2), 7-4127

Quality Assurance and Surveillance Section of the Property and Transportation Management Group (MAT-2), 7-4127

Radioactive Solid Waste Disposal/Storage Area of the Waste Management Group (EM-7) (TA-54, Area G, for routine disposal or storage arrangements), 7-6095

Radioactive Waste Section of the Waste Management Group (EM-7), 7-6095

Technical Support Section of the Waste Management Group (EM-7), 7-7391

TRU Waste Certification Office (TWCO) of the Waste Management Group (EM-7), 5-2630

TRU Waste Size Reduction Facility of the Waste Management Group (EM-7), 7-5397

Waste Management Group (EM-7), 7-7391

Waste Minimization Program Office of the Environmental Management (EM) Division, 5-8293

Forms

Form 1586 (ES&H Form 3-5A, sample only), Radioactive Materials Transfer

Form 1562 (ES&H Form 10-5A, sample only), TRU Waste Storage Record

Form 1346 (ES&H Form 10-9A), Waste Profile Form (found in AR 10-9)

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records/Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523, 505-234-7233, 505-234-7617
Fax Number: 505-234-7014

☒ Original Record
☐ Faxed Record
☐ Electronic Record

Attn:	Records Custodian	From:	Steve Schafer and Kevin Peters
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-004
	4021 National Parks Highway - MS GSA 203	Company:	Technical Specialists, LLC
	Carlsbad, NM 88220	Telephone Number:	303-250-6540 or 303-949-7525
		Date Sent:	5/9/06

Telephone Number: 505-234-7523

Document Number	Title/Description	Record Date	Total Pages
P008	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-004	~~4/28/2006~~ 4/29/2006 VD 5/9/06	2
	Transuranic (TRU) Solid Waste	8/15/1993	~~12~~ 10 VD 5/9/06
	N/A		

Comments
None

Acceptance/Rejection Signature and Date

Records Accepted ☒ Katie Chester (Signature) | Katie Chester (Printed Name) | 5/11/06 (Date)

Records Rejected ☐ _____ (Signature) | _____ (Printed Name) | _____ (Date)

Reason for Rejection: _____

Re-submittal: _____ (Signature) | _____ (Printed Name) | _____ (Date)

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: C018
Waste Stream Number(s): LA-MHD09.001, LA-MIN03-NC 001	
Acceptable Knowledge Documentation Type: ☐ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Additional Information	Category: ☑ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title of Source Document: RCRA Evaluation	
Source Document Reference Information (author(s), document and revision number, date, publisher): Steve Schafer, April 14, 2004	

AK # [a]	Source Doc. Page # [b]	AK Information Summary
WS12	All	The describes the characterization rationale for the assignment of EPA HWNs. Table 5 (page 1) summarizes the waste codes assigned to LA-MIN03-NC.001 Waste Stream . EPA HWNs F001-F002 F004-F007 F009 D004-D011 D022, D028, D037 Also see Table 6. Chemical Identification and Use Summary, PP1-26.

Source Document Data Limitations (if any):

1. Document is an excerpt and does contain the full document.
2. The period or range in time of the generation of this waste stream is not defined.

Acceptable Knowlege Expert:

Amy Johns , Amy Johns Date: 11/2/11

Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

CCP RECORDS ORIGINAL
DATE REC'D 1-9-12

QP-00-004,R.2
Effective Date: 10/30/03

RECORDS SUBMITTAL

INSTRUCTIONS: This form is prepared by the record source when submitting individual records, batch data reports, or a records package to the RMDC Center. Each record submitted requires a complete form.

MANDATORY: ☒ To the best of my knowledge, the record(s) have no radioactive contamination.

Signature: RM

RECORD TYPE:

☒ Project 2010 ☐ Facility

Not UCNI
CM 4/21/04

☐ Other: _____ ~~☒ UCNI~~ ☐ Proprietary

RECORD SOURCE:

Submittal Date: 4-16-04 Z No.: 198464 Name: Randy Fitzgerald

Originator: _____ Organization: CCP

TYPE OF RECORD/ACTION TO BE TAKEN

☒ Individual Record ☐ Batch Data Report ☐ Records Package

☒ New ☐ Addition* ☐ Supersedes*

*Record Barcode Number:

RECORD ID NUMBER: (e.g., memo symbol number, procedure (include revision), deficiency number, batch data report number, unique record identifier if applicable): PKG-014

Record Date: 14-14-04 Physical Page Count: 30 ☒ Single Sided ☐ Double Sided

Category Number: (from page two): 07

RECORD TITLE, SUBJECT, AND/OR KEYWORDS: Chemical Content Identification - Hazardous Constituents

P2010 - 0443

MEDIA TYPE:

☐ CD ☐ Diskette ☐ VHS ☐ Zip ☐ Other (specify): _____

RECORD CENTER USE ONLY

☑ Accepted Date: 4-20-04

Signature: Rantta Y Martinez

RIDs Type: LT

Scan Date: _____ By: _____ QC Date: _____ By: _____

(Subject to change prior to scheduled review cycle).

5.4.3 Chemical Content Identification – Hazardous Constituents

The TA-50 RLWTF is a wastewater treatment facility subject to regulation under the Clean Water Act (CWA); therefore, the effluent discharge is not subject to regulation as a solid waste. However, the exclusion from being a solid waste under 40 CFR 261.4(a)(2) applies only to the actual point source discharge, and it does not exclude industrial waste waters while they are being collected, stored or treated before discharge, nor does it exclude sludge generated by industrial wastewater treatment. Therefore, this waste stream is a solid waste.

The following sections describe the characterization rationale for the assignment of EPA HWNs to waste stream LA-MIN03-NC.001. Table 5 summarizes the waste codes assigned to this waste stream.

Table 5. Waste Stream LA-MIN03-NC.001 Hazardous Waste Characterization Summary

Waste Stream	EPA HWNs
LA-MIN03-NC.001	F001, F002, F004, F005, F006, F007, F009, D004, D005, D006, D007, D008, D009, D010, D011, D022, D028, D037

To assign EPA HWNs, the available AK documentation was reviewed to identify chemical usage in the buildings contributing to the RLWTF influent and potentially hazardous materials (including commercially available products) that may have been introduced into the waste stream. In addition, MSDSs were obtained for the commercial products to determine the presence of potentially regulated compounds. As described below in Table 6, several of the HWNs were conservatively assigned due to lack of evidence that these constituents would have not exceeded the regulatory thresholds.

Table 6. Chemical Identification and Use Summary

Chemical	Use	Building	Document Source	EPA HWNs

Chemical	Use	Building	Document Source	EPA HWNs
1,1,1-Trichloroethane	Automated chemical analysis process in CMR Building. Detected in samples of influent and effluent liquids associated with RLWTF. Detected in 1986 sludge samples, but estimated value reported since less than detection limit. Filtering oils in pretreatment operations in the Plutonium facility.	TA-3-29 TA-50-1	D033 D029 M011 M047 M196	F001, F002
1,1,2-Trichloroethane	Detected in samples collected from influents to RLWTF.	TA-50-1	C013 D029	F002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon)	Identified for the DOR and MCDOR, and separation and purification by precipitation operations in the Plutonium Facility.	TA-55	C037 M145 M154	F001, F002
1,2-Dichlorobenzene	Detected in samples of influent to RLWTF.	TA-50-1	D029	F002
1,2-Dichloroethane	Detected in very low concentrations in wastewater samples collected from influents to RLWTF.	TA-50-1	C013	D028
2-Butoxyethanol	Plutonium transmission electron microscope (TEM) and sample preparation process in CMR Building.	TA-3-29	D033	NA
Acetic acid	Plutonium transmission electron microscope (TEM) and sample preparation process in CMR Building. Identified in the Sigma Building.	TA-3-29 TA-3-66	D033 D028	NA[1,2]
Acetone	Various analysis processes in CMR Building. Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility. Reported in sampling data for the influent to the RLWTF and sludge. Detected in 1986 sludge samples, but estimated value reported since less than detection limit.	TA-3-29 TA-55 TA-50-1	C012 C013 C032 C061 C063 D033 D046 D007 C008 M011	NA[1]
Alconox	Detergent used in several facilities. Heat source fabrication in the Plutonium Facility.	TA-3-16 TA-3-34 TA-48-1 TA-48-45 TA-55 TA-59-1	D028 D076 M178 M214	NA

Chemical	Use	Building	Document Source	EPA HWNs
Aluminum nitrate	Sample preparation. Pretreatment, dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion processes in the Plutonium Facility.	TA-48-1 TA-55	D001, D046 D051, D076 D089 M036, M042 M044, M059 M063, M086 M088, M091 M092, M094 M095, M097 M098, M099 M100, M101 M172, M198 M199, M103 P012	NA[1]
Ammonium chloride	Separation and purification by precipitation operations in the Plutonium Facility.	TA-55	M038	NA
Ammonium bifluoride	Uranium conversion and dissolution chemistry in CMR Building.	TA-3-29	D033	NA[2]
Ammonium hydroxide	Potential pollutant identified. Actinide research and development and uranium conversion and dissolution chemistry processes in CMR Building.	TA-48-45 TA-3-29	D049 D033	NA[2]
Arsenic	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, as well as RLWTF filter cake and 1986 sludge samples. Contaminant in feed material to the pretreatment, evaporator, DOR and MCDOR, heat source fabrication, and routine ^{238}Pu waste solidification operations in the Plutonium Facility and as part of the influent design basis for the RLWTF. EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Potential pollutant.	TA-50-1 TA-55 TA-48-1	C009, C013 C020, C032 C057, D004 D005, D046 D049, D051 D067, M007 M011, M211	D004
Ascorbic acid	Plutonium assay process in CMR Building. Dissolution and separation and purification by precipitation operations in the Plutonium Facility.	TA-3-29 TA-55	D033, D046 M158, M198	NA[2]

Chemical	Use	Building	Document Source	EPA HWNs
Barium	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, as well as RLWTF filter cake and 1986 sludge samples. Contaminant in feed material to the pretreatment, dissolution, evaporator, heat source fabrication, routine ^{238}Pu waste solidification, hydroxide precipitation, pyrochemical matrix studies, DOR or MCDOR operations in the Plutonium Facility and as part of the influent design basis for the RLWTF. EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Component of superconductor samples prepared in the metallography section of the Sigma Building. Potential pollutant.	TA-50-1 TA-55 TA-3-66 TA-48-1	C009 C013 C020 C032 C041 C057 D001 D003 D004 D005 D034 D046 D049 D067 D085 M007 M011 M211	D005
Barium oxide	Thallium superconductor research sample preparation and processing in CMR Building.	TA-3-29	D033	D005
Benzene	Detected in samples of influent and effluent liquids associated with RLWTF. TC EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Actinide research and development process in CMR Building.	TA-50-1 TA-3-29	C013 D004 D029 D033 M007	F005
Beryllium	Plutonium transmission electron microscope (TEM) and sample preparation process in CMR Building. Component of samples prepared in the metallography section of the Sigma Building. Potential pollutant. Contaminant identified as part of the influent design basis for, and detected in effluent from, RLWTF. Used in decladding of plutonium/beryllium sources in pretreatment process in the Plutonium Facility.	TA-3-29 TA-3-66 TA-48--1 TA-50-1 TA-55	D007 D033 D034 D049 D051 D060 D067	NA

Chemical	Use	Building	Document Source	EPA HWNs
Betz Polymer 1110	Coagulation agent in RLWTF.	TA-50-1	C014, D004 D005, M214	NA
Bis(2-ethylhexyl) Phosphate (HDEHP)	Separation of lanthanides.	TA-48-1	D051	NA
Bis(2-ethylhexyl) Phthalate	Detected in 1986 sludge samples.	TA-50-1	M011	NA
Boric acid	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA[2]
Bromine	Hazardous chemical inventory.	TA-48-1	D051	NA
Bromocresol	Separation and purification by precipitation operations in the Plutonium Facility.	TA-55	M038	NA
Cadmium	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, effluent samples, as well as RLWTF filter cake and 1986 sludge samples. Contaminant in feed material to the pretreatment, dissolution, DOR and MCDOR, evaporator, heat source fabrication, routine ^{238}Pu waste solidification, pyrochemical matrix studies, or purification and oxide conversion operations in the Plutonium Facility, and as part of the influent design basis for the RLWTF. EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Potential pollutant. Upgrade to batch waste treatment system to treat this waste type.	TA-50-1 TA-55 TA-48-1	C009, C013 C020, C032 C040, C041 C057, C066 C068, D001 D003, D004 D005, D007 D046, D049 D060, D067 D068, D072 D075, D085 M007, M081 M101, M107 M211, D082	D006[3]
Cadmium oxide	Hazardous materials inventory. Plutonium oxidation agent.	TA-48-1	D051, D089	D006
Calcium	DOR and MCDOR processes in the Plutonium Facility.	TA-55	C040, D002 M115, M121 M122, M116 M145,M166 M173, D082	NA[3]
Calcium carbonate	Flocculation, clarification of liquid wastes in RLWTF. Separation and purification by precipitation operations in the Plutonium Facility.	TA-50-1 TA-55	D030, M025 M038, M148 M158, M169	NA
Calcium chloride	DOR and MCDOR processes in the Plutonium Facility.	TA-55	C040, D001 D002, M006 M115, M116	NA

Chemical	Use	Building	Document Source	EPA HWNs
			M121, M145 M166, M173	
Calcium fluoride	Dissolution, nitrate anion exchange, DOR and MCDOR, separation and purification by precipitation operations in the Plutonium Facility.	TA-55	C032, C066 D046, D002 M043 M059, M063 M153, M166 M172, M198 M199, M090 M091, M094 M095, M116 M148, M149 D089	NA
Calcium hydroxide	Precipitation, flocculation, clarification agent used in RLWTF.	TA-50-1	D059, D020 D005	NA[2]
Calcium nitrate	Identified as reagent in Nitrate Operations in the Plutonium Facility.	TA-55	D046	NA[1]
Calcium oxide (Lime)	Precipitation/flocculation/clarification in RLWTF. Thallium superconductor research sample preparation and processing in CMR Building. MCDOR process in the Plutonium Facility.	TA-50-1 TA-3-29 TA-55	C013, C014 C040, D001 D004, D006 D010, D018 D020, D021 D028 D030, D033 M006, M116 P004	NA
Carbon disulfide	Detected in samples of influent and effluent liquids associated with RLWTF.	TA-50-1	D029	NA
Carbon tetrachloride	Plasma spectroscopy process in CMR Building. Detected in samples of influent and effluent liquids associated with RLWTF. TC EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations, and reagent in MCDOR and plutonium trichloride preparation operations and plutonium trichloride preparation in the Plutonium Facility.	TA-3-29 TA-50-1 TA-55	C032 C061 C063 D002 D004 D007 D033 D029 D046 M007 M114 M165	F001
Cellulose tetranitrate	Hazardous materials inventory.	TA-48-1	D051	NA[1]
Ceric sulfate	Plutonium assay process in CMR Building.	TA-3-29	D033	NA

Chemical	Use	Building	Document Source	EPA HWNs
Cerium nitrate	Dissolution operations in the Plutonium Facility.	TA-55	D046 M093	NA
Chlorobenzene	Detected in samples of influent to RLWTF. TC EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility.	TA-50-1 TA-55	C032, C061 C063, D004 D007, D029 D046, M007	F002
Chloroform	EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility. Hazardous materials inventory. Extraction.	TA-50-1 TA-55 TA-48-1 TA-48-45	C032, C061 C063, D004 D007, D046 D049, D051 M007, M011	D022
Chromic acid	Potential pollutant.	TA-48-1	D049	D007[2]
Chromium	Chromate plating from TA-3-66 solutions treated in RLWTF. Potential pollutant. Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, effluent samples, as well as RLWTF filter cake and 1986 sludge samples. EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, purification and oxide conversion, hydroxide precipitation, heat source fabrication, routine ^{238}Pu waste solidification, or pyrochemical matrix studies operations in the Plutonium Facility, and as part of the influent design basis for the RLWTF.	TA-3-66 TA-48-1 TA-50-1 TA-55	C009, C013 C014, C017 C020, C032 C033, C036 C040, C041 C057, C063 C066, C068 D001, D003 D004, D005 D007, D046 D049, D060 D067, D068 D072, D076 D077, D085 D091, M007 M060, M011 M104, M208 M081, M211 D063, D082	D007
Chromium trioxide	Reagent in sample preparation process in CMR Building. Acid polishing, plating, anodizing and conversion solutions used in the electroplating section of the Sigma Building.	TA-3-29 TA-3-66	D033 D034	D007

Chemical	Use	Building	Document Source	EPA HWNs
Citofix	Epoxy used in the heat source fabrication and routine 238Pu waste solidification operations in the Plutonium Facility.	TA-55	C020	NA
Cobalt nitrate	Dissolution operations in the Plutonium Facility.	TA-55	D046 M093	NA[1]
Copper cyanide	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034 M214	NA[3]
Copper oxide	Thallium superconductor research sample preparation and processing in CMR Building.	TA-3-29	D033	NA
Copper sulfate	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Cyanides	Organic and actinide separations research and inorganic compound synthesis and characterization. Contaminant identified as part of the influent design basis for the RLWTF. Waste cyanide plating solutions from TA-3-66 treated in RLWTF. Upgrade to batch waste treatment system to treat this waste type. Identified contaminant in industrial waste.	TA-3-29 TA-50-1 TA-3-66 TA-50-1	D024 D033 D067 D068 D072 D075 M010	F007, F009
Diatomaceous earth	Added to RLWTP sludges to absorb liquids that might dewater from the sludge. Pretreatment operations in the Plutonium Facility.	TA-50-1 TA-55	C014 C017 M047	NA
Diethylenetriamine	Heat source fabrication and routine 238Pu waste solidification operations in the Plutonium Facility.	TA-55	C020	NA
Diethyl oxalate	Identified as reagent in dissolution operations in the Plutonium Facility.	TA-55	D046 M198	NA
Diethyl phthalate	Detected in 1986 sludge samples, but estimated value reported since less than detection limit.	TA-50-1	M011	NA
Dioxane	Organic and actinide separations research and inorganic compound synthesis and characterization.	TA-3-29	D033	NA[1]
DUCO cement	Heat source fabrication operations in the Plutonium Facility.	TA-55	M178 M214	NA[1]

Chemical	Use	Building	Document Source	EPA HWNs
Durofix	Epoxy used in the heat source fabrication and routine 238Pu waste solidification operations in the Plutonium Facility.	TA-55	C020	NA
Epon Resin 8132	Epoxy resin used in heat source fabrication and routine 238Pu waste solidification operations in the Plutonium Facility.	TA-55	C020 M214	NA
Ethyl alcohol	Used in various processes in the CMR Building. Contaminant in feed material to the heat source fabrication and routine ^{238}Pu waste solidification operations in the Plutonium Facility. Hazardous materials inventory.	TA-3-29 TA-55 TA-48-1	C054, C056 D033, D046 D049, D051 D076, M100 M177, P010	NA[1]
Ethyl benzene	Detected in 1986 sludge samples, but estimated value reported since less than detection limit.	TA-50-1	M011	NA[1]
Ethylene glycol	Plutonium transmission electron microscope (TEM) and sample preparation process in CMR Building. Heat source fabrication and routine ^{238}Pu waste solidification operations in the Plutonium Facility.	TA-3-29 TA-55	C020 C056 D033 D076 M178	NA
Ethylenediaminetetraacetic acid (EDTA)	Reagent.	TA-3-16	D028	NA
Extran 1000	Detergent in RLWTP. Detergent in Laboratory and Office Building.	TA-50-1 TA-55-2	D028 M214	NA
F001 Solvents	Degreasers generated from Main Shops Department. EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS based on 1988 influent sampling data. Acceptable in wastes treated in Controlled Air Incinerator (CAI).	TA-3-39 TA-50-1 TA-50-37	D068 D004 M006	F001
F002 Solvents	Solvents generated from Main Shops Department. EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS based on 1988 influent sampling data. Acceptable in wastes treated in CAI.	TA-3-39 TA-50-1 TA-50-37	D068 D004 M006	F002

Chemical	Use	Building	Document Source	EPA HWNs
F003 Solvents	Nonhalogenated solvents generated from Main Shops Department. EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS based on 1988 influent sampling data. Acceptable in wastes treated in CAI.	TA-3-39 TA-50-1 TA-50-37	D068 D004 M006	NA[1]
F005 Solvents	EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS based on 1988 influent sampling data. Acceptable in wastes treated in CAI.	TA-50-1 TA-50-37	D004 M006	F005
Fantastik	Heat source fabrication in the Plutonium Facility. Detergent in Weapons Engineering Tritium Facility. Detergent in Radiochemistry Laboratory.	TA-55 TA-16-205 TA-48-1	D076 D028 M178 M214	NA
Ferric ammonium sulfate	Dissolution and purification and oxide conversion operations in the Plutonium Facility.	TA-55	D046 M044	NA
Ferric nitrate	Identified as reagent in pretreatment, dissolution, routine ^{238}Pu waste solidification, nitrate anion exchange, purification and separation by precipitation, and purification and oxide conversion operations in the Plutonium Facility.	TA-55	D046, D076 M036, M044 M062, M157 P010	NA[1]
Ferric sulfate	Precipitation/flocculation/clarification agent.	TA-50-1	D004, D005 D018, D020 D021, D030	NA
Ferric sulfate hexahydrate	Precipitation/flocculation/clarification agent.	TA-50-1	D010	NA
Ferrous ammonium sulfate	Dissolution and nitrate anion exchange operation in the Plutonium Facility.	TA-55	D046, D001 M036, M087 M098, M100 M198, D089	NA
Ferrous sulfamate	Ion exchange process in the Plutonium Facility.	TA-55	D046, M094 M098	NA
Fluoristan	Dissolution process in the Plutonium Facility	TA-55	M198	NA
Fluoroboric acid	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA[2]

Chemical	Use	Building	Document Source	EPA HWNs
Formamide	Identified as reagent in dissolution operations in the Plutonium Facility.	TA-55	D046 M198	NA
Formic acid	Dissolution and evaporator process in the Plutonium Facility.	TA-55	C064, D046 M198	NA[2]
Franklin 77	Detergent.	TA-3-16 TA-3-66 TA-3-141	D028 M214	NA
Heptane	Potential pollutant.	TA-48-1	D049	NA[1]
Hexane	Automated chemical analysis process in CMR Building.	TA-3-29	D033	NA[1]
Hydraulic fluid	Potentially disposed down drain.	TA-3-35	D028	NA
Hydrazine	Hazardous materials inventory.	TA-48-1	D051	NA[1]
Hydriodic acid	Mass spectroscopy process in CMR Building.	TA-3-29	D033	NA[2]
Hydrobromic acid	Mass spectroscopy process in CMR Building. Metallographic sample etching in TA-55.	TA-3-29 TA-55	D033 P009	NA[2]
Hydrochloric acid	Numerous chemical analysis processes in CMR Building. Acid pickling, plating, solutions used in the electroplating and metallography sections of the Sigma Building. Used in treatment of waste solutions in RLWTF. Dissolution, hydroxide precipitation, separation and purification by precipitation, MCDOR, and evaporator operations in the Plutonium Facility. Sample dissolution. Metallographic sample etching in TA-55.	TA-3-29 TA-3-66 TA-50-1 TA-55 TA-48-1 TA-48-45	C016, C032 C066, D001 D028, D033 D034, D046 D049, D051 D071, D082 D089 M054, M060 M087, M153 M158, M164 M169, M171 M198, M148 M149, P009	NA[2]

Chemical	Use	Building	Document Source	EPA HWNs
Hydrofluoric acid	Numerous chemical analysis processes in CMR Building. Sample dissolution. Component of acid pickling and polishing solutions used in the electroplating and metallography sections of the Sigma Building. Pretreatment, nitrate anion exchange, separation and purification by precipitation, heat source fabrication, and dissolution processes in Plutonium Facility. Metallographic sample etching in TA-55.	TA-3-29 TA-48-1 TA-48-45 TA-3-66 TA-55	C032, D028 D033, D034 D046, D049 D051, D071 D076, D082 D089, M006 M042, M043 M054, M057 M059, M060 M061, M062 M085, M087 M088, M089 M090, M091 M092, M095 M096, M097 M098, M099 M100, M196 M101, M105 M153, M155 M157, M164 M172, M176 M198, M201 M203, M204 D089, P012 M148, M149 M150, P009	NA[2]
Hydrogen bromide	Hazardous materials inventory.	TA-48-1	D051	NA
Hydrogen peroxide	Uranium conversion and dissolution chemistry in CMR Building. Dissolution, pretreatment, nitrate ion exchange, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility. Identified in the Sigma Building. COD reduction for RLWTF influent. Hazardous materials inventory. Potential pollutant.	TA-3-29 TA-55 TA-3-66 TA-50-1 TA-48-1 TA-48-45	D001, D028 D033, D046 D049, D051 D089 M038, M100 M044, M097 M098 M099, M101 M104, M155 M156, M198 M205, M208	NA[1]
Hydroquinone	Hazardous materials inventory.	TA-48-1	D051	NA
Hydroxylamine hydrochloride	Plutonium assay process in CMR Building. Nitrate anion exchange and separation and purification by precipitation operations in the Plutonium Facility.	TA-3-29 Ta-55	D033, M034 M158, M169 M171	NA[2]

Chemical	Use	Building	Document Source	EPA HWNs
Hydroxylamine nitrate	Dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility.	TA-55	P012, D001 D046, D076 D089 M006, M034 M035, M038 M041, M044 M097, M098 M099, M101 M155, M198 M100, M102	NA[1,2]
Iodine	Used with calcium to reduce plutonium fluoride	TA-55	M122	NA
Iron sulfate	Precipitation/flocculation/clarification of non TA-55 influents.	TA-50-1	C013, C014 D006, D059 M006	NA
Isopentyl acetate	Plutonium chemistry process in CMR Building.	TA-3-29	D033	NA
Isopropyl ether	Automated chemical analysis process in CMR Building.	TA-3-29	D033	NA
Kerosene	Plutonium transmission electron microscope (TEM) and sample preparation process in CMR Building. Lubricant for sample grinding in the Sigma Building. Pretreatment process in the Plutonium Facility.	TA-3-29 TA-3-66 TA-55	D033 D034 M047	NA
Lactic acid	Identified in the Sigma Building.	TA-3-66	D028	NA
Lanthanum nitrate	Dissolution and Plutonium/thorium separation processes in the Plutonium Facility.	TA-55	D046, P012	NA[1]

Chemical	Use	Building	Document Source	EPA HWNs
Lead	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, effluent samples, as well as RLWTF filter cake and 1986 sludge samples. EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, heat source fabrication, purification and oxide conversion, hydroxide precipitation, routine ^{238}Pu waste solidification, pyrochemical matrix studies, or burst testing operations in the Plutonium Facility and as part of the influent design basis for the RLWTF. Identified in numerous processes in CMR Building. Contaminants in decon rinsate from Waste Management Decon Trailer. Potential pollutant.	TA-50-1 TA-55 TA-3-29 TA-50-185 TA-48-1	C009, C013 C014, C020 C032, C040 C041, C057 C066, C068 D001, D003 D004, D005 D007, D028 D033, D046 D049, D051 D067, D075 D076, D085 M007, M011 M081, M211 D082	D008
Lead fluoborate	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	D008
Lithium	MCDOR operations in the Plutonium Facility.	TA-55	M166, M173	NA[3]
Liquinox	Detergent in Occupational Health Laboratory.	TA-59-1	D028	NA
Lithium chloride	MCDOR operations in the Plutonium Facility.	TA-55	M166, M173	NA
Lithium fluoride	Heat source fabrication in the Plutonium Facility.	TA-55	M176	NA
Lithium hydroxide	PH adjustment.	TA-48-1	D051	NA[2]
Magnesium chloride	Routine ^{238}Pu Waste Solidification operations in the Plutonium Facility.	TA-55	M185	
Magnesium hydroxide	Hydroxide precipitation and separation and purification by precipitation operations in the Plutonium Facility.	TA-55	D007, D091 M038	NA[2]

Chemical	Use	Building	Document Source	EPA HWNs
Magnesium oxide	Identified as reagent in pretreatment operations in the Plutonium Facility.	TA-55	D046, D089 M045, M062 M190, M197 M122	NA
Mercuric chloride	Hazardous materials inventory.	TA-48-1	D051	D009
Mercuric iodide	Analysis of trace elements.	TA-48-1	D051	D009
Mercuric nitrate	Dissolution processes in the Plutonium Facility.	TA-55	C032, D046 M054	D009[1]
Mercuric oxide	Hazardous materials inventory. Sample preparation in CMR Building.	TA-48-1 TA-3-29	D051 D033	D009
Mercuric thiosilene	Potential pollutant.	TA-48-45	D049	D009
Mercury	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, effluent samples, as well as RLWTF filter cake and 1986 sludge samples. EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, heat source fabrication, hydroxide precipitation, routine ^{238}Pu waste solidification, or purification and oxide conversion operations in the Plutonium Facility and as part of the influent design basis for the RLWTF. Interstitial analysis process in CMR Building. Acceptable in wastes treated in CAI. Potential pollutant.	TA-50-1 TA-55 TA-3-29 TA-50-37 TA-48-1	C009, C013 C020, C032 C057, C066 D001, D004 D005, D007 D033, D046 D049, D051 D060, D067 D076, D085 M006, M007 M011, M059 M060, M080 M211	D009
Methyl alcohol	Numerous processes in CMR Building. Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility. Detected in solid samples from randomly selected drums of RLWTF sludge.	TA-3-29 TA-55 TA-50-1	C032 C061 C063 D007 D008 D033 D046	NA[1]

Chemical	Use	Building	Document Source	EPA HWNs
Methyl ethyl ketone	Extraction. Detected in samples of influent and effluent liquids associated with RLWTF, and detected in 1986 sludge samples, but at less than detection limit and also detected in method blank. TC EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS.	TA-48-45 TA-50-1	D004 D029 D049 M007 M011	F005
Methyl isobutyl ketone	Plutonium chemistry process in CMR Building.	TA-3-29	D033	NA[1]
Methylene chloride	Reported and detected in both the influent and effluent liquids from the RLWTF, and 1986 sludge samples, but also detected in method blank. Contaminant in feed material to the dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility.	TA-50-1 TA-55	C008, C013 C032, C061 C063, D007 D029, D046 M011	F001, F002
Microclean	Detergent in Occupational Health Laboratory.	TA-59-1	D028, M214	NA
Malonic acid	Uranium conversion and dissolution chemistry in CMR Building.	TA-3-29	D033	NA
MSA Cleaner/Sanitizer II	Detergent in Occupational Health Laboratory.	TA-59-1	D028	NA
n-Butyl alcohol	Plutonium transmission electron microscope (TEM) and sample preparation process in CMR Building. Contaminant in feed material to dissolution, purification and oxide conversion, hydroxide precipitation, and evaporator operations in the Plutonium Facility.	TA-3-29 TA-55	C032 C061 C063 D007 D033 D046	NA[1]
Nickel acetate	Component of anodizing and conversion solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Nickel chloride	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA

Chemical	Use	Building	Document Source	EPA HWNs
Nickel sulfamate	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Nickel sulfate	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Nitric acid	Numerous processes in CMR Building. Component of acid pickling and polishing solutions in electroplating and metallography sections of the Sigma Building. Dissolution, pretreatment, purification and oxide conversion, nitrate anion exchange, separation and purification by precipitation, evaporator, heat source fabrication, and routine ^{238}Pu waste solidification operations in the Plutonium Facility. Identified from the Roller Mill Building. Influent material to RLWTF. Sample dissolution.	TA-3-29 TA-3-66 TA-55 TA-3-141 TA-50-1 TA-48-1 TA-48-45	C016, C032 C066, P012 D001, D028 D033, D034 D046, D049 D051, D068 D076, D082 D089, M006 M034, M035 M036, M042 M043, M044 M048, M054 M057, M059 M060, M061 M062, M063 M086, M105 M087, M088 M089, M090 M091, M092 M093, M094 M095, M096 M097, M098 M099, M101 M102, M103 M104, M110 M111, M112 M113, M153 M155, M156 M157, M172 M198, M199 M201, M202 M204, M205 M208, M210 P010 M100, M203 M216, M196 M148, M149 M150, M151 D071	NA[2]
Nitrobenzene	Detected in concentrations below regulatory levels in wastewater samples collected from influents to RLWTF.	TA-50-1	C013	F004

Chemical	Use	Building	Document Source	EPA HWNs
Oil (engine)	Assumed to have been filtered in pretreatment operations in the Plutonium Facility.	TA-55	D046 M047	NA
Oil (light instrument)	Hazardous materials inventory.	TA-48-1	D051	NA
Oxalic acid	Plutonium metallography process in CMR Building. Utilized in the pretreatment, dissolution, hydroxide precipitation, nitrate anion exchange, separation and purification by precipitation, or purification and oxide conversion operations in the Plutonium Facility. Component of anodizing and conversion solutions used in the electroplating section of the Sigma Building. Potential pollutant.	TA-3-29 TA55 TA-3-66 TA-48-45	C032, C063 D001, P012 D007, D028 D033, D034 D046, D049 D076 D089, M034 M035, M097 M098, M099 M110, M101 M102, M103 M155, M006 M158, M171 M198	NA[2]
Pentachlorophenol	Contaminant in wastes incinerated in Controlled Air Incinerator.	TA-50-37	D017	D037
Perchloric acid	Sample dissolution. Numerous processes in the CMR Building.	TA-48-1 TA-48-45 TA-3-29	D033, D049 D051	NA[1,2]
Perlite	Dewatering/filter agent in RLWTF sludge.	TA-50-1	C017 D059, D020 D005, P002	NA
Phenolphthalein	Dissolution, heat source, and routine ^{238}Pu waste solidification operations in the Plutonium Facility.	TA-55	D046, D076 P010, M100	NA
Phosphoric acid	Numerous processes in the CMR Building. Component of acid polishing solutions used in the electroplating section of the Sigma Building.	TA-3-29 TA-3-66	D028 D033 D034	NA[2]
Polyvinyl pyridine	Ion exchange resin in dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion processes in the Plutonium Facility.	TA-55	D001 M044 M198	NA
Portland cement	Added to RLWTP sludges to absorb liquids that might dewater from the sludge.	TA-50-1	C013, C014 D004, D074 M006, P002	NA[2]
Potassium chloride	MCDOR operations in the Plutonium Facility.	TA-55	M166, M173	NA

Chemical	Use	Building	Document Source	EPA HWNs
Potassium cyanide	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034 M214	NA[3]
Potassium dichromate	Plutonium assay process in CMR Building. Pretreatment, dissolution, separation and purification by precipitation, and hydroxide precipitation operations in the Plutonium Facility.	TA-3-29 TA-55	C034, D007 D033, M169 P012	D007
Potassium fluoride	Dissolution operations in the Plutonium Facility.	TA-55	M059, M087	NA
Potassium fluoride hydrate	Ion exchange process in the Plutonium Facility.	TA-55	D046	NA
Potassium gold cyanide	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034 M214	NA[3]
Potassium hydroxide	Uranium conversion and dissolution chemistry in CMR Building. Dissolution, pretreatment, evaporation, hydroxide precipitation, nitrate anion exchange, MCDOR, separation and purification by precipitation, plutonium trichloride preparation, or purification and oxide conversion operations in the Plutonium Facility.	TA-3-29 TA-55	C065, C066 D001, D007 D033, D046 D071, D082 D089, D091 M034, M038 M042, M043 M046, M062 M081, M087 M088, M089 M090, M114 M158, M165 M166, M193 M116, P012	NA[2]
Potassium pyrosulfate	Dissolution operations in the Plutonium Facility.	TA-55	M059 M094	NA
Potassium thiocyanate	Dissolution operations in the Plutonium Facility.	TA-55	D046 M087	NA
Pyridine	TC EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS.	TA-50-1	D004 M007	F005

Chemical	Use	Building	Document Source	EPA HWNs
Scintillation cocktails	Contaminant in wastes incinerated in Controlled Air Incinerator. Identified for facility. Listed as contaminant from Radiochemistry Laboratory. Listed as contaminant in RLWTP. Listed as contaminant in Laboratory and Office Building. Listed as contaminant in Weapons Engineering Tritium Facility. Listed as contaminant in Occupational Health Laboratory.	TA-50-37 TA-3-16 TA-3-29 TA-48-1 TA-50-1 TA-55-2 TA-55-4 TA-16-205 TA-59-1	D017 D028 D071	NA
Selenious acid	Hazardous materials inventory.	TA-48-1	D051	D010
Selenium	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, as well as RLWTF filter cake and 1986 sludge samples. EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Contaminant identified as part of the influent design basis for the RLWTF. Contaminant in feed material to the pretreatment, evaporator, DOR and MCDOR, heat source fabrication, and routine ^{238}Pu waste solidification operations in the Plutonium Facility. Potential pollutant.	TA-50-1 TA-55 TA-48-1	C009, C020 C032, C057 D004, D005 D028, D046 D049, D051 D063, D067 M007, M011 M211, D082	D010

Chemical	Use	Building	Document Source	EPA HWNs
Silver	Detected in very low concentrations in wastewater samples collected from TA-50 receiving tank and 1991 liquid influent samples, as well as RLWTF filter cake and 1986 sludge samples. EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS. Contaminant in feed material to the pretreatment, dissolution, evaporator, DOR and MCDOR, heat source fabrication, routine ^{238}Pu waste solidification, or purification and oxide conversion operations in the Plutonium Facility and as part of the influent design basis for the RLWTF. Identified in numerous processes in the CMR Building. Component of superconductor samples prepared in the metallography section of the Sigma Building. Potential pollutant.	TA-50-1 TA-55 TA--3-29 TA-3-66 TA-48-1	C009, C033 C020, C032 C040, C041 C057, C063 D001, D003 D004, D005 D033, D034 D046, D049 D051, D067 D076, D082 D085, M007 M011, M211	D011
Silver chloride	Analytical reagent.	TA-48-1	D051	D011
Silver cyanide	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034 M214	D011[3]
Silver iodide	Analytical reagent.	TA-48-1	D051	D011
Silver nitrate	Electrochemical dissolution process in the Plutonium Facility. Pretreatment, dissolution, purification and oxide conversion, separation and purification by precipitation, hydroxide precipitation operations in the Plutonium Facility.	TA-55	C033, C034 D007, D046 M044, M078 M079, M087 M169, M216	D011[3]
Sodium	MCDOR operations in the Plutonium Facility.	TA-55	M166, M173	NA[3]
Sodium arsenate	Hazardous materials inventory.	TA-48-1	D051	D004
Sodium arsenite	Hazardous materials inventory.	TA-48-1	D051	D004
Sodium bicarbonate	Separation and purification by precipitation operations in the Plutonium Facility.	TA-55	M169	NA

Chemical	Use	Building	Document Source	EPA HWNs
Sodium chloride	Dissolution processes in the Plutonium Facility.	TA-55	D046, M087	NA
Sodium chromate	Dissolution and Plutonium/thorium separation processes in the Plutonium Facility.	TA-55	D046 P012	D007
Sodium cyanide	Component of plating solutions used in the electroplating section of the Sigma Building. Hazardous materials inventory.	TA-3-66 TA-48-1	D034, D049 D051	NA[3]
Sodium dithionite	Nitrate anion exchange and separation and purification by precipitation operations in the Plutonium Facility.	TA-55	M034 M158 M171	NA[3]
Sodium fluoride	Dissolution operations in the Plutonium Facility.	TA-55	M059, M094	NA
Sodium gold sulfite	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Sodium hydrosulfide	Used in treatment of chromate solutions in RLWTF.	TA-50-1	D068	NA
Sodium hydroxide	Actinide research and development process in CMR Building. Alkaline cleaning solutions and component of plating, anodizing and conversions solutions used in the electroplating section of the Sigma Building. Neutralization/pH adjustment/flocculation. Heat source operations, routine ^{238}Pu waste solidification, MCDOR, pretreatment, dissolution, nitrate anion exchange, separation and purification by precipitation, evaporation, purification and oxide conversion, hydroxide precipitation, and burst testing operations in the Plutonium Facility. Caustic scrubber for the Controlled Air Incinerator for volume reduction of Plutonium Facility waste. Potential pollutant.	TA-3-29 TA-3-66 TA-50-1 TA-55 TA-50-37 TA-48-1	C032, C035 C041, C065 C066, D001 D004, D005 D006, D007 D010, D013 D020, D028 D033, D034 D046, D049 D068, D071 D076, D077 D082, D089 D091, M042 M044, M046 M054, M058 M062, M081 M088, M100 M103, M104 M105 M114, M116 M153, M155 M156, M157 M164, M187 M198, M208 P004 P010, P012 M216	NA[2]

Chemical	Use	Building	Document Source	EPA HWNs
Sodium hypochlorite	Uranium conversion and dissolution chemistry in CMR Building. Used in treatment of cyanide solutions in RLWTF.	TA-3-29 TA-50-1	D033 D068	NA
Sodium hypophosphite	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Sodium metaphosphate	Heat source fabrication operations in the Plutonium Facility.	TA-55	C056	NA
Sodium nitrate	Pretreatment operations in the Plutonium Facility.	TA-55	D077 M103	NA[1]
Sodium nitrite	Dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility.	TA-55	D001, D046 D076, D089 M036, M044 M094, M098 M099, M100 M101, M169	NA
Sodium oxalate	Dissolution and purification and oxide conversion operations in the Plutonium Facility.	TA-55	C032 D001 D046	NA
Sodium perchlorate	Actinide research and development process in CMR Building.	TA-3-29	D033	NA
Sodium silicate	Sludge 'solidification'.	TA-50-1	M006	NA
Sodium sulfite	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA
Sodium tetraborate	Burst testing process in the Plutonium Facility.	TA-55	C035, D077	NA
Sulfuric acid	Numerous processes in the CMR Building. Component of acid polishing, plating, anodizing and conversion solutions used in the electroplating section of the Sigma Building. Influent contaminant and used in treatment of chromate solutions in RLWTF. Pretreatment, dissolution, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility. Hazardous materials inventory. Potential pollutant.	TA-3-29 TA-3-66 TA-50-1 TA-55 TA-48-1 TA-48-45	D005 D028, D033 D034, D046 D049, D051 D068, D089 M104, M156 M198, M208	NA[2]

Chemical	Use	Building	Document Source	EPA HWNs
Tetrachloroethylene	Contaminant in feed material to the evaporator and hydroxide precipitation operations in the Plutonium Facility. Detected in samples of influent and effluent liquids associated with RLWTF. TC EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS.	TA-55 TA-50-1	C032, C061 C063, D004 D007, D029 D046, M007	F001, F002
Tetrahydrofuran	Organic and actinide separations research and inorganic compound synthesis and characterization.	TA-3-29	D033	NA[1]
Thallium oxide	Sample preparation and processing in the CMR Building.	TA-3-29	D033	NA
Tintaous chloride	Plutonium assay process in CMR Building.	TA-3-29	D033	NA
Toluene	Detected in samples of RLWTF influent and effluent liquids, and detected in 1986 sludge samples, but detected in method blank, and estimated value reported since less than detection limit. Organic and actinide separations research and inorganic compound synthesis and characterization.	TA-50-1 TA-3-29	C013 D029 D033 M011	F005
Tributyl phosphate (TBP)	Separation of lanthanides.	TA-48-1	C014, D051 D089	NA
Tributyl phosphate and kerosene	Used for americium solvent extraction from 1980-83 in TA-55.	TA-55	C014	NA
Tributyl phosphate dissolved in tetrachloroethane	Used in chloride operations from 1986-90 in TA-55.	TA-55	C014	NA
Trichloroethylene	Contaminant in feed materials to the dissolution process, heat source fabrication operations, and diluent for filtering oils in the pretreatment process in the Plutonium Facility. Detected in samples of influent to RLWTF. TC EPA code conservatively assigned to TA-50-19 sludge by LANL AKIS.	TA-55 TA-50-1	C056 C063 D004 D029 D046 M007 M047 M085	F001, F002

Chemical	Use	Building	Document Source	EPA HWNs
Trichlorofluoromethane	Detected in samples of influent and effluent liquids associated with RLWTF. Detected as a TIC in 1986 sludge samples.	TA-50-1	D029 M011	F002
Trichlorotrifluoroethane Freon PCA	Plutonium transmission electron microscope (TEM) and sample preparation process in CMR Building. Detected in samples of influent to RLWTF.	TA-3-29 TA-50-1	D033 D029	F002
Trisodium phosphate	Reagent in liquid waste treatment operations in RLWTF.	TA-50-1	C014, C017 D004, D005 D018, D021 D030	NA
Urea	Dissolution, nitrate anion exchange, separation and purification by precipitation, and purification and oxide conversion operations in the Plutonium Facility.	TA-55	D001 D046, D076 D089, M035 M044 M097 M098, M099 M100, M102 M198	NA
VARIAN Torr Seal	Epoxy used in heat source fabrication operations in the Plutonium Facility.	TA-55	M177 M214	NA
Vacuum grease	Identified as reagent in dissolution operations in the Plutonium Facility.	TA-55	D046 M202	NA
Vermiculite	Sludge 'solidification'. Pretreatment and heat source fabrication operations in the Plutonium Facility.	TA-50-1 TA-55	C032, M006 M054, M178	NA
Xylene	Solvent extraction in radiochemistry process in CMR Building. Detected in 1986 sludge samples, but estimated value reported since less than detection limit. Contaminant in feed materials to the dissolution, purification and oxidation, hydroxide precipitation, and evaporator operations in the Plutonium Facility.	TA-3-29 TA-50-1 TA-55	C032 C061 C063 D007 D033 D046 M011	NA[3]

Chemical	Use	Building	Document Source	EPA HWNs
Zinc oxide	Component of plating solutions used in the electroplating section of the Sigma Building.	TA-3-66	D034	NA

Notes 1, 2, and 3 :
These chemicals may exhibit the characteristic of ignitability (1), corrosivity (2), or reactivity (3) in their pure form. Based on the analysis of the generating process and waste management practices no pure or unused chemicals would have been introduced into the process influent or remain in the process sludges.

5.4.3.1 F-Listed and Other Solvents

The TA-50 RLWTF influent is exempt from being a mixture-rule hazardous waste for certain F-listed solvent constituents under 40 CFR 261.3(a)(2)(iv)(A) and (B) if the concentration of the solvents is below certain levels in the head works of the treatment facility. However, data to quantify the listed solvent concentrations in the TA-50 head works for the time period of generation of this waste stream are not available. Therefore, this waste stream does not qualify for this exclusion.

Based on review of AK relative to chemicals used or present in facilities and processes potentially discharging liquids to the RLWTF, including sampling and analysis of RLWTF liquid influent, effluent, and sludge, waste stream LA-MIN03-NC.001 may contain or be mixed with F-listed hazardous wastes from non-specific sources listed in 40 CFR 261.31. As shown in Tables 5 and 6, F001, F002, and F005 listed solvents that were utilized and potentially discharged to the RLWTF. Nitrobenzene (F004) was detected in samples of liquid influent to the RLWTF (Reference C013). Although specific uses of nitrobenzene in liquid waste generating processes were not identified, it is assumed this material could have been used as a solvent, therefore EPA HWN F004 is conservatively added to this waste stream. F003 constituents include acetone, n-butyl alcohol, methanol, and methyl isobutyl ketone, listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is an inorganic solid resulting from the treatment of aqueous wastewaters, therefore F003 is not assigned.

In addition, liquid wastes from cyanide plating operations (F007, F009) conducted in the Sigma Building, TA-3-66 have been treated in the RLWTF (References D028, D034 and D068), and EPA HWN F006 also applies to the RLWTF sludge derived from the treatment of the liquids from plating operations. Therefore waste stream LA-MIN03-NC.001 is

assigned F-listed EPA HWN F001, F002, F004, F005, F006, F007, and F009.

5.4.3.2 Toxicity Characteristic Compounds

Based on review of AK relative to chemicals used or present in facilities and processes potentially discharging liquids to the RLWTF, including sampling and analysis of RLWTF liquid influent, effluent, and sludge, waste stream LA-MIN03-NC.001 may be contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24. Where a constituent has been identified and there is no quantitative data available to demonstrate that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is conservatively added to the waste stream.

The AK identified the potential presence of additional toxicity characteristic compounds, however the more specific F-listed EPA HWN have been assigned to waste stream LA-MIN03-NC.001 for the following constituents: benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), methyl ethyl ketone (D035), nitrobenzene (D036), pyridine (D038), tetrachloroethylene (D039), and trichloroethylene (D040). These characteristic D-code EPA HWNs are not assigned to the waste stream. Waste stream LA-MIN03-NC.001 is assigned D-code HWN D004, D005, D006, D007, D008, D009, D010, D011, D022, D028, and D037.

5.4.3.3 Ignitables, Reactives, and Corrosives

The inorganic sludge in waste stream LA-MIN03-NC.001 does not meet the definition of ignitability as defined in 40 CFR 261.21. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials are not capable of causing fire through friction or absorption of moisture. The materials in this waste stream are, therefore, not ignitable D001 wastes.

The inorganic sludge does not meet the definition of corrosivity as defined in 40 CFR 261.22. Sodium hydroxide is used early in the process, but only to adjust the pH of the influent wastewater to between 6 and 9. Precipitated sludges are chiefly hydroxides with a pH of 10 to 12. The final waste form materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials in this waste stream are, therefore, not corrosive D002 wastes.

The material in this waste stream does not meet the definition of reactivity as defined in 40 CFR 261.23. The material is stable and will not undergo violent chemical change. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases,

vapors, or fumes when mixed with water. The materials do not contain sulfides and are not capable of detonation or explosive reaction.

Potential sources for cyanide bearing liquid wastes are identified for wastes treated in the RLWTF. Electroplating operations in the Sigma Facility, Building TA-3-66, utilized solutions of copper cyanide, sodium cyanide, silver cyanide, potassium cyanide, and potassium gold cyanide (Reference D034) for cleaning and plating uranium-238 (U-238) and thorium-232 (Th-232) parts. The depleted plating solutions from these operations were transferred to 55-gallon drums which were trucked to TA-50 for treatment (References C078 and D018).

The cyanide wastes were treated on a batch basis in the RLWTF Batch Waste Treatment system (Reference D018, D068, D072). *NOTE: D075 includes CN concentrations for 1982.* The solutions were transferred from 55-gallon drums, after analysis, into the treatment system tank. Reaction with measured amounts of sodium hypochlorite, or a combination of chlorine gas and sodium hydroxide resulted in the destruction of the cyanide (Reference D068). The post treatment liquid effluent was discharged to the treatment tanks at TA-54, Area L and allowed to evaporate, . Since the radioactive contaminants in the plating process (uranium and thorium) were non-transuranic, and based on the RCRA Part A Permit Application and Interim Status Waste Analysis Plan for Mixed Waste (References D069 and D070) these plating solutions and effluent were managed as low-level mixed waste with EPA HWNs F007 and F008 (Reference D018, D069, D070).

Sources of cyanide bearing solutions in TRU waste are from floor drains in the Electroplating Section which discharge to the RLWTF. Rinse solutions and spilled materials from the plating operations were transferred to TA-50 for treatment (Reference D018, D034). A building outfall study conducted in 1994 identified specific drains connected to the outfall which is piped to the RLWTF. All of the drains identified in the Electroplating Shop consisted of rinse tank and plating bath spillage drains (Reference D042).

Based on an annual liquid waste volume of 2.1 million liters per year from the Electroplating Section, a 10 weight percent cyanide concentration in the plating solutions, a 100 times dilution of concentrated plating bath solution in plating rinse water, and 19 million liters treated at the RLWTF annually, the cyanide concentration would be 110 parts per million. This is well blow the treatment standard (40 CFR 268) for total cyanide of 590 ppm for F006, F007, and F009 wastes. A review of total treated liquids and

based on information from facility personnel, the volume estimate presented above are conservative and reasonable to represent the entire waste stream (References C078, D005, D067 and M214).

According to McCoy's RCRA Unraveled (McCoy and Associates, Inc. 2002) the test methods and release thresholds for cyanide wastes are no longer valid and were withdrawn in 1998. "EPA remains convinced, however, that generators can rely on knowledge of their waste to make a proper waste classification." Although the treatment standard is not defined as the criterion to determine reactivity, it is reasonable that a waste meeting the concentration based treatment standard for total cyanides would not be considered reactive.

Therefore, based on the small quantities of cyanides potentially discharged to the RLWTF the resulting sludge in waste stream LA-MIN03-NC.001 does not meet the definition of reactivity.

5.4.3.4 P- and U-Listed Waste

The TA-50 RLWTF influent is exempt from being a mixture-rule hazardous waste for P- and U-listed constituent under 40 CFR 261.3(a)(2)(iv)(D) if the discarded commercial chemical product, or chemical intermediate arises from "*de minimis*" losses. *De minimis* loses are defined as those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leak from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained pump packing and seals; sample purging; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing.

Any P- and U-listed waste entering the influent to the TA-50 RLWTF head works would be through *de minimis* losses, and therefore, the resulting waste water mixture would not be assigned the P- or U- HWN. Subsequently, waste stream LA-MIN03-NC.001 would also not be assigned the P- or U-listed HWN.

5.4.3.5 K-Listed Waste

The material in this waste stream is not hazardous from specific sources since it was not generated from any of the processes listed in 40 CFR 261.32.

5.4.3.6 Polychlorinated Biphenyls

Based on the review of chemical usage, PCB liquids were not identified in liquid waste sent to the RLWTF. The only PCB source identified were PCB contaminated liquids sent to be incinerated in the CAI, Building TA-50-37 (Reference D017 and D068). Since this facility was permitted to treat PCB contaminated liquids, PCBs would be destroyed in the incinerator and would not contaminate spent scrubber liquids discharged to the RLWTF (Reference D068).

Attachment 2 - CCP Records Transmittal/Receiving Form

Page 1 of 1

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523, 505-234-7233, 505-234-7617

Fax Number: 505-234-7014

[X] Original Record
[ ] Fax Record
[ ] E-mail Record

Attn:	Sheila Pearcy	From:	Randy Fitzgerald
Ship to:	WTS Records Center	Site:	LANL
	4201 National Parks Highway	Company:	Tech Specs
	Carlsbad, NM 88220	Telephone Number:	505-667-3074
		Date Sent:	04/05/05
Telephone Number:	505-234-7523		

Document Number	Title / Description	Record Date	Total Pages
C018	Attachment 3 Acceptable Knowledge Source Documents Summary for LA-MIN03-NC (AK 4)	04/16/04	1
N/A	RCRA Evaluation	04/14/04	31
	N/A		

Comments

None

CCP Records Center
Acceptance/Rejection Signature and Date

Records Accepted [X] Susan Keathley — Signature | S. Keathley — Printed Name | 4/5/05 — Date

Records Rejected [ ] _____ — Signature | _____ — Printed Name | _____ — Date

Reason for Rejection:

Re-submittal: _____ — Signature | _____ — Printed Name | _____ — Date

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: C015

Waste Stream Number(s): LA-CIN04.001, LA-MHD04.001, LA-MSG04.001

(Applicable only when site library is not in use)

Acceptable Knowledge Documentation Type:	Category:
☐ TRU Waste Management Program Information	☑ C - Correspondence
☑ Waste Stream-Specific Information	☐ D - Documents
☑ Additional Information	☐ M - Miscellaneous
	☐ P - Procedures
	☐ DR - Discrepancy Resolution
	☐ U - Unpublished Documents

Title or Description of Source Document [a]: Review Sheet Documenting An Interview With Jim Foxx on CLS-1 Solvents

Source Document Reference Information (author(s), document and revision number, date, publisher): Rosemarie Glenn, TWCP-03547/P2010-0891, 09/23/99, LANL

AK # [b]	Source Doc. Page # [c]	AK Information Summary
S7	Review Sheet	Review sheet documenting an interview with Jim Foxx by Rosemary Glenn on CLS-1 solvents, which apply to Chloride operations.
WS12	Review Sheet	Jim Foxx provided a list of CLS-1 solvents, which include: carbon tetrachloride, butanol, acetone, methanol, tetrachloroethylene, xylene, methylene chloride, chloroform, chlorobenzene.

Source Document Data Limitations (if any):

1. Information is based on personal recollection.
2. Interview is documented on a Procedure Review Sheet rather that an interview form and context of information is not clear.

Acceptable Knowlege Expert:

Amy Johns, Amy Johns Date: 2/21/14

Print /Sign

a Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
b Obtain from Acceptable Knowledge Documentation Checklist
c For microfilm or microfiche, identify box, tape, reel number and location.

NTPC RECORDS ORIGINAL
DATE REC'D 6-30-14

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-MHD04.001

Site(s): Los Alamos National Laboratory-Technical Area 21	Source Document Tracking Number: C015
Acceptable Knowledge Documentation Type: ☐ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Supplemental Information	Category: ☑ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents

Title of Source Document: Review Sheet Documenting An Interview With Jim Foxx on CLS-1 Solvents

Source Document Reference Information (author(s), document and revision number, date, publisher): Rosemarie Glenn, TWCP-03547/P2010-0891, 09/23/99, LANL

AK # [a]	Source Doc. Page # [b]	AK Information Summary
S7	Review Sheet	Review sheet documenting an interview with Jim Foxx by Rosemary Glenn on CLS-1 solvents, which apply to Chloride operations.
WS12	Review Sheet	Jim Foxx provided a list of CLS-1 solvents, which include: carbon tetrachloride, butanol, acetone, methanol, tetrachloroethylene, xylene, methylene chloride, chloroform, chlorobenzene.

Source Document Data Limitations (if any):

1. Information is based on personal recollection.
2. Interview is documented on a Procedure Review Sheet rather that an interview form and context of information is not clear.

Acceptable Knowlege Expert:

David Guerin or James Luginbyhl / James Luginbyhl Date: 8/16/2006
Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED
SG 11/09/09

DIVIDER PAGE ONLY

Not part of page count

P2010-0891

C015

TA-21

TWCP-3547
(excerpt)

CL – 25

NMT AK Search - Procedure Review Sheet

Page 1 of ____

Attach aditional pages as needed.)

Document Number/Rev: ..... Eff. Date: ..... ☐ UCNI

Jim Foxx Interview 9/23/99

Box: .....
Pg. Cnt: .....
Code: .....

Author/Reviser: Jim Foxx Group: NMT-7 Proc. Stat: .....

Reviewer: Rosemary Glenn Contact No.: _____ Date: 9/23/99

P/S Code: CI ops Diagram: ___ Y ✓ N Chemical List: ✓ Y ___ N
(attach copies of "Y" responses)

Notes: Jim provided list of CLSI solvents

CCl_4
normal butanol
acetone
cumene

tetrachloroethylene
xylene
methylene chloride
chloroform
chlorobenzene

Return Completed Review Sheet and Attachments to the RMDC for capturing. Thank You.

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	8/27/09

Document Number	Title/Description	Record Date	Total Pages
C015	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	1
	N/A		

Comments
Please supercede existing Attachment 3

Acceptance/Rejection Signature and Date

Records Accepted ☑ Signature: Sonia Gonzalez | Printed Name: SONIA GONZALEZ | Date: 11/09/09

Records Rejected ☐ Signature | Printed Name | Date

Reason for Rejection: N/A

Re-submittal: Signature | Printed Name | Date

```
**********************
***   TX REPORT   ***
**********************

TRANSMISSION OK

TX/RX NO                1784
DESTINATION TEL #       92347138
DESTINATION ID          CHEZIE TODD
ST. TIME                11/10 10:33
TIME USE                00'18
PAGES SENT                1
RESULT                  OK
```

Controlled Copy

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	8/27/09

Document Number	Title/Description	Record Date	Total Pages
C015	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	1
	NA		

Comments
Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑ Sonia Gonzalez SONIA GONZALEZ 11/09/09

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-MSG04.001

Site(s): LANL TA-21 (CCP-AK-LANL-010)	Source Document Tracking Number: C033
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Supporting Information	Category: ☑ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents

Title of Source Document: Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MSG04.001

Source Document Reference Information (author(s), document and revision number, date, publisher): J. Schoen, NA, Rev. NA, 09/30/2009, P2010-2740

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR6, WS2, WS3, WS9, WS11	Throughout	Data used for the calculations of volumes, dates of generation and radionuclide masses and activities were extracted from the CONCERT and Acceptable Knowledge Isotopic Ratios (AKIR) databases (References M004 and M006). A Radioactive Solid Waste Disposal Record (RSWD) or TRU Waste Storage Record (TWSR) was available, and was reviewed, for each container in this waste stream. A review of this container paperwork reveals that the waste assigned to waste stream LA-MSG04.001 is mixed contaminated soil generated during D&D, sampling activities, and nonstandard events such as the cleanup of spills at the TA-21 DP West Facility As of the date of this letter, waste stream LA-MSG04.001 (soil/gravel from the TA-21 DP West facility) consists of 39 55-gallon drums and 18 other containers, totaling 57 containers (approximately 51 cubic meters [m3]). The package dates for containers in this waste stream range from February, 1978 to May, 1997. Based on an evaluation of the materials contained in this waste stream and LANL waste management practices, waste stream LA-MSG04.001 is comprised of at least 50 percent, but no greater than 95 percent, by volume soil, sand, silt, or rock and gravel, with rock and gravel volumes totaling less than 50 percent of the matrix and the balance of the matrix being debris. Therefore, Waste Matrix Code S4200 for soils is assigned to this waste stream. Radiological data was available for 100% of the containers in the 57 container population of waste stream LA-MSG04.001. To determine the "Total Radionuclide Weight%" values in the table below, the gram value for each individual radionuclide was summed over the entire waste stream and then divided by the total radiological mass in the waste stream. In the same way, a calculation was performed for "Total Radionuclide Curie%" using the sum of activity values for each radionuclide over the entire waste stream. The "Radionuclide Curie% Range for Individual Containers" was determined by summing the total activity in each container and calculating the curie percent of each radionuclide in each container. To determine the range for a specific radionuclide, the maximum and minimum were identified by reviewing the container-by-container results. The same type calculations were performed to determine the "Radionuclide Weight% Range for Individual Containers". From this evaluation, the two predominant isotopes for the waste stream are Pu-239 and Pu-244, while over 95 percent of the total activity in the waste stream is from Pu-239. The table summarizes the results obtained from these queries for radionuclide, number of containers with the reported radionuclide, total radionuclide weight percent, total radionuclide curie percent, radionuclide weight percent range for individual containers and radionuclide curie percent range

ORIGINAL

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): LANLTA-21 (CCP-AK-LANL-018)		Source Document Tracking Number: C033
AK # [a]	Source Doc. Page # [b]	AK Information Summary
		for individual containers. The weight percent of individual radionuclides varies on a container-bycontainer basis. Because of this variability in container loadings, some containers will not contain the waste stream predominant radionuclides but may contain other radionuclides expected in this waste stream.

Source Document Data Limitations (If any):

1. None.

Acceptable Knowlege Expert:

Amy Johns _____ Amy Johns _____ Date: 12/9/09
Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

Letter to AK Record

Author: James M. Schoen
CCP AKE
Date: September 30, 2009
Telephone Number: 303-838-6552

Subject: Evaluation of Volume, Period of Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MSG04.001

Data used for the calculations of volumes, dates of generation and radionuclide masses and activities were extracted from the CONCERT and Acceptable Knowledge Isotopic Ratios (AKIR) databases (References M004 and M006). A Radioactive Solid Waste Disposal Record (RSWD or TRU Waste Storage Record (TWSR) was available, and was reviewed, for each container in this waste stream. A review of this container paperwork reveals that the waste assigned to waste stream LA-MSG04.001 is mixed contaminated soil generated during D&D, sampling activities, and nonstandard events such as the cleanup of spills at the TA-21 DP West Facility

As of the date of this letter, waste stream LA-MSG04.001 (soil/gravel from the TA-21 DP West facility) consists of 39 55-gallon drums and 18 other containers, totaling 57 containers (approximately 51 cubic meters [m^3]). The package dates for containers in this waste stream range from February, 1978 to May, 1997. Based on an evaluation of the materials contained in this waste stream and LANL waste management practices, waste stream LA-MSG04.001 is comprised of at least 50 percent, but no greater than 95 percent, by volume soil, sand, silt, or rock and gravel, with rock and gravel volumes totaling less than 50 percent of the matrix and the balance of the matrix being debris. Therefore, Waste Matrix Code S4200 for soils is assigned to this waste stream.

Radiological data was available for 100% of the containers in the 57 container population of waste stream LA-MSG04.001. To determine the "Total Radionuclide Weight%" values in the table below, the gram value for each individual radionuclide was summed over the entire waste stream and then divided by the total radiological mass in the waste stream. In the same way, a calculation was performed for "Total Radionuclide Curie%" using the sum of activity values for each radionuclide over the entire waste stream (see attached Excel spreadsheet "LA-MSG04_001 TotalGramsAndCuries.xlsx").

The "Radionuclide Curie% Range for Individual Containers" was determined by summing the total activity in each container and calculating the curie percent of each radionuclide in each container. To determine the range for a specific radionuclide, the maximum and minimum were identified by reviewing the container-by-container results. The same type calculations were performed to determine the "Radionuclide Weight% Range for Individual Containers" (see attached Excel spreadsheet "LA-MSG04_001 Wt% and Ci% By Drum.xlsx").

From this evaluation, the two predominant isotopes for the waste stream are Pu-239 and Pu-244, while over 95 percent of the total activity in the waste stream is from Pu-239. The following table summarizes the results obtained from these queries for radionuclide, number of containers with the reported radionuclide, total radionuclide weight percent, total radionuclide curie percent, radionuclide weight percent range for individual containers and radionuclide curie percent range for individual containers. The weight percent of individual radionuclides varies on a container-by-container basis. Because of this variability in container loadings, some containers will not contain the waste stream predominant radionuclides but may contain other radionuclides expected in this waste stream.

Estimated Radionuclide Distribution in LA-MSG04.001

Radio-nuclide	Number of Containers with Reported Radionuclide	Total Radio-nuclide Weight%[1,5]	Total Radionuclide Curie%[2,5]	Radionuclide Weight% Range for Individual Containers[3,5]	Radionuclide Curie% Range for Individual Containers[4,5]	Expected Present
WIPP Required Radionuclides						
Am-241	39	Trace	0.03%	0 - 0.01%	0 - 17.47%	Yes
Pu-238	39	Trace	Trace	0 - Trace	0 - 0.57%	Yes
Pu-239	57	**95.73%**	**99.88%**	0 - 100.00%	0 - 100.00%	Yes
Pu-240	1	0.02%	0.07%	0 - 0.43%	0 - 38.07%	Yes
Pu-242	1	Trace	Trace	0 - 0.05%	0 - 0.08%	Yes
U-233	1	Trace	Trace	0 - Trace	0 - 0.01%	Yes
U-234	1	Trace	Trace	0 - Trace	0 - 0.01%	Yes
U-238	1	1.23%	Trace	0 - 28.37%	0 - Trace	Yes
Sr-90	1	Trace	Trace	0 - Trace	0 - 0.02%	Yes
Cs-137	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Additional Radionuclides						
H-3	1	Trace	Trace	0 - Trace	0 - Trace	Yes
I-125	1	Trace	Trace	0 - Trace	0 - 0.02%	Yes
I-129	1	Trace	Trace	0 - 0.05%	0 - Trace	Yes
Np-237	1	0.01%	Trace	0 - 0.13%	0 - 0.04%	Yes
Pb-210	1	Trace	Trace	0 - Trace	0 - 0.48%	Yes
Pu-244	1	**3.01%**	Trace	0 - 69.36%	0 - 0.48%	Yes
Ra-226	1	Trace	Trace	0 - Trace	0 - Trace	Yes
Th-234	1	Trace	0.01%	0 - Trace	0 - 4.62%	Yes
Other Radionuclides that may be present in unknown amounts ("0" data values were reported)						
U-235						

1. This listing indicates the total weight percent of each radionuclide over the entire waste stream.
2. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
3. This listing is the weight percent range of each radionuclide on a container-by-container basis.
4. This listing is the curie percent range of each radionuclide on a container-by-container basis.
5. "Trace" indicates <0.01 weight or activity (curie) percent for that radionuclide.

LA-MSG04_001 TotalGramsAndCuries.xlsx

Rad_Code	# of Containers	SumOfTotal_grams	TSA	Total Curies	Total Nuclide Wt%	Total Nuclide Ci%
Am-241	39	0.00185294	3.47	0.006429702	0.00%	0.03%
Cs-137	1	1.18E-08	88	1.0384E-06	0.00%	0.00%
H-3	1	7.79E-11	9760	7.60304E-07	0.00%	0.00%
I-125	1	3.21E-10	17600	5.6496E-06	0.00%	0.00%
I-129	1	0.0067	0.000179	1.1993E-06	0.00%	0.00%
Np-237	1	0.0182	0.000713	1.29766E-05	0.01%	0.00%
Pb-210	1	0.00000227	77.2	0.000175244	0.00%	0.00%
Pu-238	39	0.0000121	17.3	0.00020933	0.00%	0.00%
Pu-239	57	311.2206	0.0629	19.57577574	95.73%	99.88%
Pu-240	1	0.0609	0.23	0.014007	0.02%	0.07%
Pu-242	1	0.00753	0.00397	2.98941E-05	0.00%	0.00%
Pu-244	1	9.78	0.0000179	0.000175062	3.01%	0.00%
Ra-226	1	0.00000138	1	0.00000138	0.00%	0.00%
Sr-90	1	4.86E-08	138	6.7068E-06	0.00%	0.00%
Th-234	1	7.33E-08	23200	0.00170056	0.00%	0.01%
U-233	1	0.000531	0.00976	5.18256E-06	0.00%	0.00%
U-234	1	0.00082	0.00632	5.1824E-06	0.00%	0.00%
U-235	38	0	0.00000219	0	0.00%	0.00%
U-238	1	4	0.00000034	0.00000136	1.23%	0.00%
		325.0971498		19.59854397		

LA-MSG04_001 Wt% and Ci% By Drum.xlsx

SHORT_ID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
56537	Am-241	0.00185294	14.09954982	0.013141838
S780215	Am-241	0	0	
S780251	Am-241	0	0	
S780236	Am-241	0	0	
S780241	Am-241	0	0	
S780250	Am-241	0	0	
S780209	Am-241	0	0	
S780216	Am-241	0	0	
S780249	Am-241	0	0	
S780237	Am-241	0	0	
S780246	Am-241	0	0	
S780210	Am-241	0	0	
S780217	Am-241	0	0	
S780245	Am-241	0	0	
S780208	Am-241	0	0	
S780211	Am-241	0	0	
S780239	Am-241	0	0	
S780244	Am-241	0	0	
S780223	Am-241	0	0	
S780221	Am-241	0	0	
S780243	Am-241	0	0	
S780212	Am-241	0	0	
S780214	Am-241	0	0	
S780242	Am-241	0	0	
S780240	Am-241	0	0	
S780213	Am-241	0	0	
S780238	Am-241	0	0	
S780219	Am-241	0	0	
S780203	Am-241	0	0	
S780222	Am-241	0	0	
S780204	Am-241	0	0	
S780235	Am-241	0	0	
S780205	Am-241	0	0	
S780206	Am-241	0	0	
S780218	Am-241	0	0	
S780252	Am-241	0	0	
S780258	Am-241	0	0	
S780207	Am-241	0	0	
S780234	Am-241	0	0	
56537	Cs-137	1.18E-08	14.09954982	8.36906E-08
56537	H-3	7.79E-11	14.09954982	5.525E-10
56537	I-125	3.21E-10	14.09954982	2.27667E-09
56537	I-129	0.0067	14.09954982	0.047519248

LA-MSG04_001 Wt% and Ci% By Drum.xlsx

SHORT_ID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
56537	Np-237	0.0182	14.09954982	0.129082135
56537	Pb-210	0.00000227	14.09954982	1.60998E-05
56537	Pu-238	0.0000121	14.09954982	8.58183E-05
S780240	Pu-238	0	0	
S780214	Pu-238	0	0	
S780221	Pu-238	0	0	
S780239	Pu-238	0	0	
S780219	Pu-238	0	0	
S780238	Pu-238	0	0	
S780222	Pu-238	0	0	
S780217	Pu-238	0	0	
S780236	Pu-238	0	0	
S780211	Pu-238	0	0	
S780234	Pu-238	0	0	
S780223	Pu-238	0	0	
S780215	Pu-238	0	0	
S780237	Pu-238	0	0	
S780218	Pu-238	0	0	
S780216	Pu-238	0	0	
S780235	Pu-238	0	0	
S780208	Pu-238	0	0	
S780203	Pu-238	0	0	
S780204	Pu-238	0	0	
S780205	Pu-238	0	0	
S780206	Pu-238	0	0	
S780258	Pu-238	0	0	
S780252	Pu-238	0	0	
S780207	Pu-238	0	0	
S780251	Pu-238	0	0	
S780213	Pu-238	0	0	
S780250	Pu-238	0	0	
S780249	Pu-238	0	0	
S780209	Pu-238	0	0	
S780243	Pu-238	0	0	
S780241	Pu-238	0	0	
S780242	Pu-238	0	0	
S780212	Pu-238	0	0	
S780244	Pu-238	0	0	
S780246	Pu-238	0	0	
S780210	Pu-238	0	0	
S780245	Pu-238	0	0	
S792216	Pu-239	0.18	0.18	100
S794056	Pu-239	3.83	3.83	100

LA-MSG04_001 Wt% and Ci% By Drum.xlsx

SHORT_ID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
S794046	Pu-239	6.388	6.388	100
S794044	Pu-239	6.388	6.388	100
S794043	Pu-239	6.385	6.385	100
S792215	Pu-239	0.18	0.18	100
S792214	Pu-239	0.22	0.22	100
S792213	Pu-239	3.85	3.85	100
S792211	Pu-239	4.75	4.75	100
S813315	Pu-239	1.61	1.61	100
S813289	Pu-239	19.16	19.16	100
S813323	Pu-239	13.28	13.28	100
S813262	Pu-239	143.7	143.7	100
S813241	Pu-239	11.5	11.5	100
S813240	Pu-239	78.81	78.81	100
S813225	Pu-239	0.5	0.5	100
S794119	Pu-239	0.3066	0.3066	100
S805331	Pu-239	9.96	9.96	100
56537	Pu-239	0.223	14.09954982	1.58161078
S780213	Pu-239	0	0	
S780219	Pu-239	0	0	
S780215	Pu-239	0	0	
S780203	Pu-239	0	0	
S780212	Pu-239	0	0	
S780204	Pu-239	0	0	
S780218	Pu-239	0	0	
S780206	Pu-239	0	0	
S780216	Pu-239	0	0	
S780208	Pu-239	0	0	
S780209	Pu-239	0	0	
S780217	Pu-239	0	0	
S780214	Pu-239	0	0	
S780207	Pu-239	0	0	
S780211	Pu-239	0	0	
S780210	Pu-239	0	0	
S780205	Pu-239	0	0	
S780249	Pu-239	0	0	
S780241	Pu-239	0	0	
S780252	Pu-239	0	0	
S780242	Pu-239	0	0	
S780243	Pu-239	0	0	
S780239	Pu-239	0	0	
S780240	Pu-239	0	0	
S780245	Pu-239	0	0	
S780246	Pu-239	0	0	

LA-MSG04_001 Wt% and Ci% By Drum.xlsx

SHORT_ID	Rad_Code	Total Grams of Nuclide	Total Rad Grams In Drum	WT% By Drum
S780250	Pu-239	0	0	
S780258	Pu-239	0	0	
S780251	Pu-239	0	0	
S780244	Pu-239	0	0	
S780235	Pu-239	0	0	
S780221	Pu-239	0	0	
S780222	Pu-239	0	0	
S780223	Pu-239	0	0	
S780237	Pu-239	0	0	
S780238	Pu-239	0	0	
S780236	Pu-239	0	0	
S780234	Pu-239	0	0	
56537	Pu-240	0.0609	14.09954982	0.431928684
56537	Pu-242	0.00753	14.09954982	0.05340596
56537	Pu-244	9.78	14.09954982	69.36391674
56537	Ra-226	0.00000138	14.09954982	9.78755E-06
56537	Sr-90	4.86E-08	14.09954982	3.44692E-07
56537	Th-234	7.33E-08	14.09954982	5.19875E-07
56537	U-233	0.000531	14.09954982	0.003766078
56537	U-234	0.00082	14.09954982	0.005815789
S780204	U-235	0	0	
S780203	U-235	0	0	
S780205	U-235	0	0	
S780258	U-235	0	0	
S780252	U-235	0	0	
S780235	U-235	0	0	
S780208	U-235	0	0	
S780213	U-235	0	0	
S780239	U-235	0	0	
S780238	U-235	0	0	
S780214	U-235	0	0	
S780237	U-235	0	0	
S780240	U-235	0	0	
S780236	U-235	0	0	
S780212	U-235	0	0	
S780216	U-235	0	0	
S780234	U-235	0	0	
S780217	U-235	0	0	
S780223	U-235	0	0	
S780218	U-235	0	0	
S780221	U-235	0	0	
S780215	U-235	0	0	
S780245	U-235	0	0	

LA-MSG04_001 Wt% and Ci% By Drum.xlsx

SHORT_ID	Rad_Code	Total Grams of Nuclide	Total Rad Grams in Drum	WT% By Drum
S780251	U-235	0	0	
S780207	U-235	0	0	
S780250	U-235	0	0	
S780249	U-235	0	0	
S780222	U-235	0	0	
S780246	U-235	0	0	
S780209	U-235	0	0	
S780206	U-235	0	0	
S780244	U-235	0	0	
S780210	U-235	0	0	
S780243	U-235	0	0	
S780211	U-235	0	0	
S780242	U-235	0	0	
S780241	U-235	0	0	
S780219	U-235	0	0	
56537	U-238	4	14.09954982	28.3697001

LA-MSG04_001 Wt% and Ci% By Drum.xlsx

SHORT_ID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
56537	Am-241	0.006429702	0.036794928	17.47442426
S780215	Am-241	0	0	
S780251	Am-241	0	0	
S780236	Am-241	0	0	
S780241	Am-241	0	0	
S780250	Am-241	0	0	
S780209	Am-241	0	0	
S780216	Am-241	0	0	
S780249	Am-241	0	0	
S780237	Am-241	0	0	
S780246	Am-241	0	0	
S780210	Am-241	0	0	
S780217	Am-241	0	0	
S780245	Am-241	0	0	
S780208	Am-241	0	0	
S780211	Am-241	0	0	
S780239	Am-241	0	0	
S780244	Am-241	0	0	
S780223	Am-241	0	0	
S780221	Am-241	0	0	
S780243	Am-241	0	0	
S780212	Am-241	0	0	
S780214	Am-241	0	0	
S780242	Am-241	0	0	
S780240	Am-241	0	0	
S780213	Am-241	0	0	
S780238	Am-241	0	0	
S780219	Am-241	0	0	
S780203	Am-241	0	0	
S780222	Am-241	0	0	
S780204	Am-241	0	0	
S780235	Am-241	0	0	
S780205	Am-241	0	0	
S780206	Am-241	0	0	
S780218	Am-241	0	0	
S780252	Am-241	0	0	
S780258	Am-241	0	0	
S780207	Am-241	0	0	
S780234	Am-241	0	0	
56537	Cs-137	1.0384E-06	0.036794928	0.002822128
56537	H-3	7.60304E-07	0.036794928	0.002066328
56537	I-125	5.6496E-06	0.036794928	0.01535429
56537	I-129	1.1993E-06	0.036794928	0.003259417

LA-MSG04_001 Wt% and Ci% By Drum.xlsx

SHORT_ID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
56537	Np-237	1.29766E-05	0.036794928	0.035267361
56537	Pb-210	0.000175244	0.036794928	0.476272166
56537	Pu-238	0.00020933	0.036794928	0.568909934
S780240	Pu-238	0	0	
S780214	Pu-238	0	0	
S780221	Pu-238	0	0	
S780239	Pu-238	0	0	
S780219	Pu-238	0	0	
S780238	Pu-238	0	0	
S780222	Pu-238	0	0	
S780217	Pu-238	0	0	
S780236	Pu-238	0	0	
S780211	Pu-238	0	0	
S780234	Pu-238	0	0	
S780223	Pu-238	0	0	
S780215	Pu-238	0	0	
S780237	Pu-238	0	0	
S780218	Pu-238	0	0	
S780216	Pu-238	0	0	
S780235	Pu-238	0	0	
S780208	Pu-238	0	0	
S780203	Pu-238	0	0	
S780204	Pu-238	0	0	
S780205	Pu-238	0	0	
S780206	Pu-238	0	0	
S780258	Pu-238	0	0	
S780252	Pu-238	0	0	
S780207	Pu-238	0	0	
S780251	Pu-238	0	0	
S780213	Pu-238	0	0	
S780250	Pu-238	0	0	
S780249	Pu-238	0	0	
S780209	Pu-238	0	0	
S780243	Pu-238	0	0	
S780241	Pu-238	0	0	
S780242	Pu-238	0	0	
S780212	Pu-238	0	0	
S780244	Pu-238	0	0	
S780246	Pu-238	0	0	
S780210	Pu-238	0	0	
S780245	Pu-238	0	0	
S792216	Pu-239	0.011322	0.011322	100
S794056	Pu-239	0.240907	0.240907	100

LA-MSG04_001 Wt% and Ci% By Drum.xlsx

SHORT_ID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S794046	Pu-239	0.4018052	0.4018052	100
S794044	Pu-239	0.4018052	0.4018052	100
S794043	Pu-239	0.4016165	0.4016165	100
S792215	Pu-239	0.011322	0.011322	100
S792214	Pu-239	0.013838	0.013838	100
S792213	Pu-239	0.242165	0.242165	100
S792211	Pu-239	0.298775	0.298775	100
S813315	Pu-239	0.101269	0.101269	100
S813289	Pu-239	1.205164	1.205164	100
S813323	Pu-239	0.835312	0.835312	100
S813262	Pu-239	9.03873	9.03873	100
S813241	Pu-239	0.72335	0.72335	100
S813240	Pu-239	4.957149	4.957149	100
S813225	Pu-239	0.03145	0.03145	100
S794119	Pu-239	0.01928514	0.01928514	100
S805331	Pu-239	0.626484	0.626484	100
56537	Pu-239	0.0140267	0.036794928	38.12128686
S780213	Pu-239	0	0	
S780219	Pu-239	0	0	
S780215	Pu-239	0	0	
S780203	Pu-239	0	0	
S780212	Pu-239	0	0	
S780204	Pu-239	0	0	
S780218	Pu-239	0	0	
S780206	Pu-239	0	0	
S780216	Pu-239	0	0	
S780208	Pu-239	0	0	
S780209	Pu-239	0	0	
S780217	Pu-239	0	0	
S780214	Pu-239	0	0	
S780207	Pu-239	0	0	
S780211	Pu-239	0	0	
S780210	Pu-239	0	0	
S780205	Pu-239	0	0	
S780249	Pu-239	0	0	
S780241	Pu-239	0	0	
S780252	Pu-239	0	0	
S780242	Pu-239	0	0	
S780243	Pu-239	0	0	
S780239	Pu-239	0	0	
S780240	Pu-239	0	0	
S780245	Pu-239	0	0	
S780246	Pu-239	0	0	

LA-MSG04_001 Wt% and Ci% By Drum.xlsx

SHORT_ID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S780250	Pu-239	0	0	
S780258	Pu-239	0	0	
S780251	Pu-239	0	0	
S780244	Pu-239	0	0	
S780235	Pu-239	0	0	
S780221	Pu-239	0	0	
S780222	Pu-239	0	0	
S780223	Pu-239	0	0	
S780237	Pu-239	0	0	
S780238	Pu-239	0	0	
S780236	Pu-239	0	0	
S780234	Pu-239	0	0	
56537	Pu-240	0.014007	0.036794928	38.06774687
56537	Pu-242	2.98941E-05	0.036794928	0.081245165
56537	Pu-244	0.000175062	0.036794928	0.475777533
56537	Ra-226	0.00000138	0.036794928	0.003750517
56537	Sr-90	6.7068E-06	0.036794928	0.018227512
56537	Th-234	0.00170056	0.036794928	4.621723968
56537	U-233	5.18256E-06	0.036794928	0.014084985
56537	U-234	5.1824E-06	0.036794928	0.01408455
S780204	U-235	0	0	
S780203	U-235	0	0	
S780205	U-235	0	0	
S780258	U-235	0	0	
S780252	U-235	0	0	
S780235	U-235	0	0	
S780208	U-235	0	0	
S780213	U-235	0	0	
S780239	U-235	0	0	
S780238	U-235	0	0	
S780214	U-235	0	0	
S780237	U-235	0	0	
S780240	U-235	0	0	
S780236	U-235	0	0	
S780212	U-235	0	0	
S780216	U-235	0	0	
S780234	U-235	0	0	
S780217	U-235	0	0	
S780223	U-235	0	0	
S780218	U-235	0	0	
S780221	U-235	0	0	
S780215	U-235	0	0	
S780245	U-235	0	0	

LA-MSG04_001 Wt% and Ci% By Drum.xlsx

SHORT_ID	Rad_Code	Total Curies of Nuclide	Total Curies in Drum	Ci% By Drum
S780251	U-235	0	0	
S780207	U-235	0	0	
S780250	U-235	0	0	
S780249	U-235	0	0	
S780222	U-235	0	0	
S780246	U-235	0	0	
S780209	U-235	0	0	
S780206	U-235	0	0	
S780244	U-235	0	0	
S780210	U-235	0	0	
S780243	U-235	0	0	
S780211	U-235	0	0	
S780242	U-235	0	0	
S780241	U-235	0	0	
S780219	U-235	0	0	
56537	U-238	0.00000136	0.036794928	0.003696162

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 212, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	575-234-7523	Date Sent:	~~12/9/09~~ 12/10/09 C0121010 9

Document Number	Title/Description	Record Date	Total Pages
C033	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	12/10/2009	1
NA	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MSG04.001	9/30/2009	13

Comments
None

Acceptance/Rejection Signature and Date

Records Accepted ☑	Sonia Gonzalez (Signature)	SONIA GONZALEZ (Printed Name)	12/21/09 (Date)
Records Rejected ☐	(Signature)	(Printed Name)	(Date)

Reason for Rejection:

Re-submittal:

(Signature)	(Printed Name)	(Date)

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	0030
DESTINATION TEL #	92347138
DESTINATION ID	CHEZIE
ST. TIME	12/22 10:15
TIME USE	00'16
PAGES SENT	1
RESULT	OK

Classified Doc.

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220
Telephone Number: 505-234-7523
Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian 4021 National Parks Highway - MS GSA 212, Carlsbad, NM 88220	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
		Company:	Technical Specialists, LLC
Telephone Number:	575-234-7523	Telephone Number:	505-302-8669
		Date Sent:	~~12/10/09~~ 12/10/09 CD 12/10/09

Document Number	Title/Description	Record Date	Page Count
C033	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	12/10/2009	1
NA	Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream LA-MSG04.001	8/30/2009	15

Comments
None

Acceptance/Rejection Signature and Date

Records Accepted ☑ Sonia Gonzalez (Signature) SONIA GONZALEZ (Printed Name) 12/21/09 (Date)

Records Rejected ☐ _____ (Signature) _____ (Printed Name) _____ (Date)

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D002
Waste Stream Number(s): LA-CIN04.001, LA-MHD04.001, LA-MSG04.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Additional Information	Category: ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]: Characterization of Transuranic Solid Wastes from a Plutonium Processing Facility	
Source Document Reference Information (author(s), document and revision number, date, publisher): Ray Mullin, LA-6993-MS, TWCP-18938, n/a, June 1975, Los Alamos Scientific Laboratory	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR4	1,2, 6	The Chemistry and Metallurgy group at TA-21 identified, categorized and segregated scrap waste and residues according to whether the items had less than or greater than 10 nCi/g Plutonium contamination. They used a pancake counter and a box counter system to measure the radioactivity level.
PR6, WS5	3, 5, 7, 9, 10, 12, 13	Flow charts of the Plutonium metal cycle, recovery operations and incineration process are outlined. Tables of waste volumes, weights, activity and total distribution of waste type and activity are given on pages 5, 7 and 9. This data is followed by an over-all calculation of waste generated per gram of plutonium processed.
WS8	9	Chemical contamination of the waste was stated to exist in trace quantities because all liquid reagent waste was transferred to the liquid waste treatment facility. Absorbed nitric acid is the only chemical discussed as a probable hazard as it was used in very large quantity. None of the dry bulk chemicals (40 reagents identified) are pyrochemical in nature. All organic liquids utilized have high vapor pressures. Consequently, the probability of these compounds entering the solid waste stream during normal use and operations is remote.
WS8, WS9	15-24	Appendices A,B, and C give detailed lists of the residues generated, descriptions of retrievable waste by material type, and possible chemical contamination of the waste, respectively.

NTPC RECORDS ORIGINAL
DATE REC'D 6-30-14

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D002

Source Document Data Limitations (if any):

1. Chemistry and Metallurgy group operations only
2. Study is for a limited time period, 11/73 - 05/74

Acceptable Knowlege Expert:

Amy Johns (Print) Amy Johns (Sign) Date: 2/21/14

a Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
b Obtain from Acceptable Knowledge Documentation Checklist
c For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-MHD04.001

Site(s): Los Alamos National Laboratory-Technical Area 21	**Source Document Tracking Number:** D002
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Supplemental Information	**Category:** ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents

Title of Source Document: Characterization of Transuranic Solid Wastes from a Plutonium Processsing Facility

Source Document Reference Information (author(s), document and revision number, date, publisher): Ray Mulkin, LA-5993-MS, TWCP-18938, n/a, June 1975, Los Alamos Scientific Laboratory

AK # [a]	Source Doc. Page #[b]	AK Information Summary
PR4	1,2, 6	The Chemistry and Metallurgy group at TA-21 identified, categorized and segregated scrap waste and residues according to whether the items had less than or greater than 10 nCi/g Plutonium contamination. They used a pancake counter and a box counter system to measure the radioactivity level.
PR6, WS5	3, 5, 7, 9, 10, 12, 13	Flow charts of the Plutonium metal cycle, recovery operations and incineration process are outlined. Tables of waste volumes, weights, activity and total distribution of waste type and activity are given on pages 5, 7 and 9. This data is followed by an over-all calculation of waste generated per gram of plutonium processed.
WS8	9	Chemical contamination of the waste was stated to exist in trace quantities because all liquid reagent waste was transferred to the liquid waste treatment facility. Absorbed nitric acid is the only chemical discussed as a probable hazard as it was used in very large quantity. None of the dry bulk chemicals (40 reagents identified) are pyrochemical in nature. All organic liquids utilized have high vapor pressures. Consequently, the probability of these compounds entering the solid waste stream during normal use and operations is remote.
WS8, WS9	15-24	Appendices A,B, and C give detailed lists of the residues generated, descriptions of retrievable waste by material type, and possible chemical contamination of the waste, respectively.

SUPERCEDED
SG to 11/09/09
SG 11/09/09

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory-Technical Area 21	Source Document Tracking Number: D002

Source Document Data Limitations (if any):

1. Chemistry and Metallurgy group operations only
2. Study is for a limited time period, 11/73 - 05/74

Acceptable Knowlege Expert:

David Guerin or James Luginbyhl / James Luginbyhl Date: 8/16/2006

Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

DIVIDER PAGE ONLY

Not part of page count

TWCP-14938

Waste Management

LA-5993-MS
Informal Report

UC-70
Reporting Date: June 1975
Issued: June 1975

c. 3

CIC-14 REPORT COLLECTION
REPRODUCTION
COPY

Characterization of Transuranic Solid Wastes from a Plutonium Processing Facility

by

Ray Mulkin

LOS ALAMOS NATIONAL LABORATORY
3 9338 00374 4694

los alamos
scientific laboratory
of the University of California
LOS ALAMOS, NEW MEXICO 87545

An Affirmative Action/Equal Opportunity Employer

UNITED STATES
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
CONTRACT W-7405-ENG. 36

In the interest of prompt distribution, this report was not edited by the Technical Information staff.

This work was supported by the Division of Waste Management and Transportation, US Energy Research and Development Administration.

Printed in the United States of America. Available from
National Technical Information Service
US Department of Commerce
5285 Port Royal Road
Springfield, VA 22151
Price: Printed Copy $4.00 Microfiche $2.25

This report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the United States Energy Research and Development Administration, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

CHARACTERIZATION OF TRANSURANIC SOLID WASTES FROM A PLUTONIUM PROCESSING FACILITY

by

Ray Mulkin

ABSTRACT

Transuranic-contaminated wastes generated in the processing areas of the Plutonium Chemistry and Metallurgy Group at the Los Alamos Scientific Laboratory (LASL) were studied in detail to identify their chemical and physical composition. Nondestructive Assay (NDA) equipment was developed to measure transuranic activity at the 10-nCi/g level in low-density residues typically found in room-generated waste.

This information will supply the Waste Management Program with a more positive means of identifying concerns in waste storage and the challenge of optimizing the system of waste form, packaging, and environment of the storage area for 20-yr retrievable waste. A positive method of measuring transuranic activity in waste at the 10-nCi/g level will eliminate the need for administrative control in a sensitive area, and will provide the economic advantage of minimizing the volume of waste stored as retrievable waste.

LOS ALAMOS NATL LAB LIBR
3 9338 00374 4694

I. INTRODUCTION

The radioactive waste resulting from the handling of uranium, plutonium, and other radionuclides has been recognized as a special problem since the beginning of the Manhattan Project. As the nuclear industry has developed and expanded, specific guidelines have been established for particular waste streams to control waste form and methods for storage in such a manner that the environment is adequately protected.

In 1970, the General Manager's Office of the U. S. Atomic Energy Commission (AEC) issued Immediate Action Directive No. 0511-21 specifying that solid waste contaminated with ^{233}U and its daughter products, plutonium, and transplutonium nuclides (except ^{238}Pu and ^{241}Pu) could continue to be stored in conventional AEC-approved burial grounds if their level of radioactivity did not exceed 10 nCi/g. Plutonium-238 and ^{241}Pu were to be handled as transuranics (TRU) when so indicated by ^{239}Pu impurities, or when required by local burial criteria.[1] Solid wastes contaminated to a level of greater than 10 nCi/g could no longer be buried, but were to be stored at AEC sites, segregated from other radioactively contaminated solid waste, with combustible and noncombustible TRU-contaminated waste packaged separately. The packaging and storage conditions were to be such that the packages could be readily retrieved in an intact, contamination-free condition for 20 yr.[2]

In order to meet the segregation, measurement, and packaging requirements[3] of retrievable storage it was recognized that the kinds of TRU-contaminated solid waste would

have to be identified and categorized. In addition, the data obtained from a sorting study would be relevant to efforts aimed at optimizing the waste packaging, handling techniques, and storage facility designs required for retrievable storage. Waste treatment facilities can be more effectively designed if the characteristics of the influent stream are known. Finally, a knowledge of residue types, volumes, and radioactivity content as a function of origin is essential toward achieving a reduction in the amount of waste being generated.

The Plutonium Chemistry and Metallurgy Group operations in Technical Area(TA)-21 at LASL offered a unique study area which could be used for evaluating the generation of TRU waste. All unit operations involved in ^{239}Pu metal handling and a complete scrap recovery system are located in this area. Figures 1 and 2 describe a typical plutonium metal cycle and some of the major process residues handled by scrap recovery. Other operations in the study area include basic plutonium chemistry research, development work in Liquid Metal Fast Breeder Reactor (LMFBR) fuels, and development work using 80% ^{238}Pu as an energy source for Space Nuclear Systems and artificial hearts --providing an even broader spectrum of wastes.

II. CLASSES OF RESIDUES

The radioactive waste examined in this study consisted of two major streams: residues generated by process operations in the glovebox or hood enclosures and residues generated in the operating room or area containing the transuranic process facilities. Packaged residues are normally sent to scrap recovery for measurement of the plutonium content or transuranic activity by Nondestructive Assay (NDA) techniques.

Residues are considered recoverable if the plutonium content is sufficient to warrant reclaiming and reusing, based on local criteria. Such packages of measured residues can then be defined as scrap or feed material for a scrap recovery process. Packaged residues not considered recoverable, but which are above 10 nCi/g in transuranic activity, are defined as retrievable waste and are logged into a "20-yr-retrievable waste drum." Disposable residues from an area containing transuranic processing facilities are those items containing less than 10 nCi/g of transuranic activity. Such low-level waste may be disposed of in a nonretrievable manner such as land burial, but in a controlled area.

Process-generated residues are usually classified as recoverable (scrap) or retrievable (waste), with a low probability of finding packages with transuranic activity less than 10 nCi/g. Room-generated residues are assumed to contain at least trace quantities of transuranic activity simply from having been in the process area, but are normally less than 10 nCi/g. A small portion could be more than 10 nCi/g, but recoverable levels would not be expected.

III. PROCESS-GENERATED RESIDUES FROM A TYPICAL OPERATION

The first phase of this waste characterization study was the identification of process residues at the point of generation in the plutonium metal fabrication area. Processes generating residues include research and development work in casting, machining, welding, assembly, and disassembly, plus a variety of other experimental operations in fabrication, preparation of test specimens, and metal handling.

Process-generated residues from all operations are transferred through a conveyor system to one glovebox line for disposal. Material is removed from the glovebox by standard bag-out procedures and transferred to the scrap recovery area for assay, normally by use of a neutron coincidence counter. Packages with recoverable quantities of plutonium are transferred into scrap recovery and discardable items are logged into

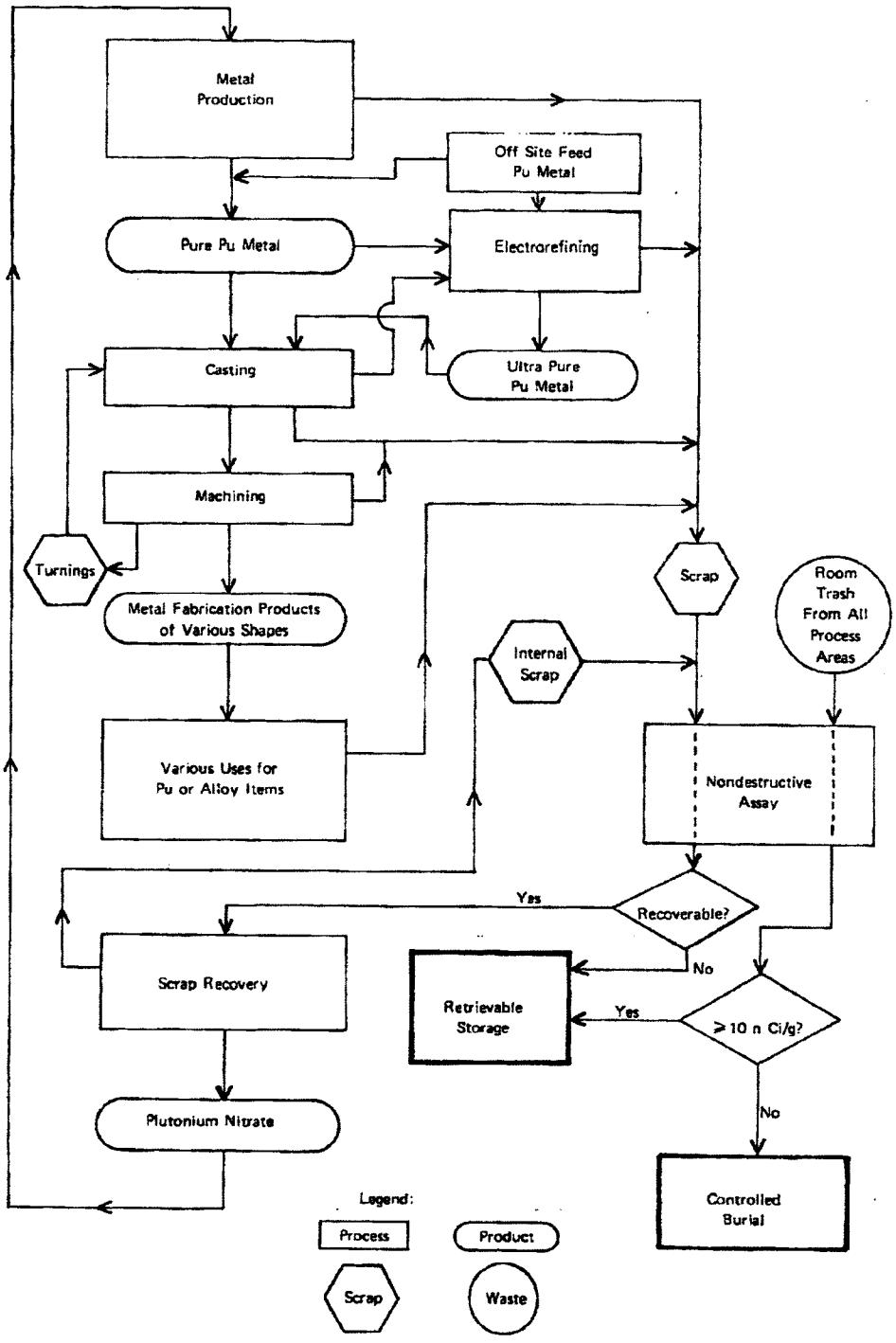


Fig. 1. Plutonium metal cycle.

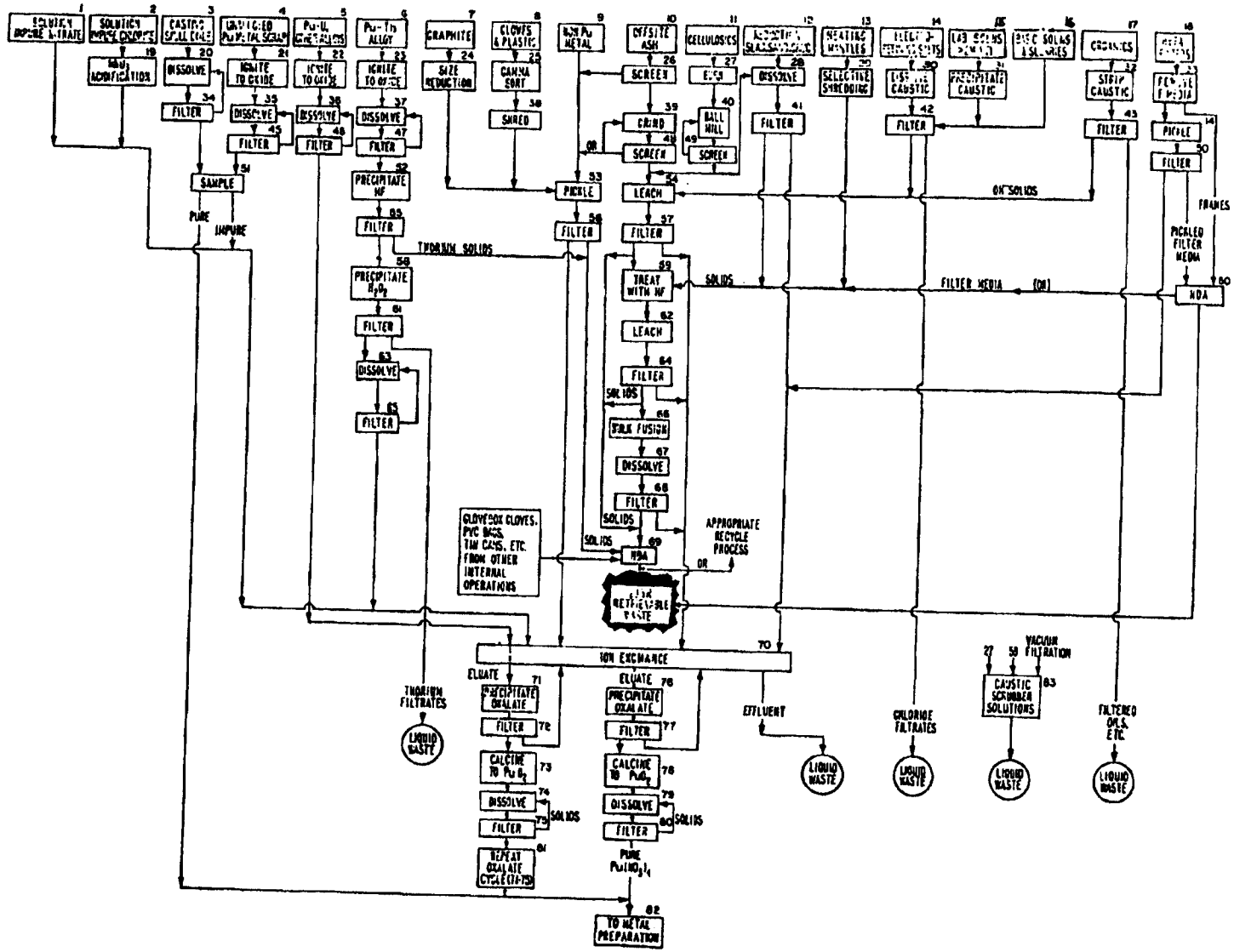


Fig. 2. Flow diagram of plutonium scrap recovery operations.

a retrievable waste drum.

For this study, operation of the waste collection glovebox was manned by members of the research team. The first objective was to determine the amounts of various material types generated in such operations. Then each waste type was sorted into high and low contamination levels by both visual examination and by use of a gamma probe.

During the study period, 483 kg of residues were processed. Using a discard limit of 0.5 g of Pu/kg of waste (0.5 g/kg), 59 wt% of the material (containing less than 10% of the plutonium) was put into retrievable waste drums. Material types, composition, and plutonium content of each stream are shown in Table I. More detailed description of waste items observed are given in Appendix A.

The procedure of sorting waste before removal from the glovebox has economic practicality. Normally, the entire waste stream is transferred to scrap recovery and then sorted into waste types according to the recovery process used. However, when wastes were sorted before removal the costs were reduced since incurred recovery costs were only those associated with handling 41% of the waste stream.

IV. ROOM-GENERATED RESIDUES

Residues generated in an operation area or a room containing transuranic process facilities are usually of considerably lower contamination levels than the process-generated residues. Since the radioactivity content is not typically expected to be at the recoverable level, these residues are more commonly referred to as room-generated waste or room trash. Much of the trash is not really contaminated at all, but some waste generated during maintenance work and cleaning work around process equipment such as transfer lines might contain some contamination.

These wastes are collected in polyethylene bags placed inside 0.06-m^3 cardboard boxes which are inside 115-ℓ drums covered with flame-retardant lids. The new Division of Waste Management and Transportation

TABLE I

PROCESS-GENERATED RESIDUES FROM FABRICATION AREA
April 73 to September 73

	Unsorted Waste Input			Sorted Waste Output			
				Retrievable Waste (<0.5 g Pu/kg waste)		Recoverable Scrap (>0.5 g Pu/kg waste)	
Material	Pu g	Net Wt. kg	Wt.% of Total Waste	Pu g	Net Wt. kg	Pu g	Net Wt. kg
Metal	127	166	34	29	123	98	43
Plastic	36	107	22	17	82	19	18
Rubber	23	39	8	3	17	19	23
Cellulosic	260	29	6			260	29
Glass & Ceramic	4	57	12	4	55	<1	2
						99	82
Graphite	99	83	17				
Floor Sweeping	33	2	1			33	2
				53	284	529	199
Total	582	483	100	9	59	91	41
% of Total	100	100	100				

(DWMT) criteria of 10 nCi/g made it necessary to examine such materials to determine their actual level of contamination.

A hood-glovebox system built around a FIDLER (Field Instrument for the Detection of Low Energy Radiation) Counter was installed in the scrap recovery area. The thin sodium iodide crystal was positioned to interrogate thin, "pancake" shaped packages of low-density trash, and was referred to as the Pancake Counter. Development work, using analytically prepared standards in typical room trash, indicated that the Pancake was capable of detecting activity in the 1- to 10-nCi/g range using 16-keV L-x rays and 60-keV gamma rays.

After in-place calibration of the system, the 0.06-m^3 boxes of typical room trash were introduced into the hood. Waste was sorted by material type into 500- to 1000-g packages. A standard 10-s count of each package was compared to normal background radiation levels to determine the level of activity. Packages assaying higher than 10 nCi/g were transferred into the glovebox for disposal as retrievable waste. Other samples were repackaged for disposal by burial.

A mapping system was initiated to identify the point of origin of samples and the associated type of operation. Samples assaying at $\geq$ 10 nCi/g were traced to their source, and an attempt was made to determine the reason for the high level of activity. The higher levels of contamination were usually caused by residues from maintenance cleanup items, plutonium welding work materials, or plastic adapters used in transferring plutonium nitrate solutions.

During the waste characterization and composition studies, a routine logging system recorded origin of waste, weight of each room-trash box, and the major isotope being processed in the area from which the waste originated. Data obtained from this study will be used to determine means of reducing or eliminating waste streams from some process areas.

The Pancake Counter assay system proved accurate in measuring activity in low-density materials; however, activity contained in scrap metal objects and glassware (i.e., high-density items) could not be satisfactorily detected due to excessive attenuation of the low-energy gamma and x rays. Cross checks were thus begun between this system and a Multienergy Gamma Assay System (MEGAS) which not only measures low energies but is also capable of detecting higher energy gamma-ray emissions. Hardware was fabricated to facilitate assay of the standard 0.06-m^3 trash box, resulting in the designation of Box Counter. Boxes of typical low-density room trash were opened and their contents assayed by the Pancake Counter. Samples were then repackaged and scanned by the Box Counter for a total box count. (A detailed discussion of the development of this instrumentation is presented in LA-5904-MS).[4]

The Box Counter was installed in the Trash Monitoring Room at the scrap recovery area in 1974. It is now used as the routine monitoring system for room-generated waste associated with all plutonium operations in TA-21. Though originally calibrated for reporting activity from weapons-grade plutonium, the MEGAS was programmed to identify the major transuranic isotope or fission product in a box and to calculate the appropriate activity of the box in nCi/g. In a 4-month period, 487 boxes were assayed using the Box Counter (see Table II for composition and Fig. 3 for activity distribution). Although 12% of the boxes assayed greater than 10 nCi/g, some contained ^{238}Pu* and/or mixed fission products, so that only 8% were transferred to retrievable storage or returned to the sender. The

*The LASL retrievability limit was 100 nCi/g for ^{238}Pu materials.

TABLE II

COMPOSITION OF ROOM TRASH

	Volume %
Cellulosics	83
Chart paper, computer paper, surgeon's glove boxes, kraft paper, masking tape, cheesecloth, clothing - (coveralls, caps, booties, undershirts, shorts), paper towels	
Surgeon's gloves	4
50 % each rubber and plastic	
Plastic	4
Polyethylene bags, bags from face masks, reagent bottles and bags	
Styrofoam	3
Packing material and coffee cups from "In-Plant Coffee Room"	
Glass	1
Sample bottles, glass wool from room air prefilters	
Metal	5
Flashlight batteries, wire, conduit, tin cans, aerosol cans, aluminum foil	
	100

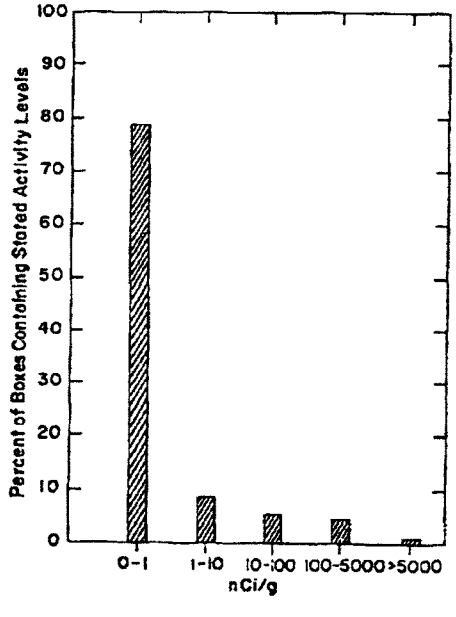


Fig. 3. Activity distribution in room trash.

remaining 92% were sent to land burial as disposable waste.

Room-trash boxes are not compacted except for limited manual compression as they are being filled. Density data collected during a 4-month period showed that the boxes had an average density of 86 kg/m^3.

A brief study was made in the plutonium processing facility while using the MEGAS instrumentation (see Fig. 4) to evaluate the economics of alternative methods for the disposition of room trash. Approximately 8% of the room-trash boxes contained sufficient TRU contamination to require retrievable storage. The economic analysis showed that the MEGAS operation is more economical than the alternative of administratively assigning all room trash to retrievable storage. (Table III shows the cost comparisons of the two alternatives.) This study considered only short-term costs, which included manpower, materials, on-site transportation, pit operation, trash volume, and alternative tasks for personnel. All factors indicate that long-term application of the MEGAS would show an even more favorable economic comparison.

V. RETRIEVABLE WASTE

The retrievable waste stream from all the Plutonium Chemistry and Metallurgy Group operations, including scrap recovery, consists of all process-generated residues that are below established recoverable limits combined with any room-generated residues that assay greater than 10 nCi/g.

The previously described evaluation of room trash demonstrated that certain operations, such as maintenance on process equipment--even though performed in open room areas under controlled conditions--did in fact result in trash contaminated to activity levels above 10 nCi/g. The next question to be answered was whether any of the process-generated wastes could be less than 10 nCi/g.

Fig. 4. MEGAS (Box Counter).

A glovebox glove, which had been cleaned by wiping thoroughly with wet cheesecloth, was assayed in the Pancake Counter. The measured activity in the package was over 1000 nCi/g. For a 750-g glove, this activity would be equivalent to 10 to 20 mg of ^{239}Pu. In a second study, the contents of several 1-ℓ ice cream cartons of dry chemicals were transferred to mixing jars and the empty cartons moved to the nearest bag-out station. Contact with plutonium-contaminated surfaces occurred only when the containers were placed on the glovebox floor and when they came in contact with three or four glovebox gloves during the transfer operation. Nevertheless, assay of the bag-out package showed a plutonium content of 700 nCi/g (equivalent to 5 mg in a 500-g package). Examination of many other items showed similar data which indicate that material from inside gloveboxes and process equipment will be above the 10-nCi/g level.

TABLE III

AVERAGE MONTHLY COSTS BY CATEGORIES AND TOTALS FOR ALTERNATIVES

	ALL WASTE to Retrievable Storage	Use of MEGAS to Screen Waste
Material		$ 90.00
Boxes, bags, tape/mo.	$ 890.00	70.00
Drums, drum liners/mo.	$ 890.00	160.00
Total/mo.		
Manpower	70.00	220.00
Counting/mo.	700.00	90.00
Documentation/mo.	770.00	310.00
Total/mo.		
Transportation	140.00	60.00
Total/mo.		
Disposal/Storage Area		20.00
(≤10 nCi/g)	300.00	20.00
(>10 nCi/g)	300.00	40.00
Total/mo.		
GRAND TOTAL/MO.	2100.00	570.00

The retrievable wastes resulting from all plutonium processing operations were processed through the hood-glovebox system equipped with the Pancake Counter during the same time period the room waste was being studied. As the packages of the process-generated waste were assayed by neutron coincidence counter or by the segmented gamma scan, those packages below recoverable limits were introduced into the glovebox and inspected for anything unusual in terms of chemical contaminants, liquids, evidence of oxidation or degradation, etc. The wastes were separated by material type and removed from the glovebox by standard bag-out methods. As drums of waste were filled with a single material type, the total content of each drum was reassayed to provide plutonium content as well as weight and volume of each material type.

The results obtained from the characterized retrievable waste are shown in Table IV, with a detailed discussion of each material type in Appendix B. The distribution of plutonium contamination on the various waste matrices is given in Figs. 5 and 6.

TABLE IV

COMPOSITION OF RETRIEVABLE WASTE
FROM PLUTONIUM CHEMISTRY AND METALLURGY GROUP
November 1973 to May 1974

Material	Weight kg	Weight % of Total	Volume ℓ	Volume % of Total	Pu,g	g Pu/kg waste	Activity nCi/g
Cellulosic	205	5	1760	9	14	0.066	4700
Plastic	771	20	7400	39	121	0.157	11200
Process Solids	1225	32	3375	18	2781	2.271	161900
Metal	863	22	4388	23	165	0.191	13600
Glass	635	16	1407	8	85	0.134	9600
Rubber	189	5	520	3	39	0.208	14800
Total	3888		18850		3205		

VI. CHEMICAL CONTAMINATION OF WASTE

An inventory of the chemicals used in the plutonium processing areas during one calendar year was compiled with more than 40 reagents identified. Preliminary estimates reveal that only minute quantities of these reagents enter the solid waste stream as contamination. None of the dry bulk chemicals are pyrophoric in nature. All organic liquids which are utilized have high vapor pressures. Consequently, the probability of these compounds entering the solid waste stream during normal use and operation is remote. The inorganic bulk liquids (acids, hydroxides, caustics, etc.) are used in plutonium processing steps and are transferred to the liquid waste treatment facility. The absence of any free liquid in the solid wastes characterized and sorted during this study indicates that these chemicals enter the solid waste stream only as contaminants absorbed onto other items. A complete listing of chemicals used, and items which become contaminated with these chemicals, is given in Appendix C.

The large volume of nitric acid used (58 000 ℓ/yr) and the nature of the processes imply that contamination of scrap recovery solid wastes with nitric acid is the rule rather than the exception. Obser-

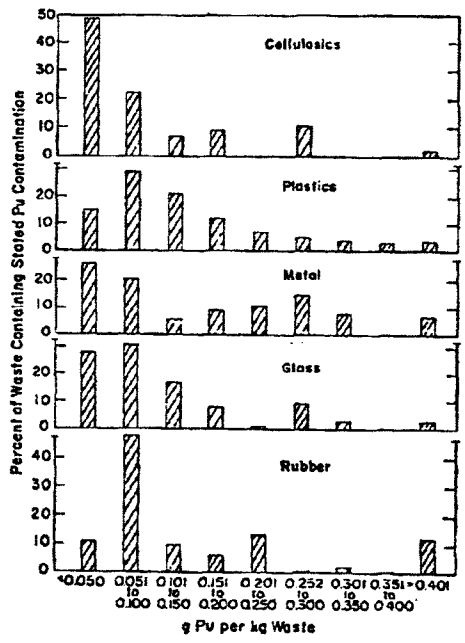


Fig. 5. Activity distribution in retrievable waste.

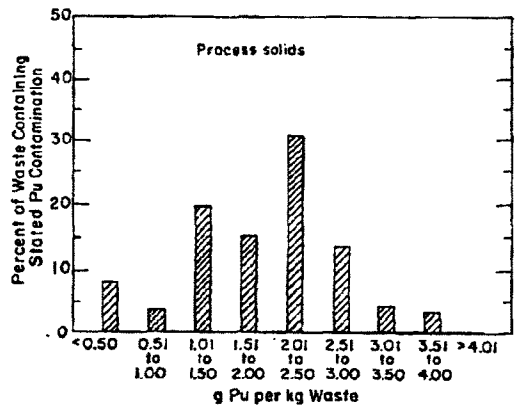


Fig. 6. Activity distribution in process solid waste stream.

vations have indicated that oxidation-reduction reactions between nitric acid and other chemical contaminants which may be present have attained equilibrium before the contaminated waste material is packaged for retrievable storage. The observed diffusion of nitric acid through PVC bags and the ubiquitous presence of this compound in stored wastes indicate that internal corrosion of the presently used 17C or 17H drums may be accelerated by this chemical contaminant.

VII. UNIT OPERATIONS RELATIONSHIP

The value of establishing predictable or reproducible relationships between unit operations and generated residues was studied. Possible guides considered were: waste generated per gram of plutonium processed, waste generated per man-hour, or material-type distribution related to some standard or typical operation. Tables V, VI, and VII show the results of some of these studies from typical unit operations.

The validity or usefulness of this data can be questioned when one analyzes the factors contributing to types and amounts of residues generated. As an example, in Table VII the waste generated by ash leaching shows 23 wt% to be scrap metal. This study was made when the ash leaching operation was concentrating on off-site ash from the Central Scrap Management Office at Richland, and the scrap metal was primarily the inner shipping container. Had the same ash leaching equipment been used for processing locally generated ash from an incinerator in the same glovebox line, scrap metal would have been less than 5 wt%.

Thus, each process at each major ERDA operation will have its own unique set of circumstances influencing the amount and type of waste generated.

TABLE V
RETRIEVABLE WASTE GENERATED PER GRAM OF PLUTONIUM PROCESSED

Unit Operation	Pu Processed, g	Bulk Waste, kg	kg Waste/g Pu
Ash Leaching	3 675	167	0.045
Ion Exchange	3 780	20	0.005
Alloy Processing	3 336	11	0.003

TABLE VI
RETRIEVABLE WASTE GENERATED PER MAN-HOUR

Unit Operation	Man-Hours	Bulk Waste, kg	kg Waste/Man-Hour
Ash Leaching	320	167	0.522
Ion Exchange	160	20	0.125
Alloy Processing	240	11	0.046

TABLE VII
COMPOSITION OF RETRIEVABLE WASTE FROM UNIT OPERATIONS

Material Type	Composition, wt%		
	Ash Leaching	Ion Exchange	Alloy Processing
Metal	23	0	22
Plastic	14	26	17
Rubber	7	12	0
Cellulosics	11	2	9
Glass	14	8	38
Process Solids	31	52	14

Ref: LA-5666-PR

VIII. RELATIONSHIP OF WASTE GENERATION AND PLUTONIUM RECOVERY

Most of the information in this report has been limited to the room-generated and the process-generated residues immediately related to the glovebox operations in plutonium processing areas. Realizing that each part of the plant must assume an appropriate portion of waste such as scrubber solutions, seal liquid from house vacuum systems, and ion exchange effluents, an effort was made to "quantify" typical operations involved in the recovery of two common residue streams. The flowsheet in Fig. 7 describes the incineration of cheesecloth, through leach steps and ion exchange, to produce a product of pure plutonium nitrate. The flowsheet in Fig. 8 describes the production of plutonium metal from nitrate with the associated recovery of plutonium from the major residues--peroxide filtrate and the slag and crucible. These studies show very clearly the need for improvements in handling liquid waste streams since the end products of liquid waste treatment account for over 95% of the total volume of waste generated.

IX. CONCLUSIONS AND RECOMMENDATIONS

1. The process residues and waste items associated with plutonium handling in gloveboxes were studied in order to more clearly define and evaluate the risks associated with placing these materials in interim 20-yr retrievable storage. The waste items in most cases were found to result from packaging, transfer, storage, and other handling of transuranic materials. A concerted effort should be made to eliminate as many items as possible, reduce the use rate of those items that cannot be eliminated, and look for substitutions that would result in smaller volumes or more easily treatable material. The recycling or reuse of packaging should also be fully evaluated.
2. A decision should be made concerning the amount of radioactivity permitted in transuranic wastes. Economic and ecological concerns are in conflict when considering the discard level of materials from scrap recovery operations going into retrievable waste. Improved process systems are needed in order to comply with the waste management policy[3] of reducing the amount of radioactivity in such waste and still having economical recovery. Recovery of plutonium from process residues, such as incinerator ash, to a lower level is of particular concern.
3. Process-generated residues should be sorted at the point of generation with guidance from trained scrap recovery personnel. Material type categories should, at a minimum, meet the criteria of separating combustibles and noncombustibles and could be coordinated with the recovery processes used.

More refined on-line measurement methods are needed to optimize quantitative methods which, when correlated with discard levels in recovery operations, can minimize the amount of material to be processed and the associated waste resulting from the additional handling.

4. NDA systems designed for on-line work, as described above, are needed to improve the handling of scrap and waste. In recovery operations it is not unusual to remove scrap from a glovebox after routine processing and find that NDA results show the package to be above the discard limit. An on-line system would eliminate the extra handling, additional PVC bags, and other supplies used in glovebox systems.
5. The level of chemical contamination in retrievable waste should be controlled to reasonable concentrations as described in "Guidelines for the Interim Storage of AEC-Generated Solid Transuranic Waste."[5]

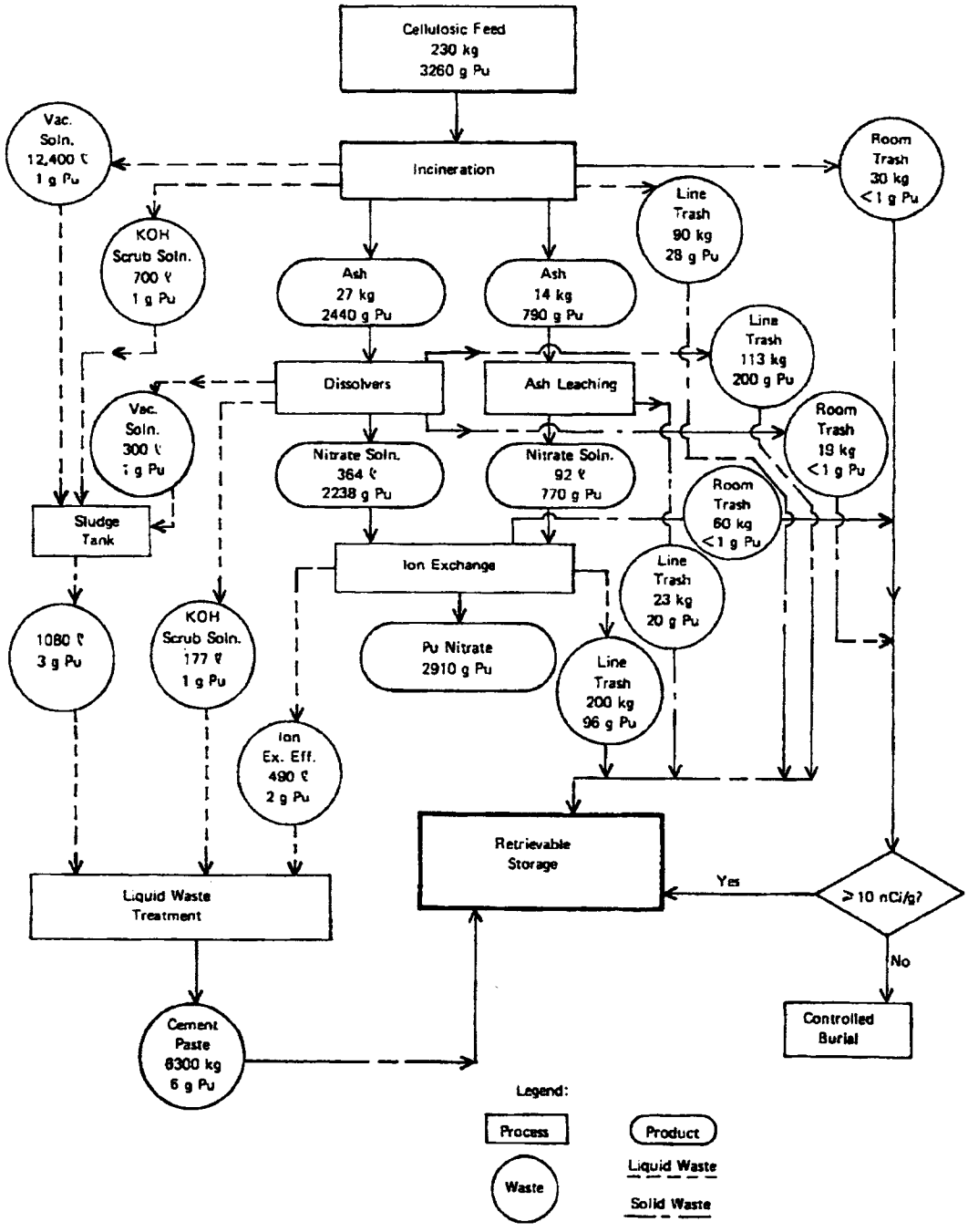


Fig. 7. Incineration flowsheet.

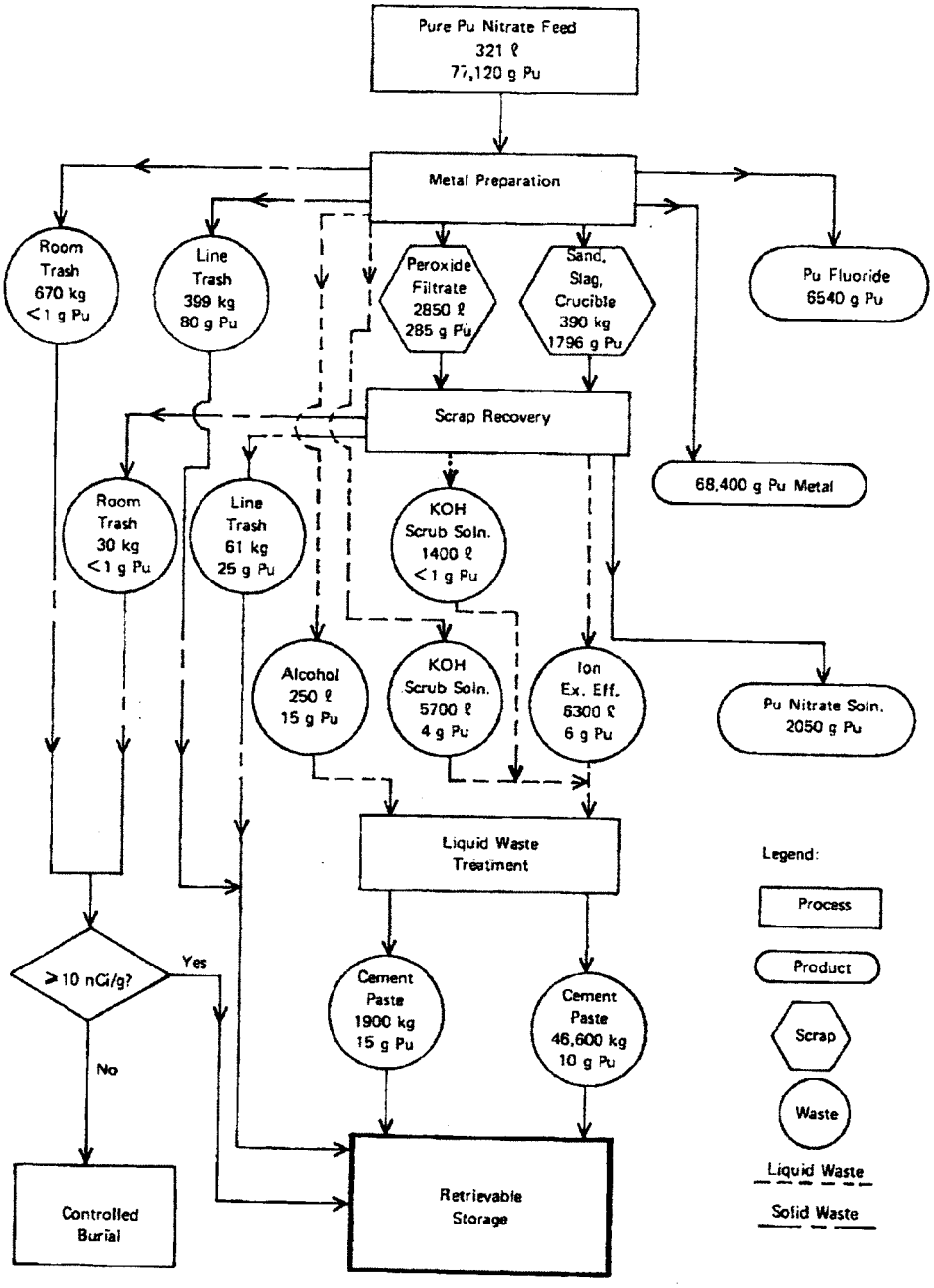


Fig. 8. Plutonium metal production flowsheet.

The levels and types of chemicals observed in this study were relatively low and did not appear to present a serious hazard in normal retrievable storage.

One area of concern, however, is the potential hazard of certain cellulosic materials that have been exposed to concentrated nitric acid. Typical examples are cheesecloth or wipes used to clean around dissolvers in gloveboxes, and HEPA filters exposed to fumes from boiling nitric acid. Limited experimental data indicate some degree of nitration can occur leading to self-ignition and possible detonation at slightly elevated temperatures. Incineration of this type of waste should be standard practice until the hazard is more clearly defined.

6. Plant design has a decided influence on the amounts and types of residues to be treated. Facilities such as the new plutonium facility at Los Alamos and the new scrap recovery facility at Rocky Flats have incorporated many features in their design which will reduce the generation of waste and its transuranic content. The volume of room trash associated with processing areas will be greatly reduced by more careful planning of office areas and materials receiving areas. A waste characterization study in the new plutonium facility in 1980 would predictably be entirely different compared to the results in this report, even if the same number of people and the same processes were involved.

7. When evaluating process improvements to reduce residues generated, or when designing systems for stabilizing waste streams before storage, all resulting waste streams must be considered. Liquid waste must receive the same attention as solid waste when considering minimum releases to the environment.

ACKNOWLEDGMENTS

The author would like to thank P. W. Wanek, J. G. Dunn, and J. A. Mascarenas for their excellent work in the sorting and assay operations. Their knowledge and skills in plutonium residue handling were invaluable in the collection of true-to-life data and in preparation of process flowsheets.

The work of John Umbarger and Leo Cowder in keeping the assay equipment functional and providing many suggestions for broader applications of measurement techniques is gratefully acknowledged.

The support of the LASL Waste Management Team under the direction of L. J. Johnson is appreciated.

REFERENCES

1. U. S. AEC Manual Appendix 0511 (Radioactive Waste Management), Part I (Terminology), Para. 23 (Transuranium-Contaminated Solid Waste), a. (1973).

2. U. S. AEC Manual Chapter 0511 (Radioactive Waste Management), Part C44.d (Operating Criteria, Radioactive solid waste other than that generated by solidification of high-level liquid waste) (1973).

3. "Plan for the Management of AEC-Generated Radioactive Wastes." U. S. AEC Report WASH-1202, para. III, C 1a (4), pp. 29 (1973).

4. C. J. Umbarger and L. R. Cowder, "Measurement of Transuranic Solid Wastes at the 10-nCi/g Activity Level." Los Alamos Scientific Laboratory report LA-5904-MS (1975).

5. H-Division Staff, "Guidelines for the Interim Storage of AEC-Generated Solid Transuranic Wastes." Los Alamos Scientific Laboratory report LA-5645 (1974).

APPENDIX A

RESIDUES GENERATED BY PLUTONIUM METAL FABRICATION

1. Non-Pu Scrap Metal
   Aluminum foil, tin cans, used scrap pipe (stainless steel, mild steel, and aluminum), small obsolete equipment, etc.
2. Plastic
   Primarily polyvinyl chloride (PVC) from bag-in and bag-out operations, and some polyethylene and polypropylene.
3. Rubber
   Mostly drybox gloves.
4. Combustibles
   Almost totally cheesecloth.
5. Glass
   Broken laboratory-type equipment such as beakers, graduated cylinders, and Vycor castings sleeves.
6. Ceramics
   Magnesium oxide liners and other refractories.
7. Insulation
   Transite board, asbestos pipe insulation.
8. Graphite
   Primarily molds and crucibles from casting operations.

APPENDIX B

DESCRIPTION OF RETRIEVABLE WASTE BY MATERIAL TYPE

1. Cellulosics

All of the cheesecloth used in glovebox operations for cleanup work is reused as long as possible before it is transferred to recovery. In many cases, the cheesecloth has been exposed to nitric acid or oil. This material is quite high in plutonium concentration and is routinely counted and transferred to the incinerator. For this reason, none of the process-generated cellulosics were in the retrievable waste category. Cheesecloth used outside the gloveboxes during maintenance work and cleanup operations contribute a significant portion of the less than 0.05-g/kg stream. Wood filter frames of HEPA glovebox primary filters contribute heavily to the 0.4-g/kg stream.

2. Plastic

Retrievable plastic wastes consist primarily of PVC bags and bag stubs. Some sheet material used as temporary floor covering, and laboratory wares such as funnels, petri dishes, graduated cylinders, wash bottles, tubing, and gaskets also appear in this waste stream. If PVC bags are handled with any degree of care, contamination can be held to less than 0.1 g/kg.

3. Process Solids

Incinerator ash, after being leached with nitric acid and calcium fluoride, is the main solid residue from scrap recovery operations. Any other solid material collected from glovebox cleaning is also leached in the same fashion. Other terms used on a local basis include sweepings, heels, ash heels, and leached residues. Present discard limit for this material based on the economics of recovery is 4 g/kg.

4. Metal

Retrievable metal wastes are represented by a diverse stream of nails, nuts, bolts, wiring, conduit, tin cans, stainless steel dressing jars, aluminum foil, lathe turnings, hacksaw blades, screw drivers, tweezers, hammers, hair dryers, hot plates, heating coils, vacuum cleaners, and furnaces. In this study most of the tin cans in which offsite ash had been received from the Central Scrap Management Office at Richland were less than 0.1 g/kg. The contamination present on tools and small equipment can vary greatly depending on usage, time in the glovebox, and cleaning effort.

5. Glass and Ceramic

Retrievable glass and ceramic materials primarily include normal laboratory glassware such as beakers, cylinders, graduated cylinders, and 1-ℓ to 9-ℓ bottles. Heating mantles used in batch leaching operations are occasionally discarded, but are normally reduced to a small residue by volatilizing the silicon in a hydrofluorination treatment.

6. Rubber

In this study, almost all of the stream was glovebox gloves. When a box of room trash was found to be over 10 nCi/g, and the waste was merged with the process generated waste, some surgeon's gloves would contribute to this waste. Occasionally items such as rubber stoppers and tubing would appear.

APPENDIX C

STUDY OF CHEMICAL CONTAMINATION ON TRANSURANIC WASTES

Process Chemicals Used in Plutonium Processing Area During CY 1973

CHEMICAL	AREA	ANNUAL ISSUE (kg)	USE DESCRIPTION	WASTE ITEMS CONTAMINATED
Aluminum Nitrate	Scrap Recovery	3182	Used to complex fluoride ions in nitrate solutions from reduction residue dissolvers, bulk fusion solutions, and in ion exchange feed adjustment.	Trace quantities may be found in exhaust filters, on dry box gloves, and on rubber window gaskets. If spilled, may be found in larger quantities on wet cheesecloth. Small amounts may also be found on cardboard transfer containers.
Ammonium Bifluoride	Metallography	0.5	May be used in combination with acids for metal etching processes. Used in quantities of 1 g or less.	Found in very low quantities in cheesecloth when spilled. Disposal may cause contamination on PVC plastic bags or on polyethylene jar.
Calcium Fluoride	Scrap Recovery	93	Used with nitric acid for the leaching of incinerator ash.	Trace quantities may be found in exhaust filters, on dry box gloves, and rubber window gaskets. Larger quantities are found on heating mantles when process solutions boil over. Residual amounts are found in empty reagent bottles.
Carbon Tetrachloride	Fabrication	4 ℓ	Used with dry ice in a dew point chamber. This product is no longer used.	Evaporated in glovebox exhaust system.

APPENDIX C (cont)

CHEMICAL	AREA	ANNUAL ISSUE (kg)	USE DESCRIPTION	WASTE ITEMS CONTAMINATED
Cerous Nitrate	Metallography	0.5	Used in quantities of 1 g or less in combination with several types of acids for metal etching.	Not usually found in waste but could be found in cheesecloth if spilled and in polyethylene jar used for liquid disposal.
Chlorothene	Metallography	416 ℓ	Used as a lubricant for sample polishing of fuel pellets in metallography processes.	Evaporated in glovebox exhaust system.
Copper Granules	Fabrication	0.5	Used for compacting and compression testing.	Small amounts may have been found in glovebox floor sweepings if spilled.
Copper Shot	Fabrication	0.9	Used in compression and compacting testing.	Not normally found as waste contaminant, but could have been spilled and consequently be present in floor sweepings.
Diethylene triamine	Metallography	1.1	Standard epoxy catalyst used for setting up fuel pellets for metallographic processes.	Usually found in floor sweepings from grinding operation and may be found in glovebox exhaust (HEPA) filters.
Epoxy Cement	Metallography	6 ℓ	Epoxy cement used to mount samples for etching.	Found in floor sweepings and on grit paper as well as exhaust filters and in cheesecloth.

APPENDIX C (cont)

CHEMICAL	AREA	ANNUAL ISSUE (kg)	USE DESCRIPTION	WASTE ITEMS CONTAMINATED
Ethanol	Metal Production	416 ℓ	Used to dehydrate plutonium peroxide cake prior to hydrofluorination step.	Filtered into a 50-ℓ qlass jar contained inside a 114-ℓ metal drum and transported to Bldg. 257 for liquid waste processing.
Ferric Nitrate	Scrap Recovery	9.1	Used in hydroxide precipitations in combination with aluminum nitrate to act as a carrier precipitator.	Residual amounts found in cardboard transfer containers and if spilled could be found in cheesecloth and floor sweepings. Particles may be found adhering to exhaust filters and dry box gloves.
Ferrous Ammonium Sulfate	Scrap Recovery	14	Used in combination with urea and hydroxylamine nitrate in the reduction of plutonium to the trivalent state prior to the cation exchange process.	Resulting solution from ion exchange is transferred in a trailer tank to Bldg. 257 for liquid waste treatment. In a case of a leaky pipe or valve it could be found in cheesecloth in retrievable waste.
Iodine Crystals	Metal Production	11	Used with calcium metal as a booster for reduction of the plutonium fluoride to plutonium metal during the bomb reduction procedure.	Found in the reduction slag which is sent to recovery in stainless steel cans. May also be found on PVC plastic bags resulting from transfer. Can be found in small amounts in exhaust filters.
Lithium Fluoride	Metallography	0.5	Used in etching fuel pellets in metallography.	Found in exhaust filters, dry box gloves, and PVC plastics.

APPENDIX C (cont)

CHEMICAL	AREA	ANNUAL ISSUE (kg)	USE DESCRIPTION	WASTE ITEMS CONTAMINATED
Magnesium Oxide	Metal Production	2455	Used as a crucible material and as a packing sand during bomb reduction of plutonium fluoride.	May be found on stainless steel cans and PVC bags used in transfer to recovery section.
Nitric Acid (Bulk) Technical Grade	Scrap Recovery	52,300 ℓ	Used in all leaching processes: ash, graphite, surface contaminated materials and in bulk fusion and dissolution of sand slag and crucible.	Found in residual amounts on all leached and pickled materials such as dry box gloves, plastic, glass and ceramics, metals and graphite. Also found in all process residues from bulk fusion and ash leaching.
Nitric Acid (Analytical Reagent)	Scrap Recovery	5290	Used in ion exchange column regeneration, washing, and if needed, during column elution.	Found in spent ion exchange resin. (Nitric Acid is so commonly used it may be found on most items; filter-aid, line filters, dry box gloves and gaskets, and on cheesecloth used in cleaning.)
Nitric Acid (Analytical Reagent)	Metal Production	399	Used to adjust nitrate concentration prior to peroxide precipitation and to treat filtrate after precipitation.	Found in exhaust filters, dry box gloves, and PVC plastics.
Nitric Acid (Technical Grade)	Metallography	258	Used in etching fuel pellets in metallography.	Disposed of in a self-contained acid drain in dry box line and therefore may be a contaminant on polyethylene bottle and PVC bag. It may also be found on exhaust filters and dry box gloves.

APPENDIX C (cont)

CHEMICAL	AREA	ANNUAL ISSUE (kg)	USE DESCRIPTION	WASTE ITEMS CONTAMINATED
Oil, Heat Treating	Fabrication	19 ℓ	Use in hot bath for heat treating metal parts	Found in cheesecloth when spilled and in exhaust filters from vaporization and on dry box gloves and window gaskets. Also found on PVC plastic bags.
Oil, Hydraulic	Fabrication	853 ℓ	Hydraulic fluid used to operate NC (numerically controlled) machine.	May be found on cheesecloth when leakage in system occurs. Transferred to Bldg. 257 in metal cans for liquid waste disposal.
Oil, Lubricating	Metallography	2	Machining oil and a grinding and polishing lubricant.	Transferred to recovery in glass jars. May be found in cheesecloth when spilled, and on PVC plastic when bagged out of line.
Oil, Machining	^{238}Pu Research	7	Machining oil	Transferred to recovery in glass jars.
Oil, Vacuum Pump	Fabrication	19 ℓ	Operational fluid for diffusion pump.	Drained into tin can when changed and transferred to Bldg. 257 for liquid waste treatment.
Oil, Vacuum Pump	Fuels Research	38 ℓ	Operational fluid for vacuum pump.	Transferred to recovery in glass jars or sent to Bldg. 257 for liquid waste disposal.

APPENDIX C (cont)

CHEMICAL	AREA	ANNUAL ISSUE (kg)	USE DESCRIPTION	WASTE ITEMS CONTAMINATED
Oxalic Acid	Scrap Recovery	421	Used to precipitate the eluate from the anion-exchange system.	Residual amounts found in polyethylene transfer bags and may be found on cheesecloth if spilled. Filtrate is recycled to ion exchange feed adjustment.
Paint, Krylon Clear	Fabrication	1.5 ℓ	Used in changing dry box windows.	Found on rubber window gaskets and occasionally in exhaust filters.
Potassium Chloride	Metal Production	32 ℓ	Used in combination with sodium chloride for electrorefining plutonium.	Packaged in tin can and bagged out of line in PVC plastic. Trace amounts may be found in exhaust filters.
Potassium Hydroxide	Scrap Recovery	9318	Used to manufacture scrub solution for off-gases from the hydrofluorination system and those from the SCC dissolvers. It is used for treating electrorefining salt residues.	Scrub solutions are transferred to Bldg. 257 for liquid waste treatment.
Potassium Pyrosulfate	Scrap Recovery	982	Used in bulk fusion in combination with sodium fluoride to treat insoluble plutonium-bearing solids.	Residual amounts found in cardboard transfer containers and in exhaust filters.

APPENDIX C (cont)

CHEMICAL	AREA	ANNUAL ISSUE (kg)	USE DESCRIPTION	WASTE ITEMS CONTAMINATED
Silicon Metal	Fabrication	0.028	Used in experimental casting work.	Not found in waste stream.
Sodium Chloride	Electrorefining	41	Mixed with potassium chloride and used in the electrorefining process of plutonium.	Packaged in tin cans and bagged out of line in PVC plastic. Trace amounts may be found in exhaust filters.
Sodium Fluoride	Scrap Recovery	184	Used in bulk fusion in combination with potassium pyrosulfate to treat insoluble plutonium-bearing solids.	Residual amounts found in transfer containers and trace amounts may be found in exhaust filters.
Sodium Hydroxide	Scrap Recovery	1888	Used to prepare scrub solution for incinerator off-gases. Also used to clean oxalate storage tank.	Solutions transferred to Bldg. 257 for liquid waste treatment.
Sodium Nitrite	Scrap Recovery	318	Used for the oxidation of plutonium from the trivalent state to the tetravalent state.	Small quantities may be found in cardboard transfer containers, in exhaust filters, and in cheesecloth if spilled.
Sulfuric Acid	Metallography	8	Used in metal sample etching.	Disposal in self-contained acid drain may result in contamination of PVC plastic and polyethylene plastic jar.

APPENDIX C (cont)

CHEMICAL	AREA	ANNUAL ISSUE (kg)	USE DESCRIPTION	WASTE ITEMS CONTAMINATED
Sulfuric Acid	Metal Production	25	Used in adjustment of nitrate feed prior to peroxide precipitation.	Found in resulting solution filtrate which is transferred to recovery. May be found as a contaminant on some glassware, plastics, and dry box gloves.
Trichloroethylene	Scrap Recovery	10	Used to reduce viscosity of oils during filtration step in recovery process.	Residue may be found in filter-aid.
Trichloroethylene	Fabrication Metal Production	632 30	Used in ultrasonic baths for cleaning and with cheesecloth for cleaning metal parts.	Evaporated in line.
Triethylene Tetramine	Metallography	0.5	Epoxy catalyst used in metallography.	Usually found in floor sweepings and may be found in exhaust filters.
Urea	Scrap Recovery	9	Used in ion exchange feed solutions to remove nitrite ions.	Not usually found in solid waste.

☆ US GOVERNMENT PRINTING OFFICE: 1975—677-163/63

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian 4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
		Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
D002	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	2
	NA		

Comments
Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑	Signature	SONIA GONZALEZ Printed Name	11/09/09 Date
Records Rejected ☐	Signature	Printed Name	Date

Reason for Rejection: N/A

Re-submittal:	Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	1800
DESTINATION TEL #	92347138
DESTINATION ID	CHEZIE TODD
ST. TIME	11/10 11:05
TIME USE	00'15
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Shella Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian 4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
		Company:	Technical Specialists, LLC
Telephone Number:	505-234-7523	Telephone Number:	505-302-8669
		Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
D002	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	2
	NA		

Comments

Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑ Sonia Gonzalez (Signature) SONIA GONZALEZ (Printed Name) 11/09/09

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D010
Waste Stream Number(s): LA-CIN04.001, LA-MHD04.001, LA-MSG04.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Additional Information	Category: ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]: TA-21 Operable Unit RFI Work Plan for Environmental Restoration	
Source Document Reference Information (author(s), document and revision number, date, publisher): Los Alamos National Laboratory, LA-UR-91-0962, TWCP-19101, n/a, May 1991, Los Alamos National Laboratory	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR1, PR4, PR6, WS2, WS5, WS11	1-5 through 1-10, Chapter 1	This analysis plan was formulated in order to characterize the contamination areas at TA-21. The estimated time needed was 5 years and the schedule and list of reports planned are outlined in pages 1-7 through 1-10. TA-21 includes 112 SWMUs in 4 categories: deep liquid pits, near surface liquid releases, subsurface solid sites and surface contaminated areas. Known contaminants include: Plutonium, Tritium, Uranium, VOCs and PCBs. A map of the site and chart of the investigation plan are outlined at the end of chapter 1.
PR1, PR7, WS9	Chapter 2	In Chapter 2 the program background is discussed including the requirements of the RCRA permit that drive the entire investigation. Maps of the site and each SWMU are given along with a list and description of each SWMU (pages 2-3 through 2-8). The objectives, technical analysis, risk assessment and data quality of the project are discussed. Guidance from the RCRA permit is covered at the end of the chapter.
PR4, PR6, PR7, WS3, WS8	3-1 through 3-5	The history of TA-21 is covered including the major activities and materials used at the site. Plutonium metals and alloys were made from nitrate solution feedstock through acid dissolution and chemical precipitation. A table of processes used and the associated chemicals is given on page 3-3. Estimates of the volumes and activities of waste generated are given in the table on page 3-5.
PR4, WS4, WS9	3-6 through 3-10	Absorption beds were used to remove radiation contamination from liquids until 1967. From 1968-1976, liquids were then mixed with cement and pumped down shafts. From 1975-1983, liquids were mixed with cement and pumped into corrugated metal pipes, then sent to retreivable storage. Sanitary waste was mixed with liquid waste and discharged to an outfall until 1986, when a sewage plant started operation. Air quality was ensured by the use of filters and precipitators at the site. In the 1960s and 1970s open burn incinerators were used, and the details on any discharge are discussed in Chapter 13 of the report. A list of the planned D&D activities are given at the end of Chapter 3.

NTPC RECORDS ORIGINAL
DATE REC'D 6-30-14

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D010

Source Document Data Limitations (if any):

1. Plutonium processing only. Chapters 1,2,3 only in document.

Acceptable Knowledge Expert:

Amy Johns, Amy Johns Date: 2/21/14

Print /Sign

a Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
b Obtain from Acceptable Knowledge Documentation Checklist
c For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED
SUPERCEDED
SUPERCEDED
SUPERCEDED
SUPERCEDED
SUPERCEDED
SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-MHD04.001

Site(s): Los Alamos National Laboratory-Technical Area 21	**Source Document Tracking Number:** D010
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Supplemental Information	**Category:** ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents

Title of Source Document: TA-21 Operable Unit RFI Work Plan for Environmental Restoration

Source Document Reference Information (author(s), document and revision number, date, publisher): Los Alamos National Laboratory, LA-UR-91-0962, TWCP-19101, n/a, May 1991, Los Alamos National Laboratory

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR1, PR4, PR6, WS2, WS5, WS11	1-5 through 1-10, Chapter 1	This analysis plan was formulated in order to characterize the contamination areas at TA-21. The estimated time needed was 5 years and the schedule and list of reports planned are outlined in pages 1-7 through 1-10. TA-21 includes 112 SWMUs in 4 categories: deep liquid pits, near surface liquid releases, subsurface solid sites and surface contaminated areas. Known contaminants include: Plutonium, Tritium, Uranium, VOCs and PCBs. A map of the site and chart of the investigation plan are outlined at the end of chapter 1.
PR1, PR7, WS9	Chapter 2	In Chapter 2 the program background is discussed including the requirements of the RCRA permit that drive the entire investigation. Maps of the site and each SWMU are given along with a list and description of each SWMU (pages 2-3 through 2-9). The objectives, technical analysis, risk assessment and data quality of the project are discussed. Guidance from the RCRA permit is covered at the end of the chapter.
PR4, PR6, PR7, WS3, WS8	3-1 through 3-5	The history of TA-21 is covered including the major activities and materials used at the site. Plutonium metals and alloys were made from nitrate solution feedstock through acid dissolution and chemical precipitation. A table of processes used and the associated chemicals is given on page 3-3. Estimates of the volumes and activities of waste generated are given in the table on page 3-5.
PR4, WS4, WS9	3-6 through 3-10	Absorption beds were used to remove radiation contamination from liquids until 1967. From 1968-1976, liquids were then mixed with cement and pumped down shafts. From 1975-1983, liquids were mixed with cement and pumped into corrugated metal pipes, then sent to retreivable storage. Sanitary waste was mixed with liquid waste and discharged to an outfall until 1966, when a sewage plant started operation. Air quality was ensured by the use of filters and precipitators at the site. In the 1960s and 1970s open burn incinerators were used, and the details on any discharge are discussed in Chapter 13 of the report. A list of the planned D&D activities are given at the end of Chapter 3.

SUPERCEDED
SG 11/09/09

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory-Technical Area 21	Source Document Tracking Number: D010

Source Document Data Limitations (if any):

1. Plutonium processing only, Chapters 1,2,3 only in document.

Acceptable Knowlege Expert:

David Guerin or James Luginbyhl / James Luginbyhl Date: 8/16/2006

Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

DIVIDER PAGE ONLY

Not part of page count

D010

TWCP - 19101

LAUR-91-0962

Volume I

TA-21 Operable Unit RFI Work Plan for Environmental Restoration

May 1991

A Department of Energy environmental clean-up program

Los Alamos Environmental Restoration Records Processing Facility

ER Record I.D.# 0007528

Los Alamos

NATIONAL LABORATORY

LAUR 91-962

Table of Contents

Tables ix
Figures xxi
List of Abbreviations and Acronyms 1

1.0 EXECUTIVE SUMMARY 1
1.1 Introduction 1
1.2 Method of Approach 4
1.3 Reports 6

2.0 INTRODUCTION 1
2.1 Program Description .....
2.2 Operable Unit Description 2
2.3 TA-21 RFI Approach 15
2.4 Integration with Other Programmatic Concerns 19
2.5 Document Organization 20

3.0 TA-21 OPERABLE UNIT BACKGROUND INFORMATION 1
3.1 History of TA-21 1
3.2 Past Waste Management Practices 4
3.3 Present Operations and Site Conditions 7

4.0 ENVIRONMENTAL SETTING 1
4.1 Environmental Setting of TA-21 2
4.2 Background Environmental Data 30

5.0 POTENTIAL MIGRATION PATHWAYS 1
5.1 SWMU Conceptual Categories 1
5.2 Environmental Pathways 6

6.0 IDENTIFICATION OF POTENTIAL RECEPTORS 1
6.1 Local Populations 1
6.2 Land Use 2
6.3 Routes of Exposure 2
6.4 Pathway Specific Receptors 4
6.5 Risk Assessment Issues 5
6.6 Current Risk Estimates 5

7.0 CONCEPTUAL SITE MODEL 1
7.1 Development of the Conceptual Model 1
7.2 Elements of the Conceptual Model 1
7.3 Conceptual Model Refinement 3

8.0 DATA NEEDS 1

9.0 DATA QUALITY OBJECTIVES 1
9.1 DQOs for Identified Data Types 2
9.2 Definition of Analytical Level DQOs 3

TABLES

Table No.	Title	Page
1.2-I	Summary of Scope of RFI Investigations	1-7
1.3-I	Reports Planned for the TA-21 OU RFI	1-10
2.2-I	TA-21 SWMU List	2-6
2.2-II	TA-21 OU's SWMUs Proposed for No Further Investigation	2-8
2.2-III	TA-21 SWMU Location in Document	2-9
2.2-IV	TA-21 Operable Unit SWMU Aggregation	2-10
2.5-I	RFI Guidance from the Laboratory's RCRA Part B Permit	2-21
3.1-I	Major Plutonium Separation Techniques and Associated Chemicals	3-3
3.2-I	Estimates of the Volume and Activity of Wastes Disposed of in TA-21MDAs	3-5
4.1-I	Estimates of Stratigraphic Thickness for Major Rock Units at TA-21, Los Alamos, New Mexico	4-19
4.2-I	Number of Sampling Locations	4-31
4.2-II	Radiochemical Quality of Surface Water from Regional, Perimeter and White Rock Canyon Stations	4-34
4.2-III	Radiochemical Quality of Spring Waters from White Rock Canyon	4-35
4.2-IV	Chemical Quality of Surface Water from Regional, Perimeter, and White Rock Canyon Stations (mg/L)	4-37
4.2-V	Chemical Quality of Springs Waters from White Rock Canyon	4-38
4.2-VI	Trace Elements in Surface Waters from White Rock Canyon (mg/L)	4-39
4.2-VII	Trace Elements in Spring Waters from White Rock Canyon (mg/L)	4-40
4.2-VIII	Trace Elements not Detected at any Station	4-41
4.2-IX	Radiochemical Quality of Groundwater from Perimeter Stations	4-42
4.2-X	Maximum Concentrations of Radioactivity in Water Supply Wells and Distribution System	4-43
4.2-XI	Radiochemical Quality of Groundwaters from Perimeter Stations (mg/L)	4-45
4.2-XII	Maximum Chemical Concentration in Water from Supply Wells and Distribution System	4-46

FIGURES

Figure No.	Title	Page
1.1-1	Major features of Operable Unit TA-21	1-3
1.2-1	TA-21 OU RFI Schedule	1-8
2.2-1	Technical areas (TAs) of Los Alamos National Laboratory in relation to surrounding landholdings	2-3
2.2-2	Major features of Operable Unit TA-21	2-4
2.2-3	Location of SWMUs at DP West	2-12
2.2-4	Location of SWMUs at DP East	2-13
3.1-1	Historical and current locations of major structures at TA-21 (LASL 1964)	3-2
3.3-1	Portion of DP West under INC Division as landlord site manager	3-9
4.1-1	Location of TA-21 on the Pajarito Plateau	4-4
4.1-2	TA-21 Operable Unit and its surrounding area	4-5
4.1-3	Meteorological tower stations at the Laboratory during 1988 (ESG 1989)	4-6
4.1-4	(a) Distribution of average, maximum, and minimum monthly precipitation from 1911 to 1986, and (b) monthly precipitation totals from 1987 to 1989 at Los Alamos	4-8
4.1-5	Deep well locations near TA-21	4-14
4.1-6	Generalized geologic block diagram of TA-21	4-16
4.1-7	Schematic stratigraphic section showing the lithology of the Tshirege Member of the Bandelier Tuff in Los Alamos Canyon	4-17
4.1-8	Lithologic logs for deep wells near TA-21	4-20
4.1-9	Faults at selected Laboratory Technical Areas, Los Alamos, White Rock, and major roads (modified from Dransfield and Gardner 1985 and Gardner and House 1987	4-22
4.1-10	Moisture content of tuff beneath the disposal pit at MDA V, Pit 3 (Abrahams 1963)	4-27
4.1-11	Gravimetric soil water content as a function of sampling depth for MDA T absorption beds 1 and 2 in 1978 (Nyhan 1984)	4-28
4.1-12	Generalized contours on top of main aquifer (Purtymun and Johansen 1974)	4-29

ABBREVIATIONS AND ACRONYMS USED IN THE TA-21 OU RFI WORK PLAN

ADS	Activity data sheet
AEC	US Atomic Energy Commission
ALARA	As low as reasonably achievable
ASTM	American Society of Testing Materials
BTX	Benzene, toluene, o-xylene, m-xylene
CA	Corrective activities
CEARP	Comprehensive Environmental Assessment and Response Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CMP	Corrugated metal pipe
CMS	Corrective measures study
COLIWASA	COmposite Liquid WAste SAmpler
CY	Calendar Year
D&D	Decontamination and decommissioning
DCG	DOE-derived concentraton guide
DOE/AL	US Department of Energy Albuquerque Operations Office
DOE/HQ	US Department of Energy Headquarters
DOE/LAAO	US Department of Energy Los Alamos Area Office
DOT	Department of Transportation
DP Site	D Prime, where D was D Building in the Former TA-1 (now part of the current townsite)
DP East	Eastern part of TA-21
DP West	Western part of TA-21
DQO	Data quality objectives
EA	Environmental assessment
EES-1	Geology and Geochemistry Group
EIS	Environmental impact statement
EP toxicity	Extraction Procedure Toxicity
EPA	US Environmental Protection Agency
ER	Environmental restoration
ES&H	Environment, safety, and health
ESG	Environmental Surveillance Group
FID	Flame ionization detector
FIMAD	Facility for Information Management, Analysis, and Display
FSP	Field Sampling Plan
FY	Fiscal year
FYP	Five Year Plan
GIS	Geographical Information System
GM	Geiger-Mueller
H&S	Health and Safety
HPIC	High pressure ion chamber
HSE	Health, Safety, and Environment (Division)
HSE-7	Waste Management Group
HSE-13	Environmental Restoration Group
HSWA	Hazardous and Solid Waste Act Amendments

ICP-MS	Inductively Coupled Plasma-Mass Spectroscopy
INC	Isotope and Nuclear Chemistry (Division)
INC-4	Isotope and Structural Chemistry Group
IRM	Interim remedial measure
IWP	Installation Work Plan
K_d	Distribution coefficient
LANL	Los Alamos National Laboratory; the Laboratory
LAMPF	Los Alamos Meson Physics Facility
LASL	Los Alamos Scientific Laboratory (LANL before 1979)
MCL	Maximum concentration level
MDA	Material Disposal Area
MDL	Minimum detection limit
MST-3	Tritium Science and Technology Group
NaI detector	Sodium Iodide detector
NEPA	National Environmental Policy Act
NFA	No further action
NIST	National Institute of Standards and Technology
NMED	New Mexico Environmental Division
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
OU	Operable unit
OUPL	Operable unit project leader
PCB	Polychlorinated biphenyl
PID	Photoionization detector
PL	Project leader
PM	Program Manager (ER)
PMP	Program Management Plan
QAPjP	Quality assurance project plan
QA	Quality assurance
QP	Quality administrative procedure
QPP	Quality Program Plan
QPPL	Quality Program Project Leader
RA	Remedial action
RD	Remedial design
RFA	RCRA facility assessment
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
RI	Remedial investigation
RMP	Records management plan
RPF	Records Processing Facility
RWS	Raw waste storage
SARA	Superfund Amendment Reauthorization Act
SOP	Standard operating procedure
SSP	Site-specific plan
STP	Sewage Treatment Plant
SWMU	Solid waste management unit
TA	Technical area
TAL	Target analyte list
TCLP	Toxicity Characteristic Leaching Procedure
TLD	Thermoluninescent dosimeter
TLV	Threshold limit value
TRU	Transuranic (waste)

TSTA	Tritium Systems Test Assembly
UC	University of California
USC	United States Code
USGS	US Geological Survey
UST	Underground storage tanks
VCP	Vitrified clay pipe
VOA	Volatile organic analyses
WBS	Work Breakdown Structure
WIN	Waste Information Network

RADIONUCLIDES[a]

^{227}Ac	Actinium-227
^{241}Am	Americium-241
^{137}Cs	Cesium-137
^{238}Pu, $^{239/240}Pu$	Plutonium
^{210}Po	Polonium
^{226}Ra	Radium-226
^{90}Sr	Strontium-90
^{232}Th	Thorium-232
^{3}H	Tritium
^{234}U, ^{235}U, ^{238}U	Uranium

[a]Numbers refer to specific isotopes of these radionuclides.

- Mesa Top Characterization
- Surface Units
- Outfalls and Associated Septic Systems
- MDAs
- Subsurface Units
- SWMUs to be Coordinated with D&D
- Areas of Concern
- Units Proposed for No Further Investigation

1.2.3 Analytical Strategy

Radiological contamination is a general characteristic of TA-21 and a primary focus of SWMU-specific investigations. For most SWMUs, the release of any hazardous constituents would have been associated with the release of radioactive materials. Field instrument surveys and field screening of samples, using instruments such as gross gamma detectors and organic vapor analyzers, can be used to identify gross contamination and to serve as Level I/II data. Field laboratory analyses can be used to provide rapid Level II data to help guide field operations and to support field decisions. An analytical laboratory will be used to provide Level III/IV data for verification of field data. The full suite of analytes for analytical laboratory analysis typically includes

- gamma spectrometry,
- tritium,
- total uranium,
- isotopic plutonium,
- strontium-90,
- volatile organic compounds (by Method SW 8240),
- semivolatile organic compounds (by Method SW 8270), and
- the RCRA-regulated metals (by Method 6010).

1.2.4 Scope of the Efforts

The RFI field work described herein is expected to require five years for completion. During the initial investigation, 7,858 linear ft of drilling will be required, and a total of 3,409 samples will be collected (2,171 samples will be collected for chemical characterization, 2,168 for radiological, and 502 for geohydrological). For the subsequent investigations, it is estimated that 7,950 linear ft of drilling will be required and a total of 2,316 samples will be collected. A summary of the scope of the investigations is given in Table 1.2-I, organized by the section of the work plan where the investigation is described. Figure 1.2-1 shows the schedule for the planned investigations.

1.3 Reports

Reports generated in the implementation of this work plan will be made available for review by the public at the Environmental Restoration Community Reading Room in downtown Los Alamos (2101 Trinity Drive). The Reading Room is open to the public from 9 a.m. to 4 p.m. on Laboratory business days.

1.3.1 Periodic Reports

The HSWA permit specifies certain periodic reports, including monthly programmatic status reports and quarterly technical progress reports. The execution of the TA-21 RFI will provide data for these reports.

1.3.2 Technical Memoranda/Work Plan Modifications

Because of the large number of SWMUs addressed in this work plan and the time required for completion of RFI field work, some interim reports will be generated and submitted as appropriate portions of the effort are completed. These technical memoranda will serve both as partial RFI Phase I reports summarizing the results of initial site characterization activities and as partial RFI Phase II work plans describing the follow-on activities being planned (including any modifications to field sampling plans suggested by initial findings). These technical memoranda/work plan modifications will be submitted for work conducted on individual SWMUs or aggregates of SWMUs. A summary of planned submission dates is given in Table 1.3-1.

TABLE 1.2-I SUMMARY OF SCOPE OF RFI INVESTIGATIONS.

Chapter/Section	Initial Investigations					Subsequent Investigations				
	Feet Drilled	Samples Collected	Chemical Analysis	Radiological Analysis	Geohydrological Analysis	Feet Drilled	Samples Collected	Chemical Analysis	Radiological Analysis	Geohydrological Analysis
12 Mesa Top										
12.4 Mesa Top Soil		230	230	230						
12.6 Mesa Top Boreholes	2975	583	43	43	184	1250	270			84
12.8 Water Sampling		25	25	25		400	180	180	180	
13 Surface Soil Contamination										
13.2 Surface Soil/Filter Bids	37.5	375	281	281			112	112	112	
14 Surface Units										
14.2 PCB Ctr. Stg Area		83	22	22		65	28	8	8	
14.3 Above Ground Tanks	10	12	7	8						
14.4 Active Ctr Stg Areas		8	8	8						
14.5 DP Tank Farm	100	42	22	20						
14.6 Inactive Ctr Stg Areas		6	6	6		15	12	3	3	
14.7 Surface Disposal Areas	270	324	82	82		30	38	8	8	
14.8 Sewage Treatment plant	30	58	20	20						
15 Outfalls										
15.2 Undetermined Locations	80	68	86	86						
15.3 Outfalls With Septic Tanks	100	47	47	47						
15.4 Direct Discharge Outfalls		35	35	35						
15.6 Septic Tanks	60	16	16	16						
15.7 Drainage South of TA-21-155		6	6	6						
15.8 Drainage North of TA-21-155	20	31	31	31						
15.9 Special Cases	30	23	23	23						
15.10 NPDES Discharge Systems		30	30	30						
16 Material Disposal Areas										
16.1 MDA Drainages		45	45	45						
16.2 MDA B	1030	326	312	312	93	375	105	100	105	
16.3 MDA T	850	238	238	238	67	2590	653	549	549	
16.4 TA-21-35	175	48	16	16		180	52	13	13	
16.5 TA-21-257	70	68	24	24		100	48	14	14	
16.6 MDA U	258	130	130	130	37	450	150	150	150	
16.7 MDA V	500	145	138	138	58	1228	320	295	295	
16.8 MDA A	815	308	200	200	62		130	130	130	
17 Subsurface Units										
17.2 Underground Seepage Pit	45	12	8	8		400	80	38	38	
17.3 Waste Treatment Laboratory	30	18	7	7		58	20	5	5	
17.4 Acid Lines and Sumps	200	48	24	24		720	144	42	42	
17.6 Acid Pit	10	4	2	2						
18 D&D Coordination Units										
18.8 Acid Waste Sumps	480	96	48	48						
18.9 South Side PU Complex	190	38	19	19						
Total	7857	3409	2171	2168	502	7950	2316	1624	1629	84

FIGURE 1.2-1. TA-21 OU RFI SCHEDULE

FIGURE 1.2-1. TA-21 OU RFI SCHEDULE (CONTINUED)

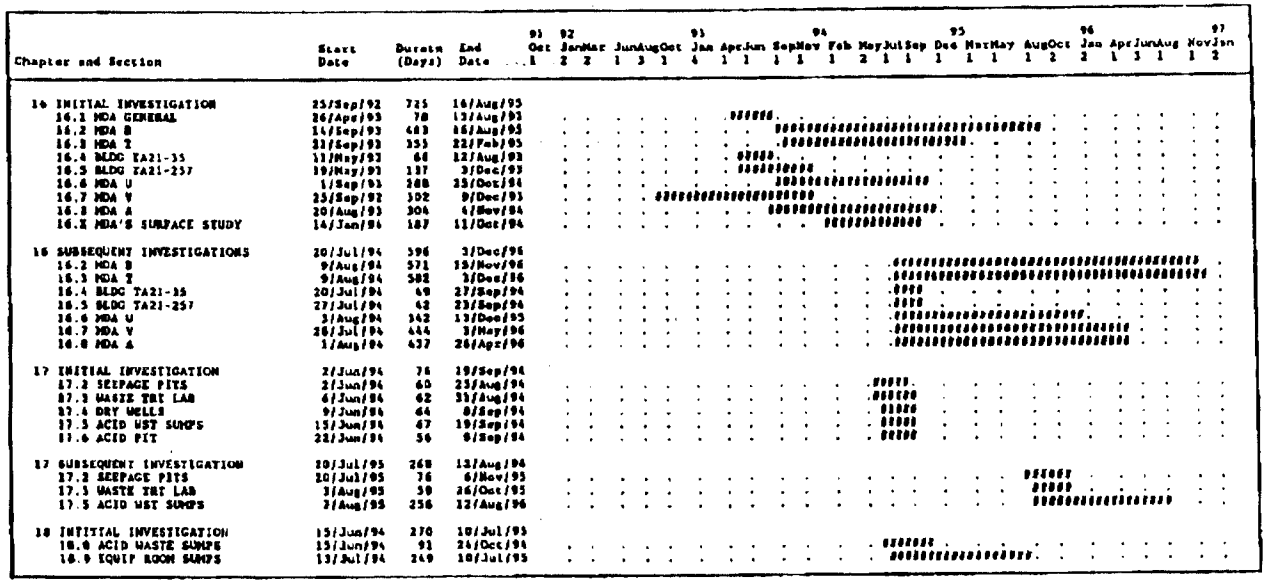


TABLE 1.3-I REPORTS PLANNED FOR THE TA-21 OU RFI

Report Type and Subject	Draft Date	Final Date
Quarterly Technical Progress Reports		
Summary of Technical Activities/Data		15 Feb, Yearly 15 May, Yearly 15 Aug, Yearly 15 Nov, Yearly
Technical Memoranda/Work Plan Modifications		
1. Subsurface Investigations Mesa Top and MDA V (Initial)[a]	20 Sep 93	10 Dec 93
2. Surface Investigations Mesa Top and MDAs (Initial)	22 Jul 94	12 Oct 94
3. Surface/Subsurface Investigations MDAs Surface (Subsequent)[b] All Non-MDA Units (Initial)	20 Apr 95	11 Jul 95
4. Subsurface Investigations MDA A, MDA B (Initial)	30 May 95	17 Aug 95
5. Surface/Subsurface Investigations Non-MDA Units (Subsequent)	3 May 96	24 Jul 96
6. Subsurface Investigations MDA T, MDA U, MDA V (Initial and Subsequent)	12 Sep 96	4 Dec 96
7. Subsurface Investigations MDA A, MDA B (if needed)	27 Aug 96	18 Nov 96
RFI Report		
Final RFI Report	11 Dec 96	28 May 97

[a] Initial: Report of results from the planned initial investigation.

[b] Subsequent: Report of results from subsequent investigations, if any.

1. EXECUTIVE SUMMARY

TA-21 RFI Work Plan

1.1 Introduction

1.1.1 Purpose

The primary purpose of this document is to satisfy the regulatory requirements of Module VIII of the Los Alamos National Laboratory's (the Laboratory's) Resource Conservation and Recovery Act (RCRA) Part B operating permit. Module VIII of the permit which was issued by the Environmental Protection Agency (EPA), addresses Hazardous and Solid Waste Act Amendments (HSWA) requirements. At the Laboratory, these permit requirements are addressed by the Department of Energy's (DOE) Environmental Restoration (ER) Program. This document meets schedule requirements for May 23, 1991, to address a percentage of the Laboratory's solid waste management units (SWMUs; i.e., potential release sites) in a RCRA Facility Investigation (RFI) work plan. The second purpose of this document is to serve as a field sampling plan for personnel who will implement the RFI.

1.1.2 Installation Work Plan

The HSWA Module required that the Laboratory prepare an installation-wide work plan to describe the Laboratory-wide system for accomplishing all RFI/Corrective Measures Study (CMS) work. This requirement was satisfied by a Laboratory-wide Installation Work Plan (IWP) submitted to EPA on November 19, 1990. The IWP identifies the Laboratory's SWMUs and their aggregation into 24 operable units (OUs) and presents the Laboratory's overall management and technical approach for meeting the requirements of the HSWA Module. The TA-21 OU is the first OU through the process. This work plan, as with all OU work plans, is tiered to the IWP. Relevant information in the IWP is incorporated into this plan by reference.

The IWP and this work plan address radioactive materials and other hazardous substances not subject to RCRA. It is understood that language in this work plan pertaining to subjects outside the scope of RCRA is not enforceable under the RCRA Part B operating permit.

1.1.3 Background

The Laboratory's Technical Area (TA)-21, also known as "DP Site," is located on the northern edge of the laboratory, at an elevation of 7,140 ft. It is centrally located on the Pajarito Plateau, roughly midway between the flanks of the Jemez Mountains on the west and the White Rock Canyon of the Rio Grande to the east. It is sited on the Bandelier Tuff, which is approximately 800 ft of volcanic ash deposits, the bedrock throughout the OU. Groundwater lies at a depth of approximately 1,150 ft.

TA-21 centers on DP Mesa immediately east-southeast of the Los Alamos townsite. The TA-21 OU encompasses TA-21 and the areas extending to the stream channels in the canyons on either side of the mesa, DP Canyon to the north, and Los Alamos Canyon to the south. Figure 1.1-1 shows the location and extent of the TA-21 OU, which is approximately 311 acres in size and includes some 112 SWMUs. TA-21 has been used for both chemical research and plutonium metal production from 1945 to 1978. Subsequently, offices and other activities have occupied the facilities. Because the major industrial activity was related to plutonium production, the major waste disposal activities were plutonium-related as well. The SWMUs fall into four conceptual categories as follows:

- deep liquid releases, such as seepage pits and absorption beds into which plutonium- bearing liquids were discharged in large quantities;
- near-surface liquid releases, such as surface discharges from septic systems that may have contained industrial liquid wastes;
- subsurface solid waste disposal sites, such as Material Disposal Areas (MDAs), where contaminated industrial materials, stabilized process residues, and other solid or hazardous wastes were buried; and
- surface contamination areas, where limited quantities of contaminants were released at or to the land surface, such as stack release fallout and surface spills.

1.1.4 Contaminants and Pathways of Concern

Principal contaminants of concern are radiological in nature because of the dominant industrial activity that occurred at TA-21. Known contaminants are plutonium, tritium, uranium, volatile organic compounds (at a limited number of sites), and PCBs (at one site). However, knowledge of contaminants, in general, is limited because historical sampling was principally for radioactive constituents. Hazardous constituents are likely to be present at TA-21 because of plutonium processing. Thus, relatively broad-spectrum analyses are contemplated for selected samples

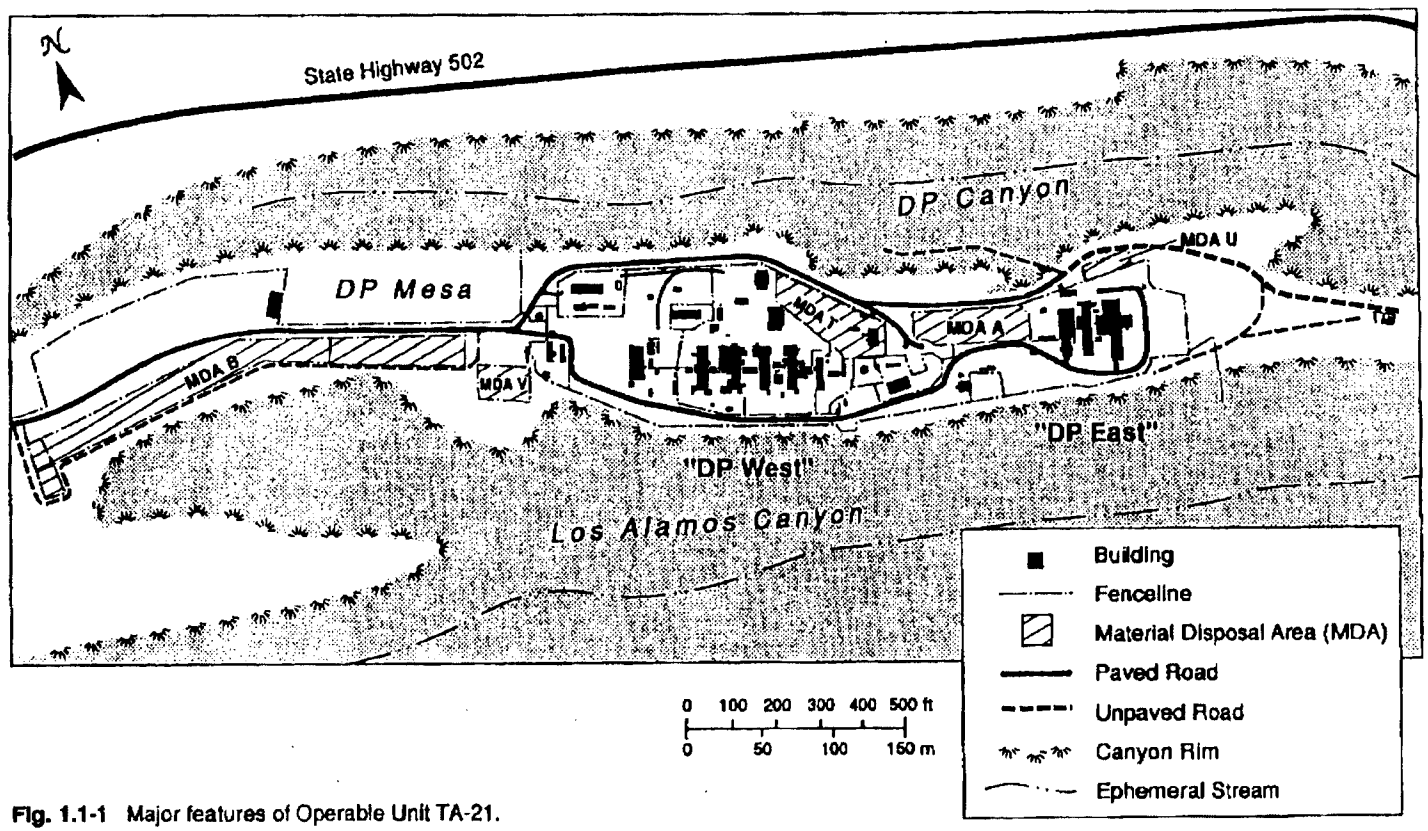


Fig. 1.1-1 Major features of Operable Unit TA-21.

across the TA-21 OU.

Under the current land use patterns in the vicinity of the TA-21 OU, no pathways or receptors are of concern. However, if land use patterns change in the future (i.e., loss of institutional control), the following primary exposure pathways of concern would be

- surface run-off and sediment transport and
- erosion and surface exposure.

Both unsaturated zone transport (in both the liquid and vapor phase) and the groundwater pathway are not of direct concern, based on the great depth and no known pathway to the main aquifer system.

1.2. Method of Approach

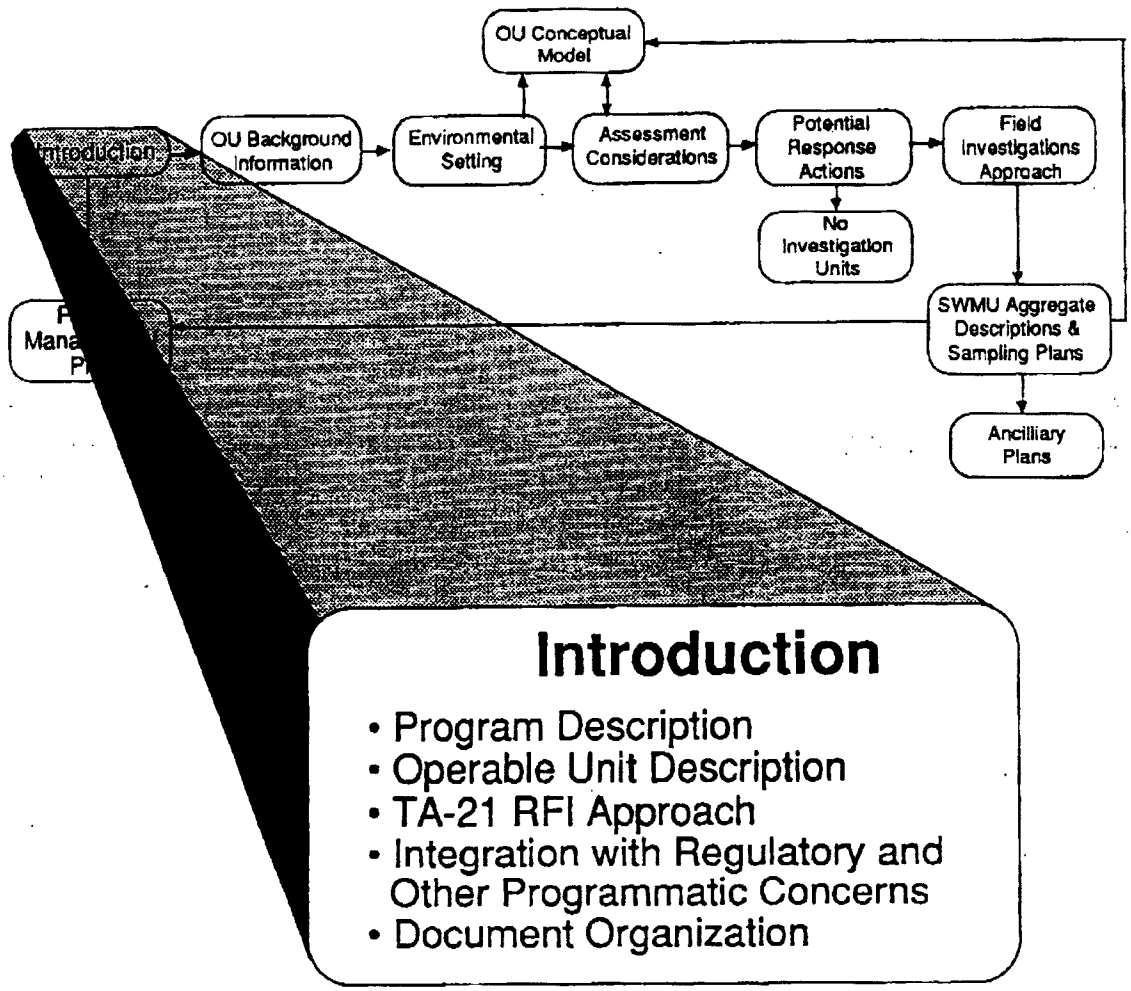
1.2.1 Technical Approach

The IWP provides for innovative use of the observational approach to select an eventual remedy in the face of continuing uncertainty. The technical approach also incorporates the use of action levels as criteria for identifying releases and determining the need for a CMS and a sequential sampling strategy wherein the results of each sample set guides the nature and location of subsequent sampling events.

1.2.2 Investigative Strategy

The ER Program will be conducting Laboratory-wide background studies of hydrology, geology, and geochemistry to support OU-specific investigations. Those studies, the results of which will have general applicability for all OUs' needs will only be done once. In addition, this work plan includes OU-wide surface and subsurface investigations that focus on general environmental characteristics and ambient levels of certain contaminants and provide data that serve as a context within which SWMU-specific contaminant data will be evaluated. The balance of the field sampling plans is directed toward groupings of SWMUs as appropriate, with specific studies of individual SWMUs as deemed necessary. These SWMU-specific characterizations focus on contaminant identification and nature and extent of contaminant migration. Investigation groups include the following:

CHAPTER 2


OU Conceptual Model
OU Background Information
Environmental Setting
Assessment Considerations
Potential Response Actions
Field Investigations Approach
No Investigation Units
SWMU Aggregate Descriptions & Sampling Plans
Ancilliary Plans
Introduction
• Program Description
• Operable Unit Description
• TA-21 RFI Approach
• Integration with Regulatory and Other Programmatic Concerns
• Document Organization

2.0 INTRODUCTION

2.1 Program Description

In March 1987, the Department of Energy (DOE) established an Environmental Restoration (ER) Program to address environmental cleanup requirements at all of its facilities nationwide. Los Alamos National Laboratory (the Laboratory) is operated for the DOE by the University of California (UC) and is subject to the DOE's ER Program.

The Laboratory's Resource Conservation and Recovery Act (RCRA) operating permit sets forth requirements that are implemented by the Laboratory's ER Program. In particular, the Hazardous and Solid Waste Act Amendments (HSWA) Module and schedules of the permit issued by the Environmental Protection Agency (EPA), gives specific requirements affecting the conduct of the ER Program. The HSWA Module became effective on May 23, 1990 (EPA 1990).

2.1.1 Installation Work Plan

The HSWA Module requires the Laboratory to prepare an installation-wide work plan to contain the programmatic elements of a RCRA Facility Investigation (RFI) work plan. This requirement was satisfied by a Laboratory-wide Installation Work Plan (IWP) submitted to the EPA on November 19, 1990 (LANL 1990a). It serves as the plan by which DOE/UC will conduct the ER Program at the Laboratory. The IWP describes the ER Program and its history at the Laboratory, provides installation-wide descriptions of current conditions, identifies the Laboratory's solid waste management units (SWMUs) and their aggregation into a number of operable units, and presents the Laboratory's overall management and technical approach for meeting the requirements of the HSWA Module. The IWP is the document to which subsequent operable unit (OU) work plans will be tiered. Relevant information presented in the IWP will not be repeated in OU work plans.

2.1.2 TA-21 Operable Unit RFI

The HSWA Module also requires the Laboratory to prepare OU work plans for specific investigations. The Technical Area 21 (TA-21) work plan is one of 24 OU work plans that will be prepared. Within the ER Program, the TA-21 assessment task is identified as OU AL-LA-9, Activity

Data Sheet (ADS) 1106. Additional information regarding the ER Program, its implementation, and the guidance under which the TA-21 OU work plan was prepared, is given in Sec. 3 of the IWP.

The purpose of this document is twofold: first, to satisfy the regulatory requirements of the HSWA Module and second, to serve as the field sampling plan for personnel who will implement the RFI characterization activities detailed herein.

2.2 Operable Unit Description

The Laboratory's TA-21, also known as DP Site[1], has been used both for chemical research and production of plutonium metal from 1945 until 1978. Over the ensuing years, a number of other activities have been conducted there, as described in Chapter 3. TA-21 centers on DP Mesa immediately east-southeast of the Los Alamos townsite. Figure 2.2-1 shows the location of TA-21 with respect to the town of Los Alamos and other technical areas at the Laboratory. Figure 2.2-2 identifies the location and extent of the OU and indicates the areas referred to as DP East and DP West. The OU is approximately 311 acres in size with boundaries extending to the stream channels in the canyons to the north and south, DP Canyon and Los Alamos Canyon, respectively. Appendix G gives a detailed map of the TA-21 OU showing a 1000-ft buffer around the OU.

2.2.1 SWMUs Addressed in this OU

This plan addresses 10% of the Laboratory's SWMUs listed in Table A of the HSWA Module of the Laboratory's RCRA Part B Operating Permit (EPA 1990), including 20% of the SWMUs appearing on the HSWA Module's Table B list of priority SWMUs. By addressing these percentages of SWMUs, the Laboratory will meet the HSWA Module's schedule requirements for May 23, 1991. It includes 68 SWMU subunits grouped into 18 SWMU categories. Of these, 37 SWMU subunits are also in the HSWA Module's Table B list of priority SWMUs. Thus, this task incorporates 11% (68 of 603) of the SWMUs identified in the HSWA Module's Table A, and 20% (37 of 182) of the SWMUs identified in Table B.

Tables A and B of the HSWA Module were developed by EPA based on a SWMU Report prepared in 1988 (LANL 1988). Subsequent research and investigative effort culminated in a revised

[1] DP refers to D Prime, where D was D Building in the former TA-1 (now part of the current townsite). D Building was the wartime site where plutonium was purified in the early days at the Laboratory.

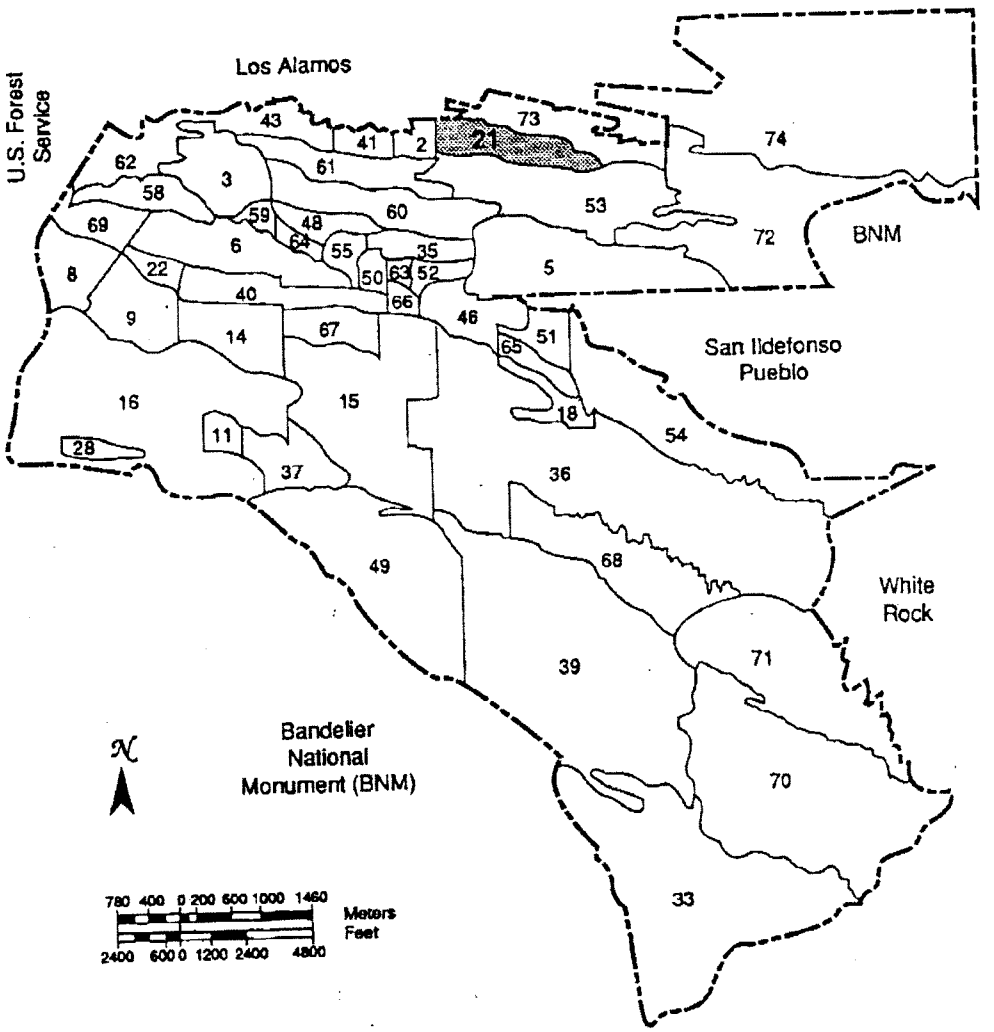


Fig. 2.2-1 Technical areas (TAs) of Los Alamos National Laboratory in relation to surrounding landholdings.

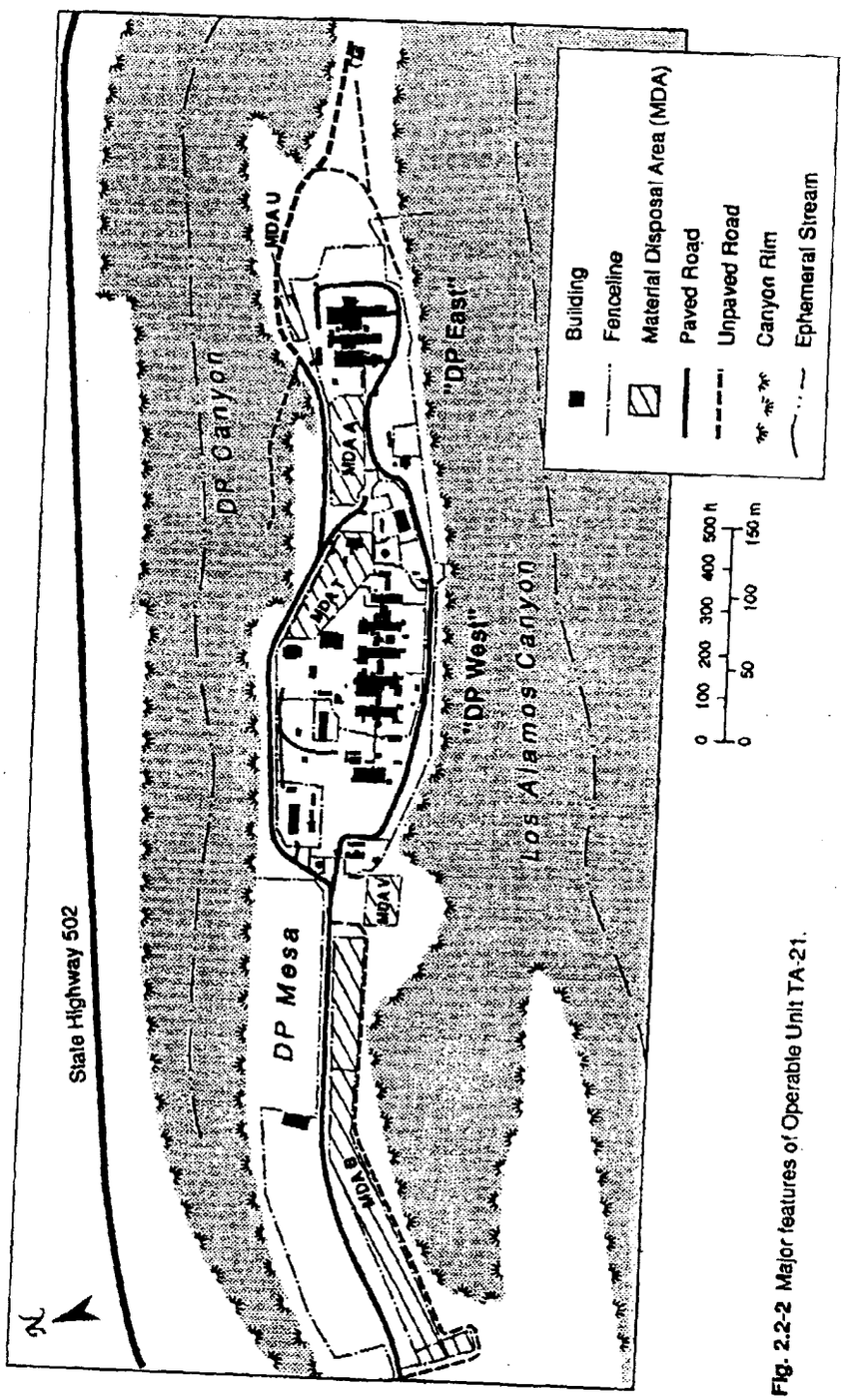


Fig. 2.2-2 Major features of Operable Unit TA-21.

SWMU Report submitted to EPA in November 1990 (LANL 1990b). As discussed in greater detail in Sec. 3.4.2 of the IWP, no sites were eliminated in the revisions leading to the new SWMU Report, but some were combined or added. The result, for the TA-21 OU, is a current list of 29 SWMUs including 112 SWMU subunits. The Laboratory's current SWMU list is presented in Appendix G of the IWP. Table 2.2-I summarizes the changes occurring in the SWMU list for TA-21. It identifies the original Table A and Table B SWMUs, indicates those that were combined and those that were added, tracks the renumbering that resulted from closing up the numbering gaps created by the combining of SWMUs, and presents the complete list of currently identified SWMUs.

2.2.2 Permit Modification

Section 3.5 of the IWP states that each OU work plan may propose a HSWA Module Class III permit modification to adjust the SWMUs listed in Table A of the HSWA Module. Such adjustments may be made to remove SWMUs determined not to need further investigation and to add SWMUs to the current SWMU Report. The basis for such a permit modification for TA-21 SWMUs is provided here as Table 2.2-II. It lists the currently identified SWMUs and proposes to delete five SWMU subunits based on information developed during the preparation of this RFI and discussed in Chapter 20, No Investigation Units.

2.2.3 Technical Memoranda and Work Plan Modification

Because the RFI is scheduled to take approximately five years at the TA-21 OU, the Laboratory is proposing to submit technical memoranda on site characterization activities on SWMU aggregates at the TA-21 OU to update the EPA on progress on RFI field work. As needed, these technical memoranda may also serve as work plan modifications to revise field sampling plans as appropriate reflecting initial characterization results. Therefore, technical memoranda are essentially partial RFI Phase I reports and partial RFI Phase II work plans. The schedule for these technical memoranda/work plan modifications is presented in Chapter 21, the Project Management Plan.

2.2.4 SWMU Investigation Groups

The large number of SWMUs and the wide diversity among them make it necessary to group the field investigations. The selected set of investigation groups by genre of SWMU (and the corresponding sections of this work plan) are identified below. Table 2.2-III identifies the work plan section in which each SWMU is addressed. Table 2.2-IV presents the same information in a

TABLE 2.2-I
TA-21 SWMU LIST

Original SWMU List In Table A, B of Permit	SWMUs Combined With Others	Renumbered SWMUs	Added SWMUs	Current SWMU List
			21-001	21-001
21-002		21-002 -> (a)	21-002(b)	21-002 (a),(b)
21-003				21-003
			21-004 (a)–(d)	21-004 (a)–(d)
21-005				21-005
21-006 (a-e)[a]	21-006(b)[b]	21-006(c) -> (b)	21-006 (e)–(i)	21-006 (a)–(i)[a]
		21-006(d) -> (c)		
		21-006(e) -> (d)		
21-007				21-007
			21-008	21-008
			21-009	21-009
21-010 (a-h)[a]				21-010 (a)–(h)[a]
21-011 (a-i)[a]		21-011(h) -> (i)	21-011(h)	21-011 (a)–(j)[a]
		21-011(i) -> (j)		
21-012[a]		21-012 -> (a)		
21-013 (a-c)			21-012(b)	21-012 (a),(b)[a]
21-014[a]			21-013 (d)–(g)	21-013 (a)–(g)
21-015[a]				21-014[a]
21-016 (a-g)[a]	21-016 (b)–(e)[c]	21-016(f) -> (b)		21-015[a]
		21-016(g) -> (c)		21-016 (a)–(c)[a]
21-017 (a-c)[a]				
21-018 (a,b)				21-017 (a)–(c)[a]
				21-018 (a),(b)[a]
			21-019 (a)–(m)	21-019 (a)–(m)
			21-020 (a), (b)	21-020 (a),(b)

TABLE 2.2-1 (continued)

Original SWMU List In Table A, B of Permit	SWMUs Combine With Others	Renumbered SWMUs	Added SWMUs	Current SWMU List
21-021				21-021
21-022 (a-h)			21-022 (i), (j)	21-022 (a)–(j)
21-023 (a-d)				21-023 (a)–(d)
21-024 (a-k)			21-024 (l)–(o)	21-024 (a)–(o)
			21-025 (a)–(b)	21-025 (a),(b)
			21-026 (a)–(c)	21-026 (a)–(c)
			21-027	21-027
			21-028 (a)–(e)	21-028 (a)–(e)
			21-029	21-029

[a]SWMUs listed in Table B of the RCRA Part B Permit as priority SWMUs.
[b]SWMU 21-006(b), a gravel seepage pit, was determined to be the same as MDA T (SWMU 21-016(c)). The remaining subunits of 21-006 were renumbered.
[c]SWMUs 21-016(b-e), four concrete sumps, each 2 ft by 6 in. by 4 ft by 8 ft, associated with the four absorption beds within MDA T, were combined based on the determination that they were actually components of MDA T, rather than separate entities. They thus become part of SWMU 21-016(c), after renumbering of the remaining subunits.

TABLE 2.2-II
TA-21 OU'S SWMUS PROPOSED FOR NO FURTHER INVESTIGATION

SWMU Number	Basis for no further investigation
21-012(a)	This dry well inside the existing steam plant (TA-21-357) does not exist. Only a dry well associated with the former steam plant (TA-21-9) exists and is addressed in Sec. 17.4 as SWMU 21-012(b).
21-025(a)	Off-gas system located inside building TA-21-155 has had no documented releases to the environment and is covered under routine Laboratory operations. The off-gas system is separate from the exhaust stack, covered with stack emission sampling in Chapter 13.
21-025(b)	Off-gas system located inside building TA-21-209 has had no documented releases to the environment and is covered under routine Laboratory operations. The off-gas system is separate from the exhaust stack, covered with stack emission sampling in Chapter 13.
21-028(e)	Parts of this SWMU inside Building 210 are considered here. These are product storage areas with no evidence of routine releases. That part of 21-028(e) outside of the building, north of the loading dock is covered in Section 14.4.
21-029(b)	Three satellite container storage areas located inside building TA-21-150 are product storage areas with no evidence of routine releases.

Table 2.2-III TA-21 SWMU LOCATION IN DOCUMENT

SWMU No.	Title/Description	Where Addressed	Physical Location (Fig. No.)
21-001	Radioactive Waste Container Storage Area	Section 16.5	2.2-3
21-002(a),(b)	Container Storage	Sections 18.4, 14.6	(a) Not shown
		Section 14.1	(b) 2.2-3
21-003	PCB Storage Area	Section 14.2	2.2-4
21-004(a),(b),(c)	Aboveground Tanks	Section 14.3	(a) 2.2-3
		Section 14.3	(b),(c) 2.2-4
21-004(d)	Above ground Tanks	Sections 14.3, 15.8	2.2-4
21-005	Acid Pit	Section 17.6	2.2-3
21-006(a),(c)–(f)	Underground Seepage Pits	Section 18.2	(a),(c),(d),(f) 2.2-3
		Section 18.2	(e) Not shown
21-006(b)	Underground Seepage Pits	Sections 15.9, 17.2	2.2-3
21-007	Salamanders	Section 13.1	Not shown
21-008	Incinerator	Section 13.1	Not shown
21-009		Section 17.3	2.2-3
21-010(a)–(h)	Industrial Liquid Waste Treatment Facility	Section 16.4	2.2-3
21-011	New Industrial Waste Treatment Plant	Section 16.5	(a),(c)–(j) 2.2-3
			(b) 2.2-4
21-011(c)		Section 16.3	
21-012(a),(b)	Dry Wells	Section 17.4, 20.4	2.2-3
21-013(a)	Surface Disposal	Section 14.8	2.2-4
21-013(b)–(f)	Surface Disposal	Section 14.7	(b),(d) 2.2-3
			(c),(f) 2.2-4
			(e) Not shown
21-013(g)	Surface Disposal	Section 14.7	2.2-3
21-014	Material Disposal Area A	Section 16.8	2.2-4
21-015	Material Disposal Area B	Section 16.2	2.2-3
21-016(a)–(c)	Material Disposal Area T	Section 16.3	2.2-3
21-017(a)–(c)	Material Disposal Area U	Section 16.6	2.2-4
21-018(a),(b)	Material Disposal Area V	Section 16.7	2.2-3
21-019(a)–(m)	Filter Houses/ Exhaust Stacks	Section 13.1	(a)–(d),(g)–(j),(m) 2.2-3
			(e),(f),(k),(l) 2.2-4
21-020(a),(b)	Decommissioned Filter Houses	Section 13.1	(a) 2.2-3
			(b) 2.2-4
21-021	Stack Emissions	Section 13.1	Not shown
21-022(a),(f) (b)–(e);(g) (h)–(j)	Acid Waste Lines and Sumps	Section 17.5	(a)–(e),(g)–(j) 2.2-3
		Sections 4, 15,18.5, 18.8 and 18.9	(f) 2.2-4
21-023(a),(b),(d)	Decommissioned Septic Systems	Section 18.3	2.2-3
21-023(c)	Decommissioned Septic Systems	Section 15.2	2.2-3
21-024(a)–(o)	Septic Systems/Outfalls	Sections 15.2, 15.3,	(a),(b),(d)–(g),(i),(o) 2.2-3
		15.4, 15.6, 15.8, 15.9	(c),(h)–(k),(m),(n) 2.2-4
21-025(a),(b)	Off-gas System	Section 20.1	2.2-4

Table 2.2-III TA-21 SWMU LOCATION IN DOCUMENT (cont'd)

SWMU No.	Title/Description	Where Addressed	Physical Location (Fig. No.)
21-026(a)	Outfall/Treatment Plant	Section 14.8	2.2-4
21-026(b),(c)	Outfall/Treatment Plant	Section 14.8	2.2-4
21-027	Surface Discharge	Sections 15.2, 15.5, 15.7	Not shown
21-028(a)	Active Container Storage Areas	Section 16.3	2.2-3
21-028(b),(c)	Active Container Storage Areas	Sections 18.4, 20.2	2.2-3
21-028(d),(e)	Active Container Storage Areas	Section 14.4	(d) 2.2-4 (e) 2.2-3
21-029	DP Tank Farm	Section 14.5	Not shown

TABLE 2.2-IV
TA-21 OPERABLE UNIT SWMU AGGREGATION

SWMU Aggregation	Document Section	SWMU numbers included
Stack Emissions	Chapter 13	
	Section 13.1	21-007, -008, -019, -020, -021
Surface Units	Chapter 14	
	Section 14.2	21-003
	Section 14.3	21-004(a)–(d)
	Section 14.4	21-028(d),(e)
	Section 14.5	21-029
	Section 14.6	21-002(b)
	Section 14.7	21-013(b)–(g)
	Section 14.8	21-013(a), -026(a)–(c)
Outfalls	Chapter 15	
	Section 15.2	21-023(c), -024(a),(g),(l), -027(c),(d)
	Section 15.3	21-024(b)–(e),(i)
	Section 15.4	21-011(k), -022(h), -024(n),(o), -026(d)
	Section 15.5	21-027(a)
	Section 15.6	21-024(j),(k)
	Section 15.7	21-024(m), -027(b)
	Section 15.8	21-024(h)
	Sections 15.8 and 14.3	21-004(d)
	Section 15.9	21-024(f)
	Sections 15.9 and 17.2	21-006(b)

TABLE 2.2-IV
TA-21 OPERABLE UNIT SWMU AGGREGATION (cont'd)

SWMU Aggregation	Document Section	SWMU numbers included
Material Disposal Areas	Chapter 16	
	Section 16.2	21-015
	Section 16.3	21-016,-028(a), -011(c)
	Section 16.4	21-010(a)-(h)
	Section 16.5	21-001, -011(a)–(j)
	Section 16.6	21-017
	Section 16.7	21-018
	Section 16.8	21-014
Subsurface Units	Chapter 17	
	Sections 17.2 and 15.9	21-006(b)
	Section 17.3	21-009
	Section 17.4	21-012(b)
	Section 17.5	21-022(a),(f)
	Section 17.6	21-005
SWMUs for Coordination with Building D&D	Chapter 18	
	Section 18.2	21-006(a),(c),(d),(e),(f)
	Section 18.3	21-023(a),(b),(d)
	Section 18.4	21-002(a), -028(c)
	Sections 18.5 and 18.8	21-022(b)–(e),(g)
	Section 18.9	21-022 (h)–(j)
No-investigation Units	Chapter 20	
	Section 20.1	21-025
	Section 20.2	21-028(b)
	Section 20.3	21-028(a)
	Section 20.4	21-012(a)

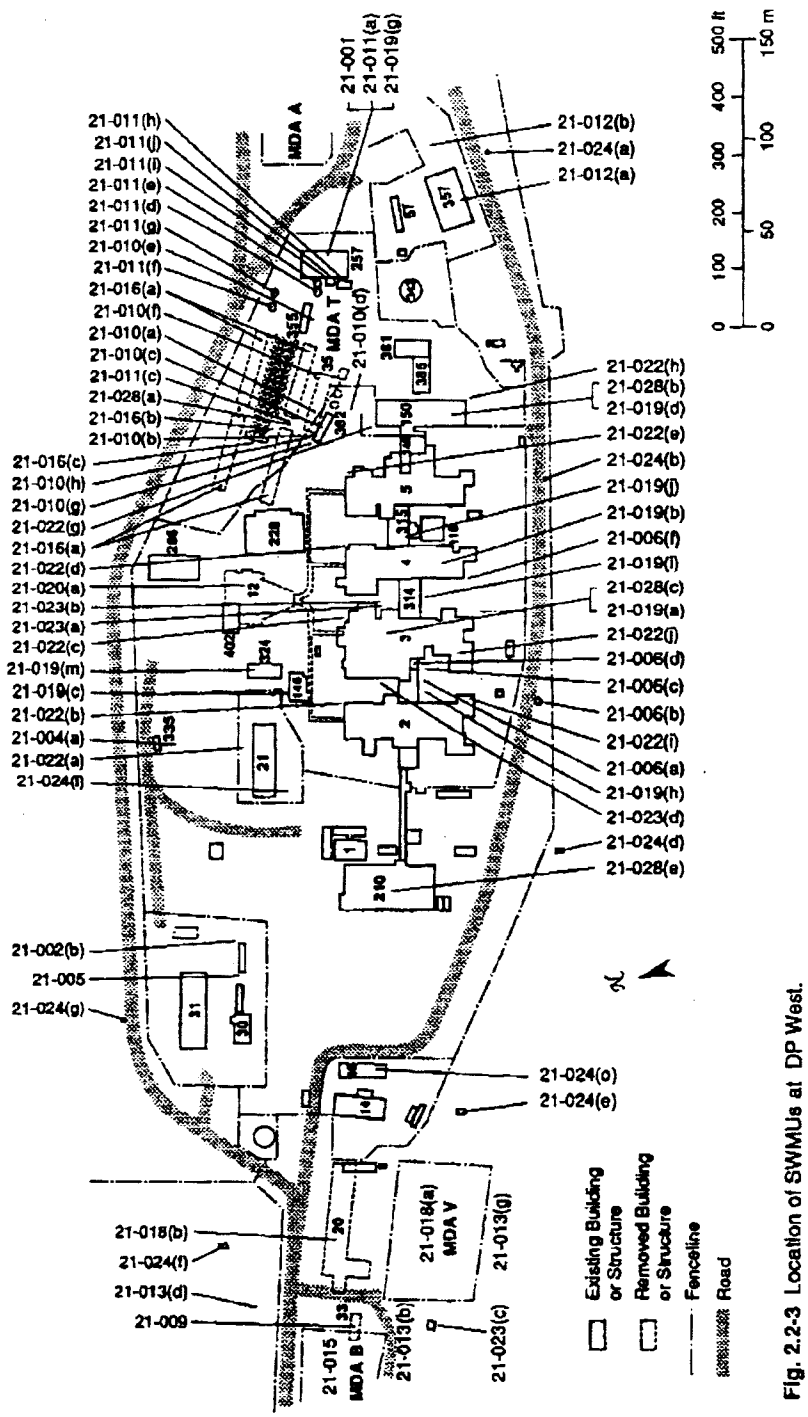


Fig. 2.2-3 Location of SWMUs at DP West.

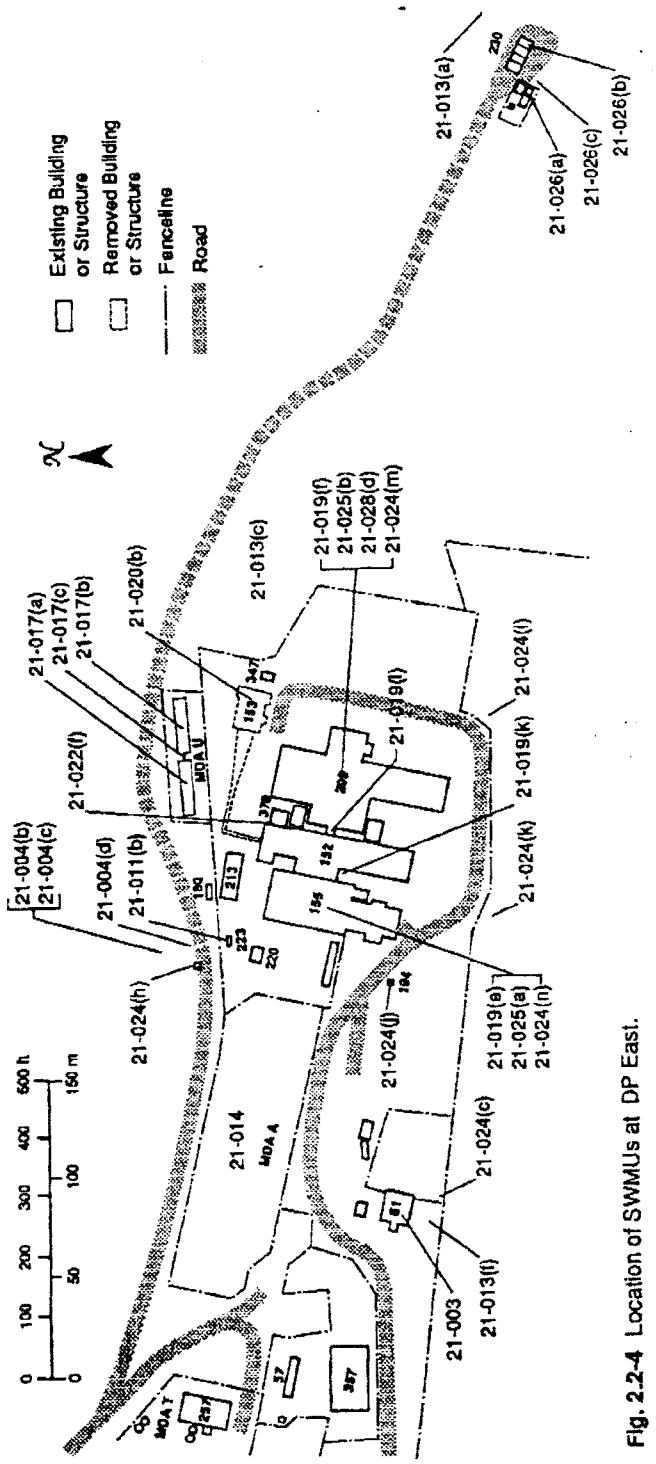


Fig. 2.2-4 Location of SWMUs at DP East.

reverse form: it identifies the SWMUs included in each field investigation section of this work plan. Figures 2.2-3 and 2.2-4 locate SWMUs at the TA-21 OU. The "Location" column of Table 2.2-III gives the figure number where each SWMU may be found. Appendix G shows all SWMUs on a larger-scale map.

Investigation groups:

Mesa top characterization (Chapter 12). Surface and subsurface characterization of the environmental setting of the entire OU is detailed. Unit-wide investigations will be used to determine geophysical and geochemical properties important to an understanding of the environmental and hydrologic processes affecting contaminant migration at the TA-21 OU.

Surface units (Chapters 13 and 14). These are SWMUs for which releases and potential contamination are expected to be confined to the soil surface. Atmospheric releases and routine and systematic surface spills are included in this category.

Outfalls and associated septic systems (Chapter 15). Near-surface and surface releases of potentially contaminated liquids are included. These are commonly floor drains and sanitary waste systems with discharges over the canyon rims of DP Mesa.

Material Disposal Areas (MDAs) (Chapter 16). This group covers Laboratory-designated liquid and solid waste disposal areas from past operations, typically large landfills and liquid absorption beds. It also includes waste treatment facilities associated with the MDAs.

Subsurface units (Chapter 17). SWMUs not addressed in a group above with primarily subsurface releases or leakage of potentially contaminated liquids are included in this group. Liquid waste sumps, seepage pits, dry wells for liquid disposal, and underground liquid waste-handling systems are example units.

SWMUs to be coordinated with building decontamination and decommissioning (D&D) (Chapter 18). Investigations of some SWMUs are precluded by the presence of buildings that have been built upon or in immediate proximity to the units. Coordination with the Laboratory's D&D program is necessary (see Sec. 2.4.1).

Areas of Concern (Chapter 19). An additional group of sites not qualifying as SWMUs will be investigated concurrently. These are called "areas of concern" herein and consist principally of past spill locations.

No Investigation Units (Chapter 20). As anticipated in Secs. 3.5 and 3.6 of the IWP, some

units identified as potential SWMUs have proven, upon review of historical information, either to have been inappropriately listed as SWMUs or to require no further action. This Chapter presents information judged sufficient to remove the sites from the SWMU list (see Table 2.2-II).

2.3 TA-21 RFI Approach

The DOE/UC IWP (LANL 1990a) specifies the ER Program's technical and management approaches for compliance with the HSWA Module of the RCRA Part B operating permit (EPA 1990) and other regulatory obligations. Those approaches define the framework within which the TA-21 OU RFI work plan must function. The OU application of those program-wide approaches is discussed in this section. In addition, this section details the particular investigation concepts and objectives guiding the individual field investigation plans presented in this document.

2.3.1 Technical Approach

The DOE/UC approach for all ER Program activities is detailed in the IWP. In addition to detailing the management approach in the Program Management Plan (IWP, Annex I), the IWP presents several technical approaches that characterize the ER Program. These include

- use of action levels as criteria to trigger a corrective measure study (CMS);
- sequential sampling approach to site characterization, decision analysis and cost-effectiveness to support the selection of remedial alternatives; and
- the application of the "observational" or "streamlined" approach to the RCRA Facility Investigation (RFI)/CMS process as a general philosophical framework.

Several of these approaches are discussed below in terms of specific application to the TA-21 OU RFI work plan. For detailed discussions, however, the IWP sections cited should be referenced.

Action Levels. The use of action levels (in EPA's proposed Subpart S regulations) as criteria for identifying releases from SWMUs and for determining the need for a CMS is discussed in IWP Appendix F and in Chapter 11 of this work plan.

Sequential Sampling. Each field sampling plan presented in this document is based on sequential sampling as discussed in IWP Appendix H. The results of measurements from each set of samples are used to determine if additional sets of samples are required and to guide selection of the subsequent sample set. Each incremental set of samples aids in determining the required

number of additional samples and their optimal locations. This process is intended to be repeated as many times as necessary, and in this work plan each field sampling plan provides guidance for subsequent sampling events based on assumptions regarding the results expected from initial sampling events. The process is described in Chapter 11 of this work plan.

Observational Approach. The essence of the observational approach is based on the philosophy that remedial action can and often should be initiated without "full" characterization of the nature and extent of contamination (IWP Appendix K). For many SWMUs, clear concepts for remedial action can be formulated before sufficient information has been collected to firmly define all uncertainties related to unit conditions. In some cases, there may be clear benefits to be obtained from focusing on particular remedial actions early in the characterization process. For a number of SWMUs, a clearly appropriate remedial action will involve stabilization-in-place and long-term monitoring. In this case, characterization sufficient only for leaving waste in place is required. For other SWMUs, removal will be the clearly appropriate remedial alternative. In these cases, characterization to determine the extent of contamination may be curtailed in preference to monitoring during removal. Probable remedial alternatives by SWMU are presented in Chapter 10 of the work plan.

Cost-effectiveness Analysis. Cost-effectiveness analysis involves comparison of costs of alternative strategies for achieving remedial action goals and selection of the least cost alternative if appropriate (IWP Appendix J). Coupled with the observational approach, the application of this philosophy during facility investigation activities may lead to a decision that additional characterization for a SWMU is less cost-effective than proceeding to a remedial action, assessing both the uncertainties that are left by incomplete characterization and the probable costs and benefits of the additional characterization effort.

Decision Analysis. The decision analysis framework discussed in IWP Appendix I provides a quantitative technique for implementing the observational approach and the cost-effectiveness analysis in an effort to streamline the characterization and remediation process. This methodology links the top level standards and criteria for selecting remediation alternatives to the technical requirements for characterization. The analysis supports decision making in situations with tradeoffs between objectives, uncertainties, and multiple-interested stakeholders, including those concerned with cost. The decision analysis approach provides a quantitative basis for defensible "early" decisions.

Table I-1 in the IWP describes the schedule for implementing the decision analysis methodology. As this RFI work plan is being prepared, the decision analysis implementation is in the early

stages of Phase I, the formulation of the objective hierarchy for the overall ER effort. This RFI work plan is well ahead of the development of the decision analysis framework. As that framework develops, it will be implemented within the TA-21 RFI/CMS process.

2.3.2 TA-21 Objectives and Approach

The technical objectives of the TA-21 RFI, incorporating the technical approaches discussed above, are summarized below:

- Identify contaminants present at each SWMU, applying a sequential sampling approach.
- Determine the vertical and lateral extent of the contamination at each SWMU.
- Identify pathways of contaminant migration operable unit-wide and from each SWMU.
- Acquire sufficient information, guided by the observational approach and decision analysis, to allow quantitative migration pathway and risk assessment analyses, as necessary.
- Provide necessary data for the assessment of potential remedial alternatives.
- Provide the basis for planning detailed corrective measures studies.

Certain management objectives can be identified as well. These include the achievement of the technical objectives in an efficient and cost-effective manner and a proper coordination of the RFI process with other institutional constraints of the Laboratory. The following approaches are adopted in this work plan to attain the above objectives.

OU-wide Mesa Top Characterization. A fundamental understanding of the physical and chemical environment within which the TA-21 OU and its associated SWMUs lie is necessary as the basic level of information to support assessment and remediation activities. A mesa top characterization effort is planned to provide OU-wide soil, mineralogic, geologic, hydrologic, and geochemical data that will be applicable to all SWMUs. This investigation will aid in allowing each SWMU to be addressed within the hydrogeological framework of the entire OU. Further, the data collected will help define the OU conceptual model. Hydrogeologic characterization is required in the HSWA Module (Sec. P, Task III) (EPA 1990) to support investigations at each SWMU. The OU-wide characterization approach is an efficient means for providing these data. This effort will be integrated with regional characterization activities developed in the future as part of the ER Program and detailed in annual IWP updates.

A three-dimensional OU conceptual model of the geohydrologic framework is proposed in Chap-

ter 6. The mesa top characterization data will support the development of the model by determining vertical and lateral changes in stratigraphy, lithology, and mineralogic and hydrologic characteristics beneath the OU. These data are necessary for hydrologic and contaminant transport calculations for either the OU as a whole or for individual SWMUs. Additionally, these studies will define the heterogeneity (variance) in various properties for the entire OU, and this variance can be used to determine the required SWMU-by-SWMU sampling intensity for certain properties, thereby minimizing the required sampling.

The mesa top characterization plans include the determination of contaminant levels in surficial materials on an OU-wide basis. As discussed in further detail below, concern for being able to distinguish SWMU-related contaminants from OU-wide contamination is an important motivation for the OU-wide investigation plan. Additional discussion of the mesa top characterization plan and its rationale is given in Chapter 12.

SWMU Characterization. The approach to individual SWMU characterization herein is typified by the sequential sampling approach described in Sec. 2.3.1. The investigations at individual SWMUs are limited primarily to defining contaminants, areas and depths of contamination, and affected migration pathways. Little emphasis is given to more general geologic and hydrologic material properties, which are planned to be obtained on an OU-wide basis as described above.

There is some concern for low-concentration, OU-wide contamination of portions of the TA-21 OU. In order to assess sampling results for each SWMU, a review of OU-wide contaminant levels must be made to establish "background" contaminant levels for the local area of the SWMU. Comparison of SWMU contaminant levels to such local background levels will be used to aid in determining the presence of SWMU-related contaminants and to limit the chance that an error will be made in determining that a particular SWMU has caused a release to the environment.

Existing Data. Available existing environmental data for TA-21 were acquired using standard practices and methods of the day. No attempt has been made to validate the data, in the EPA sense of the term. These data are used in this document solely to guide RFI characterization and sampling.

Field Investigation Methods. Due to the large number of SWMUs addressed in this work plan, common elements applying to the conduct of all field investigations at TA-21 are discussed once in Chapter 11 and not repeated in the field sampling plans. Field screening, field laboratory measurements, and analytical laboratory measurements will be used as appropriate for individual

SWMUs as determined using a decision process detailed in Chapter 11.

Risk Assessment. In general, RFI characterization leads to risk assessment. The OU-wide and SWMU-specific investigations are designed to provide the site characterization data needed for risk assessments for the entire OU or for the contributing SWMUs. Certain characterization data also may serve as input to the Canyon's Assessment OU RFI work plan, another of the OU work plans to be prepared under the umbrella of the IWP. Risk assessment results are part of the decision analysis input, and together with the observational approach are important in determining the need for remedial action. For the TA-21 RFI, risk assessment will be conducted for both radiological and nonradiological contaminants.

Coordination with D&D Program. From a management perspective, investigations of certain SWMUs, as well as potential remedial alternatives for those SWMUs, are tied closely to the Laboratory's long range plans for particular facilities (primarily at DP West). Investigations for SWMUs beneath or immediately adjacent to some buildings are impeded, and will, to the extent possible, be coordinated with plans for building D&D. The D&D Program is discussed further in Sec. 2.4.1. In the interim before full access to the SWMUs is possible, the lateral and vertical extent of potential contaminant plumes around DP West will be bounded and monitored to confirm that neither unknown nor uncontrolled contaminant migration is occurring. Chapter 18 provides the detailed approach for SWMUs in this category.

2.4 Integration with Other Programmatic Concerns

The Program Management Plan (Annex I) of the IWP (LANL 1990a) discusses the integration of the RCRA-based ER Program with other applicable requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the National Environmental Policy Act (NEPA). It is the Laboratory's intent that the RCRA corrective action process comply with applicable requirements of CERCLA and NEPA, in addition to RCRA. Additionally, the ER Program will comply with all other applicable federal acts, state statutes, and DOE orders and policy statements as identified in the IWP Program Management Plan (Annex I). Two specific requirements affecting the planning and conduct of the RFI/CMS process for the TA-21 OU are discussed in greater detail below.

2.4.1 D&D Program

The DOE's Decontamination and Decommissioning Program (D&D Program) is managed by the DOE Office of Environmental Restoration and Waste Management, as is the DOE's ER Program.

The purpose of the D&D Program is the cleanup and either remediation or demolition of facilities contaminated with radioactive, hazardous, or mixed waste. The process for placing a facility in the D&D Program is described in the DOE's Draft Policy for Acceptance of Facilities for Decontamination and Decommissioning (DOE 1990). After a facility is accepted for D&D, DOE policy identifies a three-year period for integration into the planning and funding cycle for the D&D Program. TA-21 DP West has not yet been formally accepted for D&D. However, for SWMUs immediately adjacent to or underneath existing structures at DP West, both site investigation and site remediation will be addressed in the context of D&D (see Chapter 18).

2.4.2 DOE Orders

A number of DOE Orders applicable to the Laboratory's ER Program are identified in the IWP Program Management Plan (Annex I) (LANL 1990a). Compliance with the requirements of those orders is an integral part of operations at the Laboratory and is ensured through the documented polices, planning, auditing, and work review procedures of the Laboratory. However, for the TA-21 OU, it is important to recognize two aspects of DOE Order 5820.2A, Radioactive Waste Management (DOE 1988): (1) at the site characterization and (2) site assessment phase represented by this RFI work plan. First, in regard to buried transuranic waste (which may exist at the TA-21 OU in a few SWMUs), DOE Order 5820.2A Sec. II.3.i. identifies site characterization and closure planning requirements. Second, in regard to low-level radioactive waste, Chapter III of DOE Order 5820.2A specifies requirements that are applicable to some situations at the TA-21 OU or which provide useful guidance for assessments to be made as part of this RFI process. This RFI work plan incorporates elements that will provide data allowing both the assessment of options for site closure or disposal of any buried transuranic waste at TA-21 and the assessment of low-level waste disposal guidance and requirements.

2.5 Document Organization

This RFI work plan is prepared pursuant to both the HSWA Module (EPA 1990) and the IWP (LANL 1990a). The HSWA Module sets out the general scope of the work plan for the RFI, establishes the expected correspondence between the RFI tasks identified in EPA guidance documents (EPA 1989) and the equivalent ER Program tasks, specifies the requirements to be fulfilled by the IWP and the contents expected in the OU work plans such as this document.

TABLE 2.5-1
RFI GUIDANCE FROM THE LABORATORY'S RCRA PART B PERMIT

Scope of the RFI	ER Program Equivalent	
The RCRA Facility Investigation consists of five tasks:	LANL Installation RI/FS Work Plan	LANL Task/Site RI/FS
Task I: Description of Current Conditions A. Facility Background B. Nature and Extent of Contamination	I. LANL Installation RI/FS Work Plan A. Installation Background B. Tabular Summary of Contamination by Site	I. Quality Assurance Project Plan A. Task/Site Background B. Nature and Extent of Contamination
Task II: RFI Work Plan A. Data Collection Quality Assurance Plan B. Data Management Plan C. Health and Safety Plan D. Community Relations Plan	II. LANL Installation RI/FS Work Plan A. General Standard Operating Procedures for Sampling, Analysis and Quality Assurance B. Technical Data Management Program C. Health and Safety Program D. Community Relations Program	II. LANL Task/Site RI/FS Documents A. Quality Assurance Project Plan and Field Sampling Plan B. Technical Data Management Plan C. Health and Safety Plan D. Community Relations Plan
Task III: Facility Investigation A. Environmental Setting B. Source Characterization C. Contamination Characterization D. Potential Receptor Identification	III.	II. Task/Site Investigation A. Environmental Setting B. Source Characterization C. Contamination Characterization D. Potential Receptor Identification
Task IV: Investigative Analysis A. Data Analysis B. Protection Standards	IV.	IV. LANL Task/Site Investigative Analysis A. Data Analaysis B. Protection Standards
Task V: Reports A. Preliminary and Work Plan B. Progress C. Draft and Final	V. Reports A. LANL Installation RI/FS Work Plan B. Annual Update of LANL Installation RI/FS Work Plan C. Draft and Final	V. LANL Task/Site Reports A. Quality Assurance Project Plan, Field Sampling Plan, Technical Data Management Plan, Health and Safety Plan, Community Relations Plan B. LANL Task/Site RI/FS Documents and LANL Monthly Management Status Report C. Draft and Final

These expectations are summarized in Table 2.5-I, extracted from page 32 of the HSWA Module. In addition to the expectations defined in the HSWA Module, the IWP presents a proposed outline for OU work plans such as this. The organization of this TA-21 OU work plan with regard to these expectations is described in the following sections.

2.5.1 Correspondence with RFI Scope from the HSWA Module.

EPA defines five general tasks within the RCRA facility investigation process (EPA 1989; EPA 1990). Each of these tasks is discussed separately below, and the corresponding sections of this document are identified.

RFI Task I, Description of Current Conditions. This task consists of a presentation of facility background information and a discussion of the nature and extent of contamination. A TA-21 history and operations summary is presented in Chapter 3. The environmental setting is presented in Chapter 4, and the known data concerning the nature and extent of contamination are presented in the sections discussing the individual SWMUs, Chapters 13 through 20.

RFI Task II, RFI Work Plan. This task requires plans for Data Collection Quality Assurance, Data Management, Health and Safety, and Community Relations. These plans are presented as Appendices A through D of this document.

RFI Task III, Facility Investigation. This task sets out requirements for further characterization of the environmental setting, source, contamination, and potential receptors. This work plan describes these efforts as follows:

- environmental setting — mesa top sampling plan (Chapter 12);
- source characterization — individual SWMU sampling plans (Chapters 13–19);
- contaminant characterization — individual SWMU sampling plans (Chapters 13–19), mesa top sampling plan (Chapter 12); and
- potential receptor identification — migration pathways are assessed in the mesa top sampling plan (Chapter 12), and in certain individual SWMU sampling plans. Existing information is presented in Chapters 5 through 7.

RFI Task IV, Investigative Analysis. This task contains subsets of Data Analysis and Protection Standards. These considerations are addressed in the IWP.

RFI Task V, Reports. This task calls for preliminary, work plan, progress, draft, and final reports.

Work plans are provided on an installation-wide basis (the IWP) and for specific ER Program activities. This document is the RFI work plan for the TA-21 OU. It contains the Field Sampling Plans, Project Management Plan, Quality Assurance Project Plan, Records Management Plan, Health and Safety Plan, and Community Relations Plan.

Monthly progress reports for the entire ER Program will be submitted as described in the IWP, as will draft and final RFI Reports.

2.5.2 Correspondence with RFI Outline Proposed in IWP

A proposed outline for a OU RFI work plan is presented in Table 3.2 of the IWP (LANL 1990). This work plan has not adhered explicitly to that outline but incorporates all of the elements of that outline. Although the HSWA Module requires that the IWP present an OU RFI outline for approval by the Administrative Authority, the IWP reserved the option to modify the outline as necessary for individual activities (IWP Sec. 3.5.1). This work plan exercises that option and consolidates common elements and eliminates excessive repetition.

References

DOE (US Department of Energy), August 1990. "D&D Policy for Acceptance for Facilities for Decontamination and Decommissioning" (Draft), Office of Environmental Restoration and Office of Environmental Restoration and Waste Management, Washington, DC.

EPA (US Environmental Protection Agency), May 1989. "Interim Final RCRA Facility Investigation (RFI) Guidance, Volume I of IV, Development of RFI Work Plan," EPA 530/SW-89-031, OSWER Directive 9502.00-6D, Office of Solid Waste, Washington, DC.

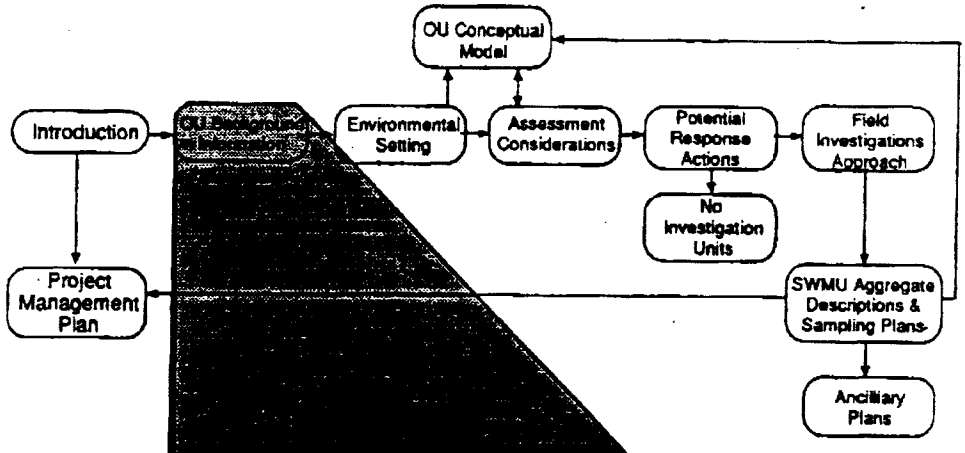
EPA (US Environmental Protection Agency)1990. RCRA Permit No. NM0890010515, EPA Region VI, issued to Los Alamos National Laboratory, Los Alamos, New Mexico, effective May 23, 1990, Dallas, Texas.

LANL (Los Alamos National Laboratory), December 1988. "Solid Waste Management Units Report," Los Alamos National Laboratory, Los Alamos, New Mexico," prepared by International Technology Corporation, Project No. 301215.02.01, Los Alamos, New Mexico.

LANL (Los Alamos National Laboratory), November 1990a. "Installation Work Plan for Environmental Restoration," Los Alamos National Laboratory Report LA-UR-90-3825, Los Alamos, New Mexico.

LANL (Los Alamos National Laboratory), November 1990b. "Solid Waste Management Units Report," Volumes I through IV, Los Alamos National Laboratory Report No. LA-UR-90-3400, prepared by International Technology Corporation under Contract Number 9-XS8-0062R-1, Los Alamos, New Mexico.

CHAPTER 3



OU Background Information

- History of TA-21
- Past Waste Management Practices
- Present Operations and Site Conditions

Best Available Copy

3. TA-21 OPERABLE UNIT BACKGROUND INFORMATION

3.1 History of TA-21

During World War II, Los Alamos National Laboratory was established with the responsibility for the research, development, and testing of the first deliverable nuclear weapon. In order to achieve this goal, much research was required to establish the chemical and metallurgical properties of the nuclear material necessary to achieve and sustain the required nuclear fission reaction. The Laboratory's Chemistry Division was created in 1943 and was given the responsibility for purifying the plutonium received from other production facilities. In 1945, these operations were transferred to the newly built facilities at TA-21. These facilities were located in the areas DP West and DP East. (DP West and DP East are historical designations for parts of TA-21 as shown in Fig. 2.2-2, Chapter 2.) The following subsections describe, in general, the activities and materials used at DP West and DP East.

3.1.1 DP West

DP West (Fig. 3.1-1) began operations in September 1945. Its main purpose was to provide the capability to produce metal and alloys of plutonium from the nitrate solution feedstock provided by other production facilities. This involved several acid dissolution and chemical precipitation steps to separate the plutonium and other valuable actinides from the feed stocks. A major research objective at DP West was the development of new purification techniques that would increase the efficiency of the separation processes (Christensen and Maraman 1969). Table 3.1-I lists the major separation processes used at the DP West facilities and the years each process was first employed. These separation techniques used a wide range of chemicals from the periodic table. In conjunction with improving purification techniques in the main process lines, research was conducted into reprocessing the waste produced to further enhance recovery. In addition, other operations, such as nuclear fuel reprocessing, were performed on occasion at DP West. Activities unrelated to plutonium processing also occurred at DP West; however, they are not detailed herein because they did not result in the SWMUs addressed in this document.

The main plutonium purification processes were contained in Buildings TA-21-2, 3, 4, 5, and later 150. Uranium and plutonium metal produced in these buildings was secured and stored in Building TA-21-21, the old vault. Research into methods of recovering additional plutonium from waste streams was conducted at Building TA-21-33. Additional research on the properties and uses of plutonium was conducted at Building TA-21-210, the plutonium research building.

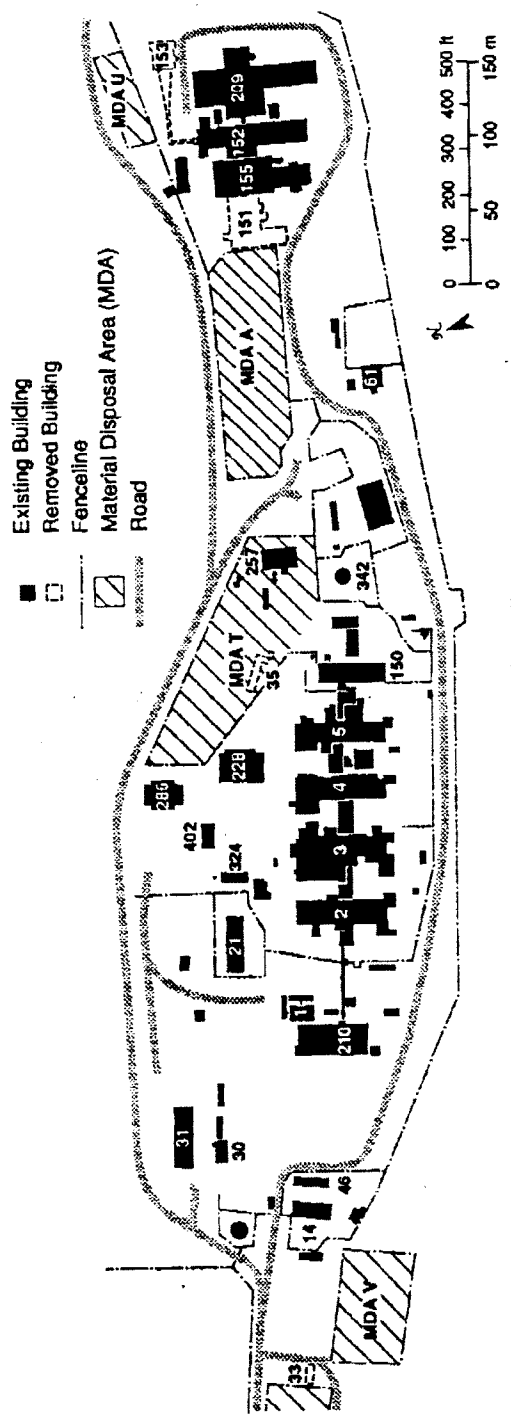


Fig. 3.1-1 Historical and current locations of major structures at TA-21. (LASL 1964)

TABLE 3.1.-I MAJOR PLUTONIUM SEPARATION TECHNIQUES AND ASSOCIATED CHEMICALS[a]

Year Process was first used	Separation Technique[b]
1945	HCl Dissolution
	Oxalate Precipitation
	Fluoride Precipitation
	Ethyl Ether Extraction
1947	HI Dissolution
	Ammonium nitrate Precipitation
	Sodium nitrate Precipitation
	Sodium bromotrioxide Precipitation
	Aluminum nitrate Precipitation
	Ammonium hydroxide Precipitation
	Sulfur dioxide Precipitation
	Sodium hydroxide Precipitation
	Thenoyl-tri-fluoracetone Extraction
1951	HNO_3-HF Dissolution
1953	Tri-n-butyl phosphate Extraction

[a]Christensen and Maraman (1969).
[b]All of these separation techniques used a wide range of chemicals from the periodic table.

In 1977, a transfer of work to the new plutonium facility at TA-55 began, and much of the DP West complex was vacated. At that time, cleanup of the old process lines was initiated. This included removing contaminated equipment and material from Buildings 2, 5, and 150 and from parts of Buildings 3 and 4 (Garde 1982). The buildings were then remodeled for use by other groups at LANL.

3.1.2 DP East

DP East is somewhat smaller than DP West. It began operation in September 1945 at Buildings TA-21-151, 152, 153. Building 155 was completed in December 1949 (LANL no date) (see Fig. 3.1-1). These facilities were used to process polonium and actinium and to produce initiators (a nuclear weapons component). In 1964, Building TA-21-209 was built to house research in high-temperature and actinide chemistry. TA-21-155 currently houses the Tritium Systems Test Assembly (TSTA) for developing and demonstrating effective technology for handling and processing deuterium and tritium fuels for use in fusion reactors.

3.2 PAST WASTE MANAGEMENT PRACTICES

The major contributor to waste streams at the TA-21 OU were plutonium-processing activities. Because of the scarcity of plutonium, much emphasis was placed on recovery of this material from process waste streams. Thus, waste stream recycling became a common practice.

3.2.1 Process Waste

Process waste consisted of the solid and liquid waste streams produced in the various research and production activities at TA-21. These waste streams were generally contaminated with radioactive and chemical waste. Process wastes from the early 1940s until the late 1970s were largely disposed of at five Material Disposal Areas (MDAs). These areas are known as MDAs A, B, T, U, and V (see Fig. 2.2-2). Estimates of the volumes and activity of waste disposed of in the MDAs are given in Table 3.2-I. The methods used in disposing of solid and liquid wastes at these MDAs differ and have evolved over the years. Chapter 16, Material Disposal Areas Description and Sampling Plan, contains detailed information on each MDA.

Solid wastes were, in general, either buried or incinerated. Burial of solid wastes was performed in pits at MDAs A and B. Transuranic (TRU) wastes were placed in corrugated metal pipes and placed in a pit at MDA T from which they could be retrieved. Debris produced from the destruction or remodeling of buildings at TA-21 was either buried at MDA A, occasionally pushed over

TABLE 3.2-I
ESTIMATES OF THE VOLUME AND ACTIVITY OF WASTES DISPOSED OF IN TA-21 MDAs.

MDA	Area (acres)	Solid/ liquid waste disposal	Estimated Volume of waste (cubic yards)[a]	Activity	Date Ceased Operation	Potential Contaminants
A	1.25	Solid	7,007	unknown	1978	radionuclides, organics, inorganics, metals, solvents
B	6.03	Solid	210,473	unknown; estimated 100 gm Pu (Walker et al. 1981)	1948	radionuclides, organics, inorganics, metals, solvents
T	2.21	Liquid/ Solid[b]	71,962	absorption beds 1945-1951 Pu 9.8 Ci and ^{3}H 14.0 Ci disposal shafts 1969-1983 ^{241}Am 3743 Ci, ^{238}Pu 31 Ci, ^{239}Pu 151 Ci, and ^{233}U 6.9 Ci	1983	radionuclides, organics, inorganics, metals, acids
U	0.20	Liquid	60,558	2.5 Ci ^{227}Ac released in 1953	1968	radionuclides, organics, inorganics, metals, PCB
V	0.88	Liquid	241,939	small quanitites ^{90}Sr and ^{239}Pu	1961	radionuclides, organics, inorganics, metals, solvents

[a]Estimates from WIN data base 12/17/90.
[b]Liquid waste went into absorption beds and solid cement paste went into disposal shafts.

the edge of the mesa south of MDA V, piled up northeast of DP East, or abandoned in other places at TA-21(See Chapter 14, Surface Units Description and Sampling Plan).

Liquid wastes produced at TA-21 were carried to the various disposal and treatment sites via a system of waste lines and sumps that may have leaked. Virtually every building at TA-21 that contained processing or research operations was served by this system. Over the years, this system was altered many times as the waste disposal and reprocessing operations changed. Chapter 18, SWMUs for Coordination with building D&D, contains detailed information on the waste lines and sumps.

Initially, liquid wastes were stored in tanks pending future improvements in the extraction processes. In the late 1940s and early 1950s, it was found that the natural soils and clays at TA-21 were effective in removing radioactive contaminants from waste liquids (LASL 1955). Therefore, absorption beds began to be used in which process effluent was emptied into a trench filled with absorption material consisting of cobble, gravel, and fine sand. These absorption beds were located at MDAs T, U and V. By 1952, sufficient progress had been made in research for recovering additional plutonium from waste liquids to make reprocessing the liquid waste viable. This reprocessing of liquid effluent was initially performed at a specially built waste treatment laboratory, TA-21-35. TA-21-35 began reprocessing waste in 1952. In 1967, liquid waste treatment operations were transferred to a newly built waste treatment facility, TA-21-257. Waste treatment operations at TA-21-35 and 257 are discussed in Chapter 16, Material Disposal Area Description and Sampling Plan. Treated liquid wastes from these operations were occasionally discharged to the absorption beds in MDA T until 1967. From 1968 to 1976, wastes were mixed with cement and pumped down asphalt-coated shafts augured between two absorption beds at MDA T. From 1975 to 1983, TRU wastes were mixed with cement and pumped into corrugated metal pipes, which were stored in the retrievable storage pit dug between two absorption beds at MDA T. These wastes were retrieved from 1984 to 1986 and relocated to MDA G.

3.2.2 Sanitary Waste

In the early period of operations at TA-21, a separate sewer system was not available. Therefore, sanitary waste was mixed with liquid waste from floor drains, laboratory sinks, and cooling tower blowdown. Buildings at TA-21 were built with drain lines to carry this waste away from the buildings. These lines led to the mesa edge where they discharged. Some drain lines led to septic tanks, which then discharged overflow to the mesa edge. The discharge points are known as outfalls. These outfall lines were not intended to discharge radioactive or otherwise contaminated waste, but occasionally contaminated material would be washed down a floor drain or

poured into a sink. The majority of the outfall system was abandoned in 1966 when the sewage treatment plant located at the east end of DP Mesa came on line. Some outfall lines discharging cooling water blowdown are still in operation and are NPDES-permitted. Outfalls and septic systems are discussed in Chapter 15, Outfalls Description and Sampling Plan. The sewage treatment plant is discussed in Sec. 14.7.

3.2.3 Airborne Effluents

Air from the process areas and some rooms at DP West and DP East were cleaned by using filters and electrostatic precipitators. These cleaning processes were principally contained in filter houses TA-21-12 and TA-21-153. TA-21-12, which served DP West, was decommissioned in 1972, and TA-21-153, which served DP East, was decommissioned in 1970. Building areas that were not served by these two filter houses exhausted air through stacks located at each area being served. These stacks generally contained HEPA filters or scrubbers and were monitored for the particular radionuclide associated with operations in the rooms the stack served. HEPA filtered exhausts are still in operation at TA-21 for various radionuclides (see Chapter 13).

In the 1960s and 1970s, several incinerators called salamanders were used to burn organic transuranic solvents and oils contaminated with radionuclides. The salamanders were long trays used for the open burning of solid waste and were associated with the waste treatment facilities at TA-21-35 and TA-21-257. Detailed information on air discharge systems is contained in Chapter 13, Surface Contamination from Airborne Emissions Description and Sampling Plan.

3.3 PRESENT OPERATIONS AND SITE CONDITIONS

This section discusses ongoing research activities at TA-21 facilities, the waste management practices to support these activities and the planned D&D of DP West.

3.3.1 Current Operations

The three major current operations at TA-21 involve the Isotope and Structural Chemistry Group (INC-4) at DP West, the Tritium Science and Technology Group (MST-3) at DP East, and the Laboratory's operations and maintenance contractor, Johnson Controls, at both DP East and DP West. The Radiation Protection Group (HSE-1) and the Waste Management Group (HSE-7) also conduct operational ES&H activities at TA-21. Several other groups conduct varied activities in one or two buildings at TA-21.

INC-4 occupies the majority of the old plutonium-processing buildings (TA-2,3,4,5,150) at DP West. The buildings house from 75 to 100 people. They conduct research in the following five activity areas: condensed-phase spectroscopy, organo-metallic chemistry, actinide chemistry, bioinorganics, and environmental chemistry. MST-3 operates the Tritium Systems Test Assembly (TSTA) in TA-21-209. The objective of TSTA is to develop and demonstrate technology for processing deuterium and tritium fuel for use in the magnetic fusion energy program. Johnson Controls uses TA-21-14 at DP West to house fitters, welders, painters, electricians, and tinners (sheet metal workers) to support all of Construction Area 2 (S-Site, TA-53, TA-42, TA-2, TA-21, and townsite). The sewage treatment plant and steam plant at DP East are also operated by Johnson Controls.

3.3.2 Waste Management

Waste management practices at TA-21, initiated in the 1940s to accommodate plutonium processing, were largely terminated by 1978 when plutonium-processing operations were transferred to TA-55. However, work with plutonium at a much reduced level continues at TA-21 by INC-4 generating some wastes. The five material disposal areas at TA-21 ceased operation at various times prior to 1983 (see Table 3.2-I). Additionally, in 1986, treated effluent from Building 257, the industrial waste treatment plant, was transferred via pipeline for NPDES-permitted discharge to Mortandad Canyon. Prior to that time, treated liquid waste from Building 257, and previously Building 35, had discharged to DP Canyon by an outfall pipe (see Chapter 16, Material Disposal Areas Description and Sampling Plan).

3.3.3 Decontamination and Decommissioning

Laboratory management realizes that DP West is a facility that has outlived its useful life, steadily deteriorates, and, because of changing ES&H requirements, will not be in compliance in the future. To address these issues, an action plan (Gancarz 1990) is under development. Short-term activities of this plan are to control access, phase out property storage, and designate INC division as the landlord-site manager for DP West (see Fig. 3.3-1). Long-term plans are to relocate programmatic activities from DP West and implement decontamination and demolition of DP West. In light of these activities, current and expected future operations at TA-21 are discussed.

The D&D Program is part of the ER Program; however, it is managed by the Waste Management Group (HSE-7) and not the Environmental Restoration Group (HSE-13).

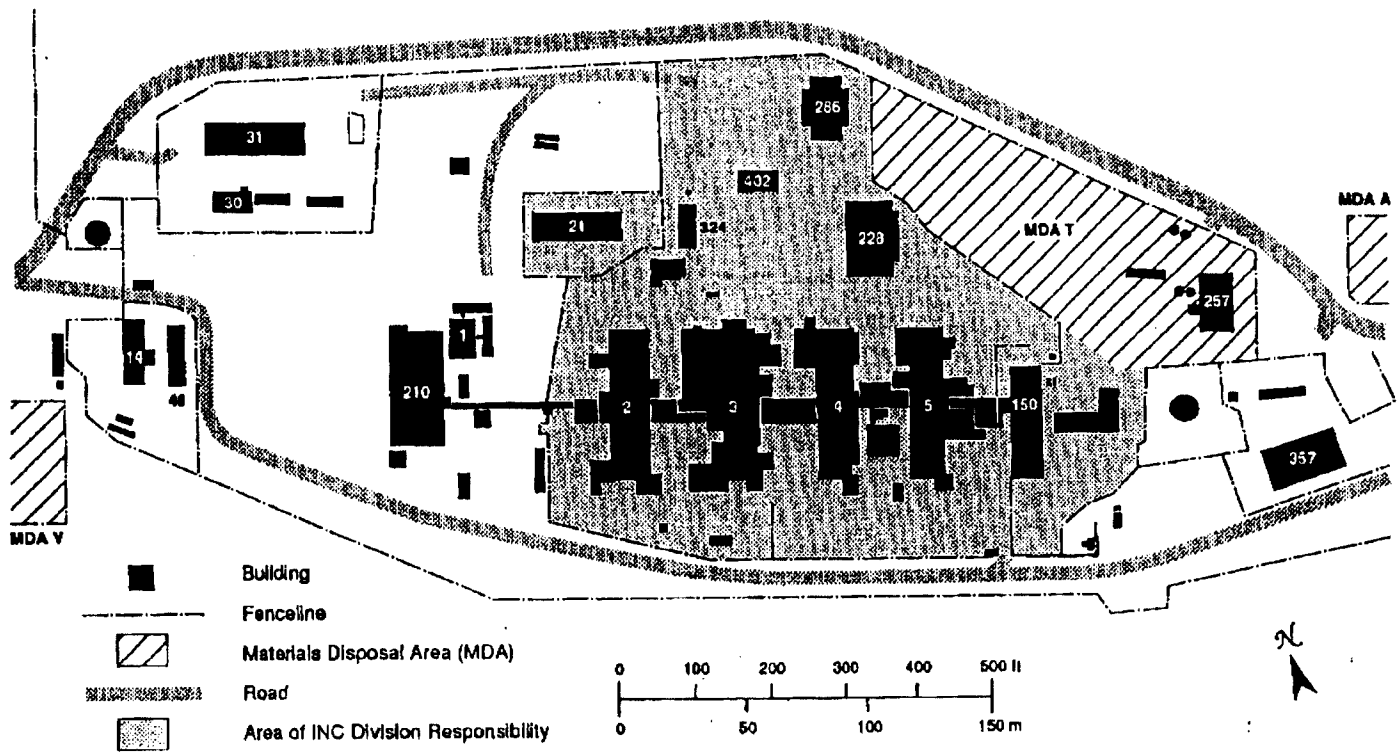


Fig. 3.3-1 Portion of DP West under INC Division as landlord site manager.

The following D&D activities are scheduled and budgeted:

- routine surveillance and maintenance of Buildings 3 and 4 south, the former enriched uranium-processing facility, which was operated by MST Division until July 1984, is budgeted for FY91. This activity involves radiological and hazardous waste measurements, physical inspections, reporting and record-keeping requirements, and correction of any deficiencies identified (Montoya 1990).

- decommissioning of Buildings 3 and 4 south is budgeted at $1.25 million each year in FY92 and FY93.

A D&D plan including building demolition is currently being developed for DP West. This plan will be incorporated into the Five Year Plan (FYP) for Environmental Restoration and Waste Management. However, the process outlined in DOE's Draft Policy for Acceptance of Facilities for Decontamination and Decommissioning (DOE 1990) suggests this will take time. The DOE Headquarters Office of Environmental Restoration (EM-40) will only consider facilities once they are made surplus and inactive. DP West is not yet surplus. Additionally, this guidance states that "there will be a 'transition period' of up to 3 years to allow for time required to appropriate funds for the cleanup and to provide for the orderly integration of the project into the EM-40 program." Cleanup activities will be scheduled on the basis of the prioritization process in the FYP.

As a result of all the above-mentioned uncertainty, it is not known when DP West will actually be decontaminated, decommissioned, and demolished. The planned D&D/ER interface, as it pertains to field sampling plans for SWMUs at DP West, is discussed in more detail in Chapter 18.

References

Christensen, E. L., and W. J. Maraman, April 1969. "Plutonium Processing at the Los Alamos Scientific Laboratory," Los Alamos Scientific Laboratory Report LA-3542, Los Alamos, New Mexico.

DOE (US Department of Energy), August 1990. "D&D Policy for Acceptance for Facilities for Decontamination and Decommissioning" (Draft), Office of Environmental Restoration and Office of Environmental Restoration and Waste Management, Washington, DC.

Gancarz, A. J., November 29, 1990. "ES&H Deficiencies at Ta-21 West," Los Alamos National Laboratory Memorandum INC-DO:90-29, with attachment, Los Alamos, New Mexico.

LASL (Los Alamos Scientific Laboratory), May 13, 1964. Engineering Drawing ENG-R-2450, Sheet 2 of 2, Los Alamos, New Mexico.

LASL (Los Alamos Scientific Laboratory) 1955. "Removal of Plutonium, Strontium, and Mixed Fission Products from Industrial Wastes by Filtration Through Various Types of Soil," EES-15 File TA21-MDA U 21-017b.

Montoya, G. M., August 1990. "The LANL Surplus Facilities Management Program Surveillance and Maintenance Plan for the Enriched Uranium Processing Facility, FY 1991-93" (unpublished), Los Alamos National Laboratory, Los Alamos, New Mexico.

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
D010	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	2
	NA		

Comments
Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑	Sonia Gonzalez (Signature)	SONIA GONZALEZ (Printed Name)	11/09/09 (Date)
Records Rejected ☐	(Signature)	(Printed Name)	(Date)

Reason for Rejection:

N/A

Re-submittal:

(Signature)	(Printed Name)	(Date)

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	1808
DESTINATION TEL #	92347138
DESTINATION ID	CHEZIE TODD
ST. TIME	11/10 11:11
TIME USE	00'15
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
D010	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	2

Comments

Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑ Sonia Gonzalez SONIA GONZALEZ 11/09/09

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D013
Waste Stream Number(s): LA-CIN04.001, LA-MHD04.001, LA-MSG04.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☐ TRU Waste Management Program Information ☐ Waste Stream-Specific Information ☑ Additional Information	Category: ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]: Review Comments on Draft of TA-21 DP West Facility AK Operations Report	
Source Document Reference Information (author(s), document and revision number, date, publisher): Jim Foxx, TWCP-22446, 3-23-04	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
S7	All	P. 20 - " This report is focused on operations that were in place at DP West between 1970, when TRU waste generated at DP West entered the LANL retrievably stored inventory, and 1978, after which operations at DP West were transferred to TA-55." This is apparently a copy of comments on the draft AK Operations Report for Plutonium Processing at the TA-21 DP West Facility report provided by the subject matter expert from TA-21 DP West. NOTE: THE MANDATORY and SUPPLEMENTAL AK ELEMENTS ARE DESCRIBED IN THE FINAL REPORT.

NTPC RECORDS ORIGINAL
DATE REC'D 6-30-14

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D013

Source Document Data Limitations (if any):

1. This is a draft document only. It appears though that these comments were incorporated into the text of the final AK Operations Report for Plutonium at TA-21...

Acceptable Knowledge Expert:

Amy Johns , Amy Johns Date: 2/21/14
Print /Sign

- Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
- Obtain from Acceptable Knowledge Documentation Checklist
- For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-MHD04.001

Site(s): Los Alamos National Laboratory-Technical Area 21	**Source Document Tracking Number:** D013
Acceptable Knowledge Documentation Type: ☐ TRU Waste Management Program Information ☐ Waste Stream-Specific Information ☑ Supplemental Information	**Category:** ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents

Title of Source Document: Review Comments on Draft of TA-21 DP West Facility AK Operations Report

Source Document Reference Information (author(s), document and revision number, date, publisher): Jim Foxx, TWCP-22446, 3-23-04

AK # [a]	Source Doc. Page # [b]	AK Information Summary
S7	All	P. 20 - " This report is focused on operations that were in place at DP West between 1970, when TRU waste generated at DP West entered the LANL retrievably stored inventory, and 1978, after which operations at DP West were transferred to TA-55." This is apparently a copy of comments on the draft AK Operations Report for Plutonium Processing at the TA-21 DP West Facility report provided by the subject matter expert from TA-21 DP West. NOTE: THE MANDATORY and SUPPLEMENTAL AK ELEMENTS ARE DESCRIBED IN THE FINAL REPORT.

Source Document Data Limitations (if any):

1. This is a draft document only. It appears though that these comments were incorporated into the text of the final AK Operations Report for Plutonium at TA-21...

Acceptable Knowlege Expert:

David Guerin or James Luginbyhl / Jma Luginbyhl **Date:** 8/16/2006
Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED
SG 11/12/09

DIVIDER PAGE ONLY

Not part of page count

TWCP-22446 D013

P2010-0898

[redacted]

AK Report Title	Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility

Report Date	

DOCUMENT PREPARER(S):

AK Expert [print]:		
Signature:		**Date**:

APPROVAL:

SME [print]:		
Signature:		**Date**:

verify - P.20

LIST OF CONTRIBUTORS

Greg Bayhurst	Project 2010 / RRES-CE	AK Expert
Charles L. (Jim) Foxx	NMT-7	TA-21 DP West subject matter expert
Betty Humphrey	Project 2010 / Weston Solutions	AK Subject Matter Expert
Geoffrey Miller	Project 2010 / RRES-CE	AK Expert
Catherine Smith	Project 2010 / RRES-CE	AK Subject Matter Expert

CONTENTS

Section	Page
1.0 INTRODUCTION	
2.0 ACCEPTABLE KNOWLEDGE DOCUMENTATION	
3.0 TA-21 DP WEST WASTE MANAGEMENT PROGRAM INFORMATION	
3.1 Facility Description	
3.2 TRU Waste Management at DP West	
4.0 TA-21 DP WEST TRU WASTE STREAM DELINEATION	
4.1 TRU Waste-Generating Processes	
4.2 Physical Form and Waste Matrix	
4.3 Delineation of Mixed and Non-Mixed TRU Waste	
5.0 WASTE STREAM INFORMATION	
5.1 Points of Generation	
5.2 Period of Generation	
5.3 Waste Stream Volume	
5.4 Material Inputs	
5.5 Chemical Inputs	
5.6 Radionuclide Content	
6.0 ASSIGNMENT OF EPA HAZARDOUS WASTE NUMBERS	
6.1 F-, K-, P-, and U-Listed Wastes	
6.2 Toxicity Characteristic Waste	
7.0 IDENTIFICATION OF PROHIBITED ITEMS AND CONDITIONS	
7.1 Ignitable, Reactive, and Corrosive Wastes	
7.2 Incompatible Chemicals	
7.3 Prohibited Items	
7.4 Polychlorinated Biphenyls	
8.0 WASTE PACKAGING	
9.0 REFERENCES	

ATTACHMENTS

1 Los Alamos National Laboratory Location Maps
- Figure 1-1 Location of Technical Area 21
- Figure 1-2 TA-21 Facility Map
- Figure 1-3 DP West Building Map

2 Process Flow Diagrams
- 2-1 DP West Plutonium Recovery Operations circa 1968
- 2-2 DP West Plutonium Recovery Operations circa 1975
- 2-3 TA-55 Plutonium Recovery Operations circa 1979
- 2-4 DP West Incineration Process Flow Diagram
- 2-5 DP West Plutonium Metal Cycle
- 2-6 DP West Plutonium Metal Production Flow Diagram

3 AK Documentation for TA-21 DP West
- Table 3-1 AK Documentation Checklist – Mandatory Information
- Table 3-2 AK Documentation Checklist – Supplemental Information
- Table 3-3 AK Source Document Roadmap
- Table 3-4 Hazardous Constituents
- Table 3-5 Physical Form, Waste Material Parameters, Prohibited Items, and Packaging
- Table 3-6 Radionuclide Content
- Table 3-7 Container Inventory Information

TABLES

Tables **Page**

[List all tables}

FIGURES

Figure **Page**

[List all figures]

ACRONYMS AND ABBREVIATIONS

AEC	Atomic Energy Commission
AK	acceptable knowledge
AKIS	*Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams* (AK-00-019) [Report]
ALARA	as low as reasonably achievable
Am	americium
AM	aluminum-based metals
C	cellulosics
CBFO	Carlsbad Field Office
Certification Plan	*Los Alamos National Laboratory Transuranic Waste Certification Plan* (PLAN-00-002)
CFR	*Code of Federal Regulations*
CH	contact-handled
CH-WAC	*Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (DOE/WIPP-02-3122)
CMR	Chemistry and Metallurgy Research [Facility]
CST	Chemical Science and Technology [Division]
D&D	decontamination and decommissioning
DCCP	Disposal of Contaminated and/or Classified Property (form)
DL	discard limit
DOE	U.S. Department of Energy
DP	defense programs
DVRS	Decontamination and Volume Reduction System
DVS	Drum Venting System
DWLS	Discardable Waste Log Sheet
EPA	U.S. Environmental Protection Agency
FRP	fiberglass-reinforced plastic-coated plywood
FSAR	Final Safety Analysis Report
FWO	Facility and Waste Operations [Division]
FWO-IIM	Facility and Waste Operations–Integrated Information Management [Group]
FWO-SWO	Facility and Waste Operations – Solid Waste Operations [Group]
HEPA	high-efficiency particulate air
HF	hydrofluoric acid
HNO_3	nitric acid
HWN	hazardous waste number
ID	item identification
IDC	item description code
IM	iron-based metals
IN	solidified inorganics
L	liter
LAMPRE-1	Los Alamos Molten Plutonium Reactor Experiment
LANL	Los Alamos National Laboratory
LANL WAC	Los Alamos National Laboratory Waste Acceptance Criteria
LDR	Land Disposal Restrictions

LIG	Laboratory Implementation Guidance
LIR	Laboratory Implementation Requirement
LLW	low-level waste
LPR	Laboratory Performance Requirement
MASS	Material Accountability and Safeguards System
µCi	microcuries
mrem	millirem
MT	material type
NMAC	*New Mexico Administrative Code*
NMT	Nuclear Materials Technology [Division]
NRC	Nuclear Regulatory Commission
OI	other inorganics
OM	other metals
OR	solidified organics
OSR	Off-site Source Recovery [Project]
PCB	polychlorinated biphenyl
Pu	plutonium
Permit	*Hazardous Waste Facility Permit for the Waste Isolation Pilot Plant* (EPA ID No. NM 4890139088-TSDF)
PN	property number
P/S	process/status [code]
PW	plastic waste
PWR	prohibited waste report
QA	quality assurance
QAPjP	*Los Alamos National Laboratory Transuranic Waste Characterization Quality Assurance Project Plan* (PLAN-00-001)
R	rubber
R&D	research and development
RAMROD	Radioactive Material Research, Operations, and Demonstration [Facility]
RANT	Radioactivity and Nondestructive Testing [Facility]
RCRA	Resource Conservation and Recovery Act
RH	remote-handled
RLWTF	Radioactive Liquid Waste Treatment Facility
RMDC	Records Management/Document Control [Center]
RRES	Risk Reduction and Environmental Stewardship [Division]
RRES-CE	Risk Reduction and Environmental Stewardship-Transuranic Waste Certification [Group]
RRES-CH	Risk Reduction and Environmental Stewardship-Transuranic Waste Characterization [Group]
RSWD	radioactive solid waste disposal
SAR	safety analysis report
SGS	segmented gamma scanner
SME	subject matter expert
SNM	special nuclear material
SRF	Size Reduction Facility

SWB	standard waste box
TA	technical area
TRU	transuranic
TRUCON	TRUPACT-II content [codes]
TRUPACT-II	TRU Package Transporter-II
TSDF	treatment, storage, and disposal facility
TWCP	Transuranic Waste Certification/Characterization Project
TWID	transuranic waste interface document
TWISP	TRU Waste Inspectable Storage Project
TWSR	TRU Waste Storage Record
U	uranium
UC	University of California
WAC	waste acceptance criteria
WCRR	Waste Characterization, Reduction, and Repackaging [Facility]
WEF	Waste Acceptance Criteria Exception Form
WIPP	Waste Isolation Pilot Plant
WIPP WAC	*Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP-DOE-069)
WIPP WAP	Attachment B, Waste Analysis Plan, to the *Hazardous Waste Facility Permit for the Waste Isolation Pilot Plant* (EPA ID No. NM 4890139088-TSDF)
WM	Waste Management
WMC	waste matrix code
WMP	waste material parameter
WMS	Waste Management System
WODF	Waste Origination and Disposition Form
WPF	Waste Profile Form
WPRF	Waste Profile Request Form
WS	waste stream
WSPF	Waste Stream Profile Form
WTWBIR	WIPP Transuranic Waste Baseline Inventory Report

Acceptable Knowledge Operations Report for
Plutonium Processing at the TA-21 DP West Facility

1.0 INTRODUCTION

The purpose of this *Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility* is to collect, document, and assemble the acceptable knowledge (AK) information for the transuranic (TRU) waste generating operations at the Technical Area (TA)-21 DP West Facility required by the *Attachment B, Waste Analysis Plan* (WIPP WAP), to the *Hazardous Waste Facility Permit for the Waste Isolation Pilot Plant* (EPA-ID No. NM4890139088-TSDF) and the *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (DOE/WIPP-02-3122)(CH-WAC). This operations report provides detailed technical descriptions of the TRU waste generating activities that were operational at the facility and correlates these TRU waste generating activities with the Los Alamos National Laboratory and the Nuclear Materials Technology (NMT) Division/TA-55 Plutonium Facility mission.

The primary mission of LANL (the Laboratory) has been nuclear weapons research and development (R&D). The Laboratory's current central mission is to reduce global nuclear danger. Global security is enhanced by ensuring the safety and reliability of the U.S. nuclear stockpile, developing technologies to reduce threats from weapons of mass destruction, and solving problems related to energy.

The mission of the NMT Division is to improve the capability to handle nuclear materials and to operate the manufacture of nuclear components, primarily in support of the Nation's defense needs. NMT Division conducts and provides support for scientific research and development on strategic nuclear materials in Category I nuclear facilities that it maintains and operates. The Division plays a significant role in each of the following major programs:

- *Stockpile Management*: manufacture and certification of nuclear weapons components.
- *Stockpile Stewardship*: disassembly and evaluation of nuclear weapons components.
- *Materials Disposition*: preparation of nuclear materials for long-term storage and the production of MOX fuels.
- *Energy:* manufacture of heat sources for the Nation's space exploration program.
- *Environment:* establish technical basis for long-term storage and development of more efficient processes for recovery of nuclear materials.

To achieve the mission objectives, the Laboratory, including the NMT Division, used hazardous and radioactive materials, therefore, the solid waste generated from the mission activities contains TRU contaminants that may be commingled with Resource Conservation and Recovery Act (RCRA) hazardous constituents.

This operations report addresses operations that generated Pu-239 and Pu-238 contaminated debris waste. It does not address decontamination and decommissioning (D&D) operations, or TRU homogeneous waste generated at the DP West Facility.

This operations report is intended as supporting technical documentation to be incorporated in the *Acceptable Knowledge Information Summary Report for Los Alamos National Laboratory Transuranic Waste Streams* (AKIS) (AK-00-019) and the AK summary reports for LANL TRU waste streams that include TRU waste generated at the TA-21 DP West Facility.

2.0 ACCEPTABLE KNOWLEDGE DOCUMENTATION

The WIPP WAP and CH-WAC required information was researched, retrieved, compiled, reviewed, and documented in accordance with *Acceptable Knowledge Documentation* (DTP-00-080). AK source documents or other pertinent information were compiled from record searches, personnel interviews, and databases. Copies of mandatory and supplemental AK source documents were assembled and submitted to the LANL Records Management and Document Control (RMDC) and are summarized on the Acceptable Knowledge Documentation Checklists forms in Attachment 3. All personnel interviews and AK discrepancies are documented in accordance with *Acceptable Knowledge Documentation* (DTP-00-080) and submitted to the RMDC in accordance with *Records Management* (QP-00-004). The roadmap documenting all AK source material is found in Table 3-3 of Attachment 3.

The TRU Waste Management Database, maintained by the Facility and Waste Operations (FWO) Integrated Information Management (IIM) group contains the most detailed container AK information for LANL's TRU waste inventory and includes a listing for all TRU waste containers currently in storage at TA-54, Area G. The information for each container may include: unique container identification number, generator organization and location, defense program (DP) status (if known), site identifiers (e.g., Item Description Codes (IDCs), Radioactive Solid Waste Disposal (RSWD) codes, and TRUCON codes), EPA Hazardous Waste Numbers (HWNs) (if known), generator assay results, container type, volume, and gross weight, contact-/remote-handled flag, closure and package dates, and current storage location.

3.0 TA-21 DP WEST WASTE MANAGEMENT PROGRAM INFORMATION

The following sections describe the TA-21 DP West Facility historical significance and the buildings where TRU waste was generated, and describes past TRU waste management practices at the DP West facility.

3.1 DP West Facility Description

DP West Facility Historical Significance

During World War II, LANL was established for the research, development, and testing of nuclear weapons. In order to achieve this goal, research was required to establish the chemical and metallurgical properties of the nuclear material necessary to achieve and sustain nuclear fission. The Laboratory's Chemistry Division was created in 1943 and was given the responsibility for purifying the plutonium received from other production facilities.

In September of 1945, plutonium processing operations were transferred from the D-Building to the newly built TA-21, also known as "DP Site", located to the east of downtown Los Alamos on a spur of Townsite Mesa known as DP Mesa. A location map for TA-21 is shown in Attachment 1-1. The DP Site at TA-21 is one of LANL's earliest nuclear chemistry research areas. With its origins during the wartime Manhattan Project, the complex of laboratory and support facilities was the location of research and development activities directly related to the production and testing of the earliest Cold War atomic devices. Since 1945, work conducted at DP Site has supported fundamental plutonium, uranium and initiator research and development that was critically important to the U.S. nuclear weapons program during the Cold War. An historical building assessment for the DOE Conveyance and Transfer Project was conducted in 1998-1999, and identified several buildings that are eligible for the National Register of Historic Places (18951).

TA-21 consists of two main areas as shown in the map in Attachment 1-2 (18951:9, 19101:). The western area, historically dedicated to plutonium operations, is known as "DP West". The smaller, easternmost group of buildings is known as "DP East". The DP East facilities were used to process polonium and actinium for nuclear weapons components. In 1964 research in high-temperature and actinide chemistry was initiated. Presently, building TA-21-155 houses the Tritium Systems Test Assembly for developing technology for handling and processing deuterium and tritium fuels for use in fusion reactors. No retrievable TRU waste has been generated by DP East operations.

DP West was the first industrial plutonium processing facility in the U.S. and the world (18951:70). Prototype methods were developed for production-scale plutonium processing and over the years these methods were refined as the facility shifted its focus to research and development. When originally constructed in 1945, the DP West facility provided capability (14396)

- to produce metal and alloys of plutonium and other transuranic elements from nitrate solution feed stock provided by other production facilities;
- to fabricate plutonium metal into precision shapes;
- to provide and install protective claddings;
- to measure the chemical and physical properties of these metals and alloys; and
- to permit recycling of scrap or materials used in experiments so that these materials could be reused rather than discarded.

The production of plutonium metal and alloys from the nitrate solution feedstock provided by offsite production facilities involved several acid dissolution and chemical precipitation steps to separate the plutonium and other actinides such as uranium from the feedstock. The separation techniques used a wide range of chemicals. In conjunction with improving purification techniques, research was conducted to reprocess the waste produced to enhance recovery. Before 1979, Pu-239 metal handling and scrap recovery operations were located at DP West. Other operations included basic plutonium chemistry research, developmental work in Liquid Metal Fast Breeder Reactor (LMFBR) fuels, and developmental work using 80% Pu-238 as an energy source for Space Nuclear Systems and artificial hearts. In 1971, the artificial heart program began using 89% Pu-238.

residues?

Starting in 1978 (18951), the DP West plutonium operations were transferred to the newly constructed TA-55 Plutonium Facility, and the DP West plutonium facility underwent an extensive decontamination effort in 1978-1981 (14396).

DP West Facility Structures

A facility map for DP West is shown in Attachment 1-3. The original 1945 facility structures consisted of four warehouses: Buildings 2 (TA-21-2), 3 (TA-21-3), 4 (TA-21-4), and 5 (TA-21-5) and were connected by enclosed corridors. In 1963, a plutonium fuels development facility, Building 150 (TA-21-150), was constructed just east of Building 5 to support plutonium fuels development. In 1952, a liquid waste treatment plant was constructed at Building 35 (TA-21-35), and subsequently replaced by the new treatment plant Building 257 (TA-21-257) in 1967. The original waste treatment plant was decommissioned in 1968. Starting in 1978 (18951), plutonium operations were transferred to the TA-55 Plutonium Facility, and the DP West facility was decontaminated in 1978-1981 (14396).

Table 1 lists the DP West Facility buildings with their corresponding operations, period of TRU waste generation, the operating division or group, and the current status.

Plutonium recovery and purification operations have been carried out at DP West since the facility was established in 1945 (18950:8). Initially, recovery and purification operations were carried out in Buildings 2, 3, and 4; and fluoride reduction, metal casting, and machining operations were housed in Building 5. By the 1950s, engineering improvements and advancements in research and development led to the consolidation of plutonium recovery operations into Building 2 (18951:26, 14396:4). Americium-241 recovery and waste storage activities were also conducted in Building 2 (18951:26). Following decontamination in 1978-1981, Building 2 was assigned to the Environmental Studies Group (LS-6) to provide group offices and chemistry labs.

From 1945 until 1948, Building 4 North was a development laboratory for plutonium research. It was decontaminated in 1948 and Room 401 was converted to an enriched uranium hydride production area. In 1960, the area was again decontaminated, and a hot cell for the examination of irradiated plutonium and enriched uranium fuel elements was constructed. About 1970, a partition was installed to create Room 401E, and three

glovebox lines were constructed to support Pu-238 metal production work. Following decontamination in 1978-1981, Room 401 was transferred to the Inorganic and Structural Chemistry Group (CNC-4, later INC-4) for low-level chemistry work with transuranic elements. In the 1970s, Building 4 North, Rooms 401 and 402, were occupied by the Irradiated Materials, Examination, and Handling Group (CMB-14) (14396:13).

The Enriched Uranium Processing Facility was established in Buildings 3 South and 4 South in the 1950s, and continued operation until 1984 (18951:26-27, 29-30). Consequently, no plutonium-contaminated waste was generated from Building 3 or 4 South between 1970 and 1978, except from Building 3 South, Room 308 where Pu-238 and Pu-239 R&D operations were conducted. The uranium processing operations are not discussed further in this report. In the 1970s, Building 3 North was occupied by the Inorganic and Structural Chemistry Group (CNC-4, later INC-4).

In the 1970s, inorganic and structural chemistry research was carried out in Building 3 North (18951:35). After the decontamination of DP West, which was completed in 1981 (14396), the CNC-4 group (later INC-4) continued its operations in Building 3 North and expanded into Buildings 4 North and 150. In 1991, approximately 75 to 100 INC-4 group members were working at DP West and were conducting research in condensed-phase spectroscopy, organo-metallic chemistry, actinide chemistry, bioinorganics, and environmental chemistry (18951:35).

Plutonium fabrication operations were carried out continuously in Building 5 [illegible] 1978 (14396:9). Fabrication involved the production of high-purity Pu-239 metal and metal alloys and precision plutonium parts for nuclear devices. In Building 5, the plutonium metal was machined in gloveboxes using lathes, milling machines, and grinders (18951:29). In 1951, a semi-automated metal production line was put into operation, and in 1956 the plutonium metallurgical and metal fabrication systems were rebuilt. Conveyor tunnel systems were placed above the gloveboxes, allowing improved plutonium transfer capabilities (14396:4).

Pyrochemical operations for plutonium purification, including electrorefining, were also carried out in Building 5. In 1963, an electrorefining facility for plutonium metal purification was constructed in Building 5, Room 506 (14936:9, 18948). In 1969, a two-story addition, the Special Fabrication and Assembly Facility, was made to the south wing.

Until 1974, all work performed in Building 5 was with Pu-239 for the weapons program. In 1975, Pu-238 was introduced into one glovebox line in Room 500 for limited research work on testing of HEPA filters (14396:9).

Plutonium fuels development was carried out in Building 150, which was constructed in 1963 (14396:4). Research and development activities associated with Pu-238 and Pu-239 were conducted at Buildings 3, 4, 5, and 150 – the Plutonium Fuels Development Facility (18951:36). Plutonium-238 heat and power sources and Pu-239 reactor fuels were developed in Building 150 (14396:7).

Best Available Copy

In1952, a liquid waste treatment facility was constructed at TA-21-35 (14396:16-153). In 1967, liquid waste treatment operations were transferred to a newly built liquid waste treatment facility, TA-21-257.

Building 286 was built in 1972 for storage of equipment and material. Two rooms were used as storage vaults for plutonium solutions. The building was decontaminated in 1978-1981 and transferred to Health Physics Group (H-1) as a warehouse for decontamination equipment (14396:16-17).

Pu-238 and residues awaiting shipment to the Savannah River Facility.

TA-21 operations for processing plutonium were largely terminated in1978 when plutonium processing operations were transferred to TA-55. By 1981 all of the plutonium processing lines such as gloveboxes and piping were removed and the buildings decontaminated.

As the plutonium processing operations were relocated to TA-55, the majority of the former plutonium processing buildings at DP West were occupied by the Inorganic and Nuclear group INC-4. Research was conducted in the following five activity areas: condensed-phase spectroscopy, organo-metallic chemistry, actinide chemistry, bioinorganics, and environmental chemistry (19101:3-8). In 1994, Buildings 3 and 4 were decommissioned (i.e., demolished). Buildings 2 and 5 are currently abandoned.

Table 1. Summary of TA-21 DP West Facility Buildings [a]

TA-21 Building	Operation(s)	Period of retrievable TRU waste generation	Tenant(s)	Status
21-002	Plutonium and americium recovery operations	1970 - 1978	CMB-11	Currently abandoned
Building 3 North	Inorganic and structural chemistry research	1976 - 1977 1970-1989? 1990?	CNC-4	Decommissioned in 1994
Building 3 South	Enriched Uranium Processing Facility	Unrecoverable U-235 waste generated in 1970's	CMB-8	
Building 4 North, Room 308	Pu-239 and Pu-238 research and development activities	1970 - 1978	CMB-11	
Building 4 North, Rooms 401, 402	Irradiated materials non-destructive examination and handling	No TRU waste generated in 1970's	CMB-14 CMB-1?	Decommissioned in 1994
Building 4 North, Room 401E, 406	Pu-238 ~~metal~~ production and heat source Pu-238 ~~Recast~~ + Pu-239 R+D, U-233 metal production	1970 – 1978	CMB-11	
Building 4 North	Actinide research	1981 – 199?	INC-4	
Building 4 South	Enriched Uranium Processing Facility	Unrecoverable U-235 waste generated in 1970's	CMB-8	
21-005	Plutonium metal fabrication facility Metal Production + Electrorefining facility (Room 506)	1970 - 1978	CMB-11	Currently abandoned
21-021	Nuclear materials vault/bunker	1970 - 1978	CMB-11	Currently abandoned
21-150	Plutonium fuels development facility	1963 - 1978 70?	CMB-11	
	Inorganic and structural chemistry research	1981 – 199?	INC-4	
21-257	Industrial liquid waste treatment facility	1970 – present		Active
21-286	Storage for equipment and materials; plutonium solution + residue storage vault	1972 - 1978	CMB-11	Decontaminated in 1981 and transferred to H-1 for use as warehouse

[a] DP West buildings and structures that did not house plutonium operations (e.g., support structures) are not listed.

3.2 TRU Waste Management at DP West

Historically (i.e., the period 1970 to 1987, prior to the implementation of the LANL TRU waste certification plan) wastes from all TRU waste-generating activities at LANL were handled and packaged according the *Los Alamos Scientific Laboratory Health, Safety and Environment Manual.* Waste management practices for radioactive waste initially followed AEC requirements (U.S. Atomic Energy Commission AEC Manual: Chapter 0511, Radioactive Waste Management [AEC 1973] [AEC 0511-01]) and later, DOE Orders 5820.1 and 5820.2, Management of Transuranic Contaminated Material (DOE, 09/30/82 and 02/06/84 respectively). TRU waste management at DP West in the period 1970-1973 was governed by the AEC requirements.

In 1970, the Atomic Energy Commission (AEC) (a predecessor agency to the DOE) issued a directive specifying that solid waste contaminated with uranium-233 and its daughter products, plutonium, and other transuranium radionuclides, to levels greater than 10 nCi/g, must be stored in such a way that it could eventually be retrieved for characterization, certification, and shipment to WIPP. The TRU wastes were to be segregated from other radioactively contaminated solid waste, with combustible and noncombustible waste packaged separately (18938:1). At that time, LANL began segregating low-level waste from TRU waste and dedicating specific areas within Area G at TA-54 for management of these wastes. LANL also implemented a retrievability limit of 100 nCi/g for Pu-238 materials.

LANL began using waste identification systems for TRU waste in January 1971. Radioactive Solid Waste Disposal (RSWD) codes were an alpha numeric code, a letter "A", followed by two digits and categorized TRU waste forms by the various on-site facilities generating the waste. A complete listing of the RSWD codes is given in the AKIS. Use of the RSWD codes was discontinued in 1992.

In addition to the RSWD codes, which provide information about the physical form, matrix, and/or chemical nature of waste, LANL employs material type (MT) designations to describe the relative isotopic composition of radioactive contamination. The designated MT is used to describe the isotopic composition of common blends of radioactive materials used within the DOE complex. The most common MTs present in DP West waste are those for weapons grade plutonium (MT -52); reactor grade plutonium (MT-54); and heat source plutonium (MT-83). The radionuclide content and MTs in DP West TRU waste is discussed further in Section 5.6.

TRU waste generators were required to complete the Radioactive Solid Waste Disposal (RSWD) form, which includes the RSWD waste identification code and information about the radionuclide content. An example of the RSWD form is included in the AKIS. The generator assigned the RSWD code that he estimated was representative of the dominant matrix in the drum.

The major contributor to waste streams at DP West was the plutonium processing activities. Because of the scarcity, much emphasis was placed on recovery of this material from process waste streams. Thus, recovery and recycling became common practices. The

process waste consisted of both solid and liquid waste produced in the research and production activities. These waste streams were generally contaminated with radioactive and chemical waste. Process wastes from the 1940s until the late 1970s were largely disposed of at five material disposal areas (MDAs) located at TA-21, known as MDAs A, B, T, U, and V.

3.2.1 Solid waste management

Two major solid waste streams were generated as a result of plutonium processing activities at DP West: process operation residue generated in gloveboxes or hoods, and residue from rooms or areas containing the TRU process facilities. Discard limits (DLs) for plutonium in the various types of waste matrices were established by the waste-generating group, and approved by the LANL division office and the DOE Albuquerque Operations Office. For the time period of DP West operations, the DL was typically 0.5 g of Pu per kg of waste (0.5 g/kg) (18938:5). Process generated residues were usually considered to be recoverable; i.e. contaminated above the DL. Glovebox generated debris waste contained TRU activity that was less than the DL. It was assumed that room generated waste contained trace quantities of radionuclides that were less than TRU levels unless it was generated by work on a contaminated system.

Solid TRU waste management activities at DP West, including sorting, logging, and packaging, were conducted in Building 2, the plutonium recovery facility. In the Metal Fabrication area, housed in Building 5, process-generated material from all operations was transferred through a conveyor system to one glovebox line for disposal. Material was removed from the glovebox by standard bag-out procedures and transferred to the recovery area in Building 2 for assay. Buildings 3 and 4 did not have conveyor systems; in these buildings and Building 150, waste materials were bagged out of the gloveboxes and placed in metal waste cans. The metal waste cans were taken to Building 2, where the waste materials were sorted and assayed. Based on the assay, if the material had recoverable quantities of plutonium, it was transferred to recovery operations. If not, the waste was logged into a retrievable waste drum and managed as TRU waste.

Room-generated materials were referred to as room trash because it was assumed that this material contained much lower contamination levels than the process generated materials. These wastes were packaged in polyethylene bags and placed in 0.06 m^3 cardboard boxes which were inside 115 liter drums with flame-retardant lids. These drums were assayed, and if the result indicated TRU waste (i.e., ≥10 nCi/g), the drums were transferred to a glovebox for disposal as retrievable waste and managed as TRU waste.

Normally, a neutron coincidence counter was used to determine if the material removed from the glovebox had recoverable quantities of plutonium and were to be transferred to scrap recovery. The scrap recovery room housed a hood/glovebox system with a Field Instrument for the Detection of Low Energy Radiation (FIDLER). A pancake counter capable of detecting 1-to 10-nCi/g activity was used. After calibration, waste was sorted by material type into 500 to 1000 gram packages. Packages measuring > 10 nCi/g were disposed of as retrievably stored, and those packages measuring < 10 nCi/g were disposed

New paragraph

of as low level waste. The Box Counter was installed in 1974 which was capable of detecting not only low energies, but higher energy gamma-ray emissions. A study was conducted in the plutonium processing facility while using the Box Counter to evaluate the economics of alternative methods. Approximately 8 percent of the room-trash boxes contained sufficient TRU contamination to warrant retrievable storage.

[redacted]

In 1975, an inventory of the chemicals used in the plutonium processing areas during one calendar year was compiled with more than 40 reagents identified. Preliminary estimates at the time indicated that only minute quantities of these reagents entered the solid waste stream as contamination. None of the dry bulk chemicals were pyrophoric in nature. All organic liquids in use had high vapor pressures and would have evaporated during use and handling. Consequently, the probability of organic liquids entering the solid waste during normal use and operations was considered to be remote. The inorganic bulk liquids were used in plutonium processing steps and transferred to the liquid waste treatment facility at Building 257. A detailed study of the composition of the solid waste stream in 1973 verified the absence of any free liquid in the solid wastes, indicating that these chemicals entered the solid waste stream only as contaminants absorbed onto other items (TWCP-18938:9).

Solid process wastes were in general either buried on site or shipped to Area G for retrievable storage.. Burial of solid wastes was done in two disposal pits at MDAs A and B, with the majority of the waste being buried on site prior to 1948. However, solid waste disposal was done up to 1978 at TA-21 in these disposal pits. In general, these pits were used for items that contained plutonium and uranium that could not be reprocessed or recycled (19101:3-4).

During the decommissioning of DP West in 1979, gloveboxes, ductwork, and pipes that were contaminated above10 nCi/g were packaged in fiberglass covered plywood boxes and sent to Area G at TA-54 as retrievably stored waste (14396).

3.2.2 Industrial liquid waste management

Industrial liquid wastes were discharged on site into absorption beds at the MDAs until 1952 when a liquid waste treatment facility, TA-21-35, was built. TA-21-35 was constructed as a facility for treatment and disposal of contaminated liquid waste from the plutonium and uranium processing facilities at DP West (14396:16-154). The method of treatment involved the addition of ferric sulfate and lime to the incoming waste stream, causing a precipitate of ferric hydroxide to form. The ferric hydroxide precipitate then settled to the bottom of settling tanks, carrying the plutonium with it. The precipitate sludge wastes were buried in MDA C, located at TA-50. Other wastes, such as concentrated residues from plutonium separation operations (raffinates) containing large amounts of salts and plutonium and hydrofluoric acid leaching solutions, were treated separately by batch methods. In 1959, an americium waste treatment facility was added to TA-21-35 to

fix americium waste in cement. The cemented americium wastes were placed in 55-gallon drums and transported to Area G for disposal (14396:16-153). Treated liquid effluent from these operations was discharged into DP Canyon (14396:3-155), or occasionally discharged to absorption beds at MDAs T, U, and V until 1967(14396:3-).

In 1967, liquid waste treatment operations were transferred to a newly built waste treatment facility, TA-21-257 (14396:16-172). Routine waste stream treatment process was based on coprecipitation of plutonium with ferric sulfate. From 1968 to 1976 liquid wastes and sludges were mixed with cement and pumped down asphalt coated shafts at MDA T. From 1975 to 1983, some of the liquid TRU wastes were mixed with cement and pumped into corrugated metal pipes (19101:3-6). Initially this waste was stored in a retrievable storage pit at MDA T, however this waste were retrieved by 1986 and relocated to Area G at TA-54.

[redacted]

In the 1960s and 1970s, several incinerators called salamanders were used to burn organic solvents and oils contaminated with radionuclides. The salamanders were long trays used for the open burning of liquid waste and were associated with the waste treatment facilities at TA-21-35 and TA-21-257 (19101:3-7).

4.0 TA-21 DP WEST TRU WASTE STREAM DELINEATION

At LANL, defense TRU wastes are generated by defense nuclear materials production, defense nuclear waste and materials by-products management, and defense research and development. Delineation of waste-generating processes at LANL is based on the four waste generating processes described in the Introduction of Attachment B, Page B-1 of the WIPP WAP: production of nuclear products; plutonium recovery; research & development (R&D); and decontamination and decommissioning (D&D). Descriptions of activities at LANL under each of these categories are found in the LANL AKIS.

It has been a long-standing waste management practice at LANL that waste is packaged in combinations of operations of origin; that is, waste items from several different operations are frequently combined in a single container. The stated policy and practice has been to handle and package all debris and homogeneous waste in a similar fashion, regardless of the process of origin; and to separate combustible from noncombustible debris waste. TRU wastes from nuclear products manufacture, plutonium recovery, and plutonium research and development processes are generated within the same facilities and packaged without regard to the generating operation or process. Therefore, LANL TRU wastes from nuclear products manufacture, plutonium recovery, and R&D processes are delineated as a single plutonium processing, recovery, and R&D process.

All DP West debris waste containers are designated as mixed because the waste was not segregated by hazardous waste content. (See Section 6.0 for a discussion of hazardous waste content.) DP West plutonium processing wastes are further delineated by evaluation of the dominant radionuclide content of individual containers. Waste containers are delineated into plutonium processing waste streams if Pu-239 is the predominant isotope (based on weight percentage relative to the total plutonium content). Containers are delineated into LA-TA-55-19, Mixed Combustible Debris, or LA-TA-55-30, Mixed Heterogeneous Debris, according to the container waste content.

An additional TRU-waste generating process at LANL that has been delineated is Pu-238 processing. Plutonium-238 operations at LANL were originally carried out at the DP West Facility. In 1963, the plutonium fuels development facility was constructed in Building 150 to support development of Pu-238 heat sources for space applications and for powering artificial organs; and to investigate ~~of~~ plutonium-containing ceramics as potential fuels for the Liquid Metal Fast Breeder Reactor Program. Around 1970, three glovebox lines were installed in Building 4 to support Pu-238 metal production work for powering artificial hearts, ~~organs~~. The DP West Pu-238 fuels research and development activities, but not ~~space~~ artificial heart applications, were subsequently transferred to the TA-55 Plutonium Facility, which is currently the only facility in the DOE complex that can handle substantial quantities of Pu-238 in unencapsulated forms. DP West waste containers are delineated into the mixed Pu-238 processing waste stream, LA-MHD02-238, if Pu-238 is the predominant isotope (based on weight percentage relative to the total plutonium content).

This report is focused on the DP West operations that fall under the categories of plutonium-239 processing and Pu-238 processing. Wastes generated by specific plutonium operations within these broad categories were not segregated for packaging and disposal (see Section 3.2); therefore, the DP West TRU waste is not more finely delineated by individual processes. A significant amount of waste was generated by the decontamination project that took place at DP West from 1978 until 1981. These wastes are categorized as D&D, and are delineated into a separate waste stream from the plutonium processing wastes. The D&D-derived wastes are not further discussed in this report.

4.1 TRU Waste Generating Processes

Plutonium processing operations in the time period 1970 to 1979 included recovery and purification processes; metal production; metal fabrication; and R&D. Americium research and recovery operations were also carried out at TA-21 DP West, which became the world's center for research on americium.

The plutonium facilities were located at TA-21 DP West in Buildings 2, 3, 4, 5, and 150. The primary tenant of the DP West facility was the Chemistry and Metallurgy-Baker Division group CMB-11. During the period January through June 1978, the plutonium operations were relocated to the newly constructed Plutonium Facility at TA-55 (02767:20). This report is focused on operations that were in place at DP West between 1970, when TRU waste generated at DP West entered the LANL retrievably stored inventory, and 1978, after which operations at DP West were transferred to TA-55.

The plutonium operations in place at DP West in 1978 continued in operation after relocation to the new TA-55 Plutonium Facility. The wastes resulting from past operations at the DP West facility are the same as certain wastes generated at the TA-55 Plutonium Facility. The number of AK source documents relating to TA-21 DP West and the level of detail in these documents is somewhat less than those used in the compilation of AK for the TA-55 Plutonium Facility. Therefore, the discussion of TA-21 operations in this report relies heavily on the AK documentation that has been compiled for plutonium operations conducted in the TA-55 Plutonium Facility.

Unlike plutonium operations at the TA-55 Plutonium Facility, the system of process/status (P/S) codes was not in use during the period of operations at the TA-21 DP West facility. The search and compilation of AK information for TA-55 operations is based on P/S code, because that is the greatest level of detail recorded in waste generator records. A corresponding level detail is *not* available in the AK record for TA-21 DP West TRU waste.

Detailed AK information for TA-55 AK is compiled in a set of closely related reports about TRU waste generating activities at the Plutonium Facility. For convenience in organizing the AK, plutonium processing and recovery has been categorized into six operational areas. The multiple operations in each area are described in detail in the following AK operations reports.

- *Acceptable Knowledge Report for Chloride Operations at LANL* (15411)
- *Acceptable Knowledge Report for Metal Operations at LANL* (15412)
- *Acceptable Knowledge Report for Miscellaneous Operations at LANL* (15413)
- *Acceptable Knowledge Report for Nitrate Operations at LANL* (15414)
- *Acceptable Knowledge Report for Pyrochemical Operations at LANL* (15415)

- *Acceptable Knowledge Report for Special Processing Operations at LANL* (15416)

The plutonium processing and recovery AK operations reports include detailed process flow diagrams, descriptions of feed materials and chemical inputs, and radionuclide material. Generalized flow diagrams for legacy and newly generated waste are included in the LANL AKIS for these five operational areas indicate the TA-55 P/S codes associated with each of the various sub-processes. As discussed in Section 3.2, the P/S code system of material tracking was not introduced until 1987; consequently, there are no P/S codes associated with the DP West waste. However, in the descriptions of DP West operations presented in this report, the correlation between DP West and P/S codes associated with early TA-55 plutonium operations is emphasized.

The following sections discuss the major categories of plutonium operations at the DP West Facility: recovery operations; pyrochemical operations; metal operations; americium operations; miscellaneous and special processes; and Pu-238 processing operations. Table 1 summarizes the DP West plutonium processing operations, and correlates the DP West activities with the corresponding TA-55 activities.

Table 1. TA-21 DP West Facility Plutonium Processing Operations 1970-1978

TA-21 DP West Operation	Location	AK Reference	Corresponding P/S Code(s)		Corresponding Operation Report	Corresponding TA-55 Procedure
Recovery Operations - Pretreatment						
Conversion of Pu Metal to Oxide	Building 2	18950, Section 3.11; 18938, Fig. 2	BM	Burning Metal	Nitrate	
		18950, Section 3.3	BU	Button Burning	Nitrate	
		18950, Section 3.4	PA	Passivation	Nitrate	
		18950 Section 3.6	PAF	Passivation Furnaces	Nitrate	
			BF	Unknown name	Nitrate	
Conversion of Pu alloy to oxide	Building 2	18938, Fig. 2	BU	Button Burning	Nitrate	
		18938, Fig. 2	BM	Burning Metal	Nitrate	
Incineration of Combustible Residues	Building 2	18950, Section 7.1	IS	Incineration	Nitrate	*Incinerator,* 422-REC-R00, 2/25/78 (3548/N-4) UCNI
Incineration of Graphite Residues	Building 2	18950, Section 7.2	None			
Calcination	Building 2		HC	Calcination	Nitrate	
Calcination of oxalate precipitate	Building 2	18950,	CC	Calcination	Nitrate	
			DF	DS (Dissolver Solution) Furnace and Oxide	Nitrate	
Ash Grinding	Building 2	18938, Fig. 2	PTS	RD&D Pretreatment Study	Nitrate	
Oil Recovery	Building 2	18950, Section	RO	Oil Recovery	Nitrate	

TA-21 DP West Operation	Location	AK Reference	Corresponding P/S Code(s)		Corresponding Operation Report	Corresponding TA-55 Procedure
Recovery Operations - Dissolution						
Metal Dissolver	Building 2	18950, Section 3.2	AS	Anode Heel Dissolution	Nitrate	
Dissolution of Pu Alloys	Building 2	18950, Section	None			
Dissolution of Pu Hydroxide	Building 2	18950, Section	CD	Hydroxide Cake Dissolution	Nitrate	
			HCD	Hydroxide Cake Dissolution	Nitrate	
			HD	Hydroxide Cake Dissolution	Nitrate	
Dissolution of Pu Oxide	Building 2	18950, Section	OD	Oxide Dissolution	Nitrate	
Noncombustible Residues Processing	Building 2	18950, Section 6				
Leaching – Miscellaneous Noncombustible Solids	Building 2	18950, Section 6.2	NC, NL	Noncombustible Leach	Nitrate	
Leaching of Incinerator Ash	Building 2	18950, Section 6.3	AL	Ash Leach	Nitrate	
			AT	Ash Testing	Nitrate	
Processing Silica Solids (Hydrofluorination)	Building 2	18950, Section 6.4	None			*Residue Leaching*, 426-REC-R00 (2/27/87)
Processing Acid Insoluble Residues (Fusion)	Building 2	18950, Section 6.5	None			
Processing Graphite Molds	Building 2	18950, Section 6.6	RC	Rotary Calciner	Nitrate	1983 Christensen paper
Pickling – Non-combustibles	Building 5	J. Foxx notes	PK	Pickling	Pyrochemical	
Slag and Crucible Dissolver	Building 2	18950, Section 5	CL	Crucible Processing	Nitrate	
			ML	Non Pu Metal Leach	Nitrate	

TA-21 DP West Operation	Location	AK Reference	Corresponding P/S Code(s)		Corresponding Operation Report	Corresponding TA-55 Procedure
Caustic Dissolver – Chloride Residues and Electrorefining Salt Dissolution	Building 2	18950, Section 4.10	COD	Chlorinated Oxide Dissolution	Nitrate	
			VP3	Hydroxide Precipitation	Nitrate	
			COL	Chlorinated Oxide Leach	Nitrate	
Evaporator (R+D) ~~(Experimental)~~	Building 2	J. Foxx notes	EV	Evaporator	Nitrate	
Canning	Building 2	J. Foxx notes	FC	Canning	Nitrate	
Pu-U Oxide Dissolution	Building 2		LG1	Noncombustible Leach	Nitrate	
			UPS	Uranium Plutonium Separation	Nitrate	
			US	Uranium Separation for Solid Solution Feed	Nitrate	
			US2	Uranium Separation for Non-Solid Solution Feed	Nitrate	
Equilibration Tanks – organics compatible with HNO_3	Building 2	18938, Fig. 2	None			
Dissolution of Pu Casting Skulls	Building 2		OD	Oxide Dissolution	Nitrate	
Pu-Th Alloy Dissolution as the Oxide	Building 2		PT	Plutonium Thorium Separation	Nitrate	
Pu Oxide Dissolution	Building 2		OD	Oxide Dissolution	Nitrate	
			SSD	Special Scrap Dissolution	Nitrate	
			VC	Variable CSMO Scrap Dissolution	Nitrate	
			ZD	Scrap Oxide Dissolution	Nitrate	

waste management Product removal?

check on

TA-21 DP West Operation	Location	AK Reference	Corresponding P/S Code(s)		Corresponding Operation Report	Corresponding TA-55 Procedure
Caustic Dissolver	Building 2	18950, Section 8.8	CLS	Accountable CLS Chloride Solutions	Chloride	
			CW	Caustic Waste	Chloride	
Metal Dissolver (Pu-Th Separation)	Building 2		CX	Chloride Anion Exchange	Chloride	*Purification and Recovery of Plutonium by Chloride Anion Exchange*, 473-CLO; 483-CLO
Recovery Operations - Purification						
Nitrate Ion Exchange	Building 2	18950, Section	DS	Ion Exchange	Nitrate	
			LR	Lean Residue Ion Exchange	Nitrate	
			RCM	Rich Column Material Ion Exchange	Nitrate	
			RFX	Rich Feed Ion Exchange	Nitrate	
			RR	Ion Exchange	Nitrate	
Hydroxide Precipitation	Building 2	18950, Section	OH	Hydroxide Precipitation	Nitrate	
Oxalate Precipitation	Building 2	18950, Section	OY	Oxalate Precipitation	Nitrate	
			LC	Uranium/Plutonium Processing		
Peroxide Precipitation	Building 2	18950, Section	PR	Peroxide Precipitation	Nitrate	
Plutonium/Thorium Separation	Building 2	18950, Section	PT	Plutonium Thorium Separation	Nitrate	
Pyrochemical Operations						
Metal Preparation Line	Building 5		MP	Metal Preparation	Pyrochemical	
Electrorefining	Building 5	18948	ER	Electrorefining	Pyrochemical	
Direct Oxide Reduction (R+D)	Building 5		OR	Direct Oxide Reduction	Pyrochemical	

TA-21 DP West Operation	Location	AK Reference	Corresponding P/S Code(s)		Corresponding Operation Report	Corresponding TA-55 Procedure
Metal Operations						
Alloy Development	Building 5		DA	Alloy Development	Metal	None
Assembly Operation	Building 5		AO	Assembly Operations	Metal	None
Casting	Building 5		CA	Casting	Metal	*Button Breaking Press*, 317-CAS (3541/MET-45) UCNI
Inspection	Building 5		IN	Inspection	Metal	3541/MET-69
Machining	Building 5		MA	Machining	Metal	
Metal Working	Building 5		MW	Metal Working	Metal	*Safe Operating Procedure for Pit Disassembly*, 397-SEC (3541/MET-42) UCNI
Physical Properties	Building 5		BC	Physical Properties	Metal	Measuring Physical Properties, 116-MRD (3541/MET-41) UCNI
Pit Disassembly	Building 5		PD	Pit Disassembly	Metal	*Safe Operating Procedure for Pit Disassembly*, 397-SEC (3541/MET-42) UCNI

TA-21 DP West Operation	Location	AK Reference	Corresponding P/S Code(s)		Corresponding Operation Report	Corresponding TA-55 Procedure
Special Recovery Line	Building 5		SRL	Special Recovery Line	Metal	*Pit Disassembly*, ATP/SRL-104 (3541/MET51) UCNI *Processing Material in the Special Recovery Line Furnace*, ATP/SRL-105 (3541/MET52) UCNI *Pit Disassembly (Special Recovery Line)*, 397-SRL (3541/MET-53) UCNI
Welding	Building 5		WE	Welding	Metal	*Encapsulation of Radioactive Isotopes*, 353-WEL (3541/MET-39) UCNI
Welding Leak Test	Building 5		WLT	Welding Leak Test	Metal	
Miscellaneous and Special Processes						
Actinide Processing Demonstration	All Buildings	J. Foxx notes	AD	Actinide Processing Demonstration	Miscellaneous	
Metallography	Building 150	J. Foxx notes	ME	Metallography	Miscellaneous	
Preparation of Isotopes	Building 5	J. Foxx notes	PI	Preparation of Isotopes	Special Processing	
Americium Processing						
Americium Processing	Building 2	J. Foxx notes	AO	Americium Processing Calcination	Nitrate	
			FA	Americium Processing	Nitrate	
			OH	Hydroxide Precipitation	Nitrate	

TA-21 DP West Operation	Location	AK Reference	Corresponding P/S Code(s)		Corresponding Operation Report	Corresponding TA-55 Procedure
			SX	Americium Processing Silicon Removal	Nitrate	

Pu-238 ops?

4.1.1 Defense-Related Status of DP West Operations

Under the RCRA Land Withdrawal Act requirements of the WIPP permit, WIPP can accept only radioactive waste generated by atomic energy defense activities of the United States. A TRU waste is eligible for disposal at WIPP if it has been generated in whole or in part by one or more of the following functions (CH-WAC, Section 3.1.5):

- Naval reactor development
- Weapons activities, including defense inertial confinement fusion
- Verification and control technology
- Defense nuclear materials production
- Defense nuclear waste and materials by-products management
- Defense nuclear materials security and safeguards and security investigations
- Defense research and development

At LANL, TRU wastes have been designated as either defense program (DP) or non-DP to indicate their eligibility for disposal at WIPP. DP waste generated at DP West is best categorized as defense nuclear waste and materials by-products management.

Plutonium operations at the DP West Facility in the period 1970 – 1978 included several non-defense related projects: the Space Heat Source Program; the Pu-238 artificial organ power source program; the Pu-239 Advanced Reactor Fuels Program; and the Hanford Ash Program. The work conducted in Building 150 was exclusively on the Space Heat Source Program and the Pu-239 Advanced Reactor Fuels Program, and waste from Building 150 was not commingled with waste from any other DP West Facility building. However, no single waste container in the DP West inventory can be identified as having originated in Building 150 (see Table [redacted] in Section 5.1). Most ([redacted]) of the DP West TRU containers have Building 2 as the point of generation where waste management operations, including packaging, labeling, and documenting for retrievable storage, were conducted.

Further, work with Pu-238 was also conducted in Buildings 3, 4, and 5, as well as Building 150. The Pu-238 waste from Buildings 3 and 4 were commingled with DP waste generated in the same gloveboxes. For example, in Building 4 North, bomb reduction to produce metal was performed in the same glovebox, using the same equipment, for both U-233 (DP) and Pu-238 (non-DP) feed materials. These commingled wastes are considered to be DP wastes ([redacted]). However, because most of the waste containers have Building 2 as their point of generation, the DP and non-DP waste containers cannot be distinguished. Therefore, it must be assumed that every Pu-238 waste container is commingled DP and non-DP waste.

Work for the Advanced Reactor Fuels Program involved the use of plutonium material type (MT-) 54 (19433). Research and development work on properties of MT-54 was conducted in Buildings 3 and 4 and the resulting waste became

commingled with Pu-239 waste from DP work conducted in the same gloveboxes (19433). MT-54 contaminated waste was also generated from the Hanford Ash Program, which had as its objective the production of driver fuel for the Liquid Metal Fast Breeder Reactor (LMFBR) at Hanford. The Hanford Ash material was incinerated residue contaminated with MT-54, and operations to recover the plutonium were performed in Building 2 in the same gloveboxes where DP plutonium recovery operations were performed (19433). Consequently, the Hanford Ash MT-54 contaminated waste became commingled with DP waste.

Further, although both programs had only non-defense program funding, each of the programs conducted R&D activities that were later employed in national defense applications. The waste generated in Building 150 was not commingled with waste from other operations at the DP West Facility that were clearly defense program generated, but technology developed in these programs was applied to defense program needs.

The funding for the Space Heat Source Program came from the Space Nuclear Systems (SNS) Division of the AEC ([redacted]). While the direct funding source, SNS, was a non-defense program entity, the efforts of the Space Heat Program at DP West supported defense program activities in at least three areas. Also, all of the feed material Pu-238 oxide used in those programs was produced at the Savannah River Plant in the K Reactor, a defense program reactor.

4.1.2 Plutonium Recovery Operations

Manufacturing and research operations performed at DP West in the production of plutonium products generated plutonium-contaminated scrap and residues. These residues were processed to recover as much plutonium as was practical. The DP West facility had extensive capabilities for the extraction and recovery of plutonium from residues and scraps generated from operations at various LANL facilities and other DOE sites. These recovery and manufacturing operations, associated maintenance operations, and plutonium research were the major sources of TRU waste generated at DP West.

The primary document upon which the AK information for plutonium recovery operations at DP West is based is *Plutonium Processing at the Los Alamos Scientific Laboratory* (18950), which was authored by Christensen and Maraman in 1968. Although the document predates by two years the time period of interest for the retrievably stored TRU waste inventory, the operations described in the 1968 document are representative of the operations conducted between 1970 and 1978.

A process flow diagram for the plutonium recovery operations that were conducted in Building 2 in 1968, taken from the Christensen and Maraman document (18950:7), is included in Attachment 2-1. A more detailed process flow diagram taken from the 1975 document *Characterization of Transuranic Solid Wastes from a Plutonium Processing Facility* (18938:4) is shown in Attachment 2-2. The process flow diagram in Attachment 2-3 is taken from the 1979 *LANL Waste Management Site Plan* (02767:29) and represents the plutonium recovery operations in place at the startup of the new TA-55 Plutonium Facility. A comparison of the TA-21 and TA-55 process diagrams shows that the operations were largely identical with two exceptions. An evaporator process intended to re-concentrate plutonium in liquid residues was put into production when recovery operations were relocated at TA-55; and liquid waste from TA-55 is discharged to the TA-50 Radioactive Liquid Waste Treatment Facility.

The overall goal of the plutonium recovery operations was to recover plutonium from metal, metal alloys, scrap, and residues and produce a purified plutonium nitrate solution that was compatible with the processes used in the preparation of plutonium metal (18950:2). The DP West plutonium recovery operations can be subdivided into pretreatment, dissolution, and purification operations, and are analogous to processes described in *Acceptable Knowledge Report for Nitrate Operations at LANL* (15414). Each of these process categories is described in the following sections.

4.1.2.1 Pretreatment

Pretreatment primarily includes physical processes used to prepare scrap and residues for the next step, dissolution. Pretreatment may have included any or all of the following processes: thermal conversion to oxide, calcination, caustic leaching, chemical separation by hydroxide or oxalate precipitation, size reduction, grinding, shredding, distillation, filtering of liquids or oils, and incineration. As materials were received from various operations within DP West, they were sorted and sent to other

pretreatment processes or directly to dissolution depending on the physical nature of the scrap or residue and on the amount and type of plutonium associated with the material. Graphite items were size reduced; gloves, plastics, and some heating mantles were shredded (18938:4). Hanford Ash material was iteratively screened and ground.

In overview, particulate solids from the pretreatment step were sent to dissolution if plutonium concentrations were above the DL and to disposal if concentrations were below the DL. Liquids were sent to purification if plutonium concentrations were above the DL and to the Building 257 wastewater treatment facility if concentrations were below the DL.

Pretreatment of Noncombustible Residues

Thermal pretreatment processes were frequently used to prepare plutonium-bearing materials for dissolution. Due to the pyrophoric nature of plutonium metal and certain alloys, procedures were developed for the converting the metal and its alloys to the oxide, which could then be safely handled in any atmosphere. Finely divided plutonium metal, anode heels from electrorefining operations, oxides that may contain unoxidized plutonium metal, carbides, and nitrides that can be very reactive in an oxidizing acid were burned in a furnace under a controlled atmosphere to passivate the material and moderate its reactivity. Usually the ignition was performed in MgO or Al_2O_3 crucibles. If the ignition temperature did not exceed 600 °C, the resulting oxide could be readily dissolved by refluxing with HNO_3-HF solutions.

A caustic (hydroxide) leach process was used to pretreat residues high in chlorides. Chlorides were removed using sodium hydroxide and the treated residues were then dissolved in nitric and hydrofluoric acid. In this case, the caustic solution would be sent to liquid waste disposal at Building 257, and the filtered solids would continue through the dissolution process.

Plutonium oxalate cakes from the oxalate precipitation process (OY) underwent calcination (CC) by heating in air in a furnace to form pure plutonium oxide. The oxide became feed for the oxide reduction process.

Pretreatment of Combustible Residues

A process flow diagram for the incineration operation at DP West (18938:12) is shown in Attachment 2-4. Development work was started in 1951 on the design of an incinerator for combustible residues, including paper, rags, wood, emery paper, rubber gloves, graphite, and plastics. The incinerator was first used in 1952 for contaminated rags. The procedure for the operation of the incinerator allowed 12 liters of dry rags to be processed in bout 2 hours, yielding 100 to 150 ml of ashes. The incinerator off-gas scrub and the vacuum seal solutions were filtered after every three to five runs and analyzed for plutonium content to determine if the solutions should be recycled or discarded.

Several problems were encountered in the incineration operation. Certain rubber and plastic items burned incompletely and led to the build up of combustible tar on the exhaust lines and filters. Incineration of polyvinyl chloride bags led to increased corrosion due to the release of chloride, which formed hydrochloric acid whenever it came in contact with water. Consequently, the incineration of plastic and rubber items was severely restricted to only those pieces that monitoring indicated still contained appreciable quantities of plutonium after leaching with nitric acid.

The incineration of rags that had been in contact with HNO_3 and then allowed to stand was also problematic. The rags would become nitrated and small nitrocellulose explosions would result when these were burned. The problem was alleviated by requiring that all cotton rags be rinsed with water immediately after being in contact with nitric acid.

The ashes were collected after each run and reduced in a ball mill to less than 20-mesh particles. The ashes were sampled for plutonium content, and subjected to an acid leach or processed in a dissolver (Section 4.1.2.2) if the plutonium content was greater than the DL. The resulting nitrate solution was purified by anion exchange (Section 4.1.2.3)

Pretreatment of Oils

Plutonium-contaminated lubricating, machining, lapping and cutting oils were transferred to Building 2 for recovery in glass jars. The oils were directly filtered through a sintered glass frit to remove plutonium metal or oxide particles. Trichloroethylene was used to reduce the viscosity of oils during the filtration step. The liquid portion was sent to Building 257 for disposal.

4.1.2.2 Dissolution

Dissolution was comprised of numerous processes that generated a plutonium-nitrate solution for feed to a purification process. Numerous dissolution procedures were developed during the early years of the Laboratory. By the 1960's these had been narrowed to only a few for production purposes. The primary mode of dissolution involved nitric acid (HNO_3) - hydrofluoric acid (HF) leach solutions, with the addition of other chemicals (what other chemicals?)for particular dissolution processes. The plutonium- bearing HNO_3-HF solutions resulting from dissolutions proved to be excellent feed stocks for follow-up processing operations. In overview, filtered solids from the dissolution step are re-dissolved until plutonium concentrations are below the DL, then sent to disposal; debris items are disposed after the plutonium contamination is removed from the surface by leaching; plutonium-bearing solutions are sent on to purification or to the metal preparation line.

Several dissolution processes involved the use of cascading dissolvers (CD) or dissolution pots. (Were some of these only used later at TA-55?) The choice of

yes, the cascade dissolvers were first used at TA-55 incorrect

dissolution equipment is based on the concentration of plutonium present in the feed material and the physical form of the feed material. Feed materials included ash, glovebox sweepings, ground slag or crucibles, oxides, residues, salts, and sand. Cascading dissolvers consist of a series of heated columns into which the standard leach solution is introduced along with aluminum nitrate in some instances. Air is bubbled through the columns to promote mixing of the solutions and to keep particles in suspension. Solution from the first column overflows to the second column and so on. After dissolution in the dissolvers, the solutions are filtered and then sent to purification. The filtered solids are sent to other dissolution processes if plutonium concentrations are above the DL, or disposed as debris waste if concentrations are below the DL.

delete

Surface Decontamination

Plutonium on the surface of metal and noncombustible debris waste items was recovered by leaching or dipping the waste item into a nitric acid leach solution (18950:36). Items such as tantalum molds and crucibles, sintered glass frits, stainless steel filters, and Al_2O_3 crucibles were generally cleaned of plutonium by refluxing with HNO_3-HF solution. The acid solution was filtered, and the items were rinsed with water or dilute HNO_3. Rubber gloves were wiped with a cloth soaked in a nitric acid solution to recover surface contamination of plutonium. The cloths were dunked in water a few times and wrung out; the solutions from the cloths were collected and filtered. The solids were recycled through the dissolution process if plutonium concentrations were above the DL, or disposed as waste if concentrations are below the DL. The plutonium-bearing solutions were sent to purification. The cloths were reused if they were not falling apart; otherwise, they were discarded as solid waste or sent to incineration, depending on the nuclear material content. Plutonium-bearing solutions were sent to purification, while the leached items below the DL are discarded.

Pickling

Pickling, leaching with a strong acid (either HNO_3 or HCl) was typically a head-end operation for treatment of noncombustible items. Hydrochloride acid pickling solutions underwent HNO_3 acidification. The plutonium-bearing nitrate pickling solution was then transferred to anion exchange.

Plutonium Metal and Alloys

Many plutonium-bearing materials were dissolved in a standard leach solution of HNO_3-HF after appropriate pretreatment or preparation. These materials include alloys, anodes, carbides, casting skulls, electrorefining residues, and metals (18950:15-21). After dissolution and filtration, solids were discarded if below the DL or recycled if above the DL, while solutions were sent to purification. These solutions could be expected to contain dissolved heavy metals (e.g., lead, cadmium, mercury, or chromium) that may be concentrated in the purification steps.

Dissolution methods for plutonium alloys of chromium, copper, gallium, hafnium, indium, iron, manganese, thorium, titanium, uranium, and zirconium were developed at DP West. The alloying element(s) determined the purification method that followed dissolution. Anion-exchange in nitrate media followed most dissolutions because of the high selectivity for (the sorption of) nitrate complexes of tetravalent actinides.

Plutonium-aluminum alloys containing greater than 10% aluminum were dissolved with HNO_3 using $Hg2^+$ (as mercuric nitrate) as a catalyst. In subsequent nitrate anion-exchange, the $Hg2^+$ was quantitatively removed into column washes where it was then concentrated by hydroxide scavenging (18950:20). Plutonium-osmium alloys were dissolved using HNO_3-HF with helium sparging in order to drive off volatile OsO_4 (18950:21).

Uranium-plutonium oxide mixtures were leached using nitric acid to preferentially dissolve the uranium. Aluminum nitrate was added to the solution to complex any fluoride ion that might be present. The uranium-bearing filtrate was discarded, and the plutonium-bearing solids were sent to dissolution and then to either an anion-exchange process or the oxalate precipitation process for purification (18950:20).

Plutonium oxide

The ease with which plutonium oxide can be dissolved depends on the temperature at which the oxide was formed or to which it was subsequently heated. Oxides that have been heated less than 600 °C are generally relatively easy to dissolve in HNO_3-HF solution. Oxides heated to temperatures between 600° and 1000 °C require more stringent measures. The dried oxide residue was mixed with a $K_2S_2O_7$-NaF flux, which was then heated to 550 °C. The cooled melt was removed from the fusion vessel, and heated with HNO_3-$Al(O_3)_3$ solution. The solution was filtered and sent to the appropriate purification step, depending on what types of cations were present (18950:25).

Graphite

Graphite melt and mold crucibles that had been coated with CaF_2 to reduce plutonium penetration contained only surface contamination and could be directly leached with HNO_3-HF solution. Graphite used for filtering aqueous solutions and uncoated melt and mold crucibles were incinerated, and the ashes were subsequently leached with HNO_3-HF solution (18950:43).

Silica Solids

Silica entered the process stream from dissolution of magnesium oxide crucibles in which silicon oxide was used a binder, and due to leaching of silica from glass equipment. Acid-leached silica residues were dried and treated in hydrofluorination

furnaces. Gaseous HF was introduced into the reaction chamber and reacts with the SiO_2 to form the volatile SiF_4. The gaseous reaction products were swept out of the chamber through a caustic scrubber. The reaction residues were leached with HNO_3-$Al(NO_3)$ solution. All leach and scrub solutions that contained more than 1 mg/L of plutonium were transferred to the anion-exchange system. The leached residues were treated as described for acid insoluble residues (18950:40-41).

Acid Insoluble Residues

Acid insoluble residues include refractory oxides and residues for which leaching was uneconomical or infeasible. Examples include incinerator ashes, Al_2O_3 tubes and crucibles, and carborundum solids. These residues were treated by fusion with a mixture of potassium thiosulfate ($K_2S_2O_7$) and sodium fluoride (NaF) in Hastelloy "C" fusion crucibles. The resulting melt was dissolved in a HNO_3-$Al(NO_3)$ solution; the fluoride anion was tightly complexed by the added aluminum. The filtrate was purified by anion exchange (18950:42).

Incinerator Ashes

Incinerator ashes from burning of combustible residues (Section 4.1.2.1) were processed on a batch basis. The procedure consisted of a dilute HNO_3 leach to remove the more soluble residues, a water leach to remove the HNO_3, hydrofluorination to the remove silica solids, and finally, a fusion with $K_2S_2O_7$-NaF to remove the remaining plutonium. (18950:38).

Electrorefining Chloride Melts

Due to their high chloride content, electrorefining chloride melts required special handling to prevent corrosion of the stainless steel equipment. The preferred method of dissolution was to leach the chloride melt with NaOH, thus dissolving the chloride salts of sodium, potassium, and lithium, and precipitating the plutonium as the hydroxide. The filtrate, if less than 1mg/L in plutonium can be discarded, thus disposing of the corrosive chloride ion (18950:27).

Reduction and Casting Residues

Bomb reduction residues from plutonium metal preparation consist of the MgO packing sand, the reduction slag, and the MgO crucible serving as the liner for the reduction bomb. The residues were treated in geometrically favorable dissolvers. Slag and crucible material to be dissolved was loaded into a screened bucket and lowered to the bottom of the dissolver. Nitric acid – aluminum nitrate solution was added to dissolve the MgO sand, and then air was sparged through the solution to aid in the oxidation of iodide to free iodine (iodine was added as a booster in the bomb reduction procedure). The free iodine was carried through NaOH scrubbers. Further addition of HNO_3 and heating was required to dissolve the MgO crucible material.

The solution was filtered and sent to nitrate anion exchange. The leached residues were transferred to the hydrofluorination system for removal of silica (18950:31-34).

Casting residues were treated in the same manner as the reduction residues using a modified procedure because no iodine was present in these residues. The MgO-2% SiO_2 casting crucibles do not contain fluoride; therefore, the addition of $Al(NO_3)_3$ was not required (18950:34-35).

4.1.2.3 Purification

Plutonium-bearing solutions generated in the dissolution step are directed to purification for plutonium recovery. Purification consists of both ion exchange and precipitation processes. After ion exchange and/or dissolution of precipitates in nitric acid, plutonium-bearing nitrate solutions were directed to the metal fabrication line.

Plutonium Peroxide Precipitation

A peroxide precipitation process (PR) was used to achieve excellent separation of plutonium from the cationic impurities aluminum, bismuth, calcium, cesium, chromium, cobalt, iron, lanthanum, and magnesium, as well as americium. Peroxide was added to the dissolution filtrate feed material to convert the plutonium to valence state (+4). Additional peroxide resulted in the precipitation of Pu_2O_7. The resulting peroxide filter cake was dissolved in nitric acid and the solution was sent to the metal preparation line for conversion to metal.

The filtrate solution from the peroxide precipitation had to be treated immediately after filtration to destroy the excess peroxide – the "peroxide kill" process. The preferred method was to slowly add the filtrate to NaOH. The resulting solution was cooled and then acidified with HNO_3 to completely dissolve the hydroxides and provide a clear solution for the anion exchange process (18950:53-54).

Plutonium Oxalate Precipitation

The precipitation of Pu(+3)-oxalate has been an important step in the processing of Pu since the earliest days of the Laboratory. Oxalate precipitation is a quick, effective concentration step that also provides excellent decontamination from unwanted anions and from metals that form soluble oxalate complexes. The oxalate precipitation process (OY) was used to achieve separation of plutonium from iron, aluminum, uranium, or other cations that do not form insoluble oxalates. The precipitation of the trivalent oxalate was also used as the concentration step of the nitrate anion-exchange columns. The plutonium valence state was adjusted to (+3) if necessary and oxalic acid ($H_2C_2O_4.2H_2O$) was added to precipitate the plutonium oxalate. The resulting oxalate was calcined to the oxide, and the oxide was dissolved in HNO_3-HF to produce a plutonium nitrate product that was acceptable in the metal preparation line (18950:51).

Anion Exchange

After 1959, the plutonium recovery operations at LANL employed nitrate anion-exchange columns as the primary mode of scavenging, purifying, and concentrating plutonium. The general procedure for any residue was: get the plutonium into solution; sorb the plutonium on nitrate anion-exchange resin; elute the plutonium; and then determine which, if any, additional process should be used to remove remaining impurities. The eluate was concentrated by precipitation of the trivalent plutonium oxalate, if necessary. The purified plutonium nitrate solution was then sent to the metal preparation line (18950:61-67).

The nitrate anion exchange processes used resin-filled columns to sorb plutonium. The pH of incoming solutions was adjusted with nitric acid and the plutonium was stabilized by changing the plutonium valence state to (+4) using hydrogen peroxide. Other chemicals used to adjust acidity or to "condition" incoming solutions to address the presence of fluoride, silica, metal impurities, or plutonium (+6) included: aluminum nitrate, ferrous ammonium sulfate, hydrogen peroxide, sodium hydroxide, sodium nitrite, sulfuric acid, and urea.

Plutonium (+4) binds to the resin while impurities such as americium, uranium, and other metals flow through the column. The column is washed with 7 M HNO_3 to remove non-sorbed species. The plutonium remains on the resin in the (+4) valence state until the eluting agent, 0.3 M $NH_2OH.HNO_3$, is flowed through the columns. This releases purified plutonium in solution for further processing (i.e., precipitation and oxidation). Ion exchange resins were reconditioned using nitric acid.

After ion exchange, plutonium-bearing solutions are sent on to a precipitation process to convert the plutonium solution to plutonium oxalate. This process involved the addition of oxalic acid to form plutonium oxalate precipitate. The resulting oxalate was calcined to the oxide, and the oxide was dissolved in HNO_3-HF to produce a plutonium nitrate product that was acceptable in the metal preparation line (18950:51).

Plutonium/Thorium Separation

Plutonium/thorium oxides were dissolved in HNO_3-HF solution to which sodium chromate (Na_2CrO_4) and lanthanum nitrate were added. Thorium was removed from solution by addition of KF or HF to form a thorium fluoride (ThF_4) precipitate. After filtering out this precipitate, the plutonium was reduced to the (+4) valence state and chromium was reduced to the (+3) valence state in solution using peroxide. Continued addition of peroxide and sulfate resulted in the precipitation of plutonium peroxide, which was subsequently dissolved in HNO3 to provide the nitrate feed for the metal preparation line (18950:55-56).

Evaporator

The use of evaporators was in the development stage at the DP West Facility in the 1970's; the evaporators were put into production when plutonium recovery operations were relocated to TA-55. At TA-55, plutonium-poor ion exchange effluents and oxalate precipitation filtrates are sent to the evaporators to re-concentrate plutonium, if possible, and reduce the volume of disposed waste. General facility maintenance solutions (e.g., wet vacuum water, mop water, chiller water) are also sent to the evaporator. The wet vacuum water and chilled circulating water are contaminated with nitric acid, hydrochloric acid, or caustic solutions having the same characteristics as those sent to TA-21-257, only richer in nuclear material content (e.g., diluted processing solutions). The mop water is taken back into the evaporator only if it has a significant nuclear material content, which means that it originated in the processing solutions before escaping the confines of the glovebox system.

Plutonium-poor solutions are collected in storage tanks and sent to the evaporators in batches of up to 600 liters. These solution batches are then concentrated to approximately 25-liter volumes called "bottoms." As the bottoms cool, salts precipitate out and settle on the bottom of cooling trays. After cooling, the bottoms are sent back to ion exchange if plutonium concentrations are above the DL or disposed if concentrations are below the DL. Attempts are made to re-dissolve settled salts, but if this is not possible, the bottoms are filtered and the salts are sent to dissolution if plutonium concentrations are above the DL or disposed as uncemented (debris) waste if concentrations are below the DL. Nitric acid is used in the evaporator process to wash nitrate salts having a plutonium concentration above the DL.

4.1.2 Pyrochemical Operations

Pyrochemical operations for plutonium included the following processes:

- metal preparation line (MPL),
- direct oxide reduction (DOR),
- electrorefining (ER),

Metal Preparation Line

The metal preparation line (MPL) produced plutonium metal from PuF_4 until 1992. Plutonium nitrate solutions produced by the plutonium recovery operations were processed in the metal production operations. Plutonium peroxide was precipated from the nitrate solution and converted to plutonium tetrafluoride (PuF_4). The PuF_4 was combined with calcium metal in excess to that needed for the reduction and iodine, which was added as a reaction initiator. The mixture was placed in a MgO crucible that was surrounded by MgO sand, all placed inside a stainless steel pressure vessel (a "bomb"). An induction heater elevated the temperature of the reactants and

vessel until some of the calcium reacted with the iodine. The highly exothermic reaction raised the internal temperature of the bomb to over 1500 °C in just seconds. The remainder of the calcium reduced the PuF_4 to form plutonium metal and calcium fluoride, with the bomb internal reaching as high as 2000 °C as this second reaction proceeded.

As cooling commenced, the molten plutonium with its high density settled to the bottom of the crucible, displacing the less dense molten calcium fluoride and calcium iodide. As the temperature decreased to 1400 °C, the calcium fluoride and then the calcium iodide solidified (19430). The desired product was plutonium metal, which was recovered as a button by breaking the crucible and mechanically separating the contents. After cooling, the plutonium button was sent on to the metal fabrication section.

The plutonium metal production flowsheet is shown in Attachment 2-5 (02767:29). The waste products were calcium fluoride (CaF_2) and calcium iodide (CaI_2), which formed a slag, magnesium oxide sand, and magnesium oxide crucible pieces. These were discarded if the plutonium content was below the DL. If the plutonium content was above the DL, the slag and crucible pieces were sent to recovery operations. The magnesium oxide sand was reused if possible.

Little or no purification of the plutonium occurred during this process. However, because the reagents introduced no impurities and the highest purity feed material was used, the resulting metal was often satisfactory for high-purity applications. In this process, any trace metals were below the toxicity characteristic levels, so that the associated debris and slag wastes were below the toxicity characteristic levels in RCRA metal content (TWCP-2502).

Direct Oxide Reduction

In the 1970s at DP West, the development of the single pass direct oxide reduction (DOR) process for plutonium oxide was at the experimental stage. The DOR process did not go into production before operations were relocated to the TA-55 Plutonium Facility. In the DOR process, plutonium oxide and calcium metal are reacted in molten calcium chloride ($CaCl_2$) or $CaCl_2$ mixed with calcium fluoride (CaF_2), to produce plutonium metal. The reaction is conducted in a magnesium oxide (MgO) crucible at 820°C to 875°C. Any arsenic, mercury or selenium present in the impure plutonium oxide would be driven off due to their volatility at this high temperature (1258). The reaction proceeds to completion when excess calcium is present and when sufficient $CaCl_2$ is available to dissolve the calcium oxide (CaO) product.

except with Pu-238

After cooling, a plutonium metal button is removed by breaking the crucible. A layer of salt above the button contains unreacted oxide and metal shot, which was sometimes recovered by addition of fresh salt plus additional calcium metal. The process was then rerun. If the unreacted oxide and metal shot did not process after the second run, the material was sent to aqueous recovery. The product plutonium metal

contains significant impurities, including additional metal impurities derived from the calcium metal and calcium chloride reagents. It must be further purified by electrorefining. All DOR salts were oxygen sparged, which would have oxidized any pyrophoric metals that might have been present. The salt was then either routed through aqueous chloride operations to recover the plutonium, or else discarded as waste along with the remaining calcium metal and MgO crucible pieces.

The feed oxide, reagent salts and reductant are of the highest purity available because the process is non-purifying. In fact, the plutonium metal produced from this operation is always less pure than the feed material due to impurities derived from the reductants. Plutonium metal from this process typically requires further processing to meet purity requirements.

Electrorefining

The eletrorefining (ER) process was introduced in 1962 at TA-21 (18948) and was transferred to TA-55 in 1979. The ER process takes impure plutonium metal and produces high purity plutonium metal. Impure plutonium is cast as an anode, which is then placed in a magnesium oxide crucible with a salt mixture, a metal cathode (typically tungsten), and a seeding reagent that is $MgCl_2$ or $PuCl_3$ (TWCP-2505). After the anode and salt melt, current is applied to the system, and plutonium at the anode is oxidized to plutonium ions, which travel to the cathode and are reduced back to the metal state. Impurities in the original plutonium anode that are easier to be reduced than plutonium (including cadmium, chromium, lead, and silver) remain in the anode, while impurities easier to be oxidized than plutonium (including barium and americium) are left in the molten salt. After cooling, the crucible is broken and the residues are physically separated from the high purity product metal (18948, Mullins 1963).

4.1.4 Metal Operations

A process flow diagram showing the plutonium metal cycle at the DP West facility (taken from 18938:3) is included in Attachment 2-6. The metal operations at DP West consisted of metal production and metal fabrication, which included casting and machining. Assembly and disassembly operations were also carried out, as well as experimental operations in fabrication, preparation of test specimens, and metal handling (18938, Atom Dec. 1967).

Plutonium nitrate solutions produced by the plutonium recovery operations were processed in the metal production operations. Plutonium peroxide was precipated from the nitrate solution and converted to plutonium tetrafluoride (PuF_4). The PuF_4 was in turn mixed with calcium metal and heated in a metal "bomb". The highly-reactive calcium combines with the fluorine in the PuF_4, leaving molten metallic plutonium which forms a disc or button in the bottom of the bomb. After cooling, the plutonium button was sent on to the metal fabrication section. The metal fabrication section operated a foundry and machine shop devoted exclusively to casting and

machining plutonium and its alloys. The plutonium parts prepared in the metal fabrication operations were used for many basic research programs at the Laboratory.

Casting

The casting (CA) process received plutonium metal from pyrochemical operations or from other sources such as the SRL. The metal was combined with other metal from different sources to produce a product metal that meets purity specifications. Specification metal was then cast as a prealloyed feed aliquot at which time gallium metal was added, it was analyzed chemically in-line to determine the proper gallium content, and the metal was placed into in-line storage. Metal was pulled from in-line storage to cast into shapes.

Casting was done by an induction furnace using tantalum crucibles and tantalum puller plugs. Molten plutonium was poured into the graphite mold through a tantalum funnel. Casting was done under vacuum so that the plutonium did not oxidize. The mold was allowed to cool at which time the cast shape was unmolded and sent to heat treatment to homogenize the plutonium. After heat treatment, the parts underwent density determination using bromobenzene. Bromobenzene is volatile, and hence evaporates and is removed by the ventilation system. The cast shape underwent a final heat treatment and density measurement. The finished cast parts were sent to machining, or placed in temporary in-line storage.

Chemical analysis was performed on rejected parts. If the rejected parts met the chemical requirements, the parts are added to other metal in the metal blending step described above. Those parts that did not meet the chemical specifications were cast into ingots, which were then electrorefined.

Casting skulls, which are small amounts of plutonium left on the furnace and crucible surfaces, were oxidized to plutonium oxide. The plutonium oxide easily brushes from the metal surfaces with a paintbrush, thus allowing the tantalum crucibles and funnels to be reused many times. In addition, scrap from the cast pre-alloyed feed aliquot and the casting step are roasted to oxide. This plutonium oxide is sent to aqueous recovery.

Graphite molds have always constituted the largest volume of waste from casting operations because these molds are used only once. Other wastes generated by casting include the occasional discard of tantalum crucibles and funnels, tools, rags, gloves (leaded), gaskets, and small amounts of plastics and glass.

Machining

Machining (MA) involves a variety of operations on cast parts obtained from casting. Machining operations include turning, milling, grinding, and boring. The objective of the machining operations is to bring the parts to their final dimensional specifications.

Chemicals used in the past as coolants during machining include Tap Magic (which contains 1,1,1 trichloroethane) and Freon TF. Tap Magic use was discontinued in 1992, and Freon TF use was discontinued in 1995 because it was an inferior coolant for plutonium due to the nature of machining this metal. Although Tap Magic contains 1,1,1 trichloroethane, the EPA HWN F002 listing does not apply in this case because the chemical was used as a coolant, and not as a solvent.

Cleaning solvents were used in machining operations. Methyl ethyl ketone (MEK) and Metalprep 79 (a phosphoric acid-based metal cleaner) were used. Freon TF was used to remove oil from turnings (degreasing) before they are sent to recovery. For final cleaning, trichloroethylene was used.

Pit Disassembly and Special Recovery Line

Pit disassembly involved the separation and sampling of pit assemblies using milling, turning and grinding techniques. Pits were received and monitored for tritium. If no tritium was detected or was below a specified activity, the pit was placed in a glovebox and cut in half, and its components were separated and decontaminated of slight tritium contamination. Care was taken not to mix non-special nuclear material metals with the special nuclear material (SNM) metals. The non-SNM metals are discarded as waste. Uranium and plutonium shells were decontaminated of minor surface contamination.

Tritium was recovered in the Special Recovery Line (SRL) if tritium was above a specified activity. Separation of pit components was done using a special abrasive cut-off wheel. The pit was cut in half, and the shells were cleaned with copper wool and Freon TF. Scrap was sent to recovery or to waste management depending on whether the material was SNM or not. After the shells were cleaned with the copper wool and Freon TF, they were placed in an ultrasonic bath for cleaning using product SF-2I. Tritium-contaminated water was collected and poured over zeolites for disposal.

Small-scale decontamination of tritium-contaminated plutonium and other SNM was done in the SRL furnace. The SRL furnace area consisted of different sections, including metal handling, tritium removal furnace, equipment for collecting tritium liberated in furnace, and effluent treatment system.

Welding

The welding operations at DP West were similar to those conducted at TA-55 under P/S code WE. One metal fabrication process consisted of the preparation and encapsulation of foils of uranium-233, neptunium-237, americium-241 and assorted plutonium isotopes for use as neutron detectors. Metal oxide compounds were also used as well. The foils were welded or soldered into nickel, stainless steel, or copper capsules.

were detectors used at DP

1. One
Two methods of welding were employed: a gas tungsten arc welder ~~and an electron beam welder~~. Encapsulation of radioactive isotopes involved placing the isotopic material to be sealed into a stainless steel capsule and subsequently welding the capsule closed. The exterior of the capsule was cleaned with Freon TF. The Freon TF was allowed to evaporate; hence no wiping of the capsule surface with rags was required. Other welding operations included welding of plutonium samples on vanadium in an argon atmosphere, brazing gold to repair platinum frits, welding titanium to repair titanium boats, and welding of aluminum.

4.1.4 Plutonium Fuels Operations

SNAP

Systems for Nuclear Auxiliary Power (SNAP) devices convert heat energy from radioisotope decay into electrical energy. The first sample of Pu-238 metal was produced by CMB-11 at DP West in 1959. The Pu-238 was then used to fabricate a SNAP power source using plutonium. The first encapsulation of a Pu-238 heat source was carried out in Building 5. The Pu-238 heat sources were used to power unmanned weather stations, navigational buoys, satellites, and spacecraft instrumentation. The SNAP power sources also support space electric power applications (18951:36).

Liquid Metal Fast Breeder Reactor Program

The Liquid Metal Fast Breeder Reactor (LMFBR) fuel program investigated the suitability of plutonium-containing ceramic materials for use in the reactor. Pu-239 advanced fuels for the LMFBR program included fuels of mixed uranium-plutonium carbides and ~~nitrates.~~ oxides

Artificial Heart Program

In the 1960s and 1970s, work on the development of a Pu-238 heat source for the artificial heart was conducted in Building 4 North. The AEC started a program to develop the power supply for the artificial heart in 1967. CMB-11 was tasked to conduct research and development activities; and acquired 80% enriched Pu-238 material from the Savannah River plutonium processing plant.

Descriptions of Processes

4.2 Physical Form and Waste Matrix

Wastes generated at DP West were primarily debris wastes and liquid wastes sent directly to the wastewater treatment facility at Building 257. This report is focused on the debris wastes contaminated with radioactive and chemical constituents as a result of plutonium processing and Pu-238 processing operations. Attachment 4, Waste Stream Physical Form, Waste Material Parameters, Prohibited Items, and Packaging, summarizes the information for the combustible and heterogeneous debris waste streams.

The RSWD codes assigned by the waste generator to DP West TRU debris waste containers are listed in Table [redacted]. RSWD codes for combustible debris containers include (in order of frequency): "other combustibles"; cellulosics; combustible lab trash; and plastics. The RSWD codes for noncombustible debris containers include (in order of frequency): "other noncombustibles"; metal crucibles, scrap, and dies; property numbered (PN) equipment; scrap metal; glass; filter media and filter media residue; and skull and oxide.

Table X. RSWD Waste Codes Assigned to DP West TRU Debris Waste

RSWD Code	RSWD Description	Waste Matrix Description	Number of Containers
A-15	Cellulosics	Combustible Debris	
A-16	Plastics	Combustible Debris	
A-18	Combustible Lab Trash	Combustible Debris	
A-60	Other Combustibles	Combustible Debris	
A-10	Graphite Solids	Heterogeneous Debris	
A-19	Combined Combustible/Non-Combustible Lab Trash	Heterogeneous Debris	
A-30	PN Equipment	Heterogeneous Debris	
A-31	Non-PN Equipment	Heterogeneous Debris	
A-46	Skull and Oxide	Heterogeneous Debris	
A-50	Metal Crucibles, Scrap, Dies	Heterogeneous Debris	
A-52	Scrap Metal	Heterogeneous Debris	
A-55	Filter Media	Heterogeneous Debris	
A-56	Filter Media Residue	Heterogeneous Debris	
A-61	Other Noncombustibles	Heterogeneous Debris	
A-95	Glass	Heterogeneous Debris	

Table X. Waste Stream Delineation Based on RSWD Code

Does this include empty Pu-238?

Waste Stream ID	Waste Matrix Description	RSWD	RSWD Description	Number of Containers
LA-MHD02-238	Combustible Debris	A-15	Cellulosics	58
LA-MHD02-238	Combustible Debris	A-16	Plastics	2
LA-MHD02-238	Combustible Debris	A-17	Rubber Materials	15
LA-MHD02-238	Combustible Debris	A-18	Combustible Lab Trash	52
LA-MHD02-238	Combustible Debris	A-60	Other Combustibles	16
LA-MHD02-238	Heterogeneous Debris	A-19	Combined Combustible / Non-Combustible Lab Trash	38
LA-MHD02-238	Heterogeneous Debris	A-30	PN Equipment	55
LA-MHD02-238	Heterogeneous Debris	A-31	Non-PN Equipment	3
LA-MHD02-238	Heterogeneous Debris	A-50	Metal Crucibles, Scrap, Dies	27
LA-MHD02-238	Heterogeneous Debris	A-52	Scrap Metal	26
LA-MHD02-238	Heterogeneous Debris	A-55	Filter Media	8
LA-MHD02-238	Heterogeneous Debris	A-61	Other Noncombustibles	177
LA-MHD02-238	Heterogeneous Debris	A-95	Glass	1
LA-TA-55-19	Combustible Debris	A-15	Cellulosics	299
LA-TA-55-19	Combustible Debris	A-16	Plastics	30
LA-TA-55-19	Combustible Debris	A-18	Combustible Lab Trash	58
LA-TA-55-19	Combustible Debris	A-60	Other Combustibles	609
LA-TA-55-30	Heterogeneous Debris	A-10	Graphite Solids	1
LA-TA-55-30	Heterogeneous Debris	A-19	Combined Combustible/Non-Combustible Lab Trash	53
LA-TA-55-30	Heterogeneous Debris	A-30	PN Equipment	135
LA-TA-55-30	Heterogeneous Debris	A-31	Non-PN Equipment	2
LA-TA-55-30	Heterogeneous Debris	A-46	Skull and Oxide	1
LA-TA-55-30	Heterogeneous Debris	A-50	Metal Crucibles, Scrap, Dies	154
LA-TA-55-30	Heterogeneous Debris	A-52	Scrap Metal	34
LA-TA-55-30	Heterogeneous Debris	A-55	Filter Media	2
LA-TA-55-30	Heterogeneous Debris	A-56	Filter Media Residue	3
LA-TA-55-30	Heterogeneous Debris	A-61	Other Noncombustibles	457
LA-TA-55-30	Heterogeneous Debris	A-95	Glass	16

-478

-1854

4.2.1 Summary Category Group and Waste Matrix Code

For the DP West TRU debris waste, Summary Category Group S5000, Debris Wastes, is applied. The combustible waste stream, delineated into LA-TA-55-19, is assigned the Waste Matrix Code (WMC) S5300, Organic Debris, under the Combustible Waste Matrix Code Group. The heterogeneous waste streams, delineated into LA-MHD02-238 or LA-TA-55-30 depending on predominant isotope, are assigned the WMC S5400, Heterogeneous Debris, under the Heterogeneous Waste Matrix Code Group. The definitions of the assigned WMCs are given in Table X.

Table X. Description of Waste Matrix Codes Assigned to DP West Debris Waste[a]

Waste Matrix Code	Description	Waste Matrix Code Group[b]	Definition
S5300	Organic Debris	Combustible	Waste that is estimated to be, by volume, predominantly organic debris materials. Examples are materials constructed of plastic, rubber, wood, paper, cloth, and biological materials.
S5400	Heterogeneous Debris	Heterogeneous	Waste that is estimated to be, by volume, predominantly heterogeneous (varying volume percentages of inorganic and organic) debris materials. Examples of inorganic debris include scrap metal, concrete, graphite, brick, and glass. Examples of organic debris are plastic, rubber, wood, paper, cloth, and biological materials. Heterogeneous debris also includes items of composite construction, such as composite HEPA filters.

[a] Descriptions of waste matrix codes are based on DOE Waste Treatability Group Guidance (DOE/LLW-217).

[b] Based on Table B-9, WIPP-Applicable Waste Matrix Codes and their Final Waste Forms, in *Los Alamos National Laboratory Transuranic Waste Quality Assurance Project Plan* (PLAN-00-001).

4.2.2 Waste Material Parameters

The waste material parameters (WMPs) expected to be present in the DP West combustible and heterogeneous debris waste streams are summarized in Table [redacted]. The determination of WMPs is based in part on a detailed description of DP West TRU retrievable waste by types of material that was documented in 1975 (18938:16). The following materials were identified.

Cellulosics: Cheesecloth rags used outside the gloveboxes during maintenance work and cleanup operations; wood filter frames of HEPA glovebox primary filters. (Cheesecloth rags used in glovebox operations were routinely sent to incineration.)

Plastic: Primarily polyvinylchloride (PVC) bags and bag stubs; some polyethylene and polypropylene; sheet material used as temporary floor covering, and laboratory wares such as funnels, petri dishes, graduated cylinders, wash bottles, tubing and gaskets.

Rubber: Primarily glovebox gloves and drybox gloves; occasionally items such as rubber stoppers and tubing.

Metal: Diverse stream of nails, nuts, bolts, wiring, conduit, tin cans, stainless steel dressing jars, aluminum foil, lather turnings, hacksaw blades, screw drivers, tweezers, hammers, hair dryers, hot plates, heating coils, used scrap pipe, small obsolete equipment, vacuum cleaners, and furnaces.

Glass and Ceramic: Primarily laboratory glassware such as beakers, cylinders, graduated cylinders, and 1 liter to 9 liter bottles; heating mantles; Vycor castings sleeves; magnesium oxide liners and other refractories.

Graphite: Primarily molds and crucibles from casting operations.

Process Solids: Incinerator ash, after being leached with nitric acid and calcium fluoride, is the main solid residue from recovery operations. Other solids include sweepings, heels, ash heels, and leached residues.

Table X. Waste Material Parameters Expected to be Present in DP West Debris Wastes

Waste Stream ID	WMP	WMP Description	Major or Minor
LA-MHD02-238	C	Cellulosics	Major
	R	Rubber	Major
	PW	Plastic waste	Major
	AM	Aluminum-based metals/alloys	Major
	IM	Iron-based metals/alloys	Major
	OM	Other metals	Major
	OI	Other inorganic materials	Major
	IN	Inorganic matrix	Minor
	OR	Organic matrix	Minor
LA-TA-55-19	C	Cellulosics	Major
	R	Rubber	Major
	PW	Plastic waste	Major
	AM	Aluminum-based metals/alloys	Major
	IM	Iron-based metals/alloys	Major
	OM	Other metals	Major
	OI	Other inorganic materials	Major
	IN	Inorganic matrix	Minor
	OR	Organic matrix	Minor
LA-TA-55-30	C	Cellulosics	Major
	R	Rubber	Major
	PW	Plastic waste	Major
	AM	Aluminum-based metals/alloys	Major
	IM	Iron-based metals/alloys	Major
	OM	Other metals	Major
	OI	Other inorganic materials	Major
	IN	Inorganic matrix	Minor
	OR	Organic matrix	Minor

4.3 Delineation of Mixed and Non-Mixed TRU Waste

LANL TRU waste streams are broadly delineated as mixed or non-mixed. Generally, waste stream delineation to specific RCRA-regulated chemical constituents cannot be made because the waste packaging practices at LANL do not require segregation of waste on the basis of specific RCRA chemical constituents. All TRU waste generated prior to 1991 (introduction of WPF system) at the facility is assumed to be mixed waste unless

- there is sufficient process knowledge to justify delineation of waste generated by individual operations as non-mixed, and the individual containers can be identified with certainty; or
- there are valid analysis data for individual containers that demonstrates the contents are non-mixed.

The DP West TRU debris waste inventory was generated prior to implementation of a LANL tracking system for hazardous constituents. Individual waste containers cannot be identified with any activities that generated non-mixed waste, and no analysis data for the waste were located in the AK document search. Therefore, all TRU debris wastes generated at DP West are delineated as mixed. The applicable EPA hazardous waste numbers (HWNs) are discussed in Section 6.0.

5.0 WASTE STREAM INFORMATION

5.1 Points of Generation

Table X. Points of Generation for DP West TRU Debris Waste

Waste Stream	Building	Generating Group	Number of Containers
LA-MHD02-238	21-00000	CMB11	40
LA-MHD02-238	21-00002	CMB11	67
LA-MHD02-238	21-00282	CMB11	1
LA-MHD02-238	21-00286	CMB11	363
LA-MHD02-238	21-00286	MSTDO	7
LA-TA-55-19	21-00000	CMB11	2
LA-TA-55-19	21-00002	CMB11	980
LA-TA-55-19	21-00004	INC4	10
LA-TA-55-19	21-00005	CMB11	1
LA-TA-55-19	21-00286	CMB11	3
LA-TA-55-30	21-00000	CMB11	1
LA-TA-55-30	21-00000	H1	1
LA-TA-55-30	21-00000	NMDO	3
LA-TA-55-30	21-00002	CMB11	819
LA-TA-55-30	21-00003	CNC4	3
LA-TA-55-30	21-00004	INC4	12
LA-TA-55-30	21-00004	CMB11	1
LA-TA-55-30	21-00005	CMB11	8
LA-TA-55-30	21-00021	CMB11	1
LA-TA-55-30	21-00022	CMB11	1
LA-TA-55-30	21-00286	CMB11	8

time frame ?

?

Inconsistency ? No

5.2 Period of Generation

Waste Stream	Number of Containers	Period of Waste Generation	
		From:	To:
LA-MHD02-238	478	3/4/1974	11/8/1988

LA-TA-55-19	996	5/25/1973	3/22/1990
LA-TA-55-30	858	2/2/1973	6/13/1990

5.3 Waste Stream Volume

- ***Complete*** and refer to DTP-00-080, Attachment 7: Waste Stream Container Inventory Information, using information obtained from the AK database (contact Cathy Smith to obtain database information)
- ***Summarize*** information in text and/or one or more table

5.4 Material Inputs

Feed materials for plutonium processing operations at TA-21 DP West that generated TRU waste are listed in Table XX. They fall into four general categories:

- Pure Pu metal to be recycled from processing operations,
- Intermediate Pu products in purification operations in solutions, oxides, hydroxides, alloys, and or salts,
- Pu contaminated matrices above the discard limit,
- R&D feed materials.

Table XX Feed Materials for Plutonium Processing Operations at TA-21 DP West Facility

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
Analytical laboratory solutions	Potentially contaminated with RCRA-regulated constituents: (chromium (D007), lead (D008), mercury (D009), acetone (F003), butanol (F003), carbon tetrachloride (D019), chlorobenzene (F002, D021), chloroform (D022), methanol (F003), methylene chloride (F002), tetrachloroethylene (F002, D039), xylene (F003). (TWCP-3547, CL-25)	Caustic dissolver
Pu metal	Usually high purity, unalloyed. No RCRA constituents	Dissolution of Pu metal
Anode heels	Typically contaminated with cadmium (D006), chromium (D007), Lead (D008), and silver (D011). Arsenic, mercury, and selenium were volatilized from the oxide feed at high temperatures	Conversion of Pu metal to oxide
Ash	Suspect contaminated with barium (D005), cadmium (D006), chromium (D007), lead (D008), silver (D011).	Processing graphite molds Incineration of combustible residues
Casting skulls (Pu metal, Pu oxides or Pu suboxides	Potentially pyrophoric, but were deliberately ignited under controlled conditions.	Dissolution of Pu Casting Skulls
Al_2O_3 boats, crucible pieces	Pu oxide usually high purity, No RCRA constituents	Dissolution of Pu Casting Skulls
Pu-Ce alloys, Pu,-Ce-Co alloys	No RCRA constituents	Dissolution of Pu-Ce Alloys
Pu metal with Al	Mercuric nitrate used as a catalyst, (D009)	Dissolution of Pu-Al
Fluoride slag	None	Dissolution of Pu-Al
Hydroxide cake	Contaminated with cadmium (D006), lead (D008), mercury (D009), silver (D011) and maybe chromium (D007)	Actinide processing demonstration Dissolution of Pu hydroxide
Pu metal, PuO_2	Pu metal either unalloyed or alloyed with U	Dissolution of Pu-U
Pu metal with Zirconium, Hafnium, Iron, and Thorium	Fluoride complexes, None RCRA	Dissolution of Pu alloyed with Zirconium, Hafnium, Iron, and Thorium
Pu-Cu alloys	Possible pyrophoric. Amount reduced to reduce ignition potential	Dissolution of Pu-Cu
Pu metal, Os oxide,	Normally high purity, No RCRA constituents	Dissolution of Pu-Os

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
Pu metal alloyed with Ti, Mn, In, Cr, Pt, the lanthanides, gallium and other cations	(D007) Chromium	Dissolution of Miscellaneous Alloys
Pu oxides	MgO or Al_2O_3 crucibles used. Variable purity, suspect cadmium (D006), chromium (D007), and lead (D008)	Conversion of Pu metal to oxide Dissolution of Pu oxide Pu-Th dissolution of the oxide Pu-U dissolution Metal line preparation Direct oxide reduction
Pu-hydride	No RCRA constituents	Dissolution of Pu hydride
Pu-Oxalate	Pu-oxide formed. Fairly pure, no RCRA constituents	Dissolution of Pu Oxalate ? Calcination of oxalate
Pu-oxide	Process not continued	Dissolution of Pu oxide
PuF_3 or PuF_4	Pu-Al alloy, may or may not contain RCRA constituents	Dissolution of Pu-fluoride
Pu-peroxide	No RCRA constituents	Dissolution of Pu peroxide
Pu-carbides	No RCRA constituents	Dissolution of Pu carbide
Pu-Silicide	Silane gas formed if using HCl. Flammable in air. Went to using HNO_3. No gas evolution. No RCRA constituents.	Dissolution of Pu-silicide
$PuCl_3$	No RCRA constituents	Dissolution of Pu-chloride
PuO_2, PuF_4, MgO	Chloride melt, chloride salts of sodium, potassium, lithium. Precipitates Pu hydroxide. No RCRA constituents	Dissolution of Electrorefining Residues
Pu hydroxide, PuO_2	Hydroxide cakes may be contaminated with cadmium (D006), lead (D008), mercury (D009), silver (D011) and possible chromium (D007)	Dissolution of Pu hydroxide
Cupferrates		Dissolution of Cupferrates
Slag, crucible, packing sand, Pu	TBP in kerosene extraction.	Dissolution of Reduction Residues
MgO, Pu, Al-Pu alloy,	No RCRA constituents	Dissolver Residues
MgO-SiO_2 casting crucibles	No RCRA constituents	Dissolution of Casting Residues
molds, crucibles, sintered glass frits, metal items	Possible leach of RCRA metals when leaching metal items with acid.	Processing Noncombustible Residues
Pyrochemical salts	Usually fairly pure, other than barium	Caustic dissolver, Chloride

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
	(D005). No analytical evidence that Ba exceeds TCLP except in ash + materials exposed to $Ba(NO_3)_2$ explosive	residues, Electrorefining salt dissolution
Rags, paper, wood, rubber gloves, graphite, plastics, ash	Usually suspect contaminated with barium (D005), cadmium (D006), chromium (D007), lead (D008), and silver (D011), arsenic (D004), mercury (D009), and selenium (D010)	Processing combustible residues
Pu with Mg, Al, Fe, Co, Cu, Ta, Am, Ga, Cr, Ni, Mn, Mo, Zr, Hg, Bi, U, Os, Ru, Rh	Purification process, possible Cr (D007), Hg (D009),	Processing Pu solutions
Pu, U, Fe, Al, PuF_2, PuF_4, K_2PuF_6, Th,	No RCRA constituents	Precipitation Methods
Impure Pu, Cl	Possible Cr(D007), As (D004), Se (D010), Ag (D011), Cd (D006), Hg (D009), Pb (D008)	Anion exchange processes
Pu in organic solvents, Pu-Zr alloy	Possible methanol (F003), ethanol, acetone (F003), diethyl ether, kerosene	Organics

5.5 Chemical Inputs

Chemical constituents used in the process/operations at TA-21 DP West are compiled from lists found in historical documents, plans, procedures, reports, and interviews with subject matter experts (SMEs). This report divides the chemical inputs into the following categories

- Acids and bases
- Gases and cryogenic fluids
- Metals
- Inorganic chemicals
- Organic chemicals

Acids and bases

Acids used in the Pu recovery operations at TA-21 DP West include formic acid, hydrochloric acid, hydrofluoric acid, nitric acid, oxalic acid, hydrogen iodide, sulfuric acid, sulfamic acid, and phosphoric acid. Bases used were sodium hydroxide, potassium hydroxide, and ammonium hydroxide. No EPA HWNs are applicable to the use of these chemicals because

- D001, D002, and D003 do not apply to solid waste as there are no free liquids in this waste
- U134 associated with hydrofluoric acid because there are no free liquids in this waste.
- U123 not applicable because there is no record of unused or unspent chemical in the glovebox.
- None of these acids or bases are F, K, or P listed chemicals.

Gases and cryogenic fluids

The following list of gases and cryogenic fluids were used at TA-21 DP West but are not identified as being a hazardous constituent in 40 CRF Part 261, Appendix VIII: argon, carbon dioxide, chlorine, hydrogen chloride, methane, nitrogen (gas), liquid nitrogen.

oxygen
hydrogen
helium
P-2

The following gas was used in recovery operations and is identified in Appendix VIII of 40 CFR Part 261: fluorine (P056), hydrogen fluoride (U134). No EPA HWNs are applicable as the gas cylinders were outside the gloveboxes and gas was plumbed into the glovebox (4164)Gas cylinders were not discarded with TRU wastes. Table XX lists the acids, bases and gases used in the plutonium processing operations at TA-21 DP West site.

Table XX Acids, Bases, and Gases used at TA-21 DP West Facility

Acid, Base, or Gas	Comments on Applicability of RCRA Codes
Appendix VIII Gases Hydrogen fluoride	U134 does not apply because there was no evidence of unspent chemicals added to the TRU waste. Gas cylinders are stored outside the gloveboxes.
Non-Appendix VIII Acids Formic acid, hydrochloric acid, nitric acid, oxalic acid, phosphoric acid, sulfuric acid, hydrogen iodide, hydrogen bromide, sulfamic acid	D001, D002, and D003 do no apply to the solid waste because there are no free liquids in this waste
Non Appendix VIII Bases Sodium hydroxide, potassium hydroxide, ammonium hydroxide	D001, D002, and D003 do no apply to the solid waste because there are no free liquids in this waste
Non Appendix VIII Gases Argon, carbon dioxide, chlorine, hydrogen chloride, methane, nitrogen, liquid nitrogen	D001, D002, and D003 do no apply to the solid waste because there are no free liquids in this waste

Metals

The following metals were used in the plutonium recovery operations and are not identified as having hazardous characteristics in 40 CFR Part 261, including Appendix VIII of that regulation: calcium, copper, gallium, lanthanides, niobium, platinum, cerium, iron, cobalt, zirconium, ~~copper~~, osmium, manganese, titanium, indium, aluminum, molybdenum, silicon, tantalum, bismuth, rare earths, nickel (listed in Appendix VIII but no HWN given), ruthenium, rhodium, palladium, iridium, zinc and niobium, many of which are alloys with plutonium. duplicate
Metals used in the plutonium processing operations that are identified in 40 CFR Part 261 or in Appendix VIII as having hazardous characteristics are listed in Table XX and are:

- Alkaline earth metals (D003) used in direct oxide reduction, but the EPA HWN D003 does not apply as the metals were consumed or ~~oxidized~~ alloyed with less reactive metals before discarding.
- Chromium (D007)—component of stainless steel which may be leached during acid usage. Also used as an alloy with Pu. Contaminate in several of the operations conducted at TA-21 DP West. (See Table XX).
- Mercury (D009)—used in the dissolution of Pu-Al alloy as a mecuric nitrate catalyst. Contaminant in hydroxide cakes, used in mercury diffusion pumps, also contaminant in crucible + casting residues in this time frame. Hanford residues were sometimes visibly contaminated with mercury.
- Silver (D011)—a contaminant in hydroxide cake, anode heels, and on debris waste.

- Cadmium (D006)—contaminant in hydroxide cake and electrorefining operations. It also occurs in solder ? + electronic boards
- Arsenic (D004)—contaminant in Pu metal, therefore possible constituent on debris waste, ~~exists~~ present in analytical solution residues and a trace contaminant in H_2O_2.
- Selenium (D010)—contaminant in Pu metal, therefore possible constituent on debris waste
- Lead (D008)—leaded gloves, shielding, contaminant in hydroxide cake, inside glove boxes + inside Am-contaminated waste. lead-sandwich gloveboxes
- Barium (D005)—contaminant in hydroxide cake, ash, and debris waste.

Inorganic Chemicals

Several inorganic chemicals used in plutonium processing operations are identified in 40 CFR Part 261 or in Appendix VIII as having hazardous characteristics. Table XX lists these chemicals, their HWN, and the applicability of the HWNs to the use of these chemicals in plutonium processing.

Table XX Use of RCRA-Regulated Metals and Inorganic Chemicals Used in TA-21 DP West Facility Plutonium Processing Operations

Metals and Inorganic Chemicals Used at TA-21 DP West	Comments on Applicability of RCRA Codes
Alkaline earth metals	D003 does not apply because these potentially pyrophoric metals are consumed or ~~oxidized~~ alloyed before discarding.
Arsenic	D004 is applicable due to contaminant of Pu metal and chloride operations.
Barium	D005 is applicable due to contaminant in hydroxide cake and contaminant in molten salt extraction. The latter is performed on aged high-purity metal ∴ No?
Cadmium	D006 is applicable due to contaminant in hydroxide cake, anode heels, ash, Pu oxides, and debris waste.
Chromium	D007 is applicable due to leaching from stainless steel and an alloy with Pu and a contaminant in hydroxide cake, anode heels, ash. Also sodium dichromate used in processes. where?
Hydrogen peroxide	D001, D002, and D003 do not apply because there are no free liquids in the debris waste.
Lead	D008 is applicable due to leaded gloves and a contaminate in hydroxide cake
Nickel	No HWN applies to nickel.
Mercury	D009 is applicable due to mercury used as a catalyst
Selenium	D010 is applicable due to alloy with Pu
Silver	D011 is applicable due to possible contaminant in hydroxide cake

The following inorganic chemicals were used in the plutonium processing operations at TA-21 DP West but are not identified as having hazardous characteristics in 40 CFR Part 261, including Appendix VIII in that regulation. Aluminum nitrate, aluminum hydroxide, ammonium, ammonium bifluoride, ammonium fluoride, calcium fluoride, calcium oxalate, calcium nitrate, cerous nitrate, diatomaceous earth, hydroxylamine, ferric hydroxide, ferric nitrate, ferrous ammonium sulfate, ferric plutonyl acetate, hydrogen sulfate, iodine crystals, lanthanum nitrate, lithium fluoride, magnesium oxide, potassium carbonate, potassium chloride, potassium fluoride, potassium iodide, potassium pyrosulfate, silicon tetrafluoride, sodium bromate, sodium chloride, sodium carbonate, sodium fluoride, sodium plutonyl acetate, sodium nitrate, tributyl phosphate, sodium citrate, sodium EDTA, potassium permanganate, sodium chromate, sodium thiosulfate.

Organic chemicals

The following organic chemicals used in the plutonium processing operations at TA-21 DP West are not identified as having hazardous characteristics in 40 CFR Part 261, including Appendix VIII: p-bromo-mandelic acid, cupferron, diethylene triamine, epoxy cement, ethanol, hexone, kerosene, lapping oil (mineral oil and lard) oil (various, heat treating, hydraulic, lubricating, machining, vacuum pump), krylon clear paint, semicarbozone, thenoyl-tri-fluoroacetone, triethylene tetramine, tri-lauryl amine, tri-n-octylamine, urea.

Several organic chemicals used in plutonium processing operations at TA-21 DP West are identified in 40 CFR Part 261 or in Appendix VIII as having hazardous characteristics. Table XX lists these chemicals, HWNs, and applicability.

Table XX Use of RCRA Regulated Organic Chemicals Used in Plutonium Processing Operations at TA-21 DP West

Organic Chemical	Comments on Applicability of RCRA Codes
Acetone	F003 applies to all debris waste generated. Metal and glass are non-porous and do not absorb liquids, and any metal or glass in contact with this chemical would have been air-dried before being discarded as waste. However, the waste streams also contain small percentages of combustible waste that may be contaminated with the chemical.
Butanol	F003 does apply to all debris waste generated
Carbon tetrachloride	D019 applies as this chemical was not used solely as a solvent. F002 does apply as this chemical was used as a solvent.
Chlorobenzene	F002 does apply to all debris waste generated.
Ethyl ether	F003 does apply to all debris

Freon and Freon TF	F002 applies to all debris waste generated as this chemical was used as a degreaser.	unlikely
Methanol	F003 does apply to all debris waste generated.	unlikely
Methylene Chloride	F002 does apply to all debris waste generated.	unlikely
*Methyl ethyl ketone	D035 applies to machining operations waste. F005 applies to all debris waste generated as it was used as a solvent.	unlikely
Tetrachloroethylene	D039 ?? F002 applies as this chemical was used as a solvent?	maybe
1,1,1-trichloroethane	F002 applies because this chemical used as degreaser, cutting fluid, and solvent	unlikely
Trichloroethylene	F001 does apply to all debris waste generated as it was used a s a degreaser for metal parts and items	unlikely
Xylene	F003 applies to all debris waste generated.	maybe

(also mixed with bee's wax as a binder in pressing PuO_2 pellets, also used as adiluent for vacuum pump and heat treating oils to enable filtration.

D001 (ignitability) and D003 (reactivity) do not apply despite the use of spent non-halogenated solvents (HWN F003) for the following reasons:

- Solutions containing spent non-halogenated solvents below the DL for plutonium were sent to the Building 257 waste treatment facility for solidification
- Solutions containing spent solvents above the DL for plutonium are further processed to recover the plutonium
- Rags that are contaminated with plutonium ~~below~~ above the DL for plutonium were incinerated.
- In the case of contaminated rags below the DL for plutonium that were discarded as combustible debris, headspace gas analyses verifies the expectation that the solvents are below the limits established by the WIPP WAC. Any container that does not meet the WIPP WAC requirements is prohibited from being shipped to the WIPP.

5.6 Radionuclide Content

- ***Complete*** and refer to DTP-00-080, Attachment 6: Waste Stream Radionuclide Content, using information obtained from the AK database
- ***Describe*** the expected radionuclide content with respect to the reported radionuclides and materials types in the operations waste
- ***Summarize*** the information in one or more table

~~* unlikely to enter the TRU waste stream since it was used to clean machined parts outside the glovebox system~~

5.6.1 Isotopic Composition of Material Types

LANL TRU waste generators may report the radiological composition of waste as either the MTs present in the contamination, and/or as the radionuclides present. LANL employs MT designations to describe the relative isotopic composition of common blends of radioactive materials used within the DOE complex. The isotopic compositions for the plutonium MTs typically used at LANL are given in Table 1 (0698, 8003).

The primary material type that feeds into the plutonium recovery process is MT 52, which is predominantly Pu-239. However, the other material types are occasionally introduced as feed material. Recovery operations are not expected to alter the Pu isotopic ratios of the MTs in feed material. The material type used in the operation generating each waste item is documented on generator records; however, in many cases, items of different material types are packaged into the same waste drum, so that a variety of Pu isotopic ratios may be detected by radioassay. In addition, cross-contamination of equipment with different material types can lead to variable material types detected by radioassay.

The radionuclides Am-241, U-234, and U-235 are expected to be present at trace amounts in all plutonium MTs due to decay of plutonium isotopes. Table 1 provides the upper limits for the amounts of these radionuclides expected to be present, assuming that no chemical fractionation occurs during processing. The calculations assume that (a) none of these isotopes were initially present in the material, (b) the oldest Pu material in inventory dates back to 1 January 1960, and (c) the legacy waste was packaged on 1 January 1996, making it 36 years old at that time (TWCP-698). The upper limit for Am-241 content is based on the rate of decay of the precursor, Pu-241. U-235 would be present from the decay of Pu-239; and U-234 would be present from decay of Pu-238.

In general, uranium and its isotopes are expected to be present only at trace levels, if at all, if the feed material did not purposely contain uranium. However, some reactor fuel development and pit disassembly activities have uranium material as the feed material. The common uranium material type compositions are listed in Table 2.

Other radionuclides will be present in most of the wastes from the decay of a Pu isotopic precursor or as a contaminant in the feed material:

- Np-237, the decay product of Am-241 (half-life, 458 yr), is expected to be present in minor amounts in most waste from recovery operations. Larger amounts of Np-237 (1,000 to 2,000 ppm) are present in Pu-238 MT-83 due to

incomplete removal of target material when the Pu-238 was produced at the Savannah River Site (TWCP-1030).

- Am-243, the decay product of Pu-243 (half-life, 5.0 hr), is expected to be present in minor amounts in most wastes from recovery operations. Pu-243 is produced by neutron capture on Pu-242 during fuel irradiation.

- Protactinium (Pa)-231, the decay-chain daughter of U-235, is expected to be present in trace amounts in some wastes due to its widespread presence as a contaminant in recovery operations (TWCP-5164, TWCP-5165).

- Actinium (Ac)-227, the decay-chain daughter of Pa-231, is expected to be present in trace amounts where Pa-231 is present, but at several orders of magnitude less than Pa-231.

- Cesium (Cs)-137 is a product of the spontaneous fission of Pu-238, Pu-239, and especially Pu-240. Cs-137 is also a trace contaminant in purified plutonium from the production reactors (TWCP-5164, TWCP-5165). In the former instance the formation of Cs-137 due to spontaneous fission would lead to about 0.4 pg/g Pu in plutonium that is 10 years old. In the latter case the remaining Cs may be on the order of 0.5 ng/g Pu, and residual contamination from the original separation on the production fuel is the dominant source of cesium in waste.

- Strontium (Sr)-90 is also a trace contaminant in purified plutonium from the production reactors. In plutonium production runs, Cs-137 and Sr-90 are produced at approximately the same atom level. These two nuclides have very similar half-lives (~ 30 y) and will therefore be present at roughly the same activity level prior to commencement of any processing operations. If it is assumed that Sr and Cs are not fractionated from one another during chemical processing, Cs-137 may be used as a marker for Sr-90 activity ratio of 1:1, yielding an estimated value for Sr-90.

1.0 RADIONUCLIDES REPORTED IN LANL TRU WASTE

The generator-reported isotopes in the LANL TRU waste inventory (as reported in the TRU WM database) are summarized in Table 3. The 69 reported isotopes include the 10 WIPP-tracked isotopes: Am-241, Cs-137, Pu-238, Pu-239, Pu-240, Pu-242, Sr-90, U-233, U-234, and U-238. In addition to these, there are 10 isotopes that have a significant presence in LANL TRU waste because they have half-lives greater than one year and are reported in the inventory with a frequency greater than 0.1%: Am-243, Cm-244, H-3, Np-237, Pa-231, Pu-241, Pu-244, Th-232, U-235, and U-236. The remaining 49 reported isotopes do not have a significant presence because they have a half-life less than one year and/or are reported with a frequency less than 0.1%.

Generator assays and AK information on the amounts of the non-plutonium radionuclides present are under-reported in the AK sources. In particular, the amount of uranium material types is under-represented in the AK record. Project 2010 assays for and reports U-233, U-235, and U-238 since they are known to have been introduced into the plutonium recovery process stream.

U-234 content must be estimated since this isotope cannot be reliably measured using NDA techniques (TWCP-9810). The NDA-measured values for Pu-238 and U-235 provide the basis for estimating the U-234 content (TWCP-12684). If Pu-238 is detected in the waste container, U-234 can be assumed to be present as an alpha decay product. If U-235 is detected in a waste container, the MT provides the basis for estimating an upper bound for U-234 based on the rate of decay of the precursor, Pu-238, and the assumption that there is no other source of uranium in the waste material. The standard uranium MTs provide an estimate of the ratio of U-234 to U-235 for the material likely to be input to recovery operations. The content of U-234 in the Pu-239 MTs is calculated as the sum of the contributions expected from decay of Pu-238, with a value of 0.427 used for the ratio of U-234 to Pu-238; and from uranium input to the operation, with the value of 0.014 conservatively used for the ratio of abundances of U-234 to U-235 in typical uranium MTs.

The radionuclides Cs-137 and Sr-90 are also known to be under-reported in the AK record. LANL assumes that Cs-137 and Sr-90 are each present at about 10^{-7} % in freshly isolated plutonium, and that they are not fractionated from one another in chemical operations performed at LANL. AK information in waste profile forms for individual containers also provides information about waste that may contain elevated levels of Cs-137 and Sr-90, including waste generated by processing of fuel pins in metallography operations and from samples of Hanford Tank waste in chemistry experiments.

overmeasurement of Cs-137

what does this mean? show?

Waste Stream	Rad Code	N	Average	Standard Deviation	Minimum	Maximum
LA-MHD02-238	Pu-238	478	11.190	17.228	0.000	79.900
LA-MHD02-238	Pu-239	183	1.080	1.792	0.000	13.528
LA-MHD02-238	Pu-240	183	0.114	0.178	0.000	1.044
LA-MHD02-238	Pu-241	183	0.015	0.023	0.000	0.080
LA-MHD02-238	Pu-242	183	0.005	0.007	0.000	0.021
LA-MHD02-238	U-233	1	0.000		0.000	0.000
LA-TA-55-19	Am-241	3	0.000	0.000	0.000	0.000
LA-TA-55-19	Np-237	2	0.000	0.000	0.000	0.000
LA-TA-55-19	Pa-231	2	0.000	0.000	0.000	0.000
LA-TA-55-19	Pu-238	991	0.003	0.056	0.000	1.730
LA-TA-55-19	Pu-239	993	3.284	7.062	0.000	83.549
LA-TA-55-19	Pu-240	988	0.273	0.620	0.000	5.347
LA-TA-55-19	Pu-241	988	0.013	0.037	0.000	0.352
LA-TA-55-19	Pu-242	990	0.003	0.010	0.000	0.096
LA-TA-55-30	Am-241	9	0.238	0.632	0.000	1.800
LA-TA-55-30	Cf-251	1	0.001		0.001	0.001
LA-TA-55-30	Np-237	5	0.025	0.050	0.000	0.100
LA-TA-55-30	Pa-231	5	0.006	0.013	0.000	0.025
LA-TA-55-30	Pu-238	843	0.048	0.885	0.000	23.181
LA-TA-55-30	Pu-239	846	7.453	10.978	0.000	135.650
LA-TA-55-30	Pu-240	835	0.628	1.320	0.000	27.307
LA-TA-55-30	Pu-241	835	0.031	0.091	0.000	1.953
LA-TA-55-30	Pu-242	840	0.007	0.030	0.000	0.587
LA-TA-55-30	U-233	3	229.333	29.687	204.000	262.000
LA-TA-55-30	U-234	1	0.120		0.120	0.120
LA-TA-55-30	U-235	3	20.677	15.302	9.000	38.000
LA-TA-55-30	U-236	1	0.000		0.000	0.000
LA-TA-55-30	U-238	1	5956.098		5956.098	5956.098

2.0 MATERIAL TYPES REPORTED IN LANL TRU WASTE

The generator-reported isotopes in the LANL TRU waste inventory (as reported in the TRU WM and NMT databases) are summarized in Table 4. The most frequently reported MT is 52 (55.2%). Other MTs that are present at significant amounts include the Pu-239 MTs 54 (16.2%), 53 (4.2%), 56 (2.0%), and 51 (1.4%).

Significant amounts of heat-source plutonium, MT-83 (8.7%) are reported. Plutonium MT 42, which is predominantly Pu-242, is also reported at significant amounts.

Non-plutonium MTs present at significant amounts include MT 44 (americium-241), and MFP (mixed fission products). Additional information about the isotopic composition of MFP can be found in *Isotopic Compositions of Inventory Designations, 'Mixed Fission Product' and 'Mixed Activation Product'*. (TWCP-). The two most commonly reported uranium material types are MT 12 (uranium depleted in U-235) and MT 38 (uranium enriched in U-235).

Table 1. Average Isotopic Content of Plutonium Material Types and Enrichments

Material Type	Plutonium Isotope Weight Percents (1)						Upper Limit for Isotope Ratios (2)		
	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	U-234	U-235	Am-241
51	0.006	96.77	3.13	0.076	0.018	—	1×10^{-5}	0.001	0.0006
52	0.01	93.78	6	0.2	0.02	—	2×10^{-5}	0.001	0.002
53	0.03	91.08	8.45	0.366	0.071	—	7×10^{-5}	0.0009	0.003
54	0.046	87.42	11.5	0.81	0.22	—	0.0001	0.0009	0.007
55	0.06	83.88	14.73	1.03	0.304	—	0.0002	0.0009	0.009
56	0.061	81.9	16.51	1.18	0.355	—	0.0002	0.0009	0.01
57	0.433	74.63	20.7	2.55	1.69	—	0.001	0.0008	0.02
42									
84%	1.02	1.37	10.32	3.13	84.14	0.02	0.003	1×10^{-5}	0.03
90%	0.72	1.26	6.4	1.86	89.77	—	0.002	1×10^{-5}	0.02
95%	0.45	0.56	2.47	0.906	95.58	0.029	0.001	6×10^{-6}	0.008
83									
83%	83.89	13.8	1.9	0.32	0.09	—	0.26	0.0002	0.003
89%	89.26	10.07	0.633	0.021	0.015	—	0.28	0.0001	0.0002

(1) Ratio of mass of plutonium isotope to total plutonium mass, expresses as weight percent.
(2) Ratio of mass of isotope to total plutonium mass.
Sources: TWCP-0698, TWCP-8003

Table 2. Average Isotopic Content of Uranium Material Types and Enrichments (Wt. %)

Material Type	U-234	U-235	U-236	U-238
11	0.0012	0.13	0.0018	99.87
12	0.0015	0.23	0.008	99.77
13	0.002	0.25	0.0003	99.75
15	0.004	0.29	0.023	99.68
16	0.002	0.40	0.0088	99.59
21	0.0057	0.72	0.0000	99.27
22	0.0054	1.00	0.0068	98.98
23	0.0085	1.53	0.0164	98.44
25	0.0125	2.04	0.0165	97.93
27	0.0190	3.05	0.0204	96.92
32	0.0276	5.00	0.0490	94.92
33	0.10	14.17	0.0790	85.66
34	0.17	20.40	0.15	79.28
35	0.36	37.60	0.14	61.90
36	0.63	62.44	0.18	36.75
37	0.77	86.73	0.33	11.71
38	1.03	93.04	0.41	5.53
39	1.32	97.52	0.17	0.99
81 (natural)	0.0057	0.72	0.00	99.27

Sources: TWCP-0698, TWCP-8003

Table 3. Generator-Reported Radionuclides Present in DP West Plutonium Processing TRU Debris Waste

Isotope	Number of Reported Values	Reporting Frequency (%)	Half Life (yrs)	Significant Presence?	Rationale
Am-241			432.7	Yes	WIPP-tracked
Pu-238			87.74	Yes	WIPP-tracked
Pu-239			24,110	Yes	WIPP-tracked
Pu-240			6,563	Yes	WIPP-tracked
Pu-242			376,300	Yes	WIPP-tracked
U-233				Yes	WIPP-tracked
U-234			245,400	Yes	WIPP-tracked
U-238			4,468,000,000	Yes	WIPP-tracked
Np-237			2,140,000	Yes	Half life > 1yr; Frequency > 0.1%
Pa-231			32,760	Yes	Half life > 1yr; Frequency > 0.1%
Pu-241			14.4	Yes	Half life > 1yr; Frequency > 0.1%
Pu-244			82,600,000	Yes	Half life > 1yr; Frequency > 0.1%
U-235			703,700,000	Yes	Half life > 1yr; Frequency > 0.1%
U-236			23,420,000	Yes	Half life > 1yr; Frequency > 0.1%
Cf-251			898	No	Frequency < 0.1%

Table 4. Generator-Reported Material Types Present in DP West Plutonium Processing TRU Debris Waste

Material Type	Alternate Designation	Reporting Frequency (%)	Primary Isotope	Description
12	U-12		U-238	Uranium--Depleted in U-235--0.21 to 0.24% U-235
51	PU-51		Pu-239	Plutonium 239--<4.00% Pu-240
52	PU-52		Pu-239	Plutonium 239--4.00 to <7.00% Pu-240
53	PU-53		Pu-239	Plutonium 239--7.00 to <10.0% Pu-240
54	PU-54		Pu-239	Plutonium 239--10.0 to <13.0% Pu-240
55	PU-55		Pu-239	Plutonium 239--13.0 to <16.0% Pu-240
56	PU-56		Pu-239	Plutonium 239--16.0 to <20.0% Pu-240
57	PU-57		Pu-239	Plutonium 239--20.0% and above Pu-240
83	PU-83		Pu-238	Plutonium-238—83 to 90% Pu-238

Table 5. Isotopic Ratios Present in DP West Plutonium Processing TRU Debris Waste

Waste Stream	Number of Reported Values	Isotope	Isotopic Ratio (Wt %)			
			Average	Std Dev	Minimum	Maximum
LA-MHD02-238	478	Pu-238	87.74	26.90	0.00	100.00
LA-MHD02-238	183	Pu-239	9.52	5.15	0.00	30.33
LA-MHD02-238	183	Pu-240	1.02	0.54	0.00	2.34
LA-MHD02-238	183	Pu-241	0.14	0.07	0.00	0.18
LA-MHD02-238	183	Pu-242	0.04	0.02	0.00	0.05
LA-MHD02-238	1	U-233	0.00		0.00	0.00
LA-TA-55-19	3	Am-241	0.00	0.00	0.00	0.00
LA-TA-55-19	2	Np-237	0.00	0.00	0.00	0.00
LA-TA-55-19	2	Pa-231	0.00	0.00	0.00	0.00
LA-TA-55-19	991	Pu-238	0.04	0.79	0.00	24.70
LA-TA-55-19	993	Pu-239	72.56	38.67	0.00	100.00
LA-TA-55-19	988	Pu-240	5.14	3.17	0.00	18.07
LA-TA-55-19	988	Pu-241	0.20	0.20	0.00	2.13
LA-TA-55-19	990	Pu-242	0.03	0.07	0.00	1.39
LA-TA-55-30	9	Am-241	11.11	33.33	0.00	100.00
LA-TA-55-30	1	Cf-251	0.00		0.00	0.00
LA-TA-55-30	5	Np-237	20.00	44.72	0.00	100.00
LA-TA-55-30	5	Pa-231	5.00	11.18	0.00	25.00
LA-TA-55-30	843	Pu-238	0.13	1.61	0.00	37.49
LA-TA-55-30	846	Pu-239	85.36	25.21	0.00	100.00
LA-TA-55-30	835	Pu-240	6.35	2.76	0.00	20.66
LA-TA-55-30	835	Pu-241	0.27	0.25	0.00	2.55
LA-TA-55-30	840	Pu-242	0.17	3.45	0.00	100.00

6.0 ASSIGNMENT OF EPA HAZARDOUS WASTE NUMBERS

The LANL requirements for assignment of EPA Hazardous Waste Numbers (HWNs) are listed in *Acceptable Knowledge Documentation* (DTP-00-080) and Attachment 3, Table 3-5. The WIPP WAP Section B4-3b sets minimum baseline requirements for determination and application of EPA HWNs to TRU mixed waste streams. After compiling the required AK information in a auditable record (Appendix 3, Tables 3-1, 3-2, 3-3, and 3-4), the AK information is reviewed to determine if the waste is listed under 20.4.1.200 NMAC (incorporating 40 CFR §261), Subpart D and/or included in the toxicity characteristics specified in 20.4.1.200 NMAC (incorporating 40 CFR §261), Subpart C. If a toxicity characteristic is identified and is not included as a listed waste, the toxicity characteristic code is assigned unless data demonstrates that the concentration is less than the regulatory level.

6.1 F-, K-, P-, and U-Listed Wastes

F001, F002, F003, and F005 apply to the combustible and non-combustible waste generated by operations conducted at TA-21 DP West. The applicability of the HWN is limited to waste generated during specific time periods and/or in specific processes. However, since it is impossible to delineate specific processes or in many cases, time periods, all four F codes are conservatively applied to wastes generated at TA-21 DP West.

The F codes that are applicable to combustible waste streams are also applied to heterogeneous waste streams as they contain varying amounts of combustible material.

P codes would be assigned if waste resulted from spillage or from disposal of un-reacted/unspent material. Waste management practices at the time precluded unspent/un-reacted material from being placed in a TRU waste container. If a spill had occurred, records would exist regarding the incident. The absence of documentation, along with information obtained through interviews with personnel who worked at TA-21, indicate that P codes do not apply to TA-21 debris waste.

This is a stretch, but indeed I don't know of P or U codes that need to be applied

There are no K-listings applicable to LANL TRU waste. **(Cathy, I still need to fill in the blanks, also, this is not consistent with another table. So I will fix)**

Table XX Listed Code Assignments

Constituent	EPA HWN	Process/Operation
Acetone	F003	Organic extractions
Benzene	F005	
Butanol	F003	
Carbon tetrachloride		
Chlorobenzene	F002	

Chloroform		
Ethyl ether	F003	Solvent extractions
Methanol	F003	Organic extractions
Methylene chloride	F002	
Tetrachloroethylene	F002	
1,1,1-Trichloroethane	F002	Machining
Trichloroethylene	F001, F002	Pretreatment
1,1,2-Trichloro-1,2,2-trifluoroethane	F002	
Xylenes	F003	Caustic Dissolver

6.2 Toxicity Characteristic Waste

Based on the AK documentation listed in this report, several HWNs are conservatively assigned to the DP West waste due to the potential presence of D-listed constituents. If a D-code is suspected or known to be present in the waste at some level, the D-code is conservatively assigned unless analytical data confirm that its concentration is below the regulatory level. Table XX lists the toxicity characteristic assignments and the process or operation associated with the D-code for the DP West waste **(Cathy, I need to update this table also)**

Table XX Toxicity Characteristic Assignments

Constituent	EPA HWN	Process/Operation
Arsenic	D004	
Barium	D005	Electrorefining
Cadmium	D006	Dissolution, Electrorefining
Chromium	D007	Dissolution, Purification, Electrorefining
Lead	D008	Dissolution, Electrorefining
Mercury	D009	Dissolution
Selenium	D010	
Silver	D011	Electrorefining
Benzene	D018	
Carbon tetrachloride	D019	Fabrication
Chlorobenzene	D021	
Chloroform	D022	
Methyl ethyl ketone	D035	Machining
Pyridine	D038	
Tetrachlorethylene	D039	
Trichloroethylene	D040	Scrap Recovery, Metal Production, Fabrication

7.0 IDENTIFICATION OF PROHIBITED ITEMS AND CONDITIONS

The TRU wastes at DP West addressed in this report were generated from 1970 through 1978 and hence, contain prohibited items. Procedures in place during this time frame did not prohibit sealed containers greater than 4 liters, some aerosol cans, or small vials of free liquid. Project 2010 performs RTR and/or VE on 100 percent of the waste containers before certification and shipment to WIPP. When prohibited items are detected, the prohibited item is removed, remediated, and/or the container is repackaged in accordance with *Prohibited Item Disposition* (DTP-00-076). Liquids are absorbed, sealed containers greater than 4 liters are opened, and other prohibited items removed and segregated.

Complete and refer to the applicable sections of DTP-00-080, Attachment 4: Waste Stream Physical Form, Waste Material Parameters, Prohibited Items, and Packaging

- ***Address*** the following items:

    - Facility and/or LANL waste management administrative controls for prohibited items and conditions

7.1 Ignitable, Reactive, and Corrosive Wastes

The WIPP WAP states, "The prohibition of liquids and containerized gases prevents the shipment of corrosive, ignitable, or reactive wastes." The waste streams delineated in this operations report have no listings for corrosivity, reactivity, or ignitability. Administrative controls were in place during various time periods to prevent such items entering the TRU waste containers.

In 1975, an inventory of the chemicals used in the plutonium processing areas during one calendar year was compiled with more than 40 reagents identified. Preliminary estimates at the time indicated that only minute quantities of these reagents entered the solid waste stream as contamination. None of the dry bulk chemicals were pyrophoric in nature. All organic liquids in use had high vapor pressures. Consequently, the probability of organic liquids entering the solid waste during normal use and operations was considered to be remote. The inorganic bulk liquids were used in plutonium processing steps and transferred to the liquid waste treatment facility at Building 257. A detailed study of the composition of the solid waste stream in 1975 verified the absence of any free liquid in the solid wastes, indicating that these chemicals entered the solid waste stream only as contaminants absorbed onto other items (18938:9).

air-drying solvent-soaked rags was thought to be a prudent safety measure.

No EPA HWNs are applicable to the use of acids and bases in plutonium recovery operations at DP West for the following reasons.

- D001 (oxidizer), D002 (corrosivity), and D003 (reactivity) do not apply to the solid waste because there are no free liquids in the waste

- The EPA HWN U134 associated with hydrofluoric acid is not applicable because there are no free liquids in this waste. All liquid wastes were directed to the wastewater treatment facility at Building 257.

7.2 Incompatible Chemicals

Controls were in place to ensure chemical compatibility for the waste contents. All waste containers shipped to TA-54 for storage are evaluated for potentially incompatible chemicals in accordance with 49 CFR Subpart C—Segregation and separation chart of hazardous materials; Section 177.848, Segregation of hazardous materials, and are determined to be in compliance with this requirement.

Is this true?

Chemical compatibility analyses were performed for the TRUCON codes, which indicated that all chemicals and the waste matrix are compatible at levels greater than trace amounts (*Content Code Assessments for LANL TRUCON Codes* [DOE/WIPP-89-004]). During the AK search, additional chemicals were identified that necessitated a new compatibility analysis, which has been completed. **(REFERENCE)**

- ***Discuss*** the applicability to the facility waste of the compatible chemicals tables in the *TRAMPAC*

- ***State*** whether any waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes is present in the facility waste

7.3 Prohibited Items

Prohibited items are known to be present in legacy waste containers from DP West. Procedures at that time allowed containers greater than 4 liters, sealed with tape, to be used for packaging. Small vials of free liquids and some aerosol cans may also be present. Lead shielding was sometimes used to increase safety and thick shielding may obscure RTR observations, requiring visual examination of these waste containers.

Prohibited items are detected by RTR and reported with the RTR results. Waste containers with prohibited items are repackaged, during which time liquids are absorbed, sealed containers greater than 4 liters are opened, and other items removed and segregated in accordance with *Prohibited Item Dispositioning* (DTP-00-076).

- Liquids were prohibited from solid waste, however, small amounts of water or solvents may be found in individual waste containers and/or in the bottom of an internal container. Radiography and/or visual examination is performed on waste containers to ensure that liquid waste is less than 1 inch or 2.5 centimeters in the bottom of internal containers or less than 1 percent of the waste container volume. If radiography and/or visual examination determines that these requirements are not met, the waste container is remediated either by absorption of the liquid or removal of the internal container in accordance with *Prohibited Item Dispositioning* (DTP-00-079).
- Administrative and procedural controls prohibited non-radionuclide pyrophoric materials from being introduced into the waste unless they were oxidized or otherwise reacted.
- Radioactive pyrophoric materials (>1 percent by weight) were oxidized or otherwise reacted before being introduced into the waste.
- Verification that waste containers do not contain sealed containers greater than 4 liters is conducted by the radiography of 100 percent of the waste containers before shipment to WIPP. If a waste container is suspected of

How can we say this since that effort began in 1997.

having a sealed container greater than 4 liters, the drum is sent to Prohibited Item Dispositioning (PID) for removal before waste certification.

- Hazardous waste not occurring as co-contaminants with TRU waste (non-mixed hazardous waste)
- Explosives
- Most gases were stored outside the glovebox and plumbing into the glovebox. Consequently, compressed gas cylinders are not expected to be in any of the TRU waste containers from DP West site. Spray cans were commonly used until May 1992 (TWCP-4166) when they were not allowed in gloveboxes. They were usually discarded in noncombustible debris waste containers. Verification that waste containers do not contain compressed gases or spray cans, is through radiography of each waste container and verification by visual examination of selected containers. Any un-punctured or un-vented gas containers are removed before waste certification.
- Remote-handled TRU mixed waste

7.4 Polychlorinated Biphenyls

No PCBs were introduced into the TRU waste streams, based on documentation reviewed during the AK investigation and summarized in lists of inputs documented in this report.

- Oils have been used in the processes, including heat treating oil, hydraulic oil, lubricating oil, machining oil, and vacuum pump oil. None of these oils are known to contain PCBs.
- Oils contained in transformers are handled by a subcontractor who is wholly responsible for its disposal, thus the oil does not enter into the LANL TRU waste streams (TWCP-3568/N-82) This is probably not true in 1970-1978
- Ballast in fluorescent light fixtures could contain PCBs, however, these light fixtures are outside the gloveboxes and would not enter the TRU waste stream.

If the possibility exists for DP West TRU waste to contain PCBs, RTR operators are required to check for possible PCB containing materials or PCB-contaminated materials. If there is reason to suspect that an item may contain PCBs (based on AK, operator training, or previous operator experience), then the operator records this information , which is reviewed before waste certification.

8.0 WASTE PACKAGING

- ***Complete*** and refer to the applicable sections of DTP-00-080, Attachment 4: Waste Stream Physical Form, Waste Material Parameters, Prohibited Items, and Packaging

- ***Complete*** and refer to DTP-00-080, Attachment 7: Waste Stream Container Inventory Information

- ***Discuss*** the various waste containers and packaging configurations used for the facility waste containers

- ***Discuss*** the applicable TRUCON codes for the facility waste

9.0 REFERENCES

- ***List*** the following types of references that are cited in the report

    - LANL institutional references (e.g., LIRs, LIGs, WAC, SWEIS yearbook)
    - DOE documents (e.g. the treatability guidance)
    - NMED regulatory references (e.g.
    - EPA regulatory references and guidance documents
    - WIPP regulatory references and guidance documents (e.g., the WIPP WAC, the CH-WAC)
    - Project 2010 plans and procedures (e.g. DTP-00-080)

1. *Acceptable Knowledge Information Summary for Los Alamos National Laboratory Transuranic Waste Streams* (AKIS) (AK-00-019)

2. *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (DOE/WIPP-02-3122) (CH-WAC)

3. *DOE Waste Treatability Group Guidance* (DOE/LLW-217)

4. *Hazardous Waste Facility Permit for the Waste Isolation Pilot Plant* (EPA ID No. NM4890139088-TSDF) (WIPP HWFP)

5. *Los Alamos National Laboratory Compliance Plan for TRUPACT-II Authorized Methods for Payload Control* (TRAMPAC) (PLAN-00-004)

6. *Los Alamos National Laboratory Transuranic Waste Certification Plan* (PLAN-00-002) (Certification Plan)

7. *Los Alamos National Laboratory Transuranic Waste Quality Assurance Project Plan* (PLAN-00-001) (QAPjP)

8. *New Mexico Administrative Code Title 20, Chapter 4, Part 1, Subpart II, Identification and Listing of Hazardous Waste* (20.4.1.200 NMAC) (incorporating 40 CFR Part 261)

9. *Nonconformance Reporting and Tracking* (QP-00-007)

10. *Records Management* (QP-00-004)

11. *TRUPACT-II Content Codes* (TRUCON) (DOE/WIPP 89-004)

12. *Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Waste, A Guidance Manual* (OSWER 9938.4-03)

13. *Waste Isolation Pilot Plant Land Withdrawal Act* (Public Law 102-579)

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
D013	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	1
	N/A		

Comments
Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑ Signature: Sonia Gonzalez — Printed Name: SONIA GONZALEZ — Date: 11/12/09

Records Rejected ☒ Signature — Printed Name — Date

Reason for Rejection: N/A

Re-submittal: Signature — Printed Name — Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	1810
DESTINATION TEL #	92347138
DESTINATION ID	CHEZIE TODD
ST. TIME	11/10 11:13
TIME USE	00'16
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
D013	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	1
	N/A		

Comments

Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑ Sonia Gonzalez SONIA GONZALEZ 11/12/09

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D026
Waste Stream Number(s): LA-CIN04.001, LA-MHD04.001, LA-MSG04.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Additional Information	Category: ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]: Los Alamos TRU Waste Certification Plan for Newly Generated TRU waste, Nov 1984	
Source Document Reference Information (author(s), document and revision number, date, publisher): Los Alamos National Laboratory, LA-UR-02-6086/TWCP-00697, WCP-HSE7-CPL-01, 2, 11/1984, Los Alamos National Laboratory	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR8, WS2, S16	1-21	The regulations governing waste shipment to WIPP are outlined and the LANL groups that ensure compliance are listed. An organization chart of the major TRU waste generators is given on page 5. A brief description of the functions of each group is given in the text after the org chart. Details regarding the QA plan run from page 7 to page 21 and include the groups that have responsibilities and what those responsibilities are. Details on packaging requirements are on page 12.
PR4, PR8	22-36	Guidelines on waste packaging are discussed, including contamination control, labeling, color coding, storage and retrieval. Certification record categories and retention guidelines are covered followed by requirements for WIPP data packages. The final section of the document (before Appendix A) covers instructions on preparing the attachments that are part of the plan.
PR5, PR8	40-51	Appendix A lists all attachments to the plan. Appendix B outlines the waste content codes used and their associated description. Appendix C lists the acceptable container types and their dimensions. Appendix D is a Certified Waste Storage Record form and Appendix E is the form used for a non-conformance report. Attachment F is an attachment checklist used to ensure that all items are addressed in the attachments.

NTPC RECORDS ORIGINAL
DATE REC'D 6-30-14

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D028
Source Document Data Limitations (if any): 1. None	
Acceptable Knowlege Expert: Amy Johns / Amy Johns Date: 2/21/14 Print /Sign	

a Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
b Obtain from Acceptable Knowledge Documentation Checklist
c For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-MHD04.001

Site(s): Los Alamos National Laboratory-Technical Area 21	**Source Document Tracking Number:** D026
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Supplemental Information	**Category:** ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents

Title of Source Document: Los Alamos TRU Waste Certification Plan for Newly Generated TRU waste, Nov 1984

Source Document Reference Information (author(s), document and revision number, date, publisher): Los Alamos National Laboratory, LA-UR-02-6085/TWCP-00697, WCP-HSE7-CPL-01, 2, 11/1984, Los Alamos National Laboratory

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR8, WS2, S16	1-21	The regulations governing waste shipment to WIPP are outlined and the LANL groups that ensure compliance are listed. An organization chart of the major TRU waste generators is given on page 5. A brief description of the functions of each group is given in the text after the org chart. Details regarding the QA plan run from page 7 to page 21 and include the groups that have responsibilities and what those responsibilities are. Details on packaging requirements are on page 12.
PR4, PR8	22-36	Guidelines on waste packaging are discussed, including contamination control, labeling, color coding, storage and retrieval. Certification record categories and retention guidelines are covered followed by requirements for WIPP data packages. The final section of the document (before Appendix A) covers instructions on preparing the attachments that are part of the plan.
PR5, PR8	40-51	Appendix A lists all attachments to the plan. Appendix B outlines the waste content codes used and their associated description. Appendix C lists the acceptable container types and their dimensions. Appendix D is a Certified Waste Storage Record form and Appendix E is the form used for a non-conformance report. Attachment F is an attachment checklist used to ensure that all items are addressed in the attachments.

Source Document Data Limitations (if any):

1. None

Acceptable Knowlege Expert:

David Guerin or James Luginbuhl / James Luginbuhl
Print /Sign Date: 8/16/2006

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED
SG 11/04/09
10 SG 11/10/09

DIVIDER PAGE ONLY

Not part of page count

WCP-HSE7-CPL-01, R2

LA-UR-02-6085
TWCO-697
D026

LOS ALAMOS
TRU WASTE CERTIFICATION PLAN
FOR NEWLY GENERATED TRU WASTE

November 1984

Los Alamos National Laboratory

APPROVALS:

Jesse Aragon, HSE Division Leader — 11/30/84 Date

Leon C. Borduin, HSE-7 Waste Management Group Leader — 11/29/84 Date

John L. Warren, HSE-7 Associate Group Leader for Solid Waste Operations — 11/29/84 Date

Bruce T. Reich, HSE-7 Author — 11/28/84 Date

SUMMARY OF REVISIONS

1. Group HSE-1 has been reorganized as HSE-1 and HSE-10.

   - o HSE-1 has retained the instrument recall and calibration system and will continue to provide health physics services to the Waste Management Group (HSE-7).

   - o HSE-10 now provides health physics services to CHM-1 and MST Division using instruments maintained by HSE-1.

2. Inclusion of Attachment No. 10, covering wastes produced at the Inhalation Toxicology Research Institute (ITRI) in Albuquerque, required several changes to the QA plan (Section 3). QA and Internal Auditing organizations existing at ITRI have been utilized for quality assurance operations and audits in the same manner that MST-9 performs those functions for MST division waste generators. ITRI will provide audit reports to HSE-7. None of the associated changes to the plan will affect any waste certification activities at Los Alamos.

CONTENTS

1.0 INTRODUCTION

2.0 ORGANIZATION

3.0 QUALITY ASSURANCE PLAN

3.1 Introduction

3.2 Organization

3.3 Control Measures

3.4 Inspections and Tests

3.5 Control of Measuring and Test Equipment (M&TE)

3.6 Inspection, Test, and Operating Status

3.7 Records Management and Document Control

3.8 Non-Conforming Items and Corrective Action

3.9 Audits

4.0 WASTE PACKAGING

5.0 LABELING

6.0 STORAGE

7.0 RETRIEVAL FROM CERTIFIED STORAGE

8.0 CERTIFICATION RECORDS

9.0 INSTRUCTIONS FOR PREPARATION OF ATTACHMENTS

APPENDIX A - ATTACHMENTS

APPENDIX B - CONTENT CODES

APPENDIX C - APPROVED CONTAINERS

APPENDIX D - CERTIFIED WASTE STORAGE RECORD FORM

APPENDIX E - NON-CONFORMANCE REPORT

APPENDIX F - ATTACHMENT CHECK SHEET

1.0 INTRODUCTION

1.1 Background

In the operation of the Los Alamos National Laboratory, large amounts of transuranic (TRU) waste are generated. Since 1970, TRU wastes have been segregated from low-level wastes and have been stored retrievably in accordance with federal (AEC/ERDA/DOE) requirements. The eventual disposition of TRU waste is now planned to be temporary storage at Los Alamos, followed by permanent emplacement at the Waste Isolation Pilot Plant (WIPP).

The prerequisites for transfer of the waste to the WIPP are well defined:

- DOE Order 5820.2 (2-6-84)[1] states, "Each site that generates TRU waste shall prepare, document, and implement a certification program to demonstrate that the waste meets disposal site acceptance criteria."

- The acceptance criteria are defined in WIPP-DOE-069, "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant," (as updated)[2] which specifies basic requirements for disposal of contact-handled and remote-handled transuranic waste at the WIPP.

- The criteria have been supplemented by WIPP-DOE-114, "TRU Waste Certification Compliance Requirements for Newly-Generated Contact-Handled Waste for Shipment to the WIPP," (as updated)[3] which details the procedures required to demonstrate compliance with WIPP-DOE-069.

- DOE Order 5700.6A (8-13-81)[4] requires the establishment of Quality Assurance (QA) programs for all DOE programs. WIPP-DOE-120, "Quality Assurance Requirements for Certification of TRU Waste for Shipment to the WIPP," (as updated)[5] details the requirements for the QA plan and for quality related documentation required for demonstrating compliance with WIPP-DOE-069.

- DOE Order 5820.2 specifies that "...approval authority for certification programs, standard containers, transportation, waste acceptance criteria and all other aspects related to TRU emplacement at the WIPP have been delegated to the Manager, Albuquerque Operations Office." In a memorandum[6] from J. M. McGough, a WIPP Certification Review Committee was established to review and approve certification plans and QA plans submitted by DOE contractors.

Since the above documents were issued, WIPP Certification Review Committee (later changed to WAC Certification Committee) members have offered clarification and further guidance at numerous meetings and in informal reviews[7],[21] of earlier submittals of the Los Alamos TRU Waste Certification Plan.

1.2 Overview

1.2.1 The Laboratory's Waste Management Group (HSE-7), as the receiver, holder, and eventual certifier of the TRU waste, must assure that the waste received from the Los Alamos waste generators meets all of the WIPP criteria so that the required certification statement can be made to the WIPP.

1.2.2 The certification statement will be signed by the Los Alamos Waste Management Group (HSE-7) Leader, or by his designee, when the waste package is shipped to the WIPP. Certification will be based on an accumulated set of documentation provided by the waste generator personnel responsible for the data gathering, packaging, and storage, supported by a system of inspections, tests, and audits.

1.2.3 This certification plan, with its attachments, defines the Los Alamos plan for assuring the WIPP operators that the waste shipped to them from Los Alamos complies with the WIPP waste

acceptance criteria (WAC) defined by the DOE. Only unclassified, newly generated, contact-handled, TRU solid waste is covered by this issue of the plan. Remote-handled waste and waste drawn from retrievable storage will be addressed in amended versions of this plan or, if necessary, in separate plans.

1.2.4 This plan details the certification requirements and activities that apply uniformly to all TRU waste generators. Waste generators must each develop and submit attachments to this plan, wherein they define the details of the certification functions and controls that apply to their specific processes and waste stream. Guidance is contained in Section 9.0 for preparing and processing those attachments.

1.2.5 The QA Plan applicable to TRU waste certification is defined in Section 3.0.

1.2.6 Certified waste will be segregated from other TRU waste and will be stored until shipment to the WIPP begins. Because actual shipment to the WIPP is still a number of years off, only a general description can be given of the anticipated procedure for waste package preparation and certification (see Section 7.0). Later, the plan will be extended to provide the necessary details of inspection of the waste packages upon removal from storage.

1.2.7 Nothing herein is intended to prohibit waste generators from implementing any additional controls dictated by safety or process control needs.

2.0 ORGANIZATION

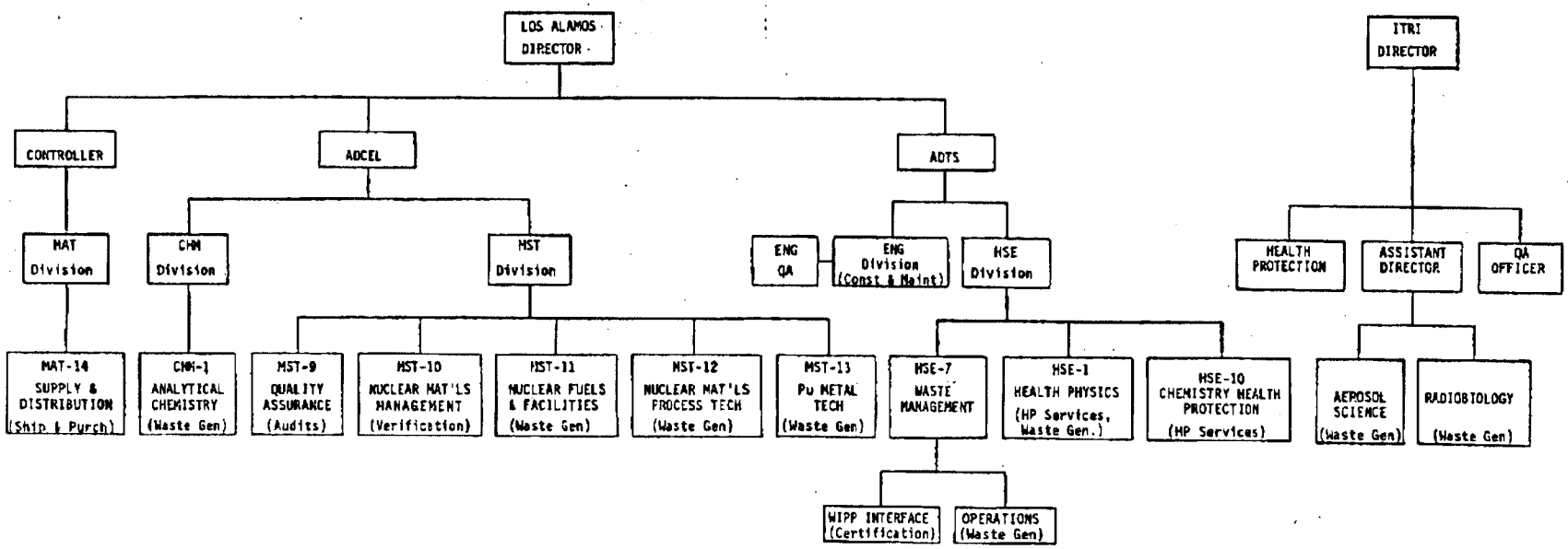
2.1 The organization chart (Fig. 1) depicts a simplified structure (as of this date) showing only the organizations that are major TRU waste generators or are otherwise involved in the production of certified waste. Their functions are listed briefly below. Not shown are a number of other organizations throughout the Laboratory which occasionally produce small quantities of TRU waste.

Each waste generating organization shown shall prepare, and maintain current, an organization chart showing personnel associated with TRU waste generation and certification. The chart shall indicate levels of authority and lines of communication. Interfaces and lines of communication with other organizations in the TRU Waste Certification Program, including the quality assurance organization, shall also be included on the chart.

2.1.1 The Analytical Chemistry Group, (CHM-1), the Nuclear Fuel Development and Facilities Operation Group (MST-11), the Nuclear Materials Process Technology Group (MST-12), and the Plutonium Metal Technology Group (MST-13) are the major TRU waste generators outside of the Waste Management Group (HSE-7).

2.1.2 The Quality Assurance Group (MST-9) operates a complete quality assurance program for the MST Division waste generators and for other waste generators that work closely with MST. The details of this program are provided in Attachment 3 to this plan.

MST-9 also performs QA audits of the overall TRU Waste Certification Program at Los Alamos and of the waste generating operations



SIMPLIFIED ORGANIZATION CHART

Figure 1

within HSE-7 (see Section 3.9).

2.1.3 MAT-14 is the official shipper of the waste to the WIPP, and is also the group responsible for procuring containers.

2.1.4 The Health, Safety, and Environment Division Leader is the Laboratory contact for TRU waste certification correspondence.

2.1.5 The Waste Management Group (HSE-7), by virtue of its position as the receiver and holder of the TRU waste, is the focal point for the TRU Waste Certification Program. The group's functions have been expanded to include development and maintenance of the Certification Plan, review of attachments for completeness and compatibility with the plan and the waste management program, and preparation and loading of the waste shipments. The certification statement will be signed by the Group Leader or his designated representative.

Group HSE-7 also has three waste treatment facilities, the Size Reduction Facility, the Treatment Development Facility, and the Liquid Waste Treatment Plant, which are all treated as waste generators because that waste is uncharacterized until it is processed.

2.1.6 The Radiation Protection Group (HSE-1) provides radiation protection and monitoring support services to some waste generators and to the waste management facilities. HSE-1 also maintains and calibrates health physics instrumentation used for certification purposes[17,18].

2.1.7 The Chemistry Health Protection (HSE-10) Group provides radiation protection and monitoring support services to MST

and CHM Divisions.

2.1.8 ITRI (Inhalation Toxicology Research Institute) is a small off-site waste generator. ITRI is not part of Los Alamos but their TRU wastes have historically been sent here because the small volume generated (5 to 10 drums per year) does not warrant developing and maintaining separate storage facilities. An attachment to this plan has been written for the ITRI waste because it is not practical for them to develop a separate certification program and it is not convenient to treat the waste as miscellaneous. ITRI has QA and Radiation Safety organizations in-house that are utilized rather than attempting to provide those functions from Los Alamos.

2.2 Administrative Requirement (AR) 10-2 of the Health and Safety Manual[9] lists the responsibilities of waste producing and handling organizations at the Laboratory. Waste generating operations within HSE-7 are subject to all of the responsibilities and controls encumbent upon all other waste generators.

2.3 The final approval authority for the Certification Plan and its attachments rests with the WAC Certification Committee (WACCC).

3.0 QUALITY ASSURANCE PLAN

3.1 Introduction

3.1.1 This QA plan was developed specifically to meet the requirements of WIPP-DOE-120[5]. This QA Plan applies only to the Los Alamos TRU Waste Certification Plan.

3.1.2 WIPP-DOE-120 defines the requirements that shall be included in the QA program, and the scope and purpose as stated below:

> "The extent of quality program requirements and the level of the associated QA activity will be commensurate with the scope and importance to the certification program."
>
> "The waste is not the product, and QA/QC is not applied to the waste as a product, but to the certification activities for shipment of waste to WIPP."

3.2 Responsibilities

QA is a line management function; quality assurance functions are performed by members of line organizations following procedures defined in the appropriate attachments to this plan, or by trained quality assurance personnel. Routine review of certification activities is normally performed by qualified members of line organizations who are independent of the activities being performed. In addition, the laboratory has QA organization personnel available for assisting in program development and TRU waste certification program audits, as requested.

3.2.1 The QA program applied to TRU waste certification is the responsibility of the HSE-7 Group Leader. Because most waste generators are outside the line of authority of the HSE-7 Group Leader, control is exercised by HSE-7 both directly and indirectly by:

- defining, in this QA plan, the requirements for the QA activities to be included in the generators' attachments to the certification plan;
- review of generators' attachments before they are forwarded to the WACCC (see Section 9.3)
- review of each generator's data package before accepting the waste[22];
- inspection of the waste packages when they are received at the storage site[16];

- audits of the waste generators' certification activities (see Section 3.9.2); and,
- certification of the waste (see Section 2.1.5).

Waste processing functions within the HSE-7 Liquid Waste Treatment Plant, the Size Reduction Facility, and the Treatment Development Facility, shall be subject to the same controls as other waste generators (see Section 2.2).

3.2.2 Development of attachments to this plan which define the QA activities associated with specific waste streams and the ongoing documentation of those activities is the responsibility of the appropriate waste generating organizations (see Section 9.1).

3.2.3 QA activities associated with Los Alamos procurement of waste containers acceptable to WIPP are the responsibility of the supply group (MAT-14), (see Section 4.3). Containers used by ITRI are obtained by the ITRI Procurement Unit. Pre-use inspection for shipping and handling damage is the container user's responsibility (see Section 4.3.2).

3.2.4 QA for new facility design, construction, and maintenance at Los Alamos is the responsibility of the ENG Division which has its own QA program in place.[8]

3.2.5 When maintenance of equipment important to certification is the responsibility of the operating organization, the scheduling and documentation must be defined in the operating group's procedures. Equipment important to certification, maintained by other organizations, shall be identified in the appropriate attachment to the plan.

3.2.6 Los Alamos radiation survey instrumentation is maintained by HSE-1 which has a calibration recall and documentation system in place[17,18]. ITRI instrument calibration is done by the Health Protection Operations (HPO) Unit.

3.2.7 Responsibility for verification that waste package closure was accomplished according to procedure, and for documentation of levels of surface contamination and external radiation, are the responsibility of HSE-1 and HSE-10 according to the Los Alamos Health and Safety Manual[9]. AT ITRI this is the responsibility of HPO.

3.2.8 Verification of the completeness of the data provided by the waste generator, of the waste package marking, and of the physical condition of the waste package are responsibilities of HSE-7[16,22].

3.3 Control Measures

3.3.1 Design Control

This section will apply to waste certification activities that include, but are not limited to, the design or modification of the equipment and processes used to convert wastes into certifiable forms. Not included is the design of processes or equipment that are already in use and producing certifiable waste forms. Design of quality affecting processes and equipment shall be governed by the following.

3.3.1.1 Applicable design inputs, such as performance requirements, codes, and standards, shall be identified and documented.

3.3.1.2 Design analysis documentation should be sufficiently detailed as to purpose, methods, assumptions, design input, references, and units such that a person technically qualified in the subject can review and understand the analyses and verify the adequacy of the results without recourse to the originator.

3.3.1.3 Design verification shall be performed by individuals or groups not responsible for the original design. At a minimum, this will include Group HSE-7 personnel, along with other personnel as requested by management of the originating organization and/or HSE-7, based upon expertise with the equipment and/or process involved.

3.3.1.4 Design verification will be a two step process. Initial verification will be through reviewer sign-off on a review record. Final verification will be through a determination of the certifiability of the output product; Group HSE-7 has this overall responsibility. The verification method used shall be documented.

3.3.1.5 Technical management has overall responsiblity for resolving individual review comments.

3.3.1.6 Changes to final designs, including field changes, shall be reviewed in the same manner as the original design. Minor changes, such as changing to a

different acceptable waste container require approval of HSE-7. Changes involving waste form must be approved by the WACCC.

3.3.2 Control of Purchased Items and Services

Areas where this section is expected to apply to waste certification include, but are not limited to, the procurement of waste containers, liners, and other designated materials used in waste processing that might affect the certification of the waste packages.

3.3.2.1 Commercial items produced to established industry standards, such as bolts, Portland cement, gypsum cement, vermiculite, welding rods, and plastic bags are excluded from this requirement.

3.3.2.2. Drums and steel boxes used for waste packaging are purchased from DOE facilities that maintain approved QA programs for waste package procurement. Purchase orders for waste containers shall require a statement from the DOE supplier that the containers were produced and inspected according to approved procedures. Receival inspections at MAT-14 are not required because users are required to visually inspect packaging for shipping damage before use (4.3.2).

3.3.3 Identification and Control of Items

This requirement will apply to, but not be limited to, the identification of waste containers, waste packages, and/or batches of wastes that are different because, for example, they might contain

toxics or corrosives. This requirement also helps prevent the mixing of non-TRU with TRU waste streams.

3.3.3.1 Items requiring identification and control shall be specified in the attachment if not specified in this plan.

3.3.3.2 Identification shall be maintained on the item when practical, otherwise in documents traceable to the item.

3.3.3.3 Process batch identification shall be referenced in each appropriate waste generator's data package so that all waste packages from a batch can be identified after closure.

3.3.4 Control of Processes

Processes that affect waste characteristics or container quality shall be controlled by written procedures, drawings, or checklists, that define limits of acceptability and the method used to verify conformance.

3.3.5 Handling and Storage

Waste packages, packaging, and waste handling and storage shall be controlled to prevent damage to the containers or changes in the waste that may affect certifiability.

3.4 Inspections and Tests

Inspections and/or tests shall be planned and performed at appropriate points in the certification process to ensure conformance to applicable waste acceptance and certification criteria.

3.4.1 Procedures for inspections and/or tests, the responsible organization unit, and the standards for acceptance/rejection, shall be defined or referenced in the appropriate attachment to the certification plan. If sampling is used, the sampling method shall be similarly defined.

3.4.2 The identity of the inspector shall be documented and the documentation retained by the generating organization, or as specified in the attachment to the plan.

3.4.3 The results of inspection and/or tests shall be included in the waste generator's data package.

3.5 Control of Measuring and Test Equipment (M&TE)

3.5.1 General

3.5.1.1 Appropriate controls over the accuracy and precision of M&TE are necessary to assure that conforming items are accepted and that nonconformities are detected. This section applies to M&TE used for purposes of determining waste and waste package characteristics and acceptability. It also applies to the standards used for calibrating such M&TE.

3.5.1.2 The waste generator shall establish a calibration program, including requirements and controls, for M&TE used for certification.

3.5.1.3 Radiation detection instruments maintained and calibrated by HSE-1 need not be included in the waste generator's program.

3.5.1.4 Calibration and control measures are not required for rulers, tape measures, levels, and other such devices if normal commercial equipment provides adequate accuracy for certification.

3.5.2 Requirements

3.5.2.1 Adequacy of Standards - Standards established for calibrating M&TE shall be accurate and stable over the range of calibration necessary to ensure that certification needs are met, and that any deviations from certification requirements are known. Referenced standards shall be appropriate to the relative importance of the equipment with respect to certification activities and/or health and safety.

3.5.2.2 Intervals of Calibration - Calibration periods shall be established on the basis of stability, purpose, and frequency of usage.

3.5.2.3 Calibration Procedures - M&TE shall be calibrated to written calibration procedures. The procedures may be the equipment manufacturer's instructions, subcontractor's procedures, or they may be written by program personnel. All procedures shall be referenced in the attachment to the certification plan.

3.5.2.4 Records - The application of these requirements shall be supported by records demonstrating that established schedules are followed and the results documented.

3.5.3 Use of Calibrated M&TE

M&TE shall have a calibration sticker that identifies the date calibrated and the date due for recalibration, along with identification of the person who performed the calibration.

3.6 Inspection, Test, and Operating Status

When it is necessary to assure that inspections and tests have been performed or to assure that items that have not passed the required inspections and tests are not inadvertently used or shipped, status indicators, such as a physical location, tags, markings, shop travelers, stamps, inspection records, or other suitable means, shall be used. The authority for application and removal of tags, markings, labels, and stamps shall be specified or referenced in the attachment to the certification plan.

3.7 Records Management and Document Control

3.7.1 Procurement Document Controls

Purchase orders for materials of equipment which affect certifiability of the waste shall specify the appropriate characteristics and limits of acceptability. In critical cases, it may be necessary to require the suppliers to have a QA program. Documentation of compliance shall be maintained by the purchaser's group for materials other than those drawn from Laboratory stocks (see Section 4.3).

3.7.2 Instructions, Procedures, and Drawings

Those activities affecting significant waste characteristics or certifiability shall be performed according to a documented

procedure that shall be part of, or referenced in, the attachment to this plan. This requirement applies to all applicable activities from the initial determination of waste composition, through package closure.

3.7.3 Document Control

The preparation, issue, and change of documents such as procedures, data form formats, and attachments to the plan, shall be controlled to assure that only current issues of documents are being used and that current approved documents shall be available in areas where work affecting certification is to be performed. A hard copy of computer program listings shall be stored as a back-up for computer software.

3.7.3.1 Waste generators within MST division or participating in the MST-9 QA program shall utilize the MST system for document control.

3.7.3.2 Waste generators within HSE-7 shall utilize the group document control system[19] for all certification related procedures.

3.7.3.3 The ITRI attachment to this plan (Attachment No. 10) is part of the HSE-7 document control system. ITRI procedures referenced in the attachment are controlled within that organization.

3.7.3.4 Group HSE-7 shall be responsible for issuing, updating, and obtaining the required approvals for this plan in the manner defined in the group document control system.

3.8 Nonconforming Items and Corrective Action

3.8.1 Nonconforming items are waste packages and data packages that do not meet the requirements of the Certification Plan because:

- the waste form differs from that defined in the appropriate attachment to the certification plan;
- the waste package does not meet the WIPP acceptance criteria;
- the documentation does not meet the requirements defined in the certification plan or its appropriate attachment; or
- the waste was not prepared and certified according to approved procedures.

3.8.2 A Nonconformance Report (NCR) is a written report identifying the nonconforming item, the nature of the nonconformance, and the point at which the nonconformance was detected. The NCR generated in each case must be attached to the Waste Generator's Data Package.

3.8.3 An NCR is not required for nonconformances detected prior to an established inspection point or prior to container closure if the waste is re-worked to make it conform to the original requirements.

3.8.4 Nonconformances detected within facilities covered by the MST-9 QA program shall be reported to MST-9 on the MST-9 NCR form, and handled according to that program.

3.8.5 Nonconformances detected at ITRI are handled in the manner described in Attachment No. 10.

3.8.6 Nonconformances detected elsewhere shall be handled through the HSE-7 Solid Waste Section on the HSE-7 NCR form shown in Appendix E.

3.8.6.1 Nonconformances in the data package, detected when it is received at HSE-7, require an HSE-7 NCR and a case by case evaluation by HSE-7.

3.8.6.2 Nonconformances identified after the waste package is received at the TA-54 storage and disposal site all require HSE-7 NCR's.

Minor problems (defective or missing labeling or color coding, damaged seal, etc.) may, at HSE-7's discretion, be corrected by either the storage site personnel or by the waste generator.

Unacceptable waste packages (leaking, damaged in transit, etc.) may require action by both the waste generator and by HSE-7. An HSE-7 NCR shall be initiated by the storage site supervisor and forwarded, according to procedure, to the waste generator. The disposition of the noncomforming item shall be determined by HSE-7 and the waste generator.

3.8.6.3 If a package of unacceptable waste originated in an organization covered by the MST-9 QA program, the HSE-7 NCR will be sent to MST-9 where it may be used to trigger issuance of an NCR within that system.

3.8.7 Nonconformances that result in waste that does not meet WIPP waste acceptance and certification requirements shall render the waste not certifiable. The waste will not be shipped to the WIPP until the problem has been identified and corrected.

3.8.8 When a nonconforming item or series of nonconforming items indicate that the certification process is inadequate or unreliable, certification (not production) of that waste stream shall be halted until the appropriate attachment can be modifed by the waste generator and approved by HSE-7 and the WACCC.

3.8.9 Nonconforming items shall be segregated from conforming items until the required disposition is completed and approved.

3.8.10 Supervisors of waste generating or waste handling organizations shall review NCR's and/or audit findings and when necessary, require that corrective action be taken (and documented) to prevent recurrence of nonconformances. The documentation shall include a statement of the condition requiring corrective action, the action taken, and the name of the individual responsible for implementing that action. Completed reports shall be forwarded to either MST-9 or the HSE-7 Solid Waste Records Office, as appropriate, for filing.

3.9 Audits

3.9.1 DOE or DOE-appointed auditors may perform audits at DOE's discretion. Copies of internal audits shall be available to them.

3.9.2 Internal audits of the program or any part of the program, including HSE-7 activities, shall be performed by MST-9 to

assure compliance with the certification plan and its attachments, especially items related to program controls. Internal audits at ITRI shall be performed by the ITRI Internal Auditor and QA Officer. The adequacy of the plan and its attachments shall be determined only by DOE.

3.9.3 Audit frequency shall be at least twice each year, with more audits being conducted if the scheduled audits disclose serious or recurring problems. The HSE-7 Group Leader will identify whether any programs should be audited more than twice per year from his review.

3.9.3.1 Los Alamos audits shall be performed in accordance with written procedures or checklists by personnel who do not have direct responsibility for performing the activities being audited as defined in the MST-9 Quality Assurance Manual[20].

3.9.3.2 Los Alamos auditors shall be trained and qualified as defined in the MST-9 Quality Assurance Manual[20].

3.9.3.3 The auditors' findings shall be documented and reported to the HSE-7 Group Leader, the HSE Division Leader, and the Division Leaders of all divisions being audited.

4.0 WASTE PACKAGING

Transuranic waste shall be packaged according to the Health and Safety Manual[9] except as noted below.

4.1 Only containers acceptable to WIPP (see Appendix C) may be used for TRU packaging. The following are preferred. Other containers acceptable to WIPP are permitted with written approval from HSE-7.

4.2 The 54 in. by 68 in. by 38 in. steel truck box is the preferred TRU waste box. The DOT 17C (stock no. LG-1115) is the preferred TRU waste drum.

4.3 Both of the preferred containers are available from Rockwell International at Rocky Flats, Colorado or from Los Alamos stock (also obtained from Rockwell). Purchase orders for procurement of containers from Rockwell shall specify the appropriate Rockwell standards (SX-200[10] for drums or SX-231[11] for steel boxes) because these standards define the construction, dimensions, tests, limits of acceptability, and inspection requirements. The purchase order shall also require a statement from Rockwell that the containers were produced and inspected according to these standards (3.3.2.2).

4.3.1 For other containers, procurement shall be exercised in a manner similar to the above.

4.3.2 Containers shall be inspected visually by the user, for shipping and handling damage that would affect the ability of the container to meet the DOT container requirements or the WIPP storage requirements. Rejected containers shall be clearly marked as such.

4.3.3 Each container used shall be identified in the generator's data package by either serial number or lot code as specified in the instructions for completing the CWSR form (Appendix D).

4.4 Special packaging for unusual waste is not expressly forbidden but the cost and effort of development, testing, and certification are the responsibility of the waste generator. The Waste Management group's approval and the WIPP project office's approval are both required in all cases.

4.5 Corrosive waste (pH 4.0 or less) is unacceptable unless the waste has been neutralized or otherwise rendered noncorrosive, or it has been packaged to ensure package integrity through the packaging design life. Corrosive material must be listed on the CWSR form.

4.6 Contamination Control

4.6.1 The level of removable radioactive contamination on the external surfaces of each closed waste package shall be kept below WIPP limits and as low as reasonably achievable.

4.6.2 The level of removable radioactive contamination may be determined by first wiping a 100 cm^2 area of the surface with an absorbent material, using moderate pressure, and then measuring the activity on the wiping material.

4.6.3 At least three measurements shall be taken in the most appropriate locations to yield a representative assessment of the removable contamination levels.

4.6.4 The amount of radioactivity measured on any single wiping material, when averaged over the surface wiped, shall not exceed 50 pCi/100 cm^2 of alpha contamination or 450 pCi/100 cm^2 of beta-gamma contamination.

4.6.5 Other methods of assessment of equal or greater efficiency may be used if they are defined fully in an approved attachment to the plan.

5.0 LABELING AND COLOR-CODING

Waste packages shall be labeled as defined in the Laboratory HS&E Manual,[9] except as noted in this section.

5.1 Labeling

5.1.1 The waste package label consists of a unique package serial number and the package weight (in whole kilograms), stenciled on the package in black, 1-in. minimum height characters.

5.1.1.1 Drum labels shall be placed on the top (removable) head of the drum.

5.1.1.2 Box labels shall be placed near the center of the box lid and on each of the four sides. The label on top shall be parallel to, and on the flats between, the corrugations. The side labels shall be approximately centered along the length and located preferably on the 4th and 5th flats from the top.

5.1.2 The package serial number consists of thirteen characters in the form LAYYCCXXXXXXX, where

- o LA is our site code assigned by DOE.
- o YY is the calendar year when the package was closed.
- o CC is the last two digits of the container code taken from the Certified Waste Storage Record (CWSR) form (Appendix D). Codes for containers not listed on the CWSR can be obtained from HSE-7.

- o XXXXXXX is a seven-digit number taken from a self-locking tag supplied by HSE-7. The leading zeros may not be omitted. The manufacturer's serial number which is on the steel boxes, is not part of the package serial number.

5.1.3 The package weight shall be listed below the package serial number and shall be followed by "kg". If the weight in kilograms is calculated from the weight measured in pounds, the number of significant figures shall be consistent with the accuracy of the measuring device.

5.1.4 Example: a drum, closed in 1984, bearing tag number 0051386, and weighing 420 lb. is stenciled thus:

LA84010051386

190 kg

5.1.5 The serial number tag shall be attached to the waste package after closure. The tag is not intended to be a seal.

5.1.5.1 On steel drums, the tag shall be attached to the bolt, between the lugs.

5.1.5.2 On boxes, the tag shall be wired to one of the lifting lugs.

5.1.6 The aluminum tags specified for crates in AR10-2 shall not be used for TRU waste packages.

5.1.7 When waste packages are overpacked by the Solid Waste Disposal Section of HSE-7, the new package shall be assigned a new identification number.

5.2 Color Coding

WIPP-DOE-114 requires specific color coding on TRU waste packages.

5.2.1 Waste packages containing more than 25 vol% combustibles, or reportable concentrations of toxic materials, or having external radiation levels exceeding 10 mrem/h shall be identified by polyethylene tape color bands as indicated below:

5.2.1.1. Steel drums shall have 1 in. wide bands encircling the drum near the center.

5.2.1.2 Boxes shall have 1 in. wide strips, 10-12 inches long, set between the corrugations on the top and into the corrugations on the four sides, just below the label, in the sequence given below. The coding tape shall not be laid across the weld joints.

5.2.2 Surface Dose Rate

Color: Yellow

Ranges: 10 - 50 mrem/h - one band
50 - 100 mrem/h - two bands
100 - 200 mrem/h - three bands

5.2.3 Toxics

Color: Black

Ranges: Reportable concentrations, one band

5.2.4 Combustibles/Flammable

Color: Red

Ranges: Over 25 vol%, one band

5.2.5 Tape shall be applied only to clean, dry surfaces when the air and surface temperatures are above 32° F.

5.2.6 Color tolerances for the color-coding bands are defined in Table 1, Appendix A of 49CFR 172.

6.0 STORAGE

6.1 Certifiable TRU waste is received and stored by HSE-7 according to the requirements of the Area G Procedures[16].

7.0 RETRIEVAL FROM STORAGE

The method of removal of certifiable TRU waste from storage is only vaguely defined because much depends on the capabilities of facilities not yet designed. Although at least one revision of this section is anticipated before waste is retrieved for shipment to the WIPP, the following outlines the expected procedure.

7.1 The order of package withdrawal will be determined by its placement in storage. No attempt will be made to select packages in any numerical sequence.

7.2 Data concerning the selected packages will be obtained from the Solid Waste Records Office.

7.3 Waste packages will be cleaned and at least visually inspected. Some form of nondestructive examination (NDE) will be used on a sample of each type of waste retrieved. The nature of this NDE will be determined later.

7.4 Surface contamination levels and contact radiation levels will be determined and documented.

7.5 The thermal power of each waste package will be calculated.

7.6 Paint, color coding, and labeling will be touched up or corrected as required. The serial number tags will be removed when the labeling is verified and touched up.

7.7 Security seals will be applied to drums if required by WIPP or DOT.

7.8 Drums will be assembled into six-packs according to instructions from the Solid Waste Records Office. Six-pack weights will be determined to verify the computer generated expected weight.

8.0 CERTIFICATION RECORDS

8.1 Record Categories and Retention Requirements

Certification consists of providing a complete, auditable set of records documenting that all WIPP criteria[2] have been considered and that the compliance requirements[3] have been met. This documentation can be divided conveniently into the following four categories.

8.1.1 Waste Generator Supporting Records

This category includes instrument calibration records, purchasing documentation, dates when process changes were effected, etc., that do not apply to the waste package itself. These records shall be kept by the waste generating organization and shall be available for audit for 5 years following the end of the calibration period or the date when the equipment went out of service.

When a process generates homogenous waste in quantities greater than one full container, each process batch shall be assigned a code that shall appear on all of the data sheets pertaining to that batch. Process batch records shall be retained by the waste generator in a form suitable for audit for a period of 25 years.

8.1.2 Waste Generator's Data Package

The records that contain the definitive information about the waste and its packaging shall be collected into a single "data package" by the generator. As a minimum, a Generator's Data Package consists of a CWSR with the Generator's Package Information section and Generator Site Health Physics Information section properly completed and signed. The data package may also contain supplementary documentation to support the data contained on the CWSR, such as nonconformance reports. This data package shall be retained by the HSE-7 Solid Waste Records Office for 25 years so that it will be available for audits and for analysis throughout the WIPP retrieval period and the intervening storage period. Copies of each Generator's Data Package will be stored on microfilm[22].

8.1.3 Subsequent Storage and Handling Records

Processors who handle the waste packages after the waste generator shall provide a signed statement to the Solid Waste Records Office of HSE-7, indicating that the work performed in their operations was done correctly and according to approved procedures. The CWSR form provides for signatures of appropriate storage site personnel. These and similar records produced during receiving, repackaging, overpacking, and withdrawal from storage, shall be attached to, retained with, and microfilmed with, the Waste Generator°s Data package if produced during the calendar year when the waste is received at TA-54. Subsequent records may be filed and retained in hard copy[22].

8.1.4 WIPP Data Package

The WIPP Data Package is produced by the HSE-7 Solid Waste Records Office according to the requirements of WIPP-DOE-157[12] for electronic transmission to the WIPP. The WIPP Data Package contains waste package data, six-pack make-up data, and shipment make-up data. The information contained in the transmission shall be duplicated on paper, attached to the signed certification statement, and sent to the WIPP with the waste. A second copy of each shall be retained on microfilm for 25 years.

8.2 General Requirements

8.2.1 Each page of the generator's data package shall bear the Waste Package Serial Number.

8.2.2 Each set or block of data entered on the data forms shall be accompanied by the initials or signature of the person who collected that data.

8.2.3 Each data sheet shall be reviewed for validity and compliance with certification plan requirements. The reviewer shall be sufficiently knowledgeable of the operation to recognize inappropriate data entries and shall have sufficient organizational freedom authority to perform his task independently.

8.2.4 Every signature and initial that occurs in the package must be matched with the appropriate printed name.

8.2.5 The original waste generator's data package, signed by the waste generator (not initialed) shall be sent to the Solid Waste Records Office where it must be received, reviewed, and approved

before the waste package may be transported to the storage and disposal site. (See CWSR form instructions in Appendix D).

8.2.6 A copy of the CWSR form shall be retained by HSE-7 with the Generator's Data Package. The original CWSR form, signed by HSE-7, shall be returned to the waste generator to indicate acceptability of both the data package and the waste package[22].

8.2.7 The original CWSR form shall accompany the waste to the storage and disposal site.

8.2.8 After the waste is placed in storage, the original CWSR form, signed by appropriate storage site personnel, shall be returned to the Solid Waste Records Office for retention with the Generator's Data Package[16].

9.0 INSTRUCTIONS FOR PREPARATION OF ATTACHMENTS

9.1 Most of the details of the data gathering, documentation, and packaging of the waste must be provided by the waste generating organizations. Each generator of a TRU waste stream shall develop an attachment to this plan, identifying each waste form produced and describing how it will be packaged, and what controls will be used to ensure that it meets the WIPP acceptance criteria.[2] The QA requirements of Section 3.0 of this plan shall be applied to the certification activities described in the attachment.

9.2 Each attachment to the plan shall include at least the following:

9.2.1 Introduction

Identify the organization producing the waste. Provide an

organization chart as described in Section 2.1, showing the relationships among individuals who generate, package, and verify the waste, and who assemble and sign the Generator's Data Package (by position, not name.) Include interfaces with other organizations that affect the certifiability of the waste (see Section 2.1).

9.2.2 Waste Form Description

Describe the waste form(s) produced. A content code will be assigned to the waste form by HSE-7. When mixing of compatible waste forms in a single waste, a content code will be assigned to each permitted combination. A description of the process that produced the waste is not part of the waste form description.

9.2.3 Waste Form and Packaging Control Methods

9.2.3.1 This section should include a waste stream description and/or flow chart that illustrates the waste package progression, beginning at the point it becomes waste, through packaging, and including preparation of the Waste Generator's Data Package for HSE-7. List the packaging to be used, including liners and inner containers. Provide copies of data collection forms, process control forms, and other related forms. List the instruments important to certification. Define or reference the frequency of instrument calibrations and the method of ensuring current calibrations. When using references to other documents, be specific. Include a list of references.

Be brief. Do not include unnecessary details that do

not affect the certifiability of the waste. Do not include a detailed description of the process that produced the waste.

9.2.3.2 Address each WIPP criterion separately and specify how each will be met. If the waste packages contain more than one waste form, present this information in tabular form. WIPP-DOE-114[3] clearly defines the information needed to demonstrate compliance with each criterion.

- When a demonstration can establish compliance with a given criterion, for all waste of a given form, perform that demonstration, document it, and add the documentation as an appendix to the attachment.
- When periodic sampling can demonstrate compliance, establish and document the sampling method, frequency, and applicable limits.
- When measurement or analysis of the contents of each container is required to demonstrate compliance, the attachment shall define the method used, and the limits of acceptability.
- If a criterion is not applicable, demonstrate that this is so. Nothing is assumed to be obvious.

9.2.3.3 Define the procedure for handling nonconforming waste packages (see Section 3.8).

9.2.4 Waste Generator's Data Package Requirements

When the waste is ready for transfer to the WIPP, a representative from HSE-7 will review all available data and will certify that the waste meets the WIPP acceptance criteria.

The documentation supplied by the waste generator (the Waste Generator's Data package) provides nearly all of the information about the waste form. The data collection and recording activities required for preparing the data package are critical to the success of the certification program.

9.2.4.1 Define which record forms are to be included in the data package and which are not. For example, instrument calibration data are not included. Measurements made with the instrument are included. Define who will store supporting documentation and where it will be kept.

9.2.4.2 Define who (by organizational description) assembles the data package, who reviews it, and who signs the CWSR before it is sent to HSE-7.

9.2.4.3 Provide a place for the Waste Package Serial Number on every page in the data package.

9.2.4.4 Establish and define a method for handling data packages found to be nonconforming because they have incomplete or apparently erroneous entries.

9.3 Attachments require approval within the generating organization, by HSE-7, and by the WACCC.

9.4 Complete an attachment check sheet (see Appendix F) to verify that all the requirements of the Certification Plan have been addressed in the attachment or in referenced documents. List only the document and section where each item is addressed. Every item on the checksheet must be addressed. If an item is not applicable, enter N/A and explain why.

REFERENCES

1. DOE ORDER 5820.2 "Radioactive Waste Management," with Attachment 1, (February 6, 1984).

2. DOE Report WIPP-DOE-069, Rev. 1, "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant," (September 1981).

3. DOE Report WIPP-DOE-114, "TRU Waste Certification Compliance Requirements for Newly Generated Contact-Handled Wastes for Shipment to the WIPP," (October 1981).

4. DOE Report 5700.6A, "Quality Assurance," (August 13, 1983).

5. DOE Report WIPP-DOE-120, Rev. 1, "Quality Assurance Requirements for Certification of TRU Waste for Shipment to the WIPP," (January 1983).

6. Memorandum, WMTDD:JFB:0198A, J. M. McGough of Albuquerque Operations Office to Managers, DOE Operations Office (January 1982).

7. Memorandum, WIPP:WAC:83-003, J. E. Johnson to J. Aragon, HSE-Divison Leader (1983).

8. "Quality Assurance Manual for Engineering and Construction," Site Engineering Division, Los Alamos National Laboratory document (1982).

9. "Health and Safety, Los Alamos National Laboratory Manual," Chapter 1 (March 1984).

10. Rocky Flats Plant Std. No. SX-200, Standard for DOT-17C 55-gal drums (August 5, 1980).

11. Rocky Flats Plant Std. No. SX-231, Standard for corrugated metal waste container, (October 1982).

12. DOE Report WIPP-DOE-157, "Data Package Format for Certified Transuranic Waste for the Waste Isolation Pilot Plant (WIPP)," (March 1983).

13. Rocky Flats Plant Report RFP-3345 "Safety Analysis Report for Packaging - Corrugated Steel Container (Sand Box) for DOT Specification 7A Packaging," (January 24, 1983).

14. Memorandum WMTDD:MHM:04468, M. H. McFadden of Albuquerque Operations Office to Distribution (April 22, 1983).

REFERENCES (con't.)

15. "Design and Testing of the TX-4 Type A Container for Packaging Radioactive Waste," Lawrence Livermore National Laboratory Report UCRL-53377 (March 4, 1983).

16. "Operating Instructions for Receiving, Stacking, and Covering Certified Waste," SWD-HSE7-OPI-02, Waste Management Group, Los Alamos National Laboratory.

17. "Recall and Calibration Procedures for Portable Alpha, Beta-gamma, and Neutron Instrumentation." Health Physics Group (HSE-1), Los Alamos National Laboratory. (TBD)

18. "Calibration Procedures for the Model PC-5 Gas Flow Proportional Counter." Health Physics Group (HSE-1), Los Alamos National Laboratory. (TBD)

19. "Waste Management Group Document Control Procedure." GOP-HSE7-DC-01 (DRAFT), Waste Management Group (HSE-7), Los Alamos National Laboratory.

20. "MST-9 QA Manual," Quality Assurance Group (MST-9), Los Alamos National Laboratory (DRAFT).

21. Memorandum, WIPP:DLG 83-0984, D. L. Gillas to J. Aragon, HSE-Division Leader (1983).

22. "Solid Waste Records Office Procedure for Review and Processing of Waste Generators° Data Package." WCP-HSE7-OI-01 (DRAFT), Waste Management Group (HSE-7), Los Alamos National Laboratory.

APPENDIX A

ATTACHMENTS TO THE PLAN

INDEX

1. Los Alamos Transuranic Waste Size Reduction Facility
   Includes Content Code 0001

2. Liquid Waste Treatment Plant
   Includes Content Codes 0002 and 0003

3. MST Division Certification Plan Attachment
   Includes Content Codes 0004 and 0005

4. CHM-1 Certification Plan Attachment
   Includes Content Codes 0004 and 0005

5. Miscellaneous Non-Routine Waste Certification

6. MST Division Process Residue Certification
   Includes Content Code 0006

7. MST-14 Contact and Remote-Handled Waste Certification
   Includes Content Code 0007

8. Treatment Development Facility
   Includes Content Code 0008

9. MST Division Attachment for Pu^{238} Wastes
   Includes Content Codes 0004 and 0005

10. Inhalation Toxicology Research Institute
    Includes Content Content Codes 0004 and 0005

APPENDIX B

WASTE CONTENT CODES

Code	Description
0001	Mixed metal scrap and combustibles primarily from operations at the SRF. Contains primarily metals or metal equipment, either whole or sectioned, along with its combustible components and the combustibles generated during decommissioning, sectioning, and packaging. Packaged in plastic lined boxes or drums.
0002	Cemented sludges Caustic sludge stabilized with Portland cement. Packaged in drums with 5 mil plastic liners.
0003	Dewatered sludges Caustic sludge from a liquid waste treatment facility. Contains 30-45 percent solids. Packaged in drums with 90 mil and 5 mil plastic liners and dry Portland cement added to stabilize any liquids that may separate.
0004	Combustible Solids - Paper, rags, plastic, rubber, etc., which may contain some small fraction of noncombustible solids as scrap metals, etc.
0005	Noncombustible Scrap - Small tools, cans, small equipment items, broken glass, etc., which may contain some small fraction of combustible solids.
0006	Cemented Process Residues - Process leached solids, filter cakes, evaporator bottoms, etc., stabilized in Portland or Gypsum cement.
0007	Contact and remote-handled solids from hot-cell operations.
0008	Cemented Incinerator Ash - Incinerator ash stabilized with Portland cement.
0009	Cemented Aqueous Liquid Wastes - Neutralized or caustic aqueous liquids stabilized with portland cement.
TBD	Slag and Porcelain/Metal Crucibles
TBD	Soil Stabilized with Portland cement.

TBD = To Be Determined

APPENDIX C

ACCEPTABLE WASTE CONTAINERS

1. Steel drum, 55 gal. (210 liter), DOT spec. 17-C. Approved per DOE Order 5820.1, Attachment 2. For details see SX-200[10].

2. Steel box, 74.5" L x 50.5" W x 38.5" H. Approved per DOE Order 5820.1, Attachment 2. For details see SX-231[11] and RFP-3345[13].

3. Steel box, 68" L x 54" W x 38 " H. See No. 2 above

4. Steel box, 88" L x 54" W x 54" H. See No. 2 above

5. Steel box, 112" L x 68" W x 77" H. See No. 2 above

6. Steel box, TX-4, 7' L x 4' W x4' H. Approved per memo WMTDD:MHM:04468[14]. For details see UCRL-53377[15].

APPENDIX D

CERTIFIED WASTE STORAGE RECORD FORM

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

CERTIFIED WASTE STORAGE RECORD

WASTE PACKAGE SERIAL NUMBER: LA 8 4 _____

I. GENERATOR'S PACKAGE INFORMATION

ORIGIN OF WASTE	PN Items C&D No.	Additional Information
Group		
TA		
Building		
Room		

CONTAINER	CODE
☐ Steel Drum (55 gal.)	01
☐ Steel Overpack (Drums)	02
☐ Steel Box (68 in. X 54 in. X 38.5 in.)	03
☐ Steel Overpack (FRP Box)	04
☐ Other *(Describe)*	
Drum Lot Code / Year of Mfr.	
Manufacturer's Box Serial Number	

SS MATERIALS WRITE-OFF		RADIONUCLIDE CONTENT		C = Curie M = Gram
Account	Project Code	Nuclide	Amount	+ −
			0 E	
			0 E	
			0 E	
			0 E	
			0 E	
			0 E	

Process Batch Code	
Gross Wt. (kg)	0 E +
Organic Mat'l Wt. (kg)	0 E +
Organic Mat'l Vol (%)	
Content Code	
Date Closed (MMDDYY)	

TOXIC OR CORROSIVE MATERIALS		
Name	Code	Quantity (g)
		0 E +
		0 E +
		0 E +
		0 E +

The data in this section were collected, and the waste described herein was packaged and labeled according to the procedures defined in the Los Alamos TRU Waste Certification Plan and its appropriate attachment(s). The data are correct and complete to the best of my knowledge.

Printed Name	Signature	Date

II. GENERATOR-SITE HEALTH PHYSICS INFORMATION

Surface Dose Rate (mrem/h) 0 E +	The data in this section were collected as prescribed in approved procedures. The package is properly closed and is safe to handle and transport.
Survey Meter Model	
Survey Meter Serial No.	
Alpha Contamination (dpm/100cm2) 0 E +	Printed Name / Date
Beta-Gamma Cont. (dpm/100cm2) 0 E +	Signature

III. HSE-7 SOLID-WASTE RECORDS OFFICE INFORMATION

The data package for this waste has been reviewed by HSE-7. The generator is authorized to arrange transportation to TA-54 per AR 10-2.	Printed Name / Date
	Signature

IV. STORAGE-SITE HEALTH PHYSICS INFORMATION

Surface Dose Rate (mrem/h) 0 E +	The data in this section were collected at the TA-54 waste storage/ disposal site as defined in approved procedures. The package is acceptable for handling and storage.
Survey Meter Model	
Survey Meter Serial No.	
Alpha Contamination (dpm/100cm2) 0 E +	Printed Name / Date
Beta-Gamma Cont. (dpm/100cm2) 0 E +	Signature

V. STORAGE SITE INFORMATION

This package was visually inspected when received and was found to be properly labeled and in good condition. It was accepted according to approved procedures.	Pad No. / Layer	☐ E ☐ C ☐ W
	Post No. / Date Stacked	
	This waste package was stored at this location according to approved procedures.	
Printed Name / Date	Printed Name / Date	
Signature	Signature	

HS Form Number 10-28 (12/83)

This form must be used to document packages of TRU waste that have been generated according to the Los Alamos TRU Waste Certification Plan. Complete each section thoroughly in the order given on the form before proceeding to the next section. Accompany all signatures with a printed or typed name.

Use scientific notation. Whenever the notation E plus or minus is given in a data block, enter the plus or minus as appropriate. Examples: Record 0.012 as 1.2E-2; 1.2 as 1.2E+0; and 1200.0 as 1.2E+3. Where E+ appears in a data block, enter values less than E+0 as 0.0E+0.

I. GENERATOR'S PACKAGE INFORMATION

Waste Generator: Complete the entire section as follows; then send the form to the area HSE-1 Health Physics Representative.

Waste Package Serial Number. Use the full 13-digit number beginning with "LA" as marked on the waste package.

Origin of Waste. Give the data for the organization offering the waste to HSE-7.

PN Items. Enter the C&D (Form 252-R, Disposal of Contaminated and/or Classified Property) number(s) in the space provided. Enter the associated property number(s) in the space marked "ADDITIONAL INFORMATION."

Additional Information. Use this space to enter any information about the waste that may be useful later, such as property numbers or the specific origin of the waste. Use of this space is optional except for listing property numbers when a C&D number has been entered.

Container. Check the correct box. Drum lot number is a code of one or more characters stamped or painted on the outside of the drum between the upper rolling hoop and the top curl. Year of manufacture is the last two digits in the code stamped in the bottom head of the drum. Example: 16-55-82, enter 82. Manufacturer's serial number is the manufacturer's number for containers other than drums.

SS Materials Write-Off. Provide the account and project codes. (This is for the waste generator's use only.)

Radionuclide Content. List the radionuclides by using either the normally accepted notations (for example, U235, Pu239, Co60, H3, etc.) or, for accountable materials, by using the element identification plus the SS Material Type Code (for example, Pu52 for plutonium code 52, U38 for uranium code 38, etc.). The acceptable code for Mixed Fission Products is MFP. In cases where more than one contaminant is identifiable, list each (with appropriate data) on a separate line. Where there are more than six (6) radionuclides, contact Group HSE-7 at 7-5397 for information about this entry. Identify units, that is M = Grams, C = Curies.

Process Batch Code. Use this code only when a homogeneous batch of waste fills more than one container; otherwise, enter "N/A."

Gross Weight. Enter the weight of the complete package in kilograms (kg).

Organic Mat'l Weight. Enter the total weight of organic material in the package, including the packaging, in kilograms (kg).

Organic Mat'l Volume. Round off to the nearest 10% and enter.

Content Code. Enter the number assigned by the Certification Plan attachment.

Date Closed. Enter as MMDDYY without spaces or punctuation.

Toxic or Corrosive Materials. Use name and code number as given in 49 CFR 172.101. Enter only if the amount in the package exceeds the radioactive quantity (RQ) value; otherwise, enter "NONE." An amount is required for each code listed.

II. GENERATOR-SITE HEALTH PHYSICS INFORMATION

The area HSE-1 Health Physics Representative at the Generator's site completes and signs this section. The Waste Generator then sends the form to the HSE-7 Solid Waste Records Office (MS E516) for review and approval.

III. HSE-7 SOLID WASTE RECORDS OFFICE INFORMATION

The HSE-7 Solid Waste Records Office Representative completes and signs this section. This represents authorization to transport. The Waste Generator must arrange for transportation ONLY AFTER RECEIVING SUCH AUTHORIZATION FROM THE HSE-7 SOLID WASTE RECORDS OFFICE. Refer to Administrative Requirement 10-2. Ensure that the CWSR accompanies the waste to the TA-54 storage site.

IV. STORAGE-SITE HEALTH PHYSICS INFORMATION

The HSE-1 Health Physics Representative at TA-54 must complete and sign the Storage-Site Health Physics Information section.

V. STORAGE-SITE INFORMATION

The HSE-7 Storage-Site Personnel must complete this section and sign (1) when the waste is accepted and (2) after the waste is stacked.

APPENDIX E

NON-CONFORMANCE REPORT

TRU WASTE CERTIFICATION PROGRAM
NON-CONFORMANCE REPORT

ORIGINATOR'S SECTION		
Location:	Hold Tag No.:	
Waste Pkg. Serial No.:		
Description of Non-Conformance:		
Print Name:	Signature:	Date:
WASTE MANAGEMENT OFFICE SECTION		
Instructions for Disposition:		
Print Name:	Signature:	Date:
The above instructions have been completed as specified.		
Printed Name:	Signature:	Date:

APPENDIX F

ATTACHMENT CHECK LIST

ITEMS REQUIRED TO BE ADDRESSED	LOCATION WHERE ADDRESSED
3.2.5 Requires maintenance scheduling and documentation for equipment maintained within the organization.	
3.2.5 Requires identification of equipment maintained by other parties.	
3.3.1.1 Requires identification of codes applicable to process or equipment design.	
3.3.1.3 Requires design verification.	
3.3.1.4 Requires design sign-off and output waste verification.	
3.3.3.1 Requires identification of items requiring control.	
3.3.3.3 Requires batch identification.	
3.3.4 Requires process controls.	
3.3.5 Requires controls to prevent waste package damage.	
3.4.1 Requires procedures for inspections and/or tests.	
3.4.2 Requires identification of inspectors.	
3.4.3 Requires reporting of inspection results.	
3.5.1.2 Requires calibration program for M&TE.	

ITEMS REQUIRED TO BE ADDRESSED	LOCATION WHERE ADDRESSED
3.5.2.2 Requires that calibration be periodic.	
3.5.2.3 Requires calibration procedures be referenced in the attachment.	
3.5.2.4 Requires calibration records.	
3.5.3 Requires calibration stickers on M&TE.	
3.6 Requires that status indicators, where used, must be defined.	
3.7.1 Requires quality documentation on purchase orders.	
3.7.2 Requires that operating instructions be referenced in the attachment.	
3.7.3 Requires a document control system.	
3.8 Requires a procedure or method for handling nonconforming waste packages and data packages.	
3.9 Requires that the applicable audit program be referenced or defined.	
4.3.2 Requires a pre-use inspection of waste containers.	
5.0 Requires labeling of the waste package.	
5.2 Requires color coding of the waste package.	
8.1.3 Requires forms and procedures from subsequent waste processors.	

ITEMS REQUIRED TO BE ADDRESSED	LOCATION WHERE ADDRESSED
9.2.1 Requires a detailed organization chart.	
9.2.2 Requires a waste description and content code.	
9.2.3.1 Requires a flow chart and/or waste stream description.	
9.2.3.1 Requires a listing of packaging to be used.	
9.2.3.1 Requires copies of forms to be used.	
9.2.3.1 Requires a list of references.	
9.2.3.2 Requires a tabulation of waste form compatibility with the WIPP waste acceptance criteria.	
9.2.4.1 Requires a definition of the contents of the waste generator's data package.	

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

- [x] Original Record
- [ ] Fax Record
- [ ] E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian 4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
		Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
D026	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	1
	N/A		

Comments
Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑	Signature	SONIA GONZALEZ Printed Name	11/09/09 Date
Records Rejected ☐	Signature	Printed Name	Date

Reason for Rejection:

N/A

Re-submittal:

Signature	Printed Name	Date

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D059
Waste Stream Number(s): LA-CIN04.001, LA-MHD04.001, LA-MSG04.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Additional Information	Category: ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]: Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility (Draft Report)	
Source Document Reference Information (author(s), document and revision number, date, publisher): C. Smith, P2010-0606; TWCP 23596; AK-00--23,, Revision 0, 7/8/04, LANL	

AK # [b]	Source Doc. Page #[c]	AK Information Summary
PR2, PR3	page 1, 16-25	The primary mission of LANL has been nuclear weapons research and development since 1943. Three main plutonium processing facilities have existed since 1943: D-Building at TA-1 (1943-1945), DP West at TA-21 (1945-1978) and TA-55 (1978 -present). TRU Waste generated since 1970 from plutonium operations at TA-21 and TA-55 represents 67% of the LANL TRU waste inventory excluding D&D). Section 4.1.1 discusses the Defense related Status of DP West Operations
PR4, PR7, WS2, WS4	1-8	TA-21 was established in 1945 as the worlds first industrial plutonium processing facility. TA-21 provided the capabilities listed in the source document on page 1 and 2. Table 1 is a list of each TA-21 building's operations and the time frame waste was generated
WS9	43-49	Section 4.2 discusses the Physical Form and Waste Matrix
PR6, WS2, WS3, WS4	49 - 52	Section 5.2 and Table 8 refer to the period of generation for DP West. Table 9 discusses the volumes of TRU Waste generated
PR5, WS8, WS12	51 - 62, 71-73, Att. 3 pages 20 - 22	Feed material and potential RCRA substances are listed on Table 10. Section 6.0 discusses the assignment of EPA hazardous waste numbers
WS11	62 - 74	Section 5.6 discusses the Radionuclide content of the waste
PR8	73 - 78	Sectio 7.0 covers the identification of prohibited items in the WIPP WAP
S16	78	Section 8.0 covers packaging
PR1, WS5	Attachments	Attachment 1 contains site maps of TA-21.Attachment 2 contains process flow diagrams

NTPC RECORDS ORIGINAL
DATE REC'D 6-30-14

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D069

Source Document Data Limitations (if any):

1. None

Acceptable Knowlege Expert:

Amy Johns , Amy Johns Date: 2/21/14
Print /Sign

a Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
b Obtain from Acceptable Knowledge Documentation Checklist
c For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-MHD04.001

Site(s): Los Alamos National Laboratory-Technical Area 21	**Source Document Tracking Number:** D059
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Supplemental Information	**Category:** ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents

Title of Source Document: Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility (Draft Report)

Source Document Reference Information (author(s), document and revision number, date, publisher): C. Smith, P2010-0608; TWCP 23596; AK-00--23,, Revision 0, 7/8/04, LANL

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR2, PR3	page 1, 16-25	The primary mission of LANL has been nuclear weapons research and development since 1943. Three main plutonium processing facilities have existed since 1943: D-Building at TA-1 (1943-1945), DP West at TA-21 (1945-1978) and TA-55 (1978 -present). TRU Waste generated since 1970 from plutonium operations at TA-21 and TA-55 represents 67% of the LANL TRU waste inventory excluding D&D). Section 4.1.1 discusses the Defense related Status of DP West Operations
PR4, PR7, WS2, WS4	1-8	TA-21 was established in 1945 as the worlds first industrial plutonium processing facility. TA-21 provided the capabilities listed in the source document on page 1 and 2. Table 1 is a list of each TA-21 building's operations and the time frame waste was generated
WS9	43-49	Section 4.2 discusses the Physical Form and Waste Matrix
PR6, WS2, WS3, WS4	49 - 52	Section 5.2 and Table 8 refer to the period of generation for DP West. Table 9 discusses the volumes of TRU Waste generated
PR5, WS8, WS12	51 - 62, 71-73, Att. 3 pages 20 - 22	Feed material and potential RCRA substances are listed on Table 10. Section 6.0 discusses the assignment of EPA hazardous waste numbers
WS11	62 - 74	Section 5.6 discusses the Radionuclide content of the waste
PR8	73 - 78	Sectio 7.0 covers the identification of prohibited items in the WIPP WAP
S16	78	Section 8.0 covers packaging
PR1, WS5	Attachments	Attachment 1 contains site maps of TA-21.Attachment 2 contains process flow diagrams

SUPERCEDED
SE 11/12/04

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory-Technical Area 21	Source Document Tracking Number: D059
Source Document Data Limitations (if any): 1. None	
Acceptable Knowlege Expert: David Guerin or James Luginbyhl / David Guerin Date: 8/16/2006 Print /Sign	
[a] Obtain from Acceptable Knowledge Documentation Checklist [b] For microfilm or microfiche, identify box, tape, reel number and location.	

DIVIDER PAGE ONLY

Not part of page count

TWCP-23596

ready to be posted to web after effective date is established by Doc Prod 8/25/04

P2010- 0608

Approved for public release:

Title:	Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility
Author(s):	Catherine H. Smith, RRES-WQH
Submitted to:	Draft Report

D059

P2010-0608

LANL PROJECT 2010
ACCEPTABLE KNOWLEDGE REPORT

AK Report Title	Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility

AK Report Number	AK-00-023,Rev0

Report Date	

DOCUMENT PREPARER:

Document Writer:	James D Bayley	
Signature:	James D Bayley	**Date:** 06/21/04

AK Expert [print]:	Catherine H. Smith	
Signature:	C H Smith	**Date:** 06/21/04

APPROVAL:

SME [print]:	Charles L. FOXX	
Signature:	Charles L. Foxx	**Date:** 7/8/04

LIST OF CONTRIBUTORS

Charles L. (Jim) Foxx	NMT-7	TA-21 DP West Facility Subject Matter Expert
Betty Humphrey	Project 2010 / Weston Solutions	AK Subject Matter Expert
Geoffrey Miller	Project 2010 / RRES-CE	AK Expert
Catherine Smith	Project 2010 / RRES-CE	AK Subject Matter Expert

CONTENTS

Section		Page
1.0	INTRODUCTION	1
2.0	ACCEPTABLE KNOWLEDGE DOCUMENTATION	3
3.0	TA-21 DP WEST WASTE MANAGEMENT PROGRAM INFORMATION	3
3.1	Facility Description	3
3.2	TRU Waste Management at DP West	7
4.0	TA-21 DP WEST TRU WASTE STREAM DELINEATION	13
4.1	TRU Waste-Generating Processes	14
4.2	Physical Form and Waste Matrix	43
4.3	Delineation of Mixed and Non-Mixed TRU Waste	49
5.0	WASTE STREAM INFORMATION	49
5.1	Points of Generation	49
5.2	Period of Generation	51
5.3	Waste Stream Volume	51
5.4	Material Inputs	51
5.5	Chemical Inputs	56
5.6	Radionuclide Content	62
6.0	ASSIGNMENT OF EPA HAZARDOUS WASTE NUMBERS	71
6.1	F-, K-, P-, and U-Listed Wastes	71
6.2	Toxicity Characteristic Waste	73
7.0	IDENTIFICATION OF PROHIBITED ITEMS AND CONDITIONS	73
7.1	Ignitable, Reactive, and Corrosive Wastes	73
7.2	Incompatible Chemicals	75
7.3	Prohibited Items	75
7.4	Polychlorinated Biphenyls (PCBs)	77
8.0	WASTE PACKAGING	78
9.0	REFERENCES	78

ATTACHMENTS

1	Los Alamos National Laboratory Location Maps (3 pages)	
Figure 1-1	Location of Technical Area 21	1-1
Figure 1-2	TA-21 Facility Map	1-2
Figure 1-3	DP West Building Map	1-3
2	Process Flow Diagrams (9 pages)	
Figure 2-1	DP West Plutonium Recovery Operations circa 1968	2-1
Figure 2-2	DP West Plutonium Recovery Operations circa 1975	2-2
Figure 2-3	TA-55 Plutonium Recovery Operations circa 1979	2-3
Figure 2-4	DP West Incineration Process Flow Diagram	2-4

Figure 2-5 DP West Plutonium Metal Cycle 2-5
Figure 2-6 DP West Plutonium Metal Production Flow Diagram 2-6
Figure 2-7 LANL Ceramic Grade Plutonium Oxide Production circa 1980 2-7
Figure 2-8 LANL Americium Oxide Production circa 1980 2-8

3 AK Documentation for TA-21 DP West
Table 3-1 AK Documentation Checklist: Mandatory Information (4 pages) 3-1
Table 3-2 AK Documentation Checklist: Supplemental Information (2 pages) 3-5
Table 3-3 AK Source Document Roadmap (13 pages) 3-7
Table 3-4 Hazardous Constituents for DP West Inventory in LA-TA-55-19 and LA-TA-55-30 (3 pages) 3-20
Table 3-5 Physical Form, Waste Material Parameters, Prohibited Items, and Packaging for DP West Inventory in LA-TA-55-19 (5 pages) 3-23
Table 3-6 Physical Form, Waste Material Parameters, Prohibited Items, and Packaging for DP West Inventory in LA-TA-55-30 (5 pages) 3-28
Table 3-7 Radionuclide Content for DP West Inventory in LA-TA-55-19 and LA-TA-55-30 (6 pages) 3-33
Table 3-8 Container Inventory Information for DP West Inventory in LA-TA-55-19 (1 page) 3-39
Table 3-9 Container Inventory Information for DP West Inventory in LA-TA-55-30 (1 page) 3-40

TABLES

Table		Page
1	Summary of TA-21 DP West Buildings	8
2	TA-21 DP West Facility Plutonium Processing Operations 1970-1978	17
3	RSWD Waste Codes Assigned to DP West Pu-239 TRU Debris Waste	44
4	Waste Stream Delineation Based on RSWD Code	45
5	Description of Waste Matrix Codes Assigned to DP West Debris Waste	47
6	Waste Material Parameters Expected to be Present in DP West Debris Waste Streams.	48
7	Points of Generation for DP West TRU Debris Waste Streams	50
8	Periods of Generation for the DP Waste TRU Debris Waste Streams	51
9	TRU Waste Container Types and Volumes Generated at DP West	52
10	Feed Materials for Plutonium Processing Operations at the DP West Facility	53
11	Acids, Bases, and Gases Used at the DP West Facility	58
12	Use of RCRA-Regulated Metals and Inorganic Chemicals Used at the DP West Facility	60
13	Use of RCRA Regulated Organic Chemicals at the DP West Facility	61
14	Average Isotopic Content of Plutonium Material Types and Enrichments	63

Table **Page**

15 Average Isotopic Content of Uranium Material Types and Enrichments 64

16 Generator-Reported Material Types Present in DP West Plutonium Processing TRU Debris Waste 65

17 Generator-Reported Radionuclides Present in DP West Plutonium Processing TRU Debris Waste 67

18 Plutonium Isotopic Ratios Present in DP West Plutonium Processing TRU Debris Waste 70

19 EPA Listed HWN Assignments 72

20 Toxicity Characteristic Assignments 74

ACRONYMS AND ABBREVIATIONS

AEC	Atomic Energy Commission
AK	acceptable knowledge
AKIS	*Acceptable Knowledge Information Summary for LANL Transuranic Waste Streams* (AK-00-019) [Report]
ALOO	[DOE] Albuquerque Operations Office
AM	aluminum-based metals
C	cellulosics
CFR	*Code of Federal Regulations*
CH-WAC	*Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (DOE/WIPP-02-3122)
CMB	Chemistry and Metallurgy-Baker Division
CMB-1	Analytical Chemistry Group
CMB-5	Plutonium Metallurgy Group
CMB-11	Chemistry and Metallurgy Group
CMR	Chemistry and Metallurgy Research [Facility]
CNC-4	Inorganic and Structural Chemistry Group [later IVC-4]
C-N-O	carbon-nitrogen-oxygen
CVD	chemical vapor deposition
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
DOR	direct oxide reduction
DP	defense programs
EDTA	ethylenediamine tetraacetic acid
EPA	U.S. Environmental Protection Agency
FIDLER	Field Instrument for the Detection of Low Energy Radiation
FFTF	Fast Flux Test Facility
FWO	Facility and Waste Operations [Division]
FWO-IIM	Facility and Waste Operations–Integrated Information Management [Group]
H-1	Health Physics Group
HEPA	high-efficiency particulate air
HWN	hazardous waste number
ID	identification [number]
IDC	item description code
IM	iron-based metals
IN	solidified inorganics
IVC-4	Inorganic and Structural Chemistry Group [previously CNC-4]
LANL	Los Alamos National Laboratory
LASL	Los Alamos Scientific Laboratory
LLW	low-level waste
LMFBR	Liquid Metal Fast Breeder Reactor
LWRHU	Light Weight Radioisotope Heat Unit
µCi	microcuries
MDA	material disposal area

MEGAS	Multi-Energy Gamma Assay System
MEK	methy ethyl ketone
MFP	mixed fission products
MHW	Multi-Hundred Watt [radioisotope thermoelectric generator unit]
MPL	metal preparation line
MT	material type
MWG	milliwatt generator [radioisotope thermoelectric generator unit]
MWH	milliwatt heater [radioisotope unit]
NMAC	*New Mexico Administrative Code*
NMT	Nuclear Materials Technology [Division]
OI	other inorganics
OM	other metals
OR	solidified organics
OSR	Off-site Source Recovery [Project]
PCB	polychlorinated biphenyl
PIC	plutonia-iridium cermet
PMC	plutonia-molybdenum cermet
PN	property number
PPO	pure plutonium oxide
P/S	process/status [code]
PVC	polyvinylchloride
PW	plastic waste
QA	quality assurance
QAPjP	*Los Alamos National Laboratory Transuranic Waste Characterization Quality Assurance Project Plan* (PLAN-00-001)
R	rubber
R&D	research and development
RCRA	Resource Conservation and Recovery Act
RD&D	research, development, and demonstration
RMDC	Records Management/Document Control [Center]
RRES-CE	Risk Reduction and Environmental Stewardship-Transuranic Waste Certification [Group]
RSWD	radioactive solid waste disposal [form]
SAR	safety analysis report
SARA	Service Academy Research Associate
SSC	solid solution cermet
SME	subject matter expert
SNM	special nuclear material
SNS	Space Nuclear Systems
SOP	standard operating procedure
SRF	Size Reduction Facility
SRL	Special Recovery Line
SRS	Savannah River Site
TA	technical area
TRAMPAC	TRUPACT-II Authorized Methods for Payload Control
TRU	transuranic

TRUCON	TRUPACT-II content [codes]
TRUPACT-II	TRU Package Transporter-II
TSDF	treatment, storage, and disposal facility
TWCP	Transuranic Waste Certification/Characterization Project
UC	University of California
UCNI	unclassified controlled nuclear information
UMT	ultrasonic machine tool
WAC	waste acceptance criteria
WIPP	Waste Isolation Pilot Plant
WIPP HWFP	*Hazardous Waste Facility Permit for the Waste Isolation Pilot Plant* (EPA ID No. NM 4890139088-TSDF)
WIPP WAC	*Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP-DOE-069)
WIPP WAP	Attachment B, Waste Analysis Plan, to the *Hazardous Waste Facility Permit for the Waste Isolation Pilot Plant* (EPA ID No. NM 4890139088-TSDF)
WM	Waste Management
WMC	waste matrix code
WMP	waste material parameter
WPF	Waste Profile Form
WS	waste stream

ACCEPTABLE KNOWLEDGE OPERATIONS REPORT FOR PLUTONIUM PROCESSING AT THE TA-21 DP WEST FACILITY

1.0 INTRODUCTION

The purpose of this *Acceptable Knowledge Operations Report for Plutonium Processing at the TA-21 DP West Facility* is to collect, document, and assemble the acceptable knowledge (AK) information for the transuranic (TRU) waste generating operations at the Los Alamos National Laboratory (LANL) Technical Area (TA)-21 DP West Facility as required by Attachment B, Waste Analysis Plan (WIPP WAP), to the *Hazardous Waste Facility Permit for the Waste Isolation Pilot Plant* (EPA-ID No. NM4890139088-TSDF) and by *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (DOE/WIPP-02-3122) (CH-WAC). This operations report provides detailed technical descriptions of the TRU waste generating activities that were operational at the facility and correlates these TRU waste-generating activities with LANL mission and the TA-55 Plutonium Facility (currently managed by Nuclear Materials Technology (NMT) Division) mission.

The primary mission of LANL has been nuclear weapons research and development (R&D) since 1943 (18955). Three main plutonium-processing facilities have existed since 1943 at the LANL site:

- D-Building Plutonium Facility located at TA-1 (1943–1945); replaced by
- DP West Plutonium Facility located at TA-21 (1945–1978); replaced by
- Present-day Plutonium Facility located at TA-55 (1979–present)

TRU waste generated since 1970 from plutonium operations at the TA-21 DP West Facility (1970-1978) and TA-55 Plutonium Facility (1979–present) are in retrievable interim storage in Area G at TA-54 for eventual disposal at the Waste Isolation Pilot Plant (WIPP). The combined TRU waste inventory generated at the past and present plutonium facilities represents the majority (67 percent by volume, excluding decontamination and decommissioning waste) of the LANL TRU waste inventory.

The TA-21 DP West Facility was established in 1945 as LANL's main plutonium facility, and became the first industrial plutonium processing facility in the U.S. and the world (18951). Through its years of operation, DP West provided the capability to (14396, 19768):

- Produce metal and alloys of plutonium and other transuranic elements from nitrate solution feedstock
- Fabricate these metals and alloys into precision shapes for defense applications
- Measure the chemical and physical properties of plutonium metals and alloys
- Recover and recycle plutonium scrap or materials used in experiments

The original facility structures were former warehouses (TA-21-2, -3, -4, and -5). In 1952, a liquid waste treatment plant (TA-21-35) was constructed and was replaced by a new treatment plant (TA-21-257) in 1967. In 1963, a plutonium fuels development building was constructed (TA-21-150) to support Pu-238 operations (14396).

Plutonium operations were transferred to the TA-55 Plutonium Facility, and the DP-Site Facility was decommissioned in 1978-1981 (14396). The NMT Division is the current tenant of the TA-55 Plutonium Facility. The mission of the NMT Division is to improve the capability to handle nuclear materials and to manufacture nuclear components, primarily in support of the Nation's defense needs (18955). The current plutonium operations are similar to those carried out at the TA-21 DP West Facility, and include the following activities (14450):

- Plutonium stabilization—recover, process, and store the existing plutonium inventory
- Manufacturing plutonium components
- Surveillance and disassembly of weapons components
- Actinide science and materials processing, research, and development; including pit disassembly, preparation and measurement of plutonium samples, fabrication of nuclear fuels, development of safeguards instrumentation for plutonium assay, and actinide reprocessing operations
- Pu-238 research, development, and applications
- Nuclear materials storage, shipping, and receiving
- Stockpile stewardship

To achieve the mission objectives, LANL, including the NMT Division and its predecessors, used hazardous and radioactive materials. Therefore, the solid waste generated from the mission activities contains TRU contaminants that may be commingled with Resource Conservation and Recovery Act (RCRA) hazardous chemical constituents.

This operations report addresses operations that generated Pu-239 contaminated debris waste. It does not address operations that generated Pu-238 contaminated debris waste, decontamination and decommissioning (D&D) operations, or TRU homogeneous waste generated at the DP West Facility.

This operations report is intended as supporting technical documentation to be incorporated into the *Acceptable Knowledge Information Summary Report for Los Alamos National Laboratory Transuranic Waste Streams* (AK-00-019) (AKIS) and the AK summary reports for LANL TRU waste streams that include TRU waste generated at the TA-21 DP West Facility.

2.0 ACCEPTABLE KNOWLEDGE DOCUMENTATION

The WIPP WAP and CH-WAC required information were researched, retrieved, compiled, reviewed, and documented in accordance with *Acceptable Knowledge Documentation* (DTP-00-080). AK source documents or other pertinent information were compiled from record searches, personnel interviews, and databases. Copies of mandatory and supplemental AK source documents were assembled and submitted to the LANL Project 2010 Records Management/Document Control (RMDC) Center and are summarized on the Acceptable Knowledge Documentation Checklists in Tables 3-1 and 3-2 of Attachment 3. All personnel interviews and AK discrepancies are documented in accordance with *Acceptable Knowledge Documentation* (DTP-00-080) and submitted to the RMDC Center in accordance with *Records Management* (QP-00-004). The Acceptable Knowledge Roadmap documenting all AK source material is found in Table 3-3 of Attachment 3. Unclassified controlled nuclear information (UCNI) is reported in records, and not included in this report. Such records are identified as UCNI in the Acceptable Knowledge Roadmap.

The TRU Waste Management Database, maintained by the Facility and Waste Operations (FWO) Integrated Information Management (IIM) Group contains the most detailed container AK information for LANL's TRU waste inventory and includes a listing for all TRU waste containers currently in storage at TA-54, Area G (15206). The information for each container may include: unique container identification number, generator organization and location, defense program (DP) status (if known), site identifiers (e.g., Item Description Codes (IDCs), Radioactive Solid Waste Disposal (RSWD) codes, and TRUCON codes), U.S. Environmental Protection Agency (EPA) hazardous waste numbers (HWNs) (if known), generator assay results, container type, volume, and gross weight, contact-/ remote-handled flag, closure and package dates, and current storage location.

3.0 TA-21 DP WEST WASTE MANAGEMENT PROGRAM INFORMATION

The following sections describe the TA-21 DP West Facility historical significance and the buildings where TRU waste was generated, and describe past TRU waste management practices at DP West.

3.1 DP West Facility Description

DP West Historical Significance

During World War II, LANL (formerly known as the Los Alamos Scientific Laboratory [LASL] until 1980) was established for the research, development, and testing of nuclear weapons. In order to achieve this goal, research was required to establish the chemical and metallurgical properties of the nuclear material necessary to achieve and sustain nuclear fission. LANL's Chemistry Division (created in 1943) had responsibility for purifying the plutonium received from other production facilities.

In September of 1945, plutonium processing operations transferred from the D-Building to the newly built TA-21, also known as "DP Site", located to the east of downtown Los Alamos on a spur of Townsite Mesa known as DP Mesa (19898). A location map for TA-21 is shown in Figure 1-1 of Attachment 1. The DP Site at TA-21 is one of LANL's earliest nuclear chemistry research areas. With its origins during the wartime Manhattan Project, the complex of laboratory and support facilities was the location of research and development activities directly related to the production and testing of the earliest Cold War atomic devices. Since 1945, work conducted at DP Site has supported fundamental plutonium, uranium and initiator research and development that was critically important to the U.S. nuclear weapons program during the Cold War.

TA-21 consists of two main areas as shown on the map in Figure 1-2 of Attachment 1 (18951, 19101). The western area, historically dedicated to plutonium operations, is known as "DP West". The smaller, easternmost group of buildings is known as "DP East". The DP East facilities were used to process polonium and actinium for nuclear weapons components. In 1964 research in high-temperature and actinide chemistry was initiated. Presently, building TA-21-155 houses the Tritium Systems Test Assembly for developing technology for handling and processing deuterium and tritium fuels for use in fusion reactors. No retrievable TRU waste has been generated by DP East operations.

DP West was the first industrial plutonium processing facility in the U.S. and the world (18951). Prototype methods were developed for production-scale plutonium processing and over the years these methods were refined as the facility shifted its focus to research and development. When originally constructed in 1945, the DP West facility provided capability (14396, 19768)

- To produce metal and alloys of plutonium and other transuranic elements from nitrate solution feed stock provided by other production facilities
- To measure the chemical and physical properties of these metals and alloys
- To fabricate plutonium metal into precision shapes
- To provide and install protective claddings
- To recycle scrap and materials used in experiments rather than discard them

The production of plutonium metal and alloys from the nitrate solution feedstock involved several acid dissolution and chemical precipitation steps to separate the plutonium and other actinides, such as uranium, from the feedstock. The separation techniques used a wide range of chemicals. In conjunction with improving purification techniques, research was conducted to enhance recovery of the scrap and residues produced.

Before 1979, Pu-239 metal handling and scrap recovery operations were located at DP West. Other operations included basic plutonium chemistry research, americium processing, fuels fabrication for the Liquid Metal Fast Breeder Reactor (LMFBR), and developmental work using Pu-238 as an energy source for Space Nuclear Application Systems (SNAP) and the artificial heart.

Starting in 1978 (18951), the DP West plutonium operations were transferred to the newly constructed TA-55 Plutonium Facility, and the DP West plutonium facility underwent an extensive decontamination effort in 1978-1981 (14396).

DP West Structures

A facility map for DP West is shown in Figure 1-3 of Attachment 1. Table 1 lists the DP West Facility buildings with their corresponding operations, period of TRU waste generation, the operating division or group, and the current status. An historical building assessment for the U.S. Department of Energy (DOE) Conveyance and Transfer Project was conducted at TA-21 in 1998-1999, and identified several buildings at DP West that are eligible for the National Register of Historic Places (18951).

The original, 1945 DP West facility structures consisted of four warehouses that were connected by enclosed corridors: Buildings 2 (TA-21-2), 3 (TA-21-3), 4 (TA-21-4), and 5 (TA-21-5). In 1952, a liquid waste treatment plant was constructed at Building 35 (TA-21-35), and subsequently replaced by the new treatment plant Building 257 (TA-21-257) in 1967. The original waste treatment plant was decommissioned in 1968. In 1963, a plutonium fuels development facility, Building 150 (TA-21-150), was constructed just east of Building 5 to support plutonium fuels development. Starting in 1978 (18951), plutonium operations were transferred to the TA-55 Plutonium Facility, and the DP West facility was decontaminated in 1978-1981 (14396).

Plutonium recovery and purification operations have been carried out at DP West since the facility was established in 1945 (18950). Initially, recovery and purification operations were carried out in Buildings 2, 3, and 4. Fluoride reduction, metal casting, and machining operations were housed in Building 5. By the 1950s, engineering improvements and advancements in research and development led to the consolidation of plutonium recovery operations into Building 2 (18951, 14396). Am-241 recovery and waste storage activities were also conducted in Building 2 (18951). Following decontamination in 1978-1981, Building 2 was assigned to the Environmental Studies Group (LS-6) to provide group offices and chemistry labs.

From 1945 until 1948, Building 4 North was a development laboratory for plutonium research. It was decontaminated in 1948 and Room 401 was converted to an enriched uranium hydride production area. In 1960, the area was again decontaminated, and a hot cell for the examination of irradiated plutonium and enriched uranium fuel elements was constructed. About 1970, a partition was

installed to create Room 401E, and three glovebox lines were constructed to support Pu-238 metal production work. During the 1970s, Room 406 in Building 4 North housed R&D activities using both Pu-239 and Pu-238, the latter for both the space and artificial heart fuel source programs. In the 1970s, Building 4 North, Rooms 401 and 402, were occupied by the Irradiated Materials, Examination, and Handling Group (CMB-14) (14396). Following decontamination in 1978-1981, Room 401 was transferred to the Inorganic and Structural Chemistry Group (CNC-4, later INC-4) for low-level chemistry work with transuranic elements.

The Enriched Uranium Processing Facility was established in Buildings 3 South and 4 South in the 1950s, and continued operation until 1984 (18951). Consequently, no plutonium-contaminated waste was generated from Building 3 or 4 South between 1970 and 1978, with the exception of Building 3 South, Room 308, where Pu-238 and Pu-239 R&D operations were conducted. The uranium processing operations are not discussed further in this report.

In the 1970s, Building 3 North was occupied by CNC-4 (later INC-4), where inorganic and structural chemistry research with actinides and other elements was carried out (18951). After the decontamination of DP West, which was completed in 1981 (14396), the CNC-4 group (later INC-4) continued its operations in Building 3 North and expanded into Buildings 4 North and 150. In 1991, approximately 75 to 100 INC-4 group members were working at DP West and were conducting research in condensed-phase spectroscopy, organo-metallic chemistry, actinide chemistry, bioinorganics, and environmental chemistry (18951). The small quantities of TRU waste generated by the CNC-4/INC-4 research activities are not addressed in this AK report.

Plutonium fabrication operations were carried out continuously in Building 5 until 1978 (14396). Fabrication involved the production of high-purity Pu-239 metal and metal alloys. The plutonium metal was machined into precision plutonium parts for nuclear devices in gloveboxes using lathes, milling machines, and grinders (18951). In 1951, a semi-automated metal production line was put into operation in room 501. In 1956 the plutonium metallurgical and metal fabrication systems were rebuilt. Conveyor tunnel systems were placed above the gloveboxes, allowing improved plutonium transfer capabilities (14396).

Pyrochemical operations for plutonium purification, including electrorefining, were also carried out in Building 5. In 1963, an electrorefining facility for plutonium metal purification was constructed in Building 5, Room 506 (14396, 18948, 19768). In 1969, a two-story addition, the Special Fabrication and Assembly Facility, was made to the south wing.

Until 1974, all work performed in Building 5 was with Pu-239 for the weapons program. In 1975, Pu-238 was introduced into one glovebox line in Room 500 for limited research work on testing of high efficiency particulate air (HEPA) filters (14396). That same year development work began in Room 506 on the direct oxide reduction process for Pu-238 metal preparation.

Plutonium fuels development was carried out in Building 150, which was constructed in 1963 (14396). Research and development activities associated with Pu-238 and Pu-239 were conducted at Buildings 3, 4, 5, and 150 (the Plutonium Fuels Development Facility) (18951). Pu-238 heat and power sources and Pu-239 reactor fuels were developed in Building 150 (14396).

Building 286 was built in 1972 for storage of equipment and material. Two rooms were used as storage vaults for plutonium solutions, scrap, and residues, including Pu-238 residues awaiting shipment to the Savannah River Facility. The building was decontaminated in 1978-1981 and transferred to Health Physics Group (H-1) as a warehouse for decontamination equipment (14396). Building 21 was also used as a vault/bunker for special fissile material for the DP West Facility. Uranium and plutonium metal produced in other buildings were secured and stored in the Building 21 vault (18951).

TA-21 operations for processing plutonium were largely terminated in 1978 when plutonium processing operations were transferred to TA-55. By 1981 all of the plutonium processing lines such as gloveboxes and piping were removed and the buildings decontaminated (19769).

As the plutonium processing operations were relocated to TA-55, several of the former plutonium processing buildings at DP West were occupied by the INC-4 Group, as shown in Attachment 1, Figure 1-3. Research was conducted in the following five activity areas: condensed-phase spectroscopy, organo-metallic chemistry, cold fusion, actinide chemistry, bioinorganics, and environmental chemistry (19101). In 1994, Buildings 3 and 4 were decommissioned (i.e., demolished). Buildings 2, 5, and 150 are currently abandoned.

3.2 TRU Waste Management at DP West

Historically (i.e., the period 1970 to 1987, prior to the implementation of the LANL TRU waste certification plan [00697]) wastes from all TRU waste-generating activities at LANL were handled and packaged in accordance with the *Los Alamos Scientific Laboratory Health, Safety and Environment Manual.* Waste management practices for radioactive waste initially followed U.S. Atomic Energy Commission (AEC) requirements (AEC Manual: Chapter 0511, Radioactive Waste Management [AEC 1973] [AEC 0511-01]) and later, DOE Orders 5820.1 and 5820.2, Management of Transuranic Contaminated Material (DOE, 09/30/82 and 02/06/84 respectively). TRU waste management at DP West in the period 1970-1978 was governed by the AEC requirements (19772).

In 1970, the AEC (a predecessor agency to the DOE) issued a directive (Immediate Action Directive No. 0511-21 - see 19772) specifying that solid waste

Table 1. Summary of TA-21 DP West Buildings[a]

TA-21 Building	Operation(s)	Period of retrievable TRU waste generation	Tenant(s)	Status
Building 2	Plutonium recovery facility Plutonium and americium recovery operations	1970–1978	CMB-11	Currently abandoned
Building 3 North	Inorganic and structural chemistry research	1970–early 1990s	CNC-4/INC-4[b]	Decommissioned in 1994
Building 3 South	Enriched Uranium Processing Facility	No contact-handled TRU waste generated in 1970s	CMB-8	
Building 3 South, Room 308	Pu-238 and Pu-239 research and development activities	1970–1978	CMB-11	
Building 4 North, Rooms 401, 402	Irradiated materials non-destructive examination and handling	No TRU waste generated in 1970s	CMB-1 CMB-14	Decommissioned in 1994
Building 4 North, Rooms 401E and 406	Pu-238 heat source production; Pu-238 and Pu-239 research and development activities; U-233 metal production	1970–1978	CMB-11	
Building 4 North	Actinide research	1981–early 1990s	INC-4[b]	
Building 4 South	Enriched Uranium Processing Facility	No TRU waste generated in 1970s	CMB-8	
Building 5	Plutonium metal fabrication facility	1970–1978	CMB-11	
Building 5, Room 506	Electrorefining facility	1970–1978	CMB-11	
Building 21	Nuclear materials vault/bunker	1970–1978	CMB-11	Currently abandoned
Building 150	Plutonium fuels development facility	1970–1978	CMB-11	Currently abandoned
	Inorganic and structural chemistry research	1981–early 1990s	INC-4[b]	
Building 257	Industrial liquid waste treatment facility	1970–present	(various)	Active[c]
Building 286	Storage for equipment and materials; plutonium solutions, scrap, and residues storage vault	1970–1978	CMB-11	Decontaminated in 1981 and transferred to H-1 for use as warehouse

Notes:

[a] DP West buildings and structures that did not house plutonium operations (e.g., support structures) are not listed.

[b] TRU wastes generated by CNC-4 and INC-4 actinide research activities are not addressed in this AK operations report.

c. Currently, no TRU waste is generated at Building 257.

contaminated with U-233 and its daughter products, plutonium, and other transuranium radionuclides, to levels greater than 10 nCi/g, must be stored in such a way that it could eventually be retrieved for characterization, certification, and shipment to an undesignated disposal facility. The TRU wastes were to be segregated from other radioactively contaminated solid waste, with combustible and noncombustible waste packaged separately (18938). At that time, LANL began segregating low-level waste (LLW) from TRU waste and dedicating specific areas within Area G at TA-54 for management of these wastes. LANL also implemented a retrievability limit of 100 nCi/g for Pu-238 materials (22813).

LANL began using waste identification systems for TRU waste in January 1971. RSWD codes were an alpha numeric code, a letter "A", followed by two digits and categorized TRU waste forms generated by the various on-site facilities. A complete listing of the RSWD codes is given in the AKIS. Use of the RSWD codes was discontinued in 1992.

In addition to the RSWD codes, which provide information about the physical form, matrix, and/or chemical nature of waste, LANL employs material type (MT) designations to describe the relative isotopic composition of radioactive contamination. The designated MT is used to describe the isotopic composition of common blends of radioactive materials used within the DOE complex. The most common MTs present in DP West waste are those for weapons grade plutonium (MT -52), reactor grade plutonium (MT-54), and heat source plutonium (MT-83). The radionuclide content and MTs in DP West TRU waste is discussed further in Section 5.6.

TRU waste generators were required to complete the RSWD form, which includes the RSWD waste identification code and information about the radionuclide content. An example of the RSWD form is included in the AKIS. The generator assigned the RSWD code that he estimated was representative of the dominant matrix in the drum.

Individual plutonium processing operations at the TA-55 Plutonium Facility are assigned a unique identifier called a P/S code for the purpose of nuclear material accounting. A consolidated listing of the P/S codes is provided in the AKIS. The P/S code system of waste material tracking was not introduced until 1987; consequently, there are no P/S codes associated with the DP West waste. The P/S code refers to a specific part of an operation within the overall process, and can be associated with most waste items generated after 1987 and all items generated after 1995. The P/S codes provide the finest level of detail available to associate waste items with a specific operation of origin. Therefore, the P/S code system is used extensively in the description and documentation of AK information for RCRA and for chemical constituents for the Pu-processing derived waste.

The major contributor to waste streams at DP West was the plutonium recovery operation. Because of the scarcity of plutonium, much emphasis was placed on recovery of this material from process waste streams. Thus, recovery and

recycling were common practices. The process waste consisted of both solid and liquid wastes produced in the research and production operations. These waste streams were generally contaminated with both radioactive and chemical constituents. Process wastes, including TRU wastes, from the 1940s until the late 1970s were largely disposed of at five material disposal areas (MDAs) located at TA-21, known as MDAs A, B, T, U, and V.

3.2.1 Solid Waste Management

Two major solid waste streams were generated as a result of plutonium processing activities at DP West:

- *Process-generated residues and debris*, generated inside gloveboxes or hoods
- *Room-generated residues*, generated in the room or area containing the TRU process facilities

Discard limits (DLs) for plutonium in the various types of waste matrices were established by the waste-generating group, and approved by the LANL division office and the DOE Albuquerque Operations Office. For the time period of DP West operations, the DL for materials other than process solids was typically 0.5 g of Pu per kg of waste (0.5 g/kg). Process-generated residues were usually considered to be recoverable (i.e., contaminated above the DL) while the glovebox-generated debris waste generally contained TRU activity that was less than the DL. Leached process solids were sent to retrievable storage when the Pu concentration was less than 4g/kg (18938, 22813). It was assumed that room-generated residues contained trace quantities of radionuclides that were less than DL levels unless it was generated by work on a contaminated system.

Solid TRU waste management activities at DP West, including sorting, logging, and packaging, were conducted in Building 2, the Plutonium Recovery Facility. In the Metal Fabrication area, housed in Building 5, process-generated residues and debris from all operations were transferred through a conveyor system to one glovebox line for disposal. Material was removed from the glovebox by standard bag-out procedures and transferred to the recovery area in Building 2 for assay with a neutron coincidence counter. Similarly, all the plutonium-handling gloveboxes in Building 150 were interconnected by a single conveyor system. Buildings 2, 3, and 4 did not have conveyor systems; in these buildings, waste materials were bagged out from each glovebox line. The glovebox in-line drums at this time were 30-gallon drums, usually cardboard, which were sometimes placed in metal garbage cans for transfer to Building 2. Solid process residues such as salts, filter

cakes, and leached residues below the DL were typically disposed of with the debris waste (19901).

The 30-gallon drums and/or metal waste cans were taken to Building 2, where the waste materials were sorted and assayed. Based on the neutron assay, if the material had recoverable quantities of plutonium (i.e., greater than the DL), it was transferred to recovery operations. Process residues and debris wastes that were below the DL were packaged and managed as retrievable TRU waste. In the period 1970–1978, the retrievable TRU waste levels were ≥10 nCi/g of TRU activity (≥100 nCi/g for Pu-238 materials). The designation of waste as low-level or TRU based not only on assay results, but also on an administrative basis. Waste from the gloveboxes or generated from a "hot job" outside the gloveboxes was usually designated to be TRU.

Room-generated materials were referred to as room trash because it was assumed that this material contained much lower contamination levels than the process-generated materials. These wastes were packaged in polyethylene bags placed in 0.06 m^3 cardboard boxes that in turn were placed inside 115-liter drums with flame-retardant lids. At Building 2, the cardboard boxes were removed from the drums and transferred to the scrap recovery room for neutron assay. The scrap recovery room housed a hood/glovebox system with a Field Instrument for the Detection of Low Energy Radiation (FIDLER). A pancake counter capable of detecting 1- to 10-nCi/g activities was used. After calibration, waste was sorted by material type into 500 to 1000 g packages. Packages measuring >10 nCi/g were managed as retrievably stored TRU, and those packages measuring <10 nCi/g were disposed of as LLW.

The pancake counter system was accurate in measuring activity in low-density materials. Activity contained in scrap metal and glassware could not be accurately measured due to attenuation of the low-energy gamma and x-rays. A Multienergy Gamma Assay System (MEGAS) was introduced which was capable of detecting higher energy gamma emissions. The hardware was configured to facilitate assay of the standard 0.06 m^3 trash box. The "Box Counter" was installed in 1974. A study was conducted in the Plutonium Recovery Facility while using the Box Counter to evaluate the economics of alternative methods. Approximately eight percent of the room-trash boxes contained sufficient contamination to warrant TRU retrievable storage (18938).

In 1975, an inventory of the chemicals used in the plutonium processing areas during one calendar year was compiled with more than 40 reagents identified. Preliminary estimates at the time indicated that only minute quantities of these reagents entered the solid waste stream as hazardous contamination. None of the dry bulk chemicals were pyrophoric in

nature. All organic liquids in use had high vapor pressures and would have evaporated during use and handling. Consequently, the probability of organic liquids entering the solid waste during normal use and operations was considered to be remote. Inorganic bulk liquids were used in plutonium processing steps and transferred to the liquid waste treatment facility at Building 257. A detailed study of the composition of the solid waste stream in 1973 verified the absence of any free liquid in the solid wastes, indicating that these chemicals entered the solid waste stream only as contaminants absorbed onto other items (18938).

In general, solid process wastes were either buried on site or shipped to Area G for retrievable storage. Burial of solid wastes at TA-21 was done in two disposal pits at MDAs A and B, with the majority of the waste being buried prior to 1948. However, solid waste disposal at TA-21 was done until 1978 in these disposal pits. In general, these pits were used for items that contained plutonium and uranium that could not be reprocessed or recycled (19101).

During the decommissioning of DP West in 1979, gloveboxes, ductwork, and pipes that were contaminated above 10 nCi/g were packaged in fiberglass reinforced plywood boxes and sent to Area G at TA-54 as retrievably stored waste (14396).

3.2.2 Industrial liquid waste management

Industrial liquid wastes were discharged on site into absorption beds at the MDAs until 1952 when a liquid waste treatment facility, Building 35, was built. Building 35 was constructed as a facility for treatment and disposal of contaminated liquid waste from the plutonium and uranium processing facilities at DP West (14396). In 1967, liquid waste treatment operations were transferred to a newly built waste treatment facility, Building 257 (14396). The routine waste stream treatment process was based on absorption and coprecipitation of plutonium with ferric hydroxide to produce sludge. From 1968 to 1976 liquid wastes and sludge were mixed with cement and pumped into shafts at MDA T. From 1975 to 1983, some of the liquid TRU wastes were mixed with cement and pumped into long corrugated metal pipes (CMPs) (19101). Initially the CMPs were stored in a retrievable storage pit at MDA T. The CMPs were retrieved by 1986 and relocated to Area G at TA-54 for retrievable storage.

Liquid wastes that had plutonium concentrations less than the DL but that did not meet the waste acceptance criteria for the TA-50 Radioactive Liquid Waste Treatment Facility were sent to Building 257 for cement fixation on a batch basis (22813). Only solutions were sent to the waste treatment facility; no solid residues were managed at Building 257 (19901).

In the 1960s and 1970s, several incinerators called salamanders were used to burn organic solvents and oils contaminated with radionuclides. The salamanders were long trays used for the open burning of liquid waste and were associated with the waste treatment facilities at TA-21-35 and TA-21-257 (19101).

The final waste form for TRU waste generated by treatment of industrial wastewater and liquid wastes at DP West is homogeneous and not further addressed in this AK report.

4.0 TA-21 DP WEST TRU WASTE STREAM DELINEATION

At LANL, defense TRU wastes are generated by defense nuclear materials production, defense nuclear waste and materials by-products management, and defense research and development. Delineation of waste-generating processes at LANL is based on the four waste generating processes described in the Introduction of Attachment B, Page B-1 of the WIPP WAP: (a) production of nuclear products, (b) plutonium recovery, (c) R&D, and (d) D&D. Descriptions of activities at LANL under each of these categories are found in the LANL AKIS.

It has been a long-standing waste management practice at LANL that waste is packaged in combinations of operations of origin. That is, waste items from several different operations were frequently combined in a single container. The stated policy and practice has been to handle and package all debris and homogeneous waste in a similar fashion, regardless of the process of origin, and to separate combustible from noncombustible debris waste to the extent feasible. TRU wastes from nuclear products manufacture, plutonium recovery, and plutonium research and development processes are generated within the same facilities and packaged without regard to the generating operation or process, except for segregation based on the nuclear material types that are present as contaminants (to the extent feasible). Therefore, LANL TRU wastes from nuclear products manufacture, plutonium recovery, and R&D processes are delineated as a single plutonium processing, recovery, and R&D process.

All DP West debris waste containers are designated as mixed because the waste was not segregated by hazardous waste content. (See Section 6.0 for a discussion of hazardous waste content.) DP West plutonium processing wastes are further delineated by evaluation of the dominant radionuclide content of individual containers. Waste containers are delineated into plutonium processing waste streams if Pu-239 is the predominant isotope (based on weight percentage relative to the total plutonium content). Containers are delineated into LA-TA-55-19, Mixed Combustible Debris, or LA-TA-55-30, Mixed Heterogeneous Debris, according to the container waste matrix content.

An additional TRU-waste generating process at LANL that has been delineated is Pu-238 processing. Pu-238 operations at LANL were originally carried out at the DP West Facility. In 1963, the plutonium fuels development facility was constructed in Building 150 to support development of Pu-238 heat sources for space applications, and to investigate plutonium-containing ceramics as potential fuels for the LMFBR. Around

1970, three glovebox lines were installed in Building 4 to support Pu-238 metal production work for powering artificial hearts. The DP West Pu-238 fuels research and development activities, but not artificial heart applications, were subsequently transferred to the TA-55 Plutonium Facility, which is currently the only facility in the DOE complex that can handle substantial quantities of Pu-238 in unencapsulated forms. DP West waste containers are delineated into a Pu-238 processing waste stream if Pu-238 is the predominant isotope (based on weight percentage relative to the total plutonium content).

This report is focused on the DP West operations that fall under the categories of Pu-239 processing. Wastes generated by specific plutonium operations within these broad categories were not segregated for packaging and disposal (see Section 3.2); therefore, the DP West TRU waste is not more finely delineated by individual processes. A significant amount of waste was generated by the decontamination project that took place at DP West from 1978 until 1981. These wastes are categorized as D&D, and are delineated into a separate waste stream from the plutonium processing wastes. The D&D-derived wastes are not further discussed in this report.

4.1 TRU Waste Generating Processes

Plutonium processing operations in the time period 1970 to 1979 included recovery and purification processes; metal production; metal fabrication; and R&D. Americium research and recovery operations were also carried out at TA-21 DP West, which became the world's center for research on americium.

The plutonium facilities were located at TA-21 DP West in Buildings 2, 3, 4, 5, and 150. The primary tenant of the DP West facility was the Chemistry and Metallurgy-Baker Division Chemistry and Metallurgy Group, CMB-11. During calendar year 1978, the plutonium operations and materials were relocated from TA-21 to the newly constructed Plutonium Facility at TA-55 (02767). This report is focused on operations that were in place at DP West between 1970, when TRU waste generated at DP West entered the LANL retrievably stored inventory, and 1978, after which operations at DP West were transferred to TA-55.

The plutonium operations formerly conducted at DP West in 1978 were the basis for operations at the new TA-55 Plutonium Facility. The wastes resulting from past operations at the DP West facility are the same as certain wastes generated at the TA-55 Plutonium Facility. The number of AK source documents relating to TA-21 DP West and the level of detail in these documents is less than that available in the compilation of AK for the TA-55 Plutonium Facility. Therefore, the discussion of TA-21 operations in this report relies heavily on the AK documentation that has been compiled for plutonium operations conducted in the TA-55 Plutonium Facility.

Unlike plutonium operations at the TA-55 Plutonium Facility, the system of process/status (P/S) codes was not in use during operations at the TA-21 DP West facility. The search and compilation of AK information for TA-55 operations is based on P/S codes, because that is the greatest level of detail recorded in waste

generator records. A corresponding level of detail is *not* available in the AK record for TA-21 DP West TRU wastes. Standard operating procedures (SOPs) were not in general usage at the DP West facility and are not available for the DP West operations. It was not until operations were relocated to TA-55 that a concerted effort was made to prepare SOPs (19902).

Detailed AK information for TA-55 operations is compiled in a set of closely related reports about TRU waste generating activities at the Plutonium Facility. For convenience in organizing the AK, plutonium processing and recovery has been categorized into seven operational areas. The multiple operations in each area are described in detail in the following AK operations reports.

- *Acceptable Knowledge Report for Chloride Operations at LANL* (15411)
- *Acceptable Knowledge Report for Metal Operations at LANL* (15412)
- *Acceptable Knowledge Report for Miscellaneous Operations at LANL* (15413)
- *Acceptable Knowledge Report for Nitrate Operations at LANL* (15414)
- *Acceptable Knowledge Report for Pyrochemical Operations at LANL* (15415)
- *Acceptable Knowledge Report for Special Processing Operations at LANL* (15416)
- *Process Acceptable Knowledge Report for Plutonium-238 Operations at TA-55* (15417)

The plutonium processing and recovery AK operations reports include descriptions of feed materials, chemical inputs, and radionuclide material, and detailed process flow diagrams that indicate the TA-55 P/S codes associated with each of the various sub-processes. As discussed in Section 3.2, the P/S code system of waste material tracking was not introduced until 1987; consequently, there are no P/S codes associated with the DP West waste. However, in the descriptions of DP West operations presented in this report, the correlation between DP West and P/S codes associated with early TA-55 plutonium operations is emphasized.

The following sections discuss the major categories of plutonium operations at the DP West Facility:

- Recovery operations
- Pyrochemical operations
- Metal operations
- Pu-239 advanced fuel operations
- Americium operations
- Pu-238 processing operations
- Miscellaneous and special processes

Table 9. TRU Waste Container Types and Volumes Generated at DP West

Waste Stream	Container Type	Below Grade[a]		Above Grade		Total Inventory	
		No. of Containers	Volume (m^3)	No. of Containers	Volume (m^3)	No. of Containers	Volume (m^3)
LA-TA-55-19	30 Gal	140	14.892	1	0.100	141	14.992
	55 Gal	840	174.720	1	0.208	841	174.928
	85 Gal	1	0.3215	—	—	1	0.3215
	Total:	**981**	**189.934**	**2**	**0.308**	**983**	**190.242**
LA-TA-55-30	15 Gal	4	0.227	—	—	4	0.227
	30 Gal	98	14.887	—	—	98	14.887
	55 Gal	733	152.464	—	—	733	152.464
	Total:	**835**	**167.578**	—	—	**835**	**167.578**
Total Inventory		**1816**	**357.512**	**2**	**0.308**	**1818**	**357.820**

[a] Waste containers retrievably stored below grade at TA-54, Area G.

Table 10. Feed Materials for Plutonium Processing Operations at DP West Facility

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
Actinide metals and metal oxides (e.g., Am-241, Np-237, U-233)	High purity materials used for neutron sources. No RCRA constituents.	Metal Operations—Welding Pretreatment Operations—Dissolution
Aluminum oxide (Al_2O_3) boats and crucible pieces	No RCRA constituents.	Recovery operations—Pretreatment and Dissolution
Analytical laboratory solutions	Potentially contaminated with RCRA-regulated constituents: (chromium (D007), lead (D008), mercury (D009), acetone (F003), butanol (F003), carbon tetrachloride (D019), chlorobenzene (F002, D021), chloroform (D022), ethanol, methanol (F003), methylene chloride (F002), tetrachloroethylene (F002, D039), xylene (F003). (15411)	Recovery Operations—Precipitation
Anode heels	Typically contaminated with cadmium (D006), chromium (D007), lead (D008), and silver (D011).	Pyrochemical Operations—Electrorefining Recovery Operations—Dissolution
Ash	Potential contamination with barium (D005), cadmium (D006), chromium (D007), lead (D008), silver (D011). Arsenic (D004), mercury (D009), and selenium (D010) metals are volatilized at high temperatures if present in the oxide and chloride forms.	Recovery Operations—Pretreatment and Dissolution
Casting skulls (Pu metal, Pu oxides or Pu suboxides)	Potentially pyrophoric (D003), but the skulls were deliberately ignited under controlled conditions to remove pyrophoricity.	Recovery Operations—Pretreatment and Dissolution
Crucible pieces (tantalum, magnesium oxide)	Typically fairly pure; no RCRA constituents	Recovery Operations—Pretreatment and Dissolution
Fuel pellets	High purity Pu and U material types; no RCRA constituents	Pu-239 Advanced Fuels Operations Recovery Operations—Pretreatment and Dissolution
Graphite molds	High purity Pu metal used in metal casting operations; no RCRA constituents.	Metal Operations—Casting Recovery Operations—Pretreatment and Dissolution

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
Hydroxide cakes	Typically contaminated with RCRA-regulated heavy metals cadmium (D006), lead (D008), mercury (D009), silver (D011), and possibly chromium (D007).	Recovery Operations—Dissolution and Purification
MgO sand and crucibles	High purity Pu metal used in metal preparation operations; no RCRA constituents.	Pyrochemical Operations—Metal Preparation Recovery Operations—Pretreatment and Dissolution
Miscellaneous combustible items contaminated with Pu (e.g., rags, paper, wood, rubber gloves, graphite, plastics)	Usually suspect contaminated with barium (D005), cadmium (D006), chromium (D007), lead (D008), and silver (D011), arsenic (D004), mercury (D009), and selenium (D010).	Recovery Operations—Pretreatment and Dissolution
Miscellaneous noncombustible items contaminated with Pu (e.g., tools, crucibles, metal, glass, plastic, labware, scrap, glovebox sweepings, HEPA filters)	May be contaminated with RCRA-regulated heavy metals silver (D011), cadmium (D006), mercury (D009), lead (D008), and possibly chromium (D007)	Recovery Operations—Pretreatment and Dissolution
Pu carbides	High purity metal carbide; no RCRA constituents.	Recovery Operations—Pretreatment and Dissolution
Pu chlorides and fluorides	Variable purity; may or may not contain RCRA substances.	Recovery Operations—Dissolution
Pu hydride	High purity metal hydride; no RCRA constituents	Recovery Operations—Pretreatment and Dissolution
Pu metal	High purity unalloyed Pu metal. Potentially pyrophoric; however, oxidized or alloyed to remove pyrophoricity. No RCRA constituents.	Recovery Operations—Pretreatment and Dissolution
Pu metal alloyed with Cr	High purity Pu metal alloyed with chromium (D007)	Recovery Operations—Pretreatment and Dissolution
Pu metal alloyed with Hg	High purity Pu metal alloyed with mercury (D009)	Recovery Operations—Pretreatment and Dissolution

Feed Material	Potential Presence of RCRA-Regulated Substances	Associated Operation Areas
Pu metal alloyed with Al, Am, Bi, Ce, Co, Cu, Fe, Ga, Hf, In, Mg, Mn, Mo, Ni, Os, Pt, Rh, Ru, Ta, Th, Ti, U, and/or Zr	High purity Pu metal alloys with various metals; no RCRA constituents	Recovery Operations—Pretreatment and Dissolution
Pu oxides	Variable purity oxides depending on origin; suspect contaminated with RCRA-regulated heavy metals cadmium (D006), chromium (D007), and lead (D008)	Recovery Operations—Pretreatment and Dissolution
Pu oxalate	Pu oxalate precipitation used for purification. Precipitate is expected to be fairly pure, no RCRA constituents.	Recovery Operations—Dissolution and Purification
Pu peroxides	Pu peroxide precipitation used for purification. Precipitate is expected to be fairly pure, no RCRA constituents.	Recovery Operations—Dissolution and Purification
Pu silicide	No RCRA constituents.	Recovery Operations—Dissolution
Pump oils	No RCRA constituents.	Recovery Operations—Pretreatment
Pyrochemical salts (calcium chloride, calcium fluoride, magnesium chloride, potassium chloride, sodium chloride)	No RCRA constituents.	Pyrochemical Operations—Electrorefining and Metal Preparation
Reduction and Casting Residues	High purity Pu metal used in metal preparation and casting operations; no RCRA constituents	Pyrochemical Operations—Metal Preparation Metal Operations—Casting Recovery Operations—Dissolution
Silica Solids	No RCRA constituents.	Recovery Operations—Dissolution

5.5 Chemical Inputs

Chemical constituents used in the process/operations at the DP West facility are compiled from lists found in historical documents, plans, procedures, reports, and interviews with the DP West subject matter expert. This report divides the chemical inputs into the following categories:

- Acids and bases
- Gases and cryogenic fluids
- Metals
- Inorganic chemicals
- Organic chemicals

Acids and bases

Acids used in the Pu recovery operations at DP West include formic acid, hydrochloric acid, hydrofluoric acid, nitric acid, oxalic acid, hydrogen iodide, sulfuric acid, sulfamic acid, and phosphoric acid. Bases used were aqueous solutions of sodium hydroxide, potassium hydroxide, and ammonium hydroxide. No EPA HWNs are applicable to the use of these chemicals for the following reasons.

- D001 (ignitability) does not apply to the solid waste contaminated with aqueous acids and bases because: (a) the solid waste is not liquid, and verification that there are no free liquids in the debris waste is performed prior to certification (see Section 7.3); (b) the solid waste does not spontaneously ignite at standard pressure and temperature through friction, absorption of moisture, or spontaneous chemical changes; (c) the solid waste is not an ignitable compressed gas as defined in 49 CFR 173.300; and (d) there are no oxidizers present as defined in 49 CFR 173.151.

- D002 (corrosivity) does not apply to the solid waste contaminated with aqueous acids and bases because the solid waste is not a liquid, and verification that there are no free liquids in the debris waste is performed prior to certification (see Section 7.3).

- D003 (reactivity) does not apply to the solid waste contaminated with aqueous acids and bases because the solid waste does not possess any of the reactivity properties listed in 40 CFR 261.23.

- U134 (hydrofluoric acid) and U123 (formic acid) are not applicable because the solid waste is not a liquid, and verification that there are no free liquids in the debris waste is performed prior to certification (see Section 7.3).

- None of these acids or bases is F-, K-, or P-listed chemicals.

Gases and cryogenic fluids

The following list of gases and cryogenic fluids were used at DP West but are not identified as being a hazardous constituent in 40 *Code of Federal Regulations* (CRF) Part 261, Appendix VIII: argon, carbon dioxide, chlorine, helium, hydrogen, hydrogen chloride, methane, nitrogen (gas), liquid nitrogen, oxygen, and P-2 (argon gas mix).

The following gases were used in recovery operations and are identified in Appendix VIII of 40 CFR Part 261: fluorine and hydrogen fluoride. No EPA HWNs are applicable because the gas cylinders were outside the gloveboxes and gas was plumbed into the glovebox; therefore, the gas cylinders were not discarded with glovebox TRU wastes. Table 11 lists the acids, bases and gases used in the plutonium processing operations at DP West.

Metals

The following metals were used in the plutonium processing operations at DP West and are not identified as having hazardous characteristics in 40 CFR Part 261, including Appendix VIII of that regulation: aluminum, bismuth, cerium, cobalt, copper, gallium, indium, iridium, iron, lanthanides, manganese, molybdenum, nickel (listed in Appendix VIII but no HWN given), niobium, osmium, palladium, platinum, rare earths, rhodium, ruthenium, silicon, tantalum, titanium, zinc, and zirconium. Many of these metals were alloyed with high purity plutonium or used in fuel fabrication processes.

Metals used in the plutonium processing operations that are identified in 40 CFR Part 261 or in Appendix VIII as potentially having hazardous characteristics are listed in Table 12 and are:

- Arsenic—Arsenic (D004) is a potential contaminant in non-purified Pu metal, therefore possible constituent on debris waste; present in analytical solution residues and a trace contaminant in peroxide.

- Barium—Barium (D005) is a contaminant in hydroxide cake and incinerator ash.

- Cadmium—Cadmium (D006) is a contaminant in hydroxide cake and anode heels; also occurs in solder and electronic boards.

- Calcium—Calcium metal was used in pyrochemical operations, but experimental results indicate that EPA HWN D003 (reactivity) does not apply (3730, 3732).

- Chromium—Chromium (D007) is a component of stainless steel that may be leached during acid usage, or introduced from stainless steel ball mills.

Table 11. Acids, Bases, and Gases Used at the DP West Facility

Acid, Base, or Gas	Comments on Applicability of RCRA Codes
Appendix VIII Gases and Acids Fluorine, hydrogen fluoride	U134 does not apply because there was no evidence of unspent chemicals added to the TRU waste. Gas cylinders were stored outside the gloveboxes and would not have entered the TRU waste stream.
Non-Appendix VIII Acids Formic acid, hydrochloric acid, nitric acid, oxalic acid, phosphoric acid, sulfuric acid, hydrogen iodide, hydrogen bromide, sulfamic acid	D001, D002, and D003 do not apply to the solid waste because the waste is not a liquid, and verification that there are no free liquids in the debris waste is performed prior to certification. The solid waste does not possess any of the properties of ignitability, corrosivity, and reactivity.
Non Appendix VIII Bases Sodium hydroxide, potassium hydroxide, ammonium hydroxide	D001, D002, and D003 do not apply to the solid waste because the waste is not a liquid, and verification that there are no free liquids in the debris waste is performed prior to certification. The solid waste does not possess any of the properties of ignitability, corrosivity, and reactivity.
Non Appendix VIII Gases Argon, carbon dioxide, chlorine, hydrogen chloride, methane, nitrogen	D003 does not apply to the solid waste because gas cylinders were stored outside the gloveboxes and would not have entered the TRU waste stream, and verification that there are no compressed gases in the debris waste is performed prior to certification.

Chromium was used in the form sodium chromate (Na_2CrO_4) in recovery operations, and was also used as an alloy with Pu.

- Lead—Lead (D008) is present in leaded gloves, shielding inside gloveboxes, shielding used for americium-contaminated waste, lead-sandwich gloveboxes, and as a contaminant in hydroxide cake.

- Mercury—Mercury (D009) was used in the dissolution of Pu-Al alloy in the form of mercuric nitrate catalyst. Mercury is also a contaminant in hydroxide cakes, crucible and casting residues; and was used in mercury diffusion pumps. Hanford Ash residues were sometimes visibly contaminated with metallic mercury.

- Selenium—Selenium (D010) is a potential contaminant in non-purified Pu metal, therefore possible constituent on debris waste.

- Silver—Silver (D011) is a contaminant in hydroxide cake and anode heels, may also occur in solder.

Inorganic Chemicals

Several inorganic chemicals used in plutonium processing operations are identified in 40 CFR Part 261 or in Appendix VIII as having hazardous characteristics. Table 12 lists these chemicals, their HWN, and the applicability of the HWNs to the use of these chemicals in plutonium processing.

The following inorganic chemicals were used or formed in the plutonium processing operations at DP West but are not identified as having hazardous characteristics in 40 CFR Part 261, including Appendix VIII in that regulation.

Aluminum nitrate, aluminum hydroxide, ammonium bifluoride, ammonium fluoride, calcium chloride, calcium fluoride, calcium nitrate, calcium oxalate, calcium oxide, cerous nitrate, diatomaceous earth, hydroxylamine, ferric hydroxide, ferric nitrate, ferrous ammonium sulfate, ferric plutonyl acetate, iodine crystals, lanthanum nitrate, lithium fluoride, magnesium oxide, potassium carbonate, potassium chloride, potassium fluoride, potassium iodide, potassium pyrosulfate, silicon tetrafluoride, sodium bromate, sodium chloride, sodium carbonate, sodium fluoride, sodium plutonyl acetate, sodium nitrate, sodium citrate, sodium EDTA, sulfuric acid, potassium nitrate, potassium permanganate, sodium thiosulfate.

Organic chemicals

Several organic chemicals used in plutonium processing operations at DP West are identified in 40 CFR Part 261 or in Appendix VIII as having hazardous characteristics. Table 13 lists these chemicals, HWNs, and applicability.

Table 12. Use of RCRA-Regulated Metals and Inorganic Chemicals Used at the DP West Facility

Metals and/or Inorganic Chemicals	Comments on Applicability of RCRA Codes
Arsenic	D004 is applicable.
Barium	D005 is applicable.
Cadmium	D006 is applicable.
Calcium	D003 does not apply (3730, 3732).
Chromium	D007 is applicable.
Sodium chromate	D007 is applicable.
Hydrogen peroxide	D003 does not apply because hydrogen peroxide is not present as a liquid (the reactive phase), and verification that there are no free liquids in the debris waste is performed prior to certification. The solid waste does not possess any of the properties of reactivity listed in 40 CFR 261.23.
Lead	D008 is applicable.
Nickel	No HWN applicable to nickel.
Mercuric nitrate	D009 is applicable.
Mercury	D009 is applicable.
Selenium	D010 is applicable.
Silver	D011 is applicable.

Table 13. Use of RCRA-Regulated Organic Chemicals at the DP West Facility

Organic Chemical	Comments on Applicability of RCRA Codes
Acetone	F003 does not apply to heterogeneous debris waste because the waste is not ignitable.
Butanol (n-butyl alcohol)	F003 does not apply to heterogeneous debris waste because the waste is not ignitable.
Carbon tetrachloride	D019 applies, as this chemical was not used solely as a solvent. F002 applies as this chemical was used as a solvent.
Chlorobenzene	F002 applies to all debris waste generated.
Chloroform	D022 applies as this chemical was used for degreasing of metal parts. Metal is non-porous and does not absorb liquids, and any metal in contact with this chemical would have been air-dried before being discarded as waste. However, the waste streams also contain combustible waste that may be contaminated with the chemical.
Ethyl ether	F003 does not apply to heterogeneous debris waste because the waste is not ignitable.
Freon and Freon TF	F002 applies to all debris waste generated as this chemical was used as a degreaser.
Methanol	F003 does not apply to heterogeneous debris waste because the waste is not ignitable.
Methylene Chloride	F002 applies to all debris waste generated.
Methyl ethyl ketone	D035 applies to machining operations waste. F005 applies to all debris waste generated as it was used as a solvent.
Tetrachloroethylene	F002 applies as this chemical was used as a solvent
1,1,1-trichloroethane	F001 and F002 apply because this chemical used as degreaser, cutting fluid, and solvent
Trichloroethylene	F001 applies to all debris waste generated as it was used as a degreaser for metal parts and items; also mixed with beeswax as a binder in pressing PuO_2 pellets and used as a diluent for vacuum pump and heat treating oils as a filtration aid.
Xylene	F003 does not apply to heterogeneous debris waste because the waste is not ignitable.

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
D059	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	2
	N/A		

Comments
Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑	Sonia Gonzalez (Signature)	SONIA GONZALEZ (Printed Name)	11/12/09 (Date)
Records Rejected ☐	(Signature)	(Printed Name)	(Date)

Reason for Rejection:

N/A

Re-submittal:

(Signature)	(Printed Name)	(Date)

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	2033
DESTINATION TEL #	92347138
DESTINATION ID	CHEZIE TODD
ST. TIME	11/12 15:06
TIME USE	00'16
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
D059	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	2
	NA		

Comments

Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑ Sonia Gonzalez SONIA GONZALEZ 11/12/09

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D081
Waste Stream Number(s): LA-CIN04.001, LA-MHD04.001, LA-MSG04.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☑ Additional Information	Category: ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]: LANL Waste Acceptance Criteria	
Source Document Reference Information (author(s), document and revision number, date, publisher): NA, PLAN-WASTEMGT-002, Rev. 3.8, 02/05/2003, LANL	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR2, PR3, PR4, PR5, PR6, PR8, WS1, WS2, WS7, WS8, WS11, WS12, S16	Throughout	The Radioactive Liquid Waste Treatment Facility (RLWTF) treats and disposes of aqueous radioactive waste. The majority of this wastewater is discharged to the RLWTF through a network of buried pipelines, known as the Radioactive Liquid Waste Collection System (RLWCS). Other wastewater is transported to the RLWTF by truck. The Waste Acceptance Criteria (WAC) outlined in Chapter 3 are applicable to all radioactive wastewaters which are conveyed to the Technical Area 50, Building 1 (TA-50-1) RLWTF. All waste streams must be profiled using a Waste Profile Form (WPF). Guidance in completing the WPF is given in L 1G 404-00-03.0.Upon completion, the WPF is to be mailed to EM-SWO. A copy of the WPF will be mailed to the waste generator and the generator's Waste Management Coordinator (WMC) upon acceptance or rejection of the waste at the RLWTF. WPFs must be updated annually. Some waste streams, which do not meet the WAC, may be acceptable for treatment at the RLWTF. Various types of generator treatment and/or discharge flow restrictions may be required by the RLWTF. Also, a temporary change in the waste stream, may require that the RLWTF be notified. The documentation for handling both of these situations is a Waste Exception Form (WEF). Certain wastes, (e.g., RCRA regulated wastes) given in Table 3.0, are unacceptable for treatment at the RLWTF. Wastes should not have concentrations of radioactive or nonradioactive contaminants in excess of amounts given in Tables 3.1 and 3.2. The total radionuclide concentration (defined as the sum of gross alpha, gross beta not including tritium, and gross gamma known to be in the waste) of a waster stream sent to the RLWTF may not exceed 5.0E-7CiL. Radionuclides (in any concentration) that are known to be in the waste stream must be listed on the WPF.SEE Table 3.1, Limits on Radionuclides Acceptable for Discharge to the RLFTF. Inorganic acids and bases with a pH between 2 and 12.5 are acceptable for discharge. Liquid waste streams that contain non-radioactive constituents below the concentration limits in Table 3.2 are acceptable for discharge to the RLWTF. SEE Table 3.2, Limits on Non-Radioactive Constituents Acceptable for Discharge to the RLWTF.Table 3.3 is a listing of the Total Toxic Organics (HO). Generators are responsible for ensuring the following documentation exists for each waste stream discharged to the RLWTF:A current approved WPF, Compliance with Chapter 26, Radioactive Waste Certification Programs, and A Chemical Waste Disposal Request (CWDR) needed only when transporting liquid waste to the RLWTF via a vehicle.

NTPC RECORDS ORIGINAL
DATE REC'D 6-30-14

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: D081
AK # [b]	Source Doc. Page # [c]	AK Information Summary
		TRU Waste -The WAC for TRU waste are based on the following: The most current WAC for the WIPP,DOT Regulations,TA-54, Area G, Safety Analysis Report (SAR) and Technical Safety Requirements (TSRs), RCRA Permit requirements, and ALARA considerations. All TRU waste must be in a solid form. Free liquids and compressed gases will not be accepted. TRU waste containers must contain as little residual liquid as is reasonably achievable. Internal containers (cans bottles, etc.) must be well drained, but may contain residual liquids as long as the total residual liquids do not exceed:2 l in a 55-gal. Drum,8 l in a standard waste box (SWB), 1 in . in the bottom of any container. Free liquids must be absorbed or cemented. Compressed Gases Empty compressed gas cylinders are acceptable for storage if each cylinder is punctured or the valve is held open with a wire through it. The method used to make the compressed gas container acceptable must be verifiable by real-time radiography (RTR). Restricted Constituents The following prohibitions and limitations apply to TRU waste stored at TA-54, Area G. Radionuclides in pyrophoric form (plutonium metal, uranium metal, etc.) are limited to 1 weight percent of each waste package and must be uniformly dispersed in the waste. Explosives are prohibited from being stored at T A-54, Area G. Classified wastes are prohibited from being stored at T A-54, Area G. The TRU-radionuclide content of any single container of treated (i.e. solidified/vitrified) TRU waste must not exceed 300 Pu239 equivalent curies (PE-Ci). For untreated TRU waste the total TRU-radionuclide content must not exceed:80 PE-Ci in a 55-gal. drum,300 PE-Ci in an 85 gal. Overpack, and130 PE-Ci in an SWB Generators must use the PE-Ci values in Table 4-1 to determine the plutonium equivalent activity limits for TRU-waste packages. Waste generators must provide TRU-waste characterization information based on the hazardous characteristics and constituents listed in 40 CFR261, Subparts C and 0. and Appendix VIII... TRU mixed waste must not exhibit the hazardous characteristics of ignitability (0001), corrosivity (0002), and/or reactivity (D003)...only EPA hazardous waste codes listed in Table 4-2 are acceptable for disposal at WIPP or for storage at T A-54, Area G... Section 4.3 - Containers used for packaging TRU waste must meet DOT specifications 7A, Type A... Currently approved containers include the following: White 55-gal. steel drums, 85-gal. Steel m\ drums used for overpacks, 71 in. x 54.25 in. x 37 in. steel SWBs. Venting -All TRU-waste containers must be vented using carbon-composite filters. Interior Packaging - All interior-packaging layers must be closed by either the twist-and-tape method, the fold-and tape method, or have a filter. Interior metal containers must be vented to reduce gas accumulation. The tops of all rigid drum liners must be punctured with a hole at least 0.8 me (0.3 in.) in diameter or have a filter installed. Heavy or Sharp Items Heavy or sharp items must be securely blocked, braced, or packaged to prevent damage to the liner or container during handling and shipping. Package Weight The package weight must not exceed the rated capacity of the container based on DOT-specified package certification tests for the contained material or the following limitsA09 kg (900lb) for 55-gal. drums,658 kg (1450 lb) for 85-gal. overpacks,1814 kg (4000 lb) for SWBs. Extemal Package Contamination - Removable surface contamination on TRU-waste packages may not exceed the limits established in L 1 R 402-704-01, "Contamination Control." The unshielded total surface dose rate of contact-handled (CH) TRU-waste packages may not exceed 200 mrem/hr. See Section 4.6.1 for Marking and Labeling Requirements TRU MW Less-Than-gO-Day Label Requirements For TRU Mixed Waste stored in a <90 day storage area, a completed Transuranic Waste Storage Record (TWSR) must be submitted to FWO-SWO for review...

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory		Source Document Tracking Number: D081
AK # [b]	Source Doc. Page # [c]	AK Information Summary
		Radioactive-asbestos waste is discussed in Section 12-2Radioactively contaminated medical and biological waste is discussed in Section 13.2Polychlorinated Biphenyl (PCB) waste is discussed in Section 14.0 The mission of the Waste Characterization, Reduction, and Repackaging Facility (WCRRF) "is to reduce the volume of TRU waste, to support waste characterization and certification by inspection, packaging and sampling, and to serve as a test bed in supporting research and development efforts."2D-1 - The Radioactive Materials Research, Operations, and Demonstration (RAMROD) facility, Building 37, TA-50 is used to characterize and repackage TRU waste, and to support research, development and implementation of waste treatment technologies for MLLW. The mission of the Environmental Sciences and Waste Technology Group at the RAMROD facility is to characterize and repackage TRU and TRU mixed wastes...TRU waste is packaged or repackaged to conform with the WIPP WAC...23-1 - Operations at the Radioassay and Nondestructive Testing (RANT) facility include radioassay and radiography characterization of waste containers as well as TRUPACT /1 payload buildup and loading. Characterization equipment is listed on page 23-1."During waste assay and examination, the waste remains the responsibility of the waste generator or custodian until the waste is accepted by a treatment, storage, or disposal facility (TSDF)." For purposes of waste characterization, newly generated waste from a generator is defined as waste generated after a Transuranic Waste Interface Document (TWID) is prepared and approved by Transuranic Waste Certification Program (TWCP) personnel. As part of the DOE weapons complex and as a generator of TRU waste destined for disposal at WIPP, the Laboratory must ensure that its TRU waste meets the requirements of the Waste Analysis Plan (Attachment 6 to the Hazardous Waste Facility Permit (EPA No. NM4890139088)) and the WIPP Waste Acceptance Criteria (WIPP WAC, DOE/WIPP 069).Detailed information on the LANL certification Program may be found in the "Los Alamos National Laboratory Transuranic Waste Certification Plan" (TWCP-Plan-0.2.4-001)... To ensure that only certifiable TRU waste is generated at LANL, the TWCP assigns a unique Waste Stream Number to waste generated through an approved process. The waste stream number must be entered on the TWSR form required by Area G. Waste Stream numbers are valid for a specific activity and for a maximum of one year. For continuing waste generation processes, the Waste Stream number may be renewed by submitting an update to the AK Summary Report on File. All containers shipped to the WCRRF, RAMROD and the RANT must meet the criteria listed in Section 4.3 of this document, as appropriate. (See above, page 4-5). In accordance with DOE Order 435.1, Radioactive Waste Management, and L 1 R 404-00-02, "General Waste Management Requirements," generators of solid or liquid radioactive waste shall implement a waste certification program to ensure compliance with the WAC of the receiving treatment, storage, or disposal facility TSDF). Chapter 26 establishes the Generator Waste Certification Program (GWCP) requirements for radioactive waste coming to TA-54...and the Radioactive Liquid Waste Treatment Facility.

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D081

Source Document Data Limitations (if any):

1. Best available copy.
2. On page 22-1, DOE/WIPP 069 is cited, current WIPP WAC is not referenced.

Acceptable Knowledge Expert:

Amy Johns , Amy Johns Date: 2/21/14
Print /Sign

a Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
b Obtain from Acceptable Knowledge Documentation Checklist
c For microfilm or microfiche, identify box, tape, reel number and location.

~~D001~~ D021 - AK-6

P2010-0039

Save As

Los Alamos
NATIONAL LABORATORY
Mail Stop J595, Los Alamos, NM 87545

PLAN-WASTEMGMT-002, R.3.8

LANL Waste Acceptance Criteria

Effective Date: 2-5-03

Controlled Distribution Date: 2-6-03

Next Review Date: 7-15-03

FWO-SWO WAC Coordinator	*Signature*	*Date*
Julie Minton-Hughes	Julie Minton-Hughes	2/5/2003

Signed cover pages and hard copies of revised chapters are maintained by FWO-SWO Records Management and Document Control (RMDC).

If you have questions regarding chapter revision, contact RMDC at 665-6213.

YOU ARE RESPONSIBLE FOR VERIFYING THAT YOU ARE WORKING TO THE MOST CURRENT REVISION OF THIS DOCUMENT.

HISTORY OF REVISIONS

Document Number	Issue Date	Action	Description
LW-CST7-AP01-R.0	November 1993	New Document	
EM7-CHEM-MIXED-AD-02, R.3	October 1992	New Document	
AP.2-3M7G-005.1	April 1993	New Document	
WASTEMGMT-PLAN-002, R.0	December 1994	Major Revision	
PLAN-WASTEMGMT-002, R.1.1		Temporary Change	
PLAN-WASTEMGMT-002, R.1.2	January 1997	Temporary Change	
PLAN-WASTEMGMT-002, R.1.3	September 1997	Temporary Change	
PLAN-WASTEMGMT-002, R.1.4	January 1998	Temporary Change	
PLAN-WASTEMGMT-002, R.2	August 1998	Major Revision	
PLAN-WASTEMGMT-002, R.2.1	May 1999	Chapter Addition	Revision 2.1 was made to add Chapter 19, "Sanitary Liquid Waste." Only the headers of pages that changed due to this revision show this new revision number.
PLAN-WASTEMGMT-002, R.2.2	October 1999	Temporary Change	This History of Revisions and the Table of Contents were revised to reflect a temporary revision. Revisions were made to Section 9.2.10, "Lead Waste." Chapter 25 was added and reserved for "TA-53 Radioactive Liquid Waste Treatment Plant Criteria." Chapter 26, "Radioactive Waste Certification Program," was added." Chapter 27 was added and reserved for "Decontamination and Volume Reduction System." The References and Appendices chapters were stripped of their chapter numbers.

HISTORY OF REVISIONS

Document Number	Issue Date	Action	Description
PLAN-WASTEMGT-002, R.2.3	December 1999	Temporary Change	Added Chapter 25, "TA-53 Radioactive Liquid Waste Treatment Plant Criteria." Added Section 5.1.9, "Appliances Containing Refrigerants." Modified Section 5.7.2 regarding scheduling of road-closure-shipments to TA-54; added CWDR/WPF approval requirements to Section 5.7.3.
PLAN-WASTEMGT-002 R.2.4	January 2000	Temporary Change	Added headspace requirements for containers with liquids to Chapters 8, 9, 14, and 17. Updated History of Revisions and Table of Contents.
PLAN-WASTEMGT-002, R.2.5	August 2000	Temporary Change	Revised Chapter 3, "Liquid Radioactive Waste Treatment Facility."
PLAN-WASTEMGT-002, R.2.6	September 2000	Temporary Change	Revised Chapter 15, "Green Is Clean Waste."
PLAN-WASTEMGT-002, R.3	May 2001	Biennial Revision	Major change. Majors changes were made to chapters 4, 5, 6, 7, 11, 12, 13, 14, and 22. Other chapters were not updated. The page headers for all chapters have been revised to show the Revision 3 effective month and year. The "Green is Clean Material Disposal Request Form" was assigned the number FMU64-F224 in this revision and is now maintained by FWO-SWO RMDC.
PLAN-WASTEMGT-002, R.3.1	August 2001	Interim Revision	Changed all instances of "compactable" to "compactible" in Chapter 6.
PLAN-WASTEMGT-002, R.3.2	November 2001	Interim Revision	Clarified labeling explanation added to Chapter 4.
PLAN-WASTEMGT-002, R.3.3	February 2002	Interim Revision	General update and revision Chapter 9, "Mixed Low-level Waste," to include provisions now required by off-site TSDFs. Added Chapter 28, "Non-hazardous, Non-radioactive Scrap Metal."

HISTORY OF REVISIONS

Document Number	Issue Date	Action	Description
PLAN-WASTEMGMT-002, R.3.4	May 2002	Interim Revision	Revised Chapter 3, "Radioactive Liquid Wastewater Treatment Facility."
PLAN-WASTEMGT-002, R.3.5	July 2002	Interim Revision	Revised Chapter 8, "Hazardous Waste," and re-titled the chapter as "Hazardous and Universal Waste."
PLAN-WASTEMGT-002, R.3.6	November 2002	Interim Revision	Changed the CWDR submittal requirement in section 8.7.
PLAN-WASTEMGT-002, R.3.7	December 2002	Interim Revision	Changed Radionuclide Content description in Sec. 3.0 for RLWTF.
PLAN-WASTEMGT-002, R.3.8	January 2003	Interim Revision	Added ALARA assessment to Section 3.3. Changed CWDR submittal in Chapter 8, "Hazardous and Universal Waste," and Chapter 16, "NM Special Waste."

TABLE OF CONTENTS

1.0 INTRODUCTION 1-1
2.0 DEFINITIONS AND ACRONYMS 2-1
2.1 Definitions 2-1
2.2 Acronyms 2-4
3.0 RADIOACTIVE LIQUID WASTE TREATMENT FACILITY (RLWTF) 3-1
3.1 Facility Requirements for Connection to the RLWTF 3-2
3.2 Waste Profile Form 3-2
3.3 Waste Exception Form 3-3
3.4 Radioactive Liquid Waste Acceptance Criteria 3-4
3.4.1 Radionuclide Content 3-5
3.4.2 Chemical Waste 3-5
3.4.3 Industrial Soaps and Cleaners 3-5
3.4.4 Physical Characteristics 3-6
3.5 Documentation Requirements 3-11
3.6 Transported Waste Requirements 3-11
3.6.1 Tanker Truck Operations 3-11
3.6.2 *Flatbed Truck Operations* 3-12
3.7 Nonconformances 3-13
4.0 TRU WASTE 4-1
4.1 Waste Form 4-1
4.1.1 Free Liquids 4-1
4.1.2 Compressed Gases 4-1
4.1.3 Restricted Constituents 4-2
4.2 Package Contents 4-2
4.2.1 TRU Radionuclides 4-2
4.2.2 Non-TRU Radionuclides 4-2
4.2.3 Plutonium Equivalent Activity 4-2
4.2.4 Fissile Radionuclides 4-3
4.2.5 Hazardous Constituents/Characteristics 4-4
4.2.6 Tritium-Contaminated TRU Waste 4-4
4.3 Container Requirements 4-4
4.3.1 Drum Closure 4-5
4.3.2 Venting 4-5

4.3.3 Interior Packaging 4-5
4.3.4 Heavy or Sharp Items 4-5
4.4 Package Weight 4-6
4.5 External Package Contamination 4-6
4.6 Package Marking and Labeling 4-6
4.6.1 Marking and Labeling Requirements 4-6
4.6.2 Marking and Labeling Placement - Drums 4-7
4.6.3 Marking and Labeling Placement – Standard Waste Boxes 4-8
4.7 TRU MW Less-than-90-day Label Requirements 4-8
4.8 Exemptions/Exceptions 4-8
5.0 LOW-LEVEL SOLID RADIOACTIVE WASTE 5-1
5.1 Waste Form 5-1
5.1.1 Residual Liquids 5-1
5.1.2 *Powders and Particulates* 5-1
5.1.3 Pressurized Containers 5-2
5.1.4 Irradiation Sources 5-2
5.1.5 Uranium Chips and Turnings 5-2
5.1.6 Thermal Power Limits 5-2
5.1.7 Complexing and Chelating Agents 5-2
5.1.8 Restrictions 5-2
5.1.9 Appliances Containing Refrigerants 5-3
5.1.10 Classified Waste 5-3
5.2 Package Content 5-3
5.2.1 TRU Radionuclides 5-4
5.2.2 GTCC Radionuclides 5-4
5.2.3 Non-TRU Radionuclides 5-4
5.2.4 Fissile Radionuclides 5-8
5.2.5 Radionuclide Reporting Requirements 5-9
5.3 Container Requirements 5-9
5.3.1 General Requirements 5-10
5.3.2 Dumpsters 5-10
5.3.3 Irradiation Sources 5-11
5.3.4 Beryllium 5-11
5.3.5 Classified Waste 5-11

5.4 Package Weight 5-11
5.5 External Package Contamination/Dose Rate 5-11
5.6 Package Marking and Labeling 5-11
5.7 Additional Requirements 5-12
5.7.1 Waste Handling 5-12
5.7.2 Scheduling 5-12
5.7.3 Documentation 5-12
5.7.4 Classified Waste 5-13
5.8 Exemptions/Exceptions 5-13
6.0 COMPACTIBLE SOLID LOW-LEVEL WASTE 6-1
6.1 Waste Form 6-1
6.1.1 Empty Containers 6-1
6.1.2 Restrictions 6-1
6.2 Package Content—Fissile Radionuclides 6-2
6.3 Container Requirements 6-3
6.3.1 Dumpsters or Reusable White Boxes 6-3
6.3.2 HEPA Filters 6-3
6.3.3 Bulk Waste 6-3
6.4 Package Weight 6-3
6.5 External Package Contamination/Dose Rate 6-4
6.6 Package Marking and Labeling 6-4
6.7 Additional Requirements 6-4
6.8 Exemptions 6-4
7.0 TRITIUM-CONTAMINATED WASTE 7-1
7.1 Container Requirements and Package Contents 7-1
7.1.1 General Requirements 7-1
7.1.2 Low-activity, Tritium-contaminated Waste 7-1
7.1.3 Moderate-activity Tritium-contaminated Waste 7-3
7.1.4 High-activity Tritium-contaminated Waste 7-3
7.1.5 Tritium-contaminated Mixed Waste 7-4
7.1.6 Tritium-contaminated TRU Waste 7-4
7.2 Package Weight 7-4
7.3 External Package Contamination 7-4
7.4 Package Marking and Labeling 7-5

7.5 *Exemptions/Exceptions* 7-5
8.0 HAZARDOUS AND UNIVERSAL WASTE 8-1
8.1 Waste Form Restrictions 8-1
8.2 Package Contents 8-1
8.3 *Container Requirements* 8-2
8.3.1 Container Capacity 8-2
8.3.2 Lab Pack Criteria 8-3
8.3.3 Headspace in Containers with Liquid 8-3
8.4 *Package Weight* 8-3
8.5 External Package Contamination 8-3
8.6 Package Marking and Labeling 8-3
8.7 Additional Requirements 8-4
9.0 MIXED LOW-LEVEL WASTE 9-1
9.1 Waste Form and Other Restrictions 9-1
9.2 Package Contents 9-3
9.2.1 Non-TRU Radionuclides 9-4
9.2.2 TRU Radionuclides 9-4
9.2.3 Fissile Radionuclides 9-5
9.2.4 Special Nuclear Material and Tritium 9-5
9.2.5 GTCC Limitations 9-5
9.2.6 Reporting Requirements 9-5
9.2.7 Chemical Characterization 9-5
9.2.8 Physical Characteristics 9-6
9.2.9 Generating Process 9-6
9.2.10 Debris Waste and Radioactive Lead Solids 9-6
9.2.11 Orphan Waste 9-7
9.2.12 Small Volume MLLW and Lab Packs 9-7
9.2.13 *Soils and Soil-like Material* 9-7
9.2.14 Samples 9-8
9.2.15 Printed Circuit Boards and Other Soldered Materials 9-8
9.2.16 Liquid Wastes with RCRA Hazardous Constituents, Flammable Liquids, and Other Organic Liquids 9-9
9.2.17 Aqueous Wastes with Heavy Metals 9-9
9.2.18 Shreddable Solids Contaminated with RCRA Hazardous Constituents 9-10
9.2.19 Scintillation Cocktail and Non-hazardous Combustible Liquids 9-10

9.2.20 Mercury Waste 9-10
9.3 Container Requirements 9-11
9.3.1 DOT Class 7 9-11
9.3.2 Acceptable Containers 9-12
9.3.3 Lab Pack Criteria 9-13
9.3.4 Items Larger than 55 Gallon Drums 9-13
9.3.5 Headspace in Containers with Liquid 9-13
9.4 Package Weight 9-13
9.5 External Package Contamination and Dose Rate 9-14
9.6 Package Marking and Labeling 9-14
9.7 Additional Requirements 9-15
9.8 WAC Exception and Exemptions 9-15
10.0 OTHER LOW-LEVEL WASTE 10-1
10.1 Waste Form 10-1
10.2 Package Contents 10-1
10.3 Container Requirements 10-1
10.4 Package Weight 10-1
10.5 External Package Contamination/Dose Rate 10-1
10.6 Package Marking and Labeling 10-1
11.0 CLASSIFIED WASTE 11-1
11.1 Nonradioactive 11-1
11.2 Radioactive Solid 11-1
11.3 Radioactive Liquid 11-1
12.0 ASBESTOS WASTE 12-1
12.1 Nonradioactive 12-1
12.1.1 Waste Form 12-1
12.1.2 Package Contents 12-1
12.1.3 Container Requirements 12-1
12.1.4 Package Weight 12-2
12.1.5 External Package Contamination 12-2
12.1.6 Package Marking and Labeling 12-2
12.2 Radioactive 12-3
12.2.1 Waste Form 12-3
12.2.2 Package Contents 12-3

12.2.3 Container Requirements 12-3
12.2.4 Package Weight 12-4
12.2.5 External Package Contamination 12-4
12.2.6 Package Marking and Labeling 12-4
12.2.7 Additional Requirements 12-4
12.3 Exemptions/Exceptions 12-4
13.0 INFECTIOUS/MEDICAL/BIOLOGICAL WASTE 13-1
13.1 Nonradioactive 13-2
13.1.1 Waste Form 13-3
13.1.2 Package Contents 13-3
13.1.3 Container Requirements 13-3
13.1.4 Package Weight 13-4
13.1.5 External Package Contamination 13-4
13.1.6 Package Marking and Labeling 13-4
13.1.7 Additional Requirements/Restrictions 13-5
13.2 Radioactive 13-5
13.2.1 Waste Form 13-5
13.2.2 Package Contents 13-6
13.2.3 Container Requirements 13-6
13.2.4 Package Weight 13-6
13.2.5 External Package Contamination 13-6
13.2.6 Package Marking and Labeling 13-6
13.2.7 Additional Requirements 13-6
13.3 Exemptions/Exceptions 13-6
14.0 POLYCHLORINATED BIPHENYL WASTE 14-1
14.1 Nonradioactive 14-1
14.1.1 Waste Form 14-1
14.1.2 Package Contents 14-2
14.1.3 Container Requirements 14-2
14.1.4 Headspace in Containers with Liquid 14-2
14.1.5 Package Weight 14-3
14.1.6 External Package Contamination 14-3
14.1.7 Package Marking and Labeling 14-3
14.1.8 Additional Requirements 14-4

14.2 Radioactive 14-4
14.2.1 Liquid 14-4
14.2.2 Solid 14-5
14.3 Exemptions/Exceptions 14-6
15.0 GREEN IS CLEAN WASTE 15-1
15.1 Low-density Materials 15-2
15.1.1 Waste Form 15-2
15.1.2 Package Contents 15-2
15.1.3 Restrictions 15-2
15.1.4 Container Requirements 15-3
15.1.5 Package Weight 15-4
15.1.6 External Package Contamination/Dose Rate 15-4
15.1.7 Package Marking and Labeling 15-4
15.1.8 Exemptions 15-4
15.1.9 GIC Low-density Waste Shipment Documentation 15-4
15.2 High-density Waste 15-4
15.2.1 Waste Form 15-5
15.2.2 Package Contents 15-5
15.2.3 Restrictions 15-5
15.2.4 Container Requirements 15-6
15.2.5 Package Weight 15-6
15.2.6 External Package Contamination/Dose Rate 15-6
15.2.7 Package Marking and Labeling 15-7
15.2.8 Exemptions 15-7
15.2.9 GIC High-density Waste Shipment Documentation 15-7
15.3 Documenting Generator Participation in the LANL GIC Effort 15-7
15.4 Quick Reference for Waste Generators 15-7
16.0 NEW MEXICO SPECIAL WASTE 16-1
16.1 Waste Form 16-1
16.2 Package Contents 16-2
16.3 Container Requirements 16-2
16.4 Package Weight 16-2
16.5 External Package Contamination 16-2
16.6 Package Marking and Labeling 16-2

16.7 Additional Requirements 16-3
17.0 NON-HAZARDOUS WASTE 17-1
17.1 Waste Form 17-1
17.2 Package Contents 17-1
17.3 Container Requirements 17-1
17.3.1 Container Capacity 17-2
17.3.2 Lab Pack Criteria 17-2
17.3.3 Headspace in Containers with Liquid 17-2
17.4 Package Weight 17-2
17.5 External Package Contamination 17-3
17.6 Package Marking and Labeling 17-3
18.0 WASTE CHARACTERIZATION, REDUCTION, AND REPACKAGING FACILITY 18-1
18.1 Container Requirements 18-1
18.2 Package Weight 18-2
18.3 Package Contents 18-2
18.3.1 TRU Radionuclides 18-2
18.3.2 Non-TRU Radionuclides 18-3
18.3.3 Remote-handled TRU Waste 18-3
18.3.4 Fissile Radionuclides 18-3
18.3.5 Hazardous Constituents/Characteristics 18-3
18.3.6 Gas-generating Constituents 18-4
18.3.7 Restricted Constituents 18-4
18.3.8 Classified Materials 18-4
18.4 Waste Form 18-4
18.4.1 Free Liquids 18-5
18.4.2 Compressed Gases 18-5
18.5 External Package Contamination 18-5
18.6 Package Marking and Labeling 18-5
19.0 SANITARY LIQUID WASTE 19-1
19.1 Transportation Requirements 19-1
19.2 Container Requirements 19-2
19.3 Package Weight 19-2
19.4 Waste Content 19-2
19.5 Package Marking and Labeling 19-7

19.6 Additional Requirements and Restrictions 19-7
19.6.1 Posting of Sinks or Tanks Connected to the SWS 19-7
19.6.2 Labeling of Sanitary Waste Lines 19-8
19.6.3 Connections to the SWS 19-8
19.6.4 New Operations 19-8
19.6.5 Modification of a Waste Stream 19-8
19.6.6 Standard Operating Procedure 19-9
19.6.7 Toxicity 19-9
19.6.8 Review of Waste Profile Forms (WPFs) 19-9
19.6.9 WAC Noncompliance and Monitoring 19-10
20.0 RADIOACTIVE MATERIALS RESEARCH, OPERATIONS, AND DEMONSTRATION FACILITY 20-1
20.1 Container Requirements 20-2
20.2 Package Weight 20-2
20.3 Package Contents 20-2
20.3.1 TRU Radionuclides 20-2
20.3.2 Non-TRU Radionuclides 20-3
20.3.3 Remote-handled Waste 20-3
20.3.4 Fissile Radionuclides 20-3
20.3.5 Hazardous Constituents/Characteristics 20-3
20.3.6 Gas-generating Constituents 20-4
20.3.7 Restricted Constituents 20-4
20.3.8 Classified Materials 20-4
20.4 Waste Forms 20-4
20.4.1 Free Liquids 20-5
20.4.2 Compressed Gases 20-5
20.5 External Package Contamination 20-5
20.6 Package Marking and Labeling 20-5
21.0 EXEMPTIONS AND EXCEPTIONS 21-1
22.0 TRU WASTE CERTIFICATION 22-1
22.1 GENERATOR CERTIFICATION 22-1
22.2 ACCEPTABLE KNOWLEDGE INFORMATION 22-2
22.3 LANL Waste Acceptance Criteria 22-3
22.4 Transuranic Waste Characterization Quality Assurance Project Plan 22-3
22.5 Summary of Generator Certification Tasks 22-3

23.0 RADIOASSAY AND NONDESTRUCTIVE TESTING FACILITY 23-1
23.1 Container Requirements 23-1
23.2 Package Weight 23-2
23.3 Package Contents 23-2
23.3.1 TRU Radionuclides 23-2
23.3.2 Non-TRU Radionuclides 23-3
23.3.3 Remote-handled TRU Waste 23-3
23.3.4 Fissile Radionuclides 23-3
23.3.5 Hazardous Constituents/Characteristics 23-4
23.3.6 Gas-generating Constituents 23-4
23.3.7 Restricted Constituents 23-4
23.3.8 Classified Materials 23-5
23.4 External Package Contamination 23-5
23.5 Package Marking and Labeling 23-5
24.0 DECONTAMINATION OPERATIONS FACILITY 24-1
24.1 Container Requirements 24-1
24.2 Package Weight 24-1
24.3 Package Contents 24-1
24.3.1 TRU Radionuclides 24-2
24.3.2 Non-TRU Radionuclides 24-2
24.3.3 Remote-handled Waste 24-2
24.3.4 Fissile Radionuclides 24-3
24.3.5 Hazardous Constituents/Characteristics 24-3
24.3.6 Restricted Constituents 24-3
24.3.7 Classified Materials 24-3
24.4 External Package Contamination 24-4
24.5 Package Marking and Labeling 24-4
25.0 TA-53 RADIOACTIVE LIQUID WASTE TREATMENT PLANT CRITERIA 25-1
25.1 Documentation Requirements 25-1
25.1.1 Responsibilities 25-2
25.1.2 Volume 25-2
25.1.3 Acceptable Knowledge 25-3
25.1.4 Process Waste Streams 25-3
25.1.5 New/Modified Waste Streams 25-3

25.2 Waste composition 25-4
25.2.1 Radionuclides 25-4
25.2.2 Chemical Waste 25-4
25.2.3 Temperature 25-4
25.2.4 Total Dissolved Solids (TDS) and Total Suspended Solids (TSS) 25-4
25.2.5 Restrictions 25-4
25.3 Waste Transported by Container or Truck 25-9
25.3.1 Transportation Requirements 25-9
25.3.2 Container Requirements 25-9
25.3.3 Radionuclide Content 25-10
25.3.4 Package Weight 25-10
25.3.5 External Package Contamination and Dose Rate 25-10
25.3.6 Package Marking and Labeling 25-10
25.4 Additional Requirements and Restrictions 25-10
25.4.1 Posting of Sinks and Drains Connected to the RLWTP 25-10
25.4.2 Labeling of Radioactive Waste Lines 25-10
25.5 WAC NONCOMPLIANCE AND MONITORING 25-11
25.6 Exemptions/Exceptions 25-11
26.0 RADIOACTIVE WASTE CERTIFICATION PROGRAMS 26-1
26.1 General Requirements 26-1
26.2 Required Program Elements 26-1
26.2.1 Scope 26-2
26.2.2 Roles and Responsibilities 26-2
26.2.3 Training and Qualification Program 26-3
26.2.4 Waste Stream Identification and Characterization 26-3
26.2.5 Waste Minimization, Waste Segregation, and Other Controls 26-4
26.2.6 Quality Assurance 26-4
26.2.7 Records 26-5
26.3 Exemptions/Exceptions 26-5
27.0 DECONTAMINATION AND VOLUME REDUCTION SYSTEM 27-1
28.0 NON-HAZARDOUS, NON-RADIOACTIVE SCRAP METAL 28-1
28.1 Waste Determination 28-1
28.2 Waste Form 28-1
28.2.1 Acceptable Forms 28-1

28.2.2 Restrictions 28-2
28.3 Container Requirements 28-2
28.4 Package Weight 28-2
28.5 Limits on Removable Contamination / Surface Activity 28-2
28.6 Documentation 28-3
28.6.1 Survey Records 28-3
28.6.2 Acceptable Knowledge Statement 28-3
28.6.3 Acceptable Knowledge Statement for Inaccessible Areas 28-3
28.6.4 WPF and CWDR 28-3
28.7 Package Marking and Labeling 28-4
28.8 Arranging Transfer of the Waste 28-4
28.9 Cost 28-4
28.10 Verification Monitoring Program 28-4
29.0 REFERENCES 29-1
29.1 References by Title 29-1
29.2 References by Document Number or Source 29-4

1.0 INTRODUCTION

Many research programs at Los Alamos National Laboratory (the Laboratory) generate waste contaminated with materials that, if not properly managed, could pose a risk to human health, the environment, or national security. It is the responsibility of waste management personnel to establish waste management programs that are consistent with applicable Department of Energy (DOE) orders and state and federal regulations.

These programs are outlined in the following Laboratory Implementing Requirements.

- LIR 404-00-01, "Waste Acceptance Program"
- LIR 404-00-02, "General Waste Management Requirements"
- LIR 404-00-03, "Hazardous and Mixed Waste Requirements for Generators"
- LIR 404-00-04, "Managing Solid Waste"
- LIR 404-00-05, "Managing Radioactive Waste"
- LIR 404-00-06, "Managing PCBs"

In addition to these programs, site-specific criteria related to worker safety, the as-low-as-reasonably-achievable (ALARA) program, security, and general operations are derived from:

- Safety analysis reports, hazards analyses, or hazard control plans
- Performance assessments
- Emergency response plans
- Quality assurance plans

The Waste Acceptance Criteria (WAC) for the Laboratory waste treatment, storage, and disposal facilities (TSDFs) also reflects the applicable regulations on a waste-specific basis. The TSDFs covered by this document are:

- Material Disposal Area G (Area G)
- Material Disposal Area J (Area J)
- Material Disposal Area L (Area L)
- The Waste Characterization, Reduction, and Repackaging Facility (WCRRF)
- The Radioactive Liquid Waste Treatment Facility (RLWTF)
- The Radioassay and Nondestructive Testing (RANT) Facility
- The Radioactive Materials Research, Operations, and Demonstration (RAMROD) Facility
- The Decontamination Operations Facility

This document details the specific acceptance criteria for each affected waste type as managed by one of the aforementioned TSDFs. The acceptance criteria encompass proper and complete waste characterization, documentation, and container requirements; package weight, contents, external contamination, marking and labeling; and waste form restrictions. This document also provides an overview of the Laboratory certification program for transuranic (TRU) waste destined for the Waste Isolation Pilot Plant (WIPP). The appendices contain the waste management documentation forms, RCRA-regulated characteristics and constituents, hazardous constituents for TRU waste, and the definition of regulated medical waste.

2.0 DEFINITIONS AND ACRONYMS

2.1 DEFINITIONS

NOTE: General waste management definitions can be found on-line on the Laboratory's Official Documents Page.

As Low As Reasonably Achievable (ALARA): A radiation protection guideline for keeping individual and collective radiation exposures (in the work force and general public) as low as social, technical, economic, practical, and public policy considerations permit. {LIR 402-702-01, "ALARA"}

Batch Waste: Any containerized waste transported to Laboratory radioactive liquid waste treatment facilities (RLWTFs) for treatment and disposal.

Certified Waste: Waste that has been confirmed to comply with applicable waste acceptance criteria under an approved certification program. {DOE Order 5820.2A}

Characterization: The identification of waste composition and properties.

Chelating Agent: Any of the amine polycarboxylic acids (e.g., EDTA, DTPA), hydroxy-carboxylic acids, and polycarboxylic acids (e.g., citric acid, carbolic acid, and glucinic acid). {10 CFR § 61.2}

Class A Waste: Low-level radioactive waste that, based on criteria specified by the Nuclear Regulatory Commission (NRC) and codified in 10 CFR Part 61, is acceptable for shallow-land disposal with nominal package stability requirements.

Class B Waste: Low-level radioactive waste that, once packaged to meet the specific waste form and stability requirements defined in 10 CFR § 61.55, is safe for shallow-land disposal.

Class C Waste: Low-level radioactive waste that must meet rigorous waste form and stability requirements specified in 10 CFR Part 61 for land disposal and must be buried at a depth of at least 5 m (16.4 ft) to ensure the protection of inadvertent intruders.

Classified Waste: Classified material that has been determined to be waste.

Compressed Gas: Any material in an enclosed container that has an absolute pressure exceeding 276 kPa (40 psi) at 21.1°C (70.0°F) or, regardless of the pressure at 21.1°C

(70.0°F), has an absolute pressure greater than 965 kPa (140 psi) at 54.4°C (130°F). {Sax and Lewis 1987}

Derived Concentration Guides (DCG): Concentrations listed in Chapter III of DOE Order 5400.5 that provide reference values for conducting radiological environmental protection programs at operational DOE facilities and sites.

Fissile Gram Equivalent (FGE): The amount of fissile material that yields the same number of fission events as a gram of ^{239}Pu.

Fissile Isotope: An isotope capable of undergoing fission by interacting with a slow neutron.

Fissionable Isotope: An isotope capable of undergoing fission by any process.

Freeboard: The vertical distance between the top of a tank and the surface of the waste contained therein. {40 CFR § 260.10}

Grab Samples: Samples of a single volume of waste obtained at a given time.

Major Radionuclides: Radionuclides that are listed in a facility's WAC and that must be reported with specified accuracy when characterizing radioactive waste because they are important to that facility's performance assessment and/or safety analysis report.

Monofill: A separate trench or shaft dedicated to the disposal of a single type of waste.

Overpack: A container used by a single shipper to provide protection or convenience in handling a package or to consolidate two or more packages. {49 CFR § 171.8}

Package: Packaging and its contents. {49 CFR § 171.8}

Packaging: A receptacle and any other components or materials necessary for the receptacle to perform its intended containment function in conformance with the minimum packing requirements of the Department of Transportation (DOT). {49 CFR § 171.8}

Performance Assessment (PA): A systematic analysis of the potential risks posed by waste management systems to the public and environment, and a comparison of those risks to established performance objectives. {DOE Order 5820.2A}

Performance Objectives (POs): Radiological standards established in DOE Order 5820.2A that must be met by all DOE low-level radioactive waste treatment, storage, and disposal facilities (TSDFs) to protect public health and safety.

Portable Container: Any moveable container, other than a tanker truck, used for transporting waste.

Pyrophoric Material: A material that, under normal conditions, is liable to cause fires through friction or retained heat from manufacturing or processing, or that can be ignited readily and when ignited burns so vigorously and persistently as to create a serious transportation, handling, or disposal hazard. {DOE Order 5820.2A}

Radiolysis: The chemical breakdown of materials as a result of exposure to radiation.

Residual Liquid: Liquids in quantities of less than 1 volume percent of the waste container that result from liquid residues remaining in well-drained internal containers, condensation of moisture, and liquid separations resulting from sludge/resin settling. {WIPP WAC}

Safety Analysis Report (SAR): A report required by DOE Order 5480.1B or 5480.23 that summarizes the hazards associated with the operations at a nonnuclear facility or a nonreactor nuclear facility, respectively, used to define minimum safety requirements.

Shock Load: The arrival at a wastewater treatment plant of an acceptable waste that is in sufficient quantity or strength to cause operating problems. Organic or hydraulic overloads can cause a shock load.

Technical Safety Requirements (TSRs): The requirements (such as operating limits, surveillance requirements, administrative controls, and use and application instructions) that define the conditions, safe boundaries, and management or administrative controls necessary to ensure the safe operation of a nuclear facility. {DOE 1992}

Tuff Tank™: Trade name for a plastic, leak-tight, acid-resistant container, generally 833 *l* to 1249 *l* (220 to 330 gal.) in size, enclosed in a steel mesh cage, and used for transporting liquids.

WAC Exception (WE) form: The form used by generators to document that their waste cannot feasibly be made to meet the waste acceptance criteria of the TSDF to which it is destined to go or to request a variance from the waste acceptance criteria.

2.2 ACRONYMS

AEA	Atomic Energy Act
AK	acceptable knowledge
ALARA	as low as reasonably achievable
AR	Administrative Requirement
Btu	British thermal units
BUS	Business Operations Division
CAO	Carlsbad Area Office
CFR	Code of Federal Regulations
CH	contact-handled
CPM	counts per minute
CST	Chemical Science and Technology
CWA	Clean Water Act
CWDR	Chemical Waste Disposal Request
DCG	Derived Concentration Guideline
DEA	U.S. Drug and Enforcement Administration
DEB	1,4-bis(phenethenyl)benzene
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DPM	disintegrations per minute
DSSI	Diversified Scientific Services, Inc.
DTPA	diethylenetriaminepentaacetic acid

EDTA	ethylenediaminetetraacetic acid
EM-SWO	Environmental Management - Solid Waste Operations
EM-RLW	Environmental Management - Radioactive Liquid Waste
EPA	U.S. Environmental Protection Agency
ES&H	Environment, Safety, and Health
FGE	fissile gram equivalent
FRP	fiberglass-reinforced, plastic-coated plywood
GTCC	greater than class C
HDPE	high-density polyethylene
HENC	high-efficiency neutron counter
HEPA	high-efficiency particulate air
HMTA	Hazardous Materials Transportation Act
HTO	tritiated water
HWMR	New Mexico Hazardous Waste Management Regulations
INEEL	Idaho National Environmental Engineering Laboratory
JCNNM	Johnson Controls Northern New Mexico
MLLW	mixed low-level waste
LIR	Laboratory Implementation Requirements
LDR	Land Disposal Restrictions
LLW	low-level radioactive waste
LRAD	long-range alpha detector
LS	Laboratory Standard
LWTF	Liquid Waste Treatment Facility
LSA	low specific activity

MDA	minimum detectable activity
MEK	*methyl-ethyl-ketone*
MSDS	Material Safety Data Sheet
NCR	Nonconformance Report
NDA/NDE	nondestructive analysis/nondestructive examination
NFS	Nuclear Fuel Services, Inc.
NMED	New Mexico Environment Department
NPDES	National Pollutant Discharge Elimination System
NRC	U.S. Nuclear Regulatory Commission
OSR	Operational Safety Requirements
PA	Performance Assessment
PAN	passive active neutron
PCB	polychlorinated biphenyl
PE-Ci	^{239}PU equivalent curies
PO	performance objectives
PPE	personal protective equipment
PPM	parts per million
QAPD	Quality Assurance Program Document
QAPjP	Quality Assurance Project Plan
QAPP	Quality Assurance Program Plan
RANT	radioassay and nondestructive testing
RAMROD	Radioactive Materials Research, Operations, and Demonstration
RCA	radiologically controlled area
RCRA	Resource Conservation and Recovery Act

RCT	radiation control technician
RH	remote-handled
RLWCS	radioactive liquid waste collection system
RLWTF	Radioactive Liquid Waste Treatment Facility
RQ	regulated quantity
RTR	real-time radiography
SAR	Safety Analysis Report
SARP	Safety Analysis Report for the TRUPACT-II Shipping Package
SOP	standard or safe operating procedure
SVOCs	semivolatile organic compounds
SWB	standard waste box
SWSC	Sanitary Wastewater System Consolidation
SWMR	New Mexico Solid Waste Management Regulations
SWP	Special Work Permit
TA	Technical Area
TCA	1,1,1 trichlorethane
TCLP	toxicity characteristic leaching procedure
TFCHW	treated formerly characteristic hazardous waste
TG	Treatability Group
TRAMPAC	TRUPACT-II Authorized Methods for Payload Control
TRU	transuranic
TRUPACT-II	Transuranic Package Transporter-II
TSCA	Toxic Substances Control Act
TSDF	treatment, storage, or disposal facility

TSR	Technical Safety Requirements
TWCP	Transuranic Waste Characterization/Certification Program
TWID	TRU Waste Interface Document
TWSR	TRU Waste Storage Record
UN	United Nations
USQDs	unreviewed safety question determinations
VOCs	volatile organic compounds
WAC	waste acceptance criteria
WACCP	Waste Acceptance, Characterization, and Certification Program
WAST	Waste Activities Support Team
WCRRF	Waste Characterization, Reduction, and Repackaging Facility
WE	WAC exception
WERF	Waste Experimental Reduction Facility
WIPP	Waste Isolation Pilot Plant
WIPP WAC	Waste Acceptance Criteria for the Waste Isolation Pilot Plant
WMC	waste management coordinator
WPF	Waste Profile Form
WQCC	New Mexico Water Quality Control Commission
WWTP	waste water treatment plant

3.0 RADIOACTIVE LIQUID WASTE TREATMENT FACILITY (RLWTF)

THE WASTE ACCEPTANCE CRITERIA (WAC) IN THIS CHAPTER APPLY ONLY TO INDUSTRIAL WASTEWATERS BEING SENT FOR PROCESSING AT THE TA-50 RLWTF. THESE WAC DO NOT APPLY TO THE "ACID" AND "CAUSTIC" PROCESS WASTEWATERS GENERATED AT THE PLUTONIUM COMPLEX (TA-55). A SEPARATE WAC PERTAINING TO THE "ACID" AND "CAUSTIC" PROCESS WASTEWATERS CAN BE OBTAINED FROM THE TA-55 PLUTONIUM COMPLEX WASTE MANAGEMENT COORDINATOR.

The Radioactive Liquid Waste Treatment Facility (RLWTF) treats and disposes of aqueous radioactive waste generated at Los Alamos National Laboratory (LANL). The majority of this wastewater is discharged to the RLWTF through a network of buried pipelines, known as the Radioactive Liquid Waste Collection System (RLWCS). Other wastewater is transported to the RLWTF by truck.

The Waste Acceptance Criteria (WAC) outlined in this Chapter are applicable to all radioactive wastewaters which are conveyed to the Technical Area 50, Building 1 (TA-50-1) RLWTF by the RLWCS or by truck.

These WAC are based on the following:

- DOE Order 435.1 (formerly 5820.2A), "Radioactive Waste Management"
- DOE Order 5400.5, "Radiation Protection of the Public and the Environment"
- DOT regulations, 49 CFR, Parts 106-180
- New Mexico Hazardous Waste Management regulations (20 NMAC 4.1), which implement the Resource Conservation Recovery Act (RCRA) regulations
- New Mexico Water Quality Control Commission regulations and standards
- LANL's National Pollutant Discharge Elimination System (NPDES) permit
- ALARA considerations

NOTE: UPON ISSUANCE OF NEW WAC, THE GENERATORS AND WASTE MANAGEMENT COORDINATORS HAVE TEN (10) WORKING DAYS TO IDENTIFY WHICH WASTE PROFILE FORMS (SEE SECTION 3.2) ARE NOT IN COMPLIANCE WITH THE NEW WAC. AN ADDITIONAL TWENTY (20) WORKING DAYS ARE ALLOTTED FOR THE SUBMITTAL OF WASTE EXCEPTION FORMS (SEE SECTION 3.3) FOR THE WASTE STREAMS IDENTIFIED AS NOT IN COMPLIANCE WITH THE NEW WAC.

3.1 FACILITY REQUIREMENTS FOR CONNECTION TO THE RLWTF

Buildings connected to the RLWTF by the RLWCS must meet the following criteria:

- The pipelines and associated telemetry must comply with the standards established in the "Pipeline Design Requirements for the LANL Radioactive Liquid Waste Collection System" (EM/RLW-FDR-01) and "General Waste Management Requirements" (LIR 404-00-02.3).
- Pipelines within buildings that are part of the RLWCS must be labeled "Radioactive Waste Line." Labels can be obtained from the RLWTF at 667-4301.
- Each sink connected to the RLWCS must be posted with a sign informing the user of the requirements for disposing of waste down the drain. Signs may be obtained from the RLWTF at 667-4301.

NOTE: The RLWCS begins at the first connection point of the collection system with the facility piping that is outside of the facility.

3.2 WASTE PROFILE FORM

All waste streams must be profiled using a Waste Profile Form (WPF). Guidance in completing the WPF is given in LIG 404-00-03.0. A blank WPF is included in LIG 404-00-03.0. A PDF fillable WPF can be obtained on the LANL web at LANL Online Forms, ES&H Form 1346. Assistance in completing the WPF can be obtained by calling EM-SWO at 665-4000.

Upon completion, the WPF is to be mailed to EM-SWO at MS J-595. Approval of a WPF generally requires twenty-one (21) working days. A paper copy of the WPF will be mailed to the waste generator and the generator's Waste Management Coordinator (WMC) upon acceptance or rejection of the waste at the RLWTF.

Waste Profile Forms must be updated annually on the anniversary date of the WPF approval.

Additionally, a WPF must be prepared for janitorial and decontamination activities which produce liquid waste coming to the RLWTF. A WPF must also be prepared for liquid wastes *from mechanical equipment in radiologically controlled areas.*

ONLY LIQUID WASTE HAVING AN APPROVED WPF MAY BE DISCHARGED TO THE RLWTF.

3.3 WASTE EXCEPTION FORM

Some waste streams, which do not meet the WAC, may be acceptable for treatment at the RLWTF. Various types of generator treatment and/or discharge flow restrictions may be required by the RLWTF. Also, a temporary change in the waste stream, may require that the RLWTF be notified. The documentation for handling both of these situations is a Waste Exception Form (WEF). The RLWTF will work with the generator to fill out a WEF. The WEF will need to be approved by the RLWTF before the new waste stream or the modified waste stream can be sent to the RLWTF.

A WEF form can be obtained by contacting the Waste Management Coordinator at the RLWTF by calling 667-4301. The WEF can also be obtained by going to the Facility and Waste Operations (FWO) Division, Solid Waste Operations (SWO) group home page and searching for form WM-F054.

Certain wastes, given in Table 3.0, are unacceptable for treatment at the RLWTF. Wastes should not have concentrations of radioactive or non-radioactive contaminants in excess of amounts given in Tables 3.1 and 3.2. If a waste stream exceeds the amounts in Table 3.1, an environmental ALARA assessment must be performed in accordance with DOE O 5400.5, Chapter II, 2.a. and attached to the WEF. Liquid discharges to the RLWTF must be in accord with volume parameters given in Table 3.4. If a waste stream includes any of the material listed in Table 3.0 or exceeds concentration or flow guidelines, the generator must complete a waste exception form (WEF) and submit the WEF along with the WPF. The RLWTF will determine if the waste stream can be accepted for treatment. A maximum of two (2) additional WEFs are allowed for any particular waste stream following approval of the original WPF (and original WEF if submitted). A new WPF must be submitted for waste streams having more than two additional WEFs.

TABLE 3.0

	Unacceptable Wastes
Radionuclides	• Accelerator-produced tritium
Chemical Wastes	• RCRA-regulated characteristic waste (D001, D003) (40 CFR §§261.21, 23) • RCRA-regulated characteristic waste (D002) (40 CFR §§261.21, 23) in discharges greater than 50 gallons/discharge • RCRA-regulated toxic metal waste (D004 – D011) (40 CFR §261.24) • RCRA-regulated toxic organic waste (D012 – D043) (40 CFR §261.24) • RCRA-regulated listed waste (F-, K-, P-, U-listed) (40 CFR §§261.31, 32, 33) • DDT, dioxins, or pesticides at any detectable levels • Biological or microorganism waste • Samples and wastes from analytical operations with no associated WPF (Analytical operations are not exempt from the WPF process.) • Polychlorinated biphenyls (PCBs) at any detectable or suspected concentration
Other (See sections 3.4.2 – 3.4.3 for exceptions)	• Non-radioactive waste • Electroplating operations waste • Sanitary waste (except for rad decon showers and sinks) • Detergents and surfactants • Boiler/chiller waters containing rust/scale/other inhibitors • Sludges/solids • Cooling tower blowdown/other facility wastewater • Dyes and scintillation cocktails

3.4 RADIOACTIVE LIQUID WASTE ACCEPTANCE CRITERIA

To be acceptable for treatment at the RLWTF, waste streams must meet the criteria outlined in Sections 3.4.1 through 3.4.4 of this Chapter.

ONLY RADIOACTIVE, OR POTENTIALLY RADIOACTIVE, WASTEWATER SHOULD BE DISCHARGED TO THE RLWTF.

3.4.1 Radionuclide Content

The total radionuclide concentration {defined as the sum of gross alpha, gross beta (not including tritium), and gross gamma or the sum of individual alpha, beta, and gamma emitting nuclides known to be in the waste} of a waste stream sent to the RLWTF may not exceed 5.0E-7 Ci/L.

Limits on individual radionuclides are listed in Table 3.1.

The activity of the three most predominant alpha-, beta- (not including tritium), and gamma-emitting radionuclides must be listed on the WPF. Radionuclides (in any concentration) that are known to be in the waste stream must also be listed on the WPF.

3.4.2 Chemical Waste

Inorganic acids and bases with a pH between 2 and 12.5 are acceptable for discharge. Inorganic wastes with a pH from 0 to 2 and 12.5 to 14 are also permitted for discharge to the RLWTF (RCRA Code D002) in the volume range of 0 to 50 gallons/discharge.

Liquid waste streams that contain non-radioactive constituents below the concentration limits in Table 3.2 are acceptable for discharge to the RLWTF. Table 3.3 is a listing of the Total Toxic Organics (TTO).

3.4.3 Industrial Soaps and Cleaners

Janitorial wastewaters, such as mop water, are acceptable in the volume range of 0 to 50 gallons/discharge.

Wastewater from lab glassware, laundry, and respirator washing machines is acceptable in discharges of less than 250 gallons/discharge. The concentration of industrial cleaner must be less than 0.2% by weight.

Wastewater with soaps or cleaners from machinery and/or equipment cleaning operations is acceptable in discharges of less than 250 gallons/discharge and containing industrial cleaners in concentrations less than 0.2% by weight. Such waste streams may not have any detectable sheen or emulsions from oil, grease, rust inhibitor, or other petrochemicals.

3.4.4 Physical Characteristics

Wastewater temperature must be less than or equal to 60 °C (140 °F). Temperatures above 60°C (140F°) will cause expansion and damage to the RLWCS.

Volume requirements are listed in Table 3.4. The generator must provide waste stream flow-rate data on the WPF. Volume increases outside the limits specified by the generator on the WPF are not allowed.

TABLE 3.1

Limits on Radionuclides Acceptable for Discharge to the RLWTF	
	Concentration (Ci/L)
Total Radionuclide Concentration (sum of gross alpha, beta, gamma or the sum of nuclides known to be in the waste)	**5.0E-07**
Alpha Emitters	
^{241}Am ^{239}Pu ^{237}Np ^{240}Pu ^{238}Pu ^{234}U	1.0E-07
^{235}U ^{238}U	1.0E-09
^{232}Th	1.0E-10
Beta Emitters	
^{74}As ^{83}Rb ^{7}Be ^{46}Sc ^{141}Ce ^{48}Sc ^{57}Co ^{75}Se ^{58}Co ^{113}Sn ^{152}Eu ^{85}Sr ^{52}Mn ^{89}Sr ^{54}Mn ^{48}V ^{88}Y	1.0E-07
^{133}I ^{22}Na ^{84}Rb	5.0E-08
^{65}Zn	4.0E-08
^{60}Co	2.0E-08
^{134}Cs ^{137}Cs ^{56}Co	1.0E-08
^{90}Sr	5.0E-09
^{3}H (accelerator-produced)	0 (none allowed)
^{3}H (reactor-produced)	2.0E-08
$^{226}Ra + ^{228}Ra$	5.0E-10
Other Radionuclides	1.0E-08

TABLE 3.2

Limits on Non-Radioactive Constituents Acceptable for Discharge to the RLWTF	
Constituent	**Maximum Allowable Concentration** (mg/L– except where noted)
Aluminum	50
Ammonia-Nitrogen	5
Arsenic	< 5
Barium	< 100
Beryllium	1
Boron	50
Cadmium	< 1
Chromium	< 5
Chlorine (Free)	1
Cobalt	5
Copper	10
Cyanide	0.5
Fluoride	1
Lead	< 5
Mercury	< 0.2
Nitrate-Nitrogen	9.4 g/day
Perchlorate	500 ppb
Selenium	< 1
Silver	< 5
Vanadium	1.0
Zinc	100
Chemical Oxygen Demand (COD)	125
Total Suspended Solids (TSS)	10,000
Total Toxic Organics (TTO)[1]	25

[1] see Table 3.3 containing TTO List

TABLE 3.3

Total Toxic Organics (TTO) List		
Semivolatiles (Method 625A)	**Semivolatiles (Method 625B)**	**Volatile Organics (Method 624)**
Parachlorometa cresol	Acenaphthene	Acrolein
2-Chlorophenol	Acenaphthylene	Acrylonitrile
2,4-Dichlorophenol	Anthracene	Benzene
2,4-Dimethylphenol	Benzidine	Dichlorobromomethane
2,4-Dinitrophenol	Benzo (a) anthracene	Bromoform
2-Methyl-4,6-dinitrophenol	Benzo (b) fluoranthene	Bromomethane
2-Nitrophenol	Benzo (k) fluoranthene	Carbon tetrachloride
4-Nitrophenol	Benzo (a) pyrene	Chlorobenzene
Pentachlorophenol	Benzo (g,h,i) Perylene	Chloroethane
Phenol	Benzyl butyl phthalate	2-Chloroethyl vinyl ether
2,4,6-Trichlorophenol	Bis (2-Chloroethyl) ether	Chloroform
	Bis (2-Chloroethoxy) Methane	Chloromethane
	Bis (2-Ethylhexyl) phthalate	Chlorodibromomethane
	Bis (2-Chloroisoprophyl) ether	1,2-Dichlorobenzene
	4-Bromophenyl phenyl ether	1,3-Dichlorobenzene
	2-Chloronaphthalene	1,4-Dichlorobenzene
	4-Chlorophenyl phenyl ether	1,1-Dichloroethane
	Chrysene	1,2-Dichloroethane
	Dibenzo (a,h) Anthracene	1,1-Dichloroethylene
	Di-N-Butylphthalate	1,2-Trans-chloroethylene
	3,3'-Dichlorobenzidine	1,2-Dichloropropane
	Diethyl phthalate	1,3-Dichloropropene
	Dimethyl phthalate	Ethyl benzene
	2,4-Dinitrotoluene	Methylene chloride
	2,6-Dinitrotoluene	1,1,2,2-Tetrachloroethane
	Di-n-octyl phthalate	Tetrachloroethylene
	1,2-Diphenylhydrazine	1,1,1-Trichloroethane
	Fluoranthene	Trichloroethylene
	Fluorene	1,1,2-Trichloroethane
	Hexachlorobenzene	Toluene
	Hexachlorobutadiene	Vinyl chloride
	Hexachlorocyclopentadiene	
	Hexachloroethane	
	Indeno (1,2,3-cd) pyrene	
	Isophorone	
	Napthalene	
	Nitrobenzene	
	N-Nitrosodimethylamine	
	N-Nitrosodi-n-propylamine	
	N-Nitrosodiphenylamine	
	Phenanthrene	
	Pyrene	
	1,2,4-Trichlorobenzene	

TABLE 3.4

Volume Criteria[1]	
0 – 50 gallons/discharge[2]	Acceptable[3]
50 – 250 gallons/discharge[2]	The generator must provide a discharge schedule on the Waste Profile Form for approval by the applicable RLWTF. Upon approval, the generator may only discharge their waste in accordance with the approved schedule.[3]
250 – 2,000 gallons/discharge[2]	Generator must provide 24 hours notice to the RLWTF of the planned discharge (667-4301), and must obtain approval for the discharge from the RLWTF.[3]
> 2,000 gallons/discharge[3]	Not acceptable
Continuous flow[4]	Generator must clearly state on the Waste Profile Form that the process is continuous flow. Via the Waste Profile Review process, the RLWTF will determine if the waste is acceptable.[3]

[1]See Section 3.3 for exceptions.

[2]Discharge is defined as the controlled release of a finite volume of liquid waste into the Radioactive Liquid Waste Collection System (RLWCS).

[3]The RLWTF facilities have the right to limit discharge or refuse treatment of any waste.

[4]Continuous flow is defined as the release of liquid waste into the RLWCS for which the release is prolonged over a period of time or for which spontaneous release is not controlled by the generator.

3.7 NONCONFORMANCES

The RLWTF will issue a Nonconformance Report to any generating group that discharges or transports a waste stream to the RLWTF that does not meet the criteria outlined in this Chapter and for which a WAC exception was not approved by the RLWTF. The Water Quality and Hydrology group (ESH-18) and the Hazardous and Solid Waste group (ESH-19) will also be notified of the nonconformance and a copy of the report sent to these organizations.

Repeated noncompliance by generators with the requirements of these WAC may result in termination of RLWTF privileges. In such cases, it is the generator's responsibility to find alternate means of disposal that comply with all local, state, and federal environmental regulations. RLWTF personnel reserve the right to perform scheduled or nonscheduled monitoring of discharge sources at all Laboratory radioactive wastewater generating facilities.

4.0 TRU WASTE

Transuranic (TRU) waste is waste containing alpha-emitting transuranic radionuclides having atomic numbers greater than 92 and half-lives that exceed 20 years, at concentrations greater than 100 nCi/g of waste at the time of assay. The WAC for TRU waste are based on the following:

- The most recent WAC for the WIPP
- DOT regulations
- TA-54, Area G, Safety Analysis Report (SAR) results and/or Technical Safety Requirements (TSRs)
- RCRA permit requirements
- ALARA considerations

4.1 WASTE FORM

All TRU waste must be in solid form. Free liquids and compressed gases will not be accepted. Waste that complies with the following criteria meets this restriction.

4.1.1 Free Liquids

TRU waste containers must contain as little residual liquid as is reasonably achievable. Internal containers (cans, bottles, etc.) must be well drained, but may contain residual liquids as long as the total residual liquids do not exceed:

- 2 *l* in a 55-gal. drum
- 8 *l* in a standard waste box (SWB)
- 1 in. in the bottom of any container

Free liquids must be absorbed or cemented.

4.1.2 Compressed Gases

Empty compressed gas cylinders are acceptable for storage if each cylinder is punctured or the valve is held open with a wire through it. The method used to make the compressed gas container acceptable must be verifiable by real-time radiography (RTR).

4.1.3 Restricted Constituents

The following prohibitions and limitations apply to TRU waste stored at TA-54, Area G:

Radionuclides in pyrophoric form (plutonium metal, uranium metal, etc.) are limited to 1 weight percent of each waste package and must be uniformly dispersed in the waste.

Explosives are prohibited from being stored at TA-54, Area G.

Classified wastes are prohibited from being stored at TA-54, Area G.

4.2 Package Contents

4.2.1 TRU Radionuclides

TRU radionuclides known to be in a waste package shall be identified and reported by total curie content or equivalent gram quantity. TRU waste, by definition, has a total TRU alpha activity concentration greater than 100 nCi/g of waste at the time of assay. The reported activity for each TRU radionuclide shall include the measurement error.

4.2.2 Non-TRU Radionuclides

Any non-TRU radionuclides known by measurement or process knowledge to be present in the waste must be identified and quantified.

All remote-handled (RH) TRU-waste containers (i.e., TRU waste with an external surface dose rate exceeding 200 mrem/hr) must be analyzed by gamma spectroscopy to account for the gamma-emitting radionuclides contributing to the surface dose rate.

4.2.3 Plutonium Equivalent Activity

The TRU-radionuclide content of any single container of treated (i.e., solidified/vitrified) TRU waste must not exceed 300 ^{239}Pu equivalent curies (PE-Ci). For untreated TRU waste the total TRU-radionuclide content must not exceed:

- 80 PE-Ci in a 55 gal. drum
- 300 PE-Ci in an 85 gal. overpack
- 130 PE-Ci in an SWB

Generators must use the PE-Ci values in Table 4-1 to determine the plutonium equivalent activity limits for TRU-waste packages {CST14G-REPORT-009}.

4.2.4 *Fissile Radionuclides*

The fissile or fissionable isotope content of individual TRU-waste containers must not exceed the following values in ^{239}Pu fissile gram equivalents (FGE) {CST14G-REPORT-009, R.0. Chapter 5}:

- 55-gal. drum: The total FGE must not exceed 200 g.
- SWB: The total FGE must not exceed 325 g.

Generators must use the FGE values in Table 4-1 to determine fissile limits for TRU waste packages {DOE 1989}.

TABLE 4-1. ^{239}Pu Fissile Gram and Curie Equivalents*

Isotope	FGE	PE-Ci 239 Equivalent
^{233}U	1.00	
^{237}Np	1.50E-02	3.9
^{235}U	1.00	1.0
^{236}Pu		3.2
^{238}Pu	1.13E-01	1.1
^{239}Pu	1.00	1.0
^{240}Pu	2.25E-02	1.0
^{241}Pu	2.25	52.0
^{242}Pu	7.50E-03	1.1
^{241}Am	1.87E-02	1.0
^{242m}Am	3.46E+01	1.0
^{243}Am	1.29E-02	
^{242}Cm		30.0
^{243}Cm	5.00	
^{244}Cm	9.00E-02	1.9
^{245}Cm	1.50E+01	
^{246}Cm	5.00E-01	
^{249}Cf	4.50E+01	
^{251}Cf	9.00E+01	
^{252}Cf		3.9

Source: DOE 1989 and WIPP WACC.

*Guidance for using table:

1) Multiply the number of grams of a given radionuclide by the number in the "FGE" column to obtain ^{239}Pu fissile gram equivalents.

2) Divide the number of Curies of a given radionuclide by the number in the "PE-Ci 239 Equivalent" column to obtain ^{239}Pu equivalent Curies

4.2.5 Hazardous Constituents/Characteristics

Waste generators must provide TRU-waste characterization information based on the hazardous characteristics and constituents listed in 40 CFR Part 261, Subparts C and D, and Appendix VIII. TRU mixed waste must be characterized according to the requirements established in the applicable waste analysis plan of the Laboratory mixed waste Part B permit application. TRU wastes must not exhibit the hazardous characteristics of ignitability (D001), corrosivity (D002), and/or reactivity (D003) identified under 40 CFR Part 261, Subpart C (see Appendix A). In addition, only the EPA hazardous waste codes listed in Table 4-2 are acceptable for disposal at WIPP or for storage at TA-54, Area G {WIPP WAC, Rev. 7}.

TABLE 4-2. WIPP/Area G Acceptable RCRA Hazardous Waste Codes

D004	D019	D034	F002
D005	D021	D035	F003
D006	D022	D036	F004
D007	D026	D037	F005
D008	D027	D038	F006
D009	D028	D039	F007
D010	D029	D040	F009
D011	D030	D043	P015
D018	D032	F001	—

4.2.6 Tritium-Contaminated TRU Waste

TRU waste that is contaminated with tritium must be packaged as specified by the treatment, storage, and disposal facility (TSDF). A WAC Exception (WE) must be submitted to and approved by the TSDF before packaging the waste. The TSDF will evaluate each tritium-contaminated waste stream and specify packaging requirements that limit the potential release of tritium.

4.3 Container Requirements

All TRU-waste containers must be free from damage and securely closed for the waste to be accepted at Area G. Before using an approved container, the waste generator must inspect it for any damage that would prevent it from meeting DOT regulations and document this

inspection. To ensure efficient use of storage capacity, waste containers must be as full as possible without compromising other requirements.

Containers used for packaging TRU waste must meet DOT specifications 7A, Type A such as United Nations (UN) packagings UN1A1 or UN1A2. Currently approved containers include the following {CST14G-REPORT-009, R.0, Appendix B}:

- White 55-gal. steel drums
- 85-gal. steel drums used for overpacks
- 71 in. x 54.25 in. x 37 in. steel SWBs

Other containers may be used for packaging TRU waste, but their use must be requested by the generator on a WE form and approved by the Solid Waste Operations Group (FWO-SWO).

4.3.1 Drum Closure

Drum heads (lids) must be closed and secured with the bolt of the bolt ring placed over the drum seam. This procedure must be used for all TRU-waste drums, including drums used for overpacks.

4.3.2 Venting

All TRU-waste containers must be vented using carbon-composite filters. Drums require at least one filter, and SWBs require at least two filters. The number of filters required for approved nonstandard containers is determined by FWO-SWO.

4.3.3 Interior Packaging

All interior-packaging layers must be closed by either the twist-and-tape method, the fold-and-tape method, or have a filter. Interior metal containers must be vented to reduce gas accumulation. The tops of all rigid drum liners must be punctured with a hole at least 0.8 cm (0.3 in.) in diameter or have a filter installed.

4.3.4 Heavy or Sharp Items

Heavy or sharp waste items must be securely blocked, braced, or packaged to prevent damage to the liner or container during handling and shipping.

4.4 PACKAGE WEIGHT

The package weight must not exceed the rated capacity of the container based on DOT-specified package certification tests for the contained material or the following limits:

- 409 kg (900 lb) for 55-gal. drums
- 658 kg (1450 lb) for 85-gal. overpacks
- 1814 kg (4000 lb) for SWBs

4.5 EXTERNAL PACKAGE CONTAMINATION

Removable surface contamination on TRU-waste packages may not exceed the limits established in LIR 402-704-01, "Contamination Control." Waste packages with surface contamination exceeding these limits must be decontaminated or overpacked. Painting over waste packages that exceed the contamination limits is prohibited.

The unshielded total surface dose rate of contact-handled (CH) TRU-waste packages may not exceed 200 mrem/hr. If the unshielded total surface dose rate exceeds 20 mrem/hr, the generator must notify FWO-SWO before arranging for the waste to be transported to Area G.

4.6 PACKAGE MARKING AND LABELING

4.6.1 Marking and Labeling Requirements

All TRU-waste packages must be marked and labeled according to DOT regulations. In addition, each TRU-waste package must include the following:

- A Health Physics Radioactive Material Tag completed and signed by a radiation control technician (RCT)
- The gross weight of the container, in whole pounds, written in a minimum of one-half in.-high letters with waterproof ink
- A yellow radioactive-waste marking
- A blue nonregulated-waste marking or a yellow hazardous-waste marking
- A "Non-DP" marking on all containers of waste generated as a result of non-Defense Program-funded activities
- A unique package number displayed on five white barcode labels, generated and supplied by FWO-SWO

If the waste requires the hazardous waste marking, this marking must contain the generator's name and address, the manifest number, and the DOT proper shipping name and

identification number. The container must also be marked with the contents of the waste and the accumulation start date.

4.6.2 Marking and Labeling Placement - Drums

Drums must have the following markings placed immediately adjacent to the drum seam between the top two rolling hoops:

- Radioactive waste marking
- Nonregulated waste marking or hazardous waste marking
- One barcode label

The following markings shall be placed approximately 6 in. above the bottom of the drum.

- Three barcodes, with the first placed to the immediate left of the drum seam and the other two barcode labels spaced evenly around the circumference of the drum.
- Non-DP marking placed immediately to the right of the seam.
- The final barcode shall be placed near the center of the drum lid.

An example of the placement of labels and markings on a drum is shown in Figure 4.1.

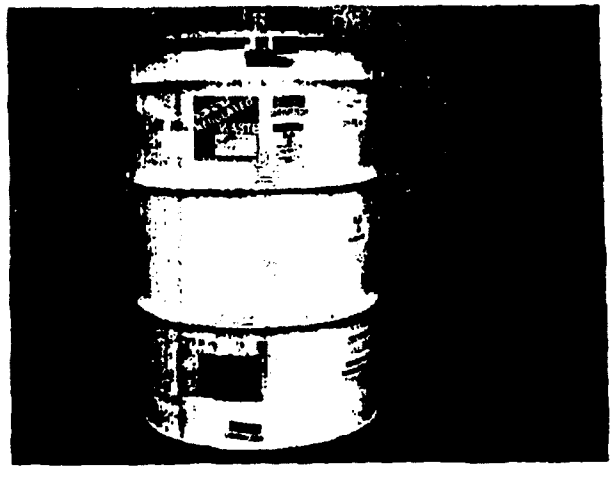


Figure 4.1 Drum Labeling

4.6.3 Marking and Labeling Placement – Standard Waste Boxes

The following labels and markings shall be placed near the center on each curved side either above or below the raised bars of the SWB:

- Radioactive waste marking
- One barcode label
- Non-DP marking

One barcode label shall be placed near the center of the top of the SWB. A nonregulated waste marking or hazardous waste marking shall be placed near the center of one of the curved sides. An example of a properly labeled and marked SWB is shown in Figure 4.2.

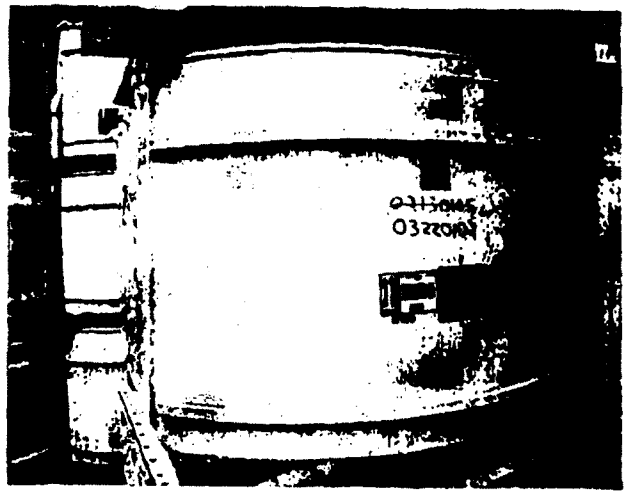


Figure 4.2. Standard Waste Box Labeling

4.7 TRU MW LESS-THAN-90-DAY LABEL REQUIREMENTS

For TRU mixed waste stored in a less-than 90-day storage area, a completed Transuranic Waste Storage Record (TWSR) must be submitted to FWO-SWO for review on or before day 60.

4.8 EXEMPTIONS/EXCEPTIONS

Instructions for applying for exemptions/exceptions to these WAC are found in Chapter 21.

5.0 LOW-LEVEL SOLID RADIOACTIVE WASTE

Low-level radioactive waste (LLW) is waste that contains radioactivity and is not classified as: high-level waste, transuranic (TRU) waste, spent nuclear fuel, or tailings from the milling of uranium or thorium ore. LLW may include test specimens of fissionable material if it was irradiated for research and development purposes but not if it was used for producing power or plutonium, provided that the concentration of TRU radionuclides is less than 100 nCi of activity per gram of waste. These waste acceptance criteria (WAC) apply only to LLW destined for disposal at TA-54, Area G.

5.1 WASTE FORM

All LLW received at TA-54, Area G, must be in a solid form to minimize the potential for dispersion during handling or migration into and through the environment after burial. The requirements of Sections 5.1.1 through 5.1.8 restrict the physical, chemical, and biological contents of LLW in order to ensure that the long-term performance objectives of the Area G disposal site are met.

5.1.1 Residual Liquids

Solid LLW containers must contain as little residual liquid as is reasonably achievable. Internal containers (cans, bottles, etc.) must be well drained, but may contain residual liquids. The total residual liquids must not exceed 1% of the volume of the external LLW container. Liquids present in quantities greater than 1% by volume must be absorbed or stabilized. The amount of liquid shall not exceed 0.5% by volume after the waste is processed into a stabilized form.

5.1.2 Powders and Particulates

LLW containing powders, ashes, and other particulates of respirable size must be packaged in such a manner that the particulate portion of the waste will not be a hazard if the container is breached during handling operations. High-efficiency particulate air (HEPA) filters are exempted from these criteria.

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: P017
Waste Stream Number(s): LA-CIN04.001, LA-MHD04.001, LA-MSG04.001 (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Additional Information	Category: ☐ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☑ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a] : Hazardous and Mixed Waste	
Source Document Reference Information (author(s), document and revision number, date, publisher): NA, AR 10-3, Rev. NA, 04/26/1993	

AK # [b]	Source Doc. Page # [c]	AK Information Summary
PR3, PR5, WS11, WS12	Throughout	This administrative requirement summarizes the generator requirements for controlling, storing, and disposing of hazardous and mixed wastes regulated by RCRA and the NMHWMR. Includes the definitions for RCRA listed and characteristic wastes. Hazardous materials (including hazardous wastes) in work areas must be identified, and the Industrial Hygiene and Safety Group (HS-5) must be contacted if workers could be exposed while handling such materials. In general, hazardous and mixed waste are categorized as characteristic waste or listed waste. See list of definitions... P. 16-Appendix A. Listed Hazardous Waste Constituents (List). Wastes Originating within a Radioactive Material Management Area (RMMA) All wastes from an RMMA must be considered to be radioactive unless a detailed radiochemical analysis for suspected radio nuclides is performed to demonstrate that no measurable, added radioactivity is detectable...If radiochemical analyses are not feasible and KOP or radiological surveys indicate no radioactivity, the waste must be classified as suspect radioactive. When hazardous or mixed waste is to disposed of, the waste generator must complete a WPF and either HS Form 10-3A, Chemical Waste Disposal (RSWD) Record...When handling transuranic (TRU) waste, the waste generator must use Form 1462 (ES&H) Form 10-5A), TRU Waste Storage Record.

NTPC RECORDS ORIGINAL
DATE REC'D 6-30-14

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: P017

Source Document Data Limitations (If any):

1. Best available copy.
2. Not waste stream specific.

Acceptable Knowledge Expert:

Amy Johns , Amy Johns Date: 2/21/14
Print /Sign

a Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
b Obtain from Acceptable Knowledge Documentation Checklist
c For microfilm or microfiche, identify box, tape, reel number and location.

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

SUPERCEDED

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-MHD04.001	
Site(s): LANLTA-21 (CCP-AK-LANL-010)	**Source Document Tracking Number:** P017
Acceptable Knowledge Documentation Type: ✓ TRU Waste Management Program Information ✓ Waste Stream-Specific Information Supporting Information	**Category:** C - Correspondence D - Documents M - Miscellaneous ✓ P - Procedures DR - Discrepancy Resolution U - Unpublished Documents
Title of Source Document: Hazardous and Mixed Waste	
Source Document Reference Information (author(s), document and revision number, date, publisher): NA, AR 10-3, Rev. NA, 04/26/1993	

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR3, PR5, WS11, WS12	Throughout	This administrative requirement summarizes the generator requirements for controlling, storing, and disposing of hazardous and mixed wastes regulated by RCRA and the NMHWMR. Includes the definitions for RCRA listed and characteristic wastes. Hazardous materials (including hazardous wastes) in work areas must be identified, and the Industrial Hygiene and Safety Group (HS-5) must be contacted if workers could be exposed while handling such materials. In general, hazardous and mixed waste are categorized as characteristic waste or listed waste. See list of definitions... P. 16-Appendix A. Listed Hazardous Waste Constituents (List). Wastes Originating within a Radioactive Material Management Area (RMMA) All wastes from an RMMA must be considered to be radioactive unless a detailed radiochemical analysis for suspected radio nuclides is performed to demonstrate that no measurable, added radioactivity is detectable...If radiochemical analyses are not feasible and KOP or radiological surveys indicate no radioactivity, the waste must be classified as suspect radioactive. When hazardous or mixed waste is to disposed of, the waste generator must complete a WPF and either HS Form 10-3A, Chemical Waste Disposal (RSWD) Record...When handling transuranic (TRU) waste, the waste generator must use Form 1462 (ES&H) Form 10-5A), TRU Waste Storage Record.

SUPERCEDED
SG 11/17/09

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): LANLTA-21 (CCP-AK-LANL-010)	Source Document Tracking Number: P017

Source Document Data Limitations (if any):

1. Best available copy.
2. Not waste stream specific.

Acceptable Knowlege Expert:

Amy Johns Amy Johns Date: 1/15/2009
Print /Sign

[a] Obtain from Acceptable Knowledge Documentation Checklist
[b] For microfilm or microfiche, identify box, tape, reel number and location.

DIVIDER PAGE ONLY

Not part of page count

P017

~~AK-12 M001~~ of 1/15/09

P2010-0028

1/15/09

QP-00-004,R.2
Effective Date: 10/30/03

of TWCP-21321

AK-6 of 1/15/09

M016 ~~M001~~

RECORDS SUBMITTAL

INSTRUCTIONS: This form is prepared by the record source when submitting individual records, batch data reports, or a records package to the RMDC Center. Each record submitted requires a complete form.

MANDATORY: X To the best of my knowledge, the record(s) have no radioactive contamination.

Signature: _____

RECORD TYPE:

X Project 2010 ☐ Facility

☐ Other: _____ ☐ UCNI ☐ Proprietary

RECORD SOURCE:

Submittal Date: 2-26-04 Z No.: ~~198302~~ 111741 Name: Steve Schafer Deborah Smith

Originator: CCP (Buddy Fitzgerald) Organization: ~~RREB-WD~~ CCP 0235

TYPE OF RECORD/ACTION TO BE TAKEN

☐ Individual Record ☐ Batch Data Report X Records Package

X New ☐ Addition* ☐ Supersedes*

*Record Barcode Number:

RECORD ID NUMBER: (e.g., memo symbol number, procedure (include revision), deficiency number, batch data report number, unique record identifier if applicable): PKG-016

Record Date: 4/26/1993 Physical Page Count: 34 X Single Sided ☐ Double Sided

Category Number: (from page two): 07

RECORD TITLE, SUBJECT, AND/OR KEYWORDS: Hazardous and Mixed Waste

P2010-0028

MEDIA TYPE:

☐ CD ☐ Diskette ☐ VHS ☐ Zip ☐ Other (specify): _____

RECORD CENTER USE ONLY

☒ Accepted Date: 3/17/04

Signature: Fabiola Lucero

RIDs Type: LI

(Subject to change prior to scheduled review cycle).

~~AR 2 Mod~~ aj 1/15/09

~~M008~~ aj 1/15/09

Administrative Requirements (AR)	AR Section 10: Waste Management	**Hazardous and Mixed Waste**

Introduction

This administrative requirement summarizes the generator requirements for controlling, storing, and disposing of hazardous and mixed wastes at the Laboratory to help protect human health and the environment and to comply with federal and state regulations. Hazardous and mixed wastes are regulated by the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Management Regulations (NMHWMR). Compliance with these federal and state requirements is mandatory for all operations at the Laboratory that generate, store, treat, or dispose of hazardous or mixed waste.

High-explosive and radioactive wastes are special cases and are only partially addressed in this document. Refer to Administrative Requirement (AR) 6-6, "Explosives"; AR 10-1, "Radioactive Liquid Waste"; AR 10-2, "Low-Level Radioactive Solid Waste"; and AR 10-5, "Transuranic (TRU) Solid Waste."

Definitions

Controlled Area—Any area, as defined in the *LANL Radiological Control Manual,* to which access is controlled to protect individuals from exposure to radiation and radioactive materials.

Hazardous Waste—As defined by the Resource Conservation and Recovery Act (RCRA), any solid waste intended for disposal that is corrosive, toxic, ignitable, or reactive, or that contains a listed hazardous constituent (see Appendix A). Hazardous wastes commonly generated at the Laboratory include all types of laboratory research chemicals, solvents, acids, bases, carcinogens, compressed gases, metals, and other solid waste contaminated with hazardous waste. This may also include equipment, containers, structures, and other items intended for disposal and contaminated with hazardous waste (for example, compressed gas cylinders). For further information, see the paragraph about empty containers in this document.

Low-Level Mixed Waste—A low-level radioactive waste that is also a hazardous waste.

Low-Level Radioactive Solid Waste—Any solid waste that is derived from a radioactive material, or contaminated during a process, or activated by a high-energy particle beam, excluding spent nuclear fuel, high-level radioactive waste, and transuranic (TRU) waste.

Mixed Waste—Any material that is a hazardous waste (as described in this administrative requirement) that also contains a radioactive component. For the purpose of this definition, the "radioactive component" includes low-level radioactive solid waste and transuranic (TRU) waste as defined in this section.

Non-RCRA-Regulated Chemical Waste—Any chemical or mixture of chemicals ultimately destined for treatment or disposal that is not regulated as a hazardous waste by the Resource Conservation and Recovery Act (RCRA) but may present a threat to human health or the environment and requires special administrative controls. Such wastes include waste oils that have not been contaminated with a listed hazardous constituent and do not exhibit a hazardous characteristic, nonregulated chemical reagents or reactants, nonregulated heavy metals, nonregulated solvents, and asbestos.

NOTE: These materials may be subject to regulations other than RCRA.

For further information see Administrative Requirement (AR) 9-1, "Air Pollution Control"; AR 9-4, "Accidental Oil, Chemical, and Airborne Releases"; AR 10-1, "Radioactive Liquid Waste"; AR 10-2, "Low-Level Radioactive Solid Waste"; AR 10-4, "Polychlorinated Biphenyls"; AR 10-5, "Transuranic (TRU) Solid Waste"; AR 10-6, "Excess Government Personal Property"; and AR 10-7, "Managing Infectious Waste."

Radioactive Material Management Area (RMMA)—An area that is specifically defined to control wastes for radiological purposes pursuant to DOE Order 5400.5, "Radiation Protection of the Public and the Environment." This area corresponds to a contamination area or to areas that are exposed to an activating beam. The purpose of an RMMA is to ensure that there are no uncontrolled releases of radioactive solid waste or hazardous waste.

Radiological Area—A generic term for a (1) surface contamination area, (2) high surface contamination area, (3) airborne radioactivity area, (4) radiation area, (5) high radiation area, or (6) very high radiation area.

Radiological Buffer Area—An intermediate area established to prevent the spread of radioactive contamination and to protect personnel from radiation exposure. The area surrounds or is contiguous with surface contamination areas, high surface contamination areas, airborne radioactivity areas, radiation areas, high radiation areas or very high radiation areas.

Solid Waste—As defined by the Resource Conservation and Recovery Act (RCRA), any discarded material, either abandoned or recycled, including liquids, solids, semisolids, and contained gases. Solid waste can be hazardous, radioactive (including transuranic), or mixed hazardous and radioactive. Waste consisting *solely* of source, special nuclear, or by-product material, as defined by the Atomic Energy Act (AEA), is *not* a solid waste.

Suspect Mixed Waste—A suspect radioactive solid waste that is also a hazardous waste.

Suspect Radioactive Solid Waste—Any solid waste that may have added and/or induced radioactivity as a result of association with radioactive material or high-energy particle beams but that is not readily detectable by radiation detection devices.

Transuranic (TRU) Mixed Waste—Waste containing both hazardous and TRU waste components.

Transuranic (TRU) Waste—Waste contaminated with alpha-emitting radionuclides that have an atomic number greater than 92 and half-lives greater than 20 years in concentrations greater than 100 nCi/g of waste. Waste contaminated with only natural or depleted uranium shall be handled as low-level radioactive solid waste. This definition is consistent with Department of Energy (DOE) Order 5820.2A, "Radioactive Waste Management." TRU waste is contaminated with radionuclides only and does not contain hazardous waste, which is regulated under the Resource Conservation and Recovery Act (RCRA).

Overall Responsibility

Unless otherwise stated in this administrative requirement, line managers must ensure that the requirements specified herein are met.

must ensure that the requirements specified herein are met.

Identifying Hazardous and Mixed Wastes

Hazardous materials (including hazardous wastes) in work areas must be identified, and the Industrial Hygiene and Safety Group (HS-5) must be contacted if workers could be exposed while handling such materials. In general, hazardous and mixed wastes are categorized as characteristic waste or listed waste. Containers may also be hazardous or mixed waste. Information useful in categorizing hazardous and mixed wastes can often be obtained from the container label, material safety data sheets (MSDSs), manufacturers' product descriptions, knowledge of the process (KOP) that generated the waste, past experience with the waste stream, or analysis of a waste sample. Waste sampling and analysis, provided by the Environmental Protection Group (EM-8), must be performed in accordance with methods specified in the Environmental Protection Agency (EPA) publication SW 846, "Test Methods for Evaluating Solid Wastes." Additional assistance in determining whether a material is a hazardous or mixed waste is also available from EM-8.

NOTE: The requirements for handling hazardous waste apply to so-called "consumer products" when they become waste, regardless of where they were purchased.

Listed Wastes. Listed wastes are chemical compounds included in 40 CFR 261, Subpart D, "Lists of Hazardous Wastes," that are found in nonspecific process wastes (F-listed), specific process wastes (K-listed), acutely hazardous chemical products (P-listed), and hazardous chemical products (U-listed). See Appendix A for F-, K-, P- and U-listed chemicals. Chemicals known under manufacturers' trade names must also be considered if they contain chemicals listed in Appendix A. Sources of information on synonyms and trade names include MSDSs, manufacturers' representatives, technical bulletins, chemical dictionaries, handbooks of trade names, and the information access system (IAS) on the LANL ALL-IN-1 Mail System. Assistance is available from HS-5 and EM-8. HS-5 maintains a file of all MSDSs at the Laboratory and can obtain additional MSDSs if necessary.

Listed Process Wastes (F- and K-listed wastes). The Laboratory generates a limited number of process wastes, which include spent solvents, spent plating baths, and waste from high-explosives processing. Appendix A, Table A-1, lists elements and compounds that are hazardous constituents of a listed process waste.

Discarded Unused Chemical Products (P- and U-listed wastes). Unused chemical products found in Appendix A, Tables A-2 and A-3, are regarded as hazardous waste. P-listed elements and compounds, found in Appendix A, Table A-2, are considered *acutely hazardous*.

Characteristic Waste. A material may be a hazardous or mixed waste if it exhibits one or more of the following characteristics:

- Ignitability: The waste is a liquid and has a flash point of less than 60°C (140°F); is an ignitable compressed gas or an oxidizer as defined in 49 CFR 173, "Shippers—General Requirements for Shipments and Packaging"; or is not a liquid and, at standard temperature and pressure (STP), can cause a fire from friction, absorption of moisture, or spontaneous chemical changes.

- Corrosivity: The waste is aqueous with a pH less than or equal to 2 or greater than or equal to 12.5, or the waste is a liquid and corrodes steel at a rate greater than 6.35 mm/yr (0.25 in./yr) at 55°C (130°F).

- Reactivity: The waste is normally unstable and readily undergoes violent change without detonating; reacts violently with water; forms potentially explosive mixtures with water, generates toxic gases, vapors, or fumes when mixed with water; is a cyanide- or sulfide-bearing waste that, when exposed to a pH greater than 2 and less than 12.5, can generate toxic gases, vapors, or fumes; is capable of detonation or explosive reaction if subjected to a strong initiating source or if heated under confinement; is capable of detonation or explosive decomposition at STP; or is a forbidden, a Class A, or a Class B explosive, as defined in 49 CFR 173.

- Toxicity Characteristic (TC): The waste is contaminated with one of the following metals, pesticides, or organic chemicals in the stated concentrations (mg/l) as determined by the toxicity characteristic leaching procedure (TCLP). Contact EM-8 for further information.

Constituent	mg/l
1,1-Dichloroethylene	0.7
1,2-Dichloroethane	0.5
1,4-Dichlorobenzene	7.5
2,4-D	10.0
2,4-Dinitrotoluene	0.13
2,4,5-TP (Silvex)	1.0
2,4,5-Trichlorophenol	400.0
2,4,6-Trichlorophenol	2.0
Arsenic	5.0
Barium	100.0
Benzene	0.5
Cadmium	1.0
Carbon tetrachloride	0.5
Chlordane	0.03
Chlorobenzene	100.0
Chloroform	6.0
Chromium	5.0
Cresol	200.0
Endrin	0.02
Heptachlor	0.008
Hexachlorobenzene	0.13
Hexachlorobutadiene	0.5
Hexachloroethane	3.0
Lead	5.0
Lindane	0.4
m-Cresol	200.0
Mercury	0.2
Methoxychlor	10.0
Methyl ethyl ketone	200.0
Nitrobenzene	2.0
o-Cresol	200.0
p-Cresol	200.0
Pentachlorophenol	100.0
Pyridine	5.0
Selenium	1.0

Silver	5.0
Tetrachloroethylene	0.7
Toxaphene	0.5
Trichloroethylene	0.5
Vinyl chloride (and its hydroxide)	0.2

Empty Containers. As defined by the Resource Conservation and Recovery Act (RCRA), containers of 110 gallons or less, holding less than 3% by weight of the total capacity, are considered *empty*. Empty containers are not hazardous waste. However, containers that once held an element or compound considered acutely hazardous (P-listed) are considered hazardous waste regardless of the volume of the residual product (see Appendix A, Table A-2). All empty drums must be disposed of through the Waste Management Group (EM-7).

Lead-Acid Batteries. Lead-acid batteries contain regulated amounts of lead and are also considered to be corrosive. However, RCRA exempts lead-acid batteries from certain requirements if they are reclaimed. The Laboratory's support services contractor (Johnson Controls World Services) provides recycling through its salvage operation.

Regulations Governing Hazardous and Mixed Wastes

Generators of hazardous or mixed waste must comply with the New Mexico Hazardous Waste Management Regulations (NMHWMR), Part III and 40 CFR 262, "Standards Applicable to Generators of Hazardous Waste." (Requirements for both regulations are included in this document.) For additional clarification and interpretation of federal and state hazardous and mixed waste regulations, conditions required by Laboratory environmental permits, and questions concerning Laboratory and Department of Energy (DOE) waste policies, contact personnel from EM-8.

Standard Operating Procedures

Operations involving the generation, management, and disposal of beryllium, carcinogens, suspected carcinogens, or certain other hazardous or mixed wastes require a standard operating procedure (SOP) in accordance with Administrative Requirement (AR) 1-3, "Standard Operating Procedures and Special Work Permits." In addition, an SOP may be required for operations involving significant quantities of other particularly toxic or hazardous materials, as determined by HS-5. If an SOP is required, the Risk Management Support Group (HS-3) must review and approve the SOP before it is implemented and as appropriate thereafter.

If an SOP is required, it must include procedures for segregating, storing, treating, packaging, and shipping the hazardous or mixed waste while under the control of the generator. The SOP must also include special handling procedures related to characteristics of the waste such as ignitability, corrosivity, reactivity, and toxicity. Personnel from EM-7 are available to help the waste-generating group prepare these SOPs; other groups from the Health and Safety (HS) Division, such as the Health Physics Operations Group (HS-1), HS-3, the Health Physics Measurements Group (HS-4), HS-5, and the Health Physics Policy and

Programs Group (HS-12), may also be consulted.

Waste Management Coordinator

Each waste-generating group or division (depending on the rate of generation and volume) is required to designate a member of its staff as a waste management coordinator. The waste management coordinator must ensure that waste collection and storage areas are regularly inspected and safe, appropriate regulations are complied with, accurate records are kept, and storage inspection reports are prepared correctly. The waste management coordinator may assist generators in completing waste profile and disposal forms, but the responsibility for certifying wastes remains with the generator. The current waste management coordinator must be listed with the Waste Minimization Program Office of the Environmental Management (EM) Division. (See AR 10-9, "Waste Profile Form.") Contact the ES&H Training Section of HS-3 for information about training requirements for waste management coordinators.

New Operations

Before initiating any operation that will generate new hazardous or mixed waste or increase existing waste volume, the waste-generating group must discuss available treatment, storage, and disposal options with EM-7 and EM-8. In most cases, the existing waste management facilities, technology, and personnel at the Laboratory are able to handle new or increased waste, although the existing hazardous waste permit may have to be modified. In other cases, EM-7 staff can help identify disposal options (including use of off-site treatment facilities) and methods for waste minimization.

Training

Personnel who generate waste must receive appropriate waste generator training and follow waste management policies and procedures specified by EM and HS divisions. Classroom instruction and/or on-the-job training must be used to teach personnel how to comply with hazardous waste regulations and permit requirements. Classroom training, provided by the ES&H Training Section of HS-3, covers state and federal legislation, generator responsibilities, who to contact for spill prevention and emergencies, and cradle-to-grave documentation. The content of on-the-job training is based on job responsibilities. Contact EM-7 and EM-8 for additional information.

All environment, safety, and health (ES&H) training must be documented, whether it is a course or on-the-job training. See AR 1-4, "Environment, Safety, and Health Training," for more information on training records.

Additional training, in accordance with the *LANL Radiological Control Manual*, may be required for generators who handle mixed waste. Contact the ES&H Training Section of HS-3.

Minimizing and Recycling Hazardous and

Hazardous and mixed waste generation must be minimized by reducing the amounts of materials purchased, substituting materials, recycling materials when possible, using waste minimizing technology, and

Mixed Waste

segregating wastes at the point of generation. Examples of materials that must *not* be commingled are waste solvents or polychlorinated biphenyls (PCBs) with waste oil, radioactive or mixed waste with hazardous waste, and liquids with solids. Liquids must not be absorbed on sorbents unless approved by EM-7. Groups anticipating continuous, large-volume generation of hazardous or mixed waste or groups doing their own recycling must contact EM-7 and EM-8 for assistance in ensuring that all permit requirements are met before beginning their operation. Information about recycling and waste minimization can be obtained from the Waste Minimization and Technical Analysis Office of EM Division.

Recyclable Materials. When practical, hazardous and mixed wastes must be recycled or salvaged according to appropriate Laboratory procedures. The following materials and items are prime candidates for recycling: elemental mercury, precious and strategic metals, compressed gas cylinders, lead-acid batteries, lead, solvents, unused laboratory chemicals, and empty drums. To recycle compressed gas cylinders (see Technical Bulletin 1402, "Compressed Gases"), return them to the Gas Processing Facility (MAT-14). Compressed gas cylinders above atmospheric pressure that cannot be returned to MAT-14 must be handled as waste. Contact EM-7 for information on decontamination and recovery of all other recyclable items. (Also, see the paragraph about lead-acid batteries in the section titled "Identifying Hazardous and Mixed Wastes.")

Storing Hazardous and Mixed Waste

Regulations. If hazardous or mixed waste must be stored at the generating site before being removed for disposal, certain procedures must be followed to comply with applicable regulations (for example, RCRA and NMHWMR) and Laboratory policy. There are two types of temporary, on-site, hazardous and mixed waste storage available to waste-generating groups: (1) storage that is limited to less than 90 days in duration and (2) storage at satellite sites that is limited to less than 55 gallons of hazardous or mixed waste or less than 1 quart of acutely hazardous waste, as defined in this administrative requirement and listed in Appendix A. Requirements for both types of storage are summarized in Appendix B.

NOTE: Chemical waste that is not a hazardous or mixed waste is not subject to the time or volume restrictions under RCRA. However, all other health and safety requirements appropriate for the type and volume of material do apply.

Adherence to these requirements ensures compliance with 40 CFR 262.34, "Accumulation Time." EM-8 must be contacted *before* hazardous or mixed wastes are stored on site.

Additional requirements exist for on-site storage of mixed waste. Satellite or <90-day storage areas for mixed waste must be identified as such and must be located as required by the *LANL Radiological Control Manual*. See the *LANL Radiological Control Manual* or contact HS-1 for further information. Generators must also know applicable fire codes. For information about fire codes contact the Fire Protection Group in the Emergency Management and Response (EM&R) Office.

Storage Containers. All containers used to store waste chemicals must meet the storage requirements specified in the Laboratory's *Spill Prevention Control and Countermeasure Plan*. Contact group spill coordinators or EM-8 for assistance. Contact the Nuclear Criticality Safety Group (HS-6) to determine the limits on the amount of fissile material allowed in containers.

Documentation. Formal records that indicate the composition of the hazardous or mixed waste and/or the generating process must be maintained by the waste-generating group. Waste-generating groups must submit a Form 1346 (ES&H Form 10-9A), Waste Profile Form, to EM-8 describing the type and character of waste generated and must update the WPF when the waste stream changes. See AR 10-9, "Waste Profile Form." For copies of this form, contact the waste

management coordinator or EM-8. When more than one batch of waste with varying compositions is placed in the same waste container, a list of the type, character, and approximate volume of each waste in the container must be maintained. See Appendix B for guidance about compatibility. Good record keeping reduces the need for expensive, time-consuming, and sometimes dangerous analyses of the contents of waste containers.

Criteria for Determining Radioactive and Nonradioactive Wastes

The process by which waste is determined to be radioactive, suspect radioactive, or nonradioactive is largely based on a KOP that generates the waste. If waste is generated at or near radioactive material or a high-energy particle beam, the waste generator must determine whether the waste contains radionuclides or has been activated.

Scope. All waste generated within a controlled area is subject to the above process.

Wastes Originating Within a Radiological Controlled Area. KOP can be used to determine whether a waste is radioactive or nonradioactive. When KOP cannot be used for such a determination, radioactivity measurements must be taken and the results compared with applicable values for unrestricted release found in DOE Order 5400.5, "Radiation Protection of the Public and the Environment." Wastes with values above those limits must be categorized as radioactive; wastes with values below those levels are nonradioactive.

NOTE: Wastes or discarded, unused chemical products originating in areas outside a controlled area may be regarded as nonradioactive.

Wastes Originating Within a Radioactive Material Management Area (RMMA). All wastes from an RMMA must be considered to be radioactive unless a detailed radiochemical analysis for suspected radionuclides is performed to demonstrate that no measurable, added radioactivity is detectable. Wastes contaminated with short-lived radioisotopes may be held to allow them to decay to no measurable radioactivity. (Contact HS-1 for assistance.) Information based on KOP or radiological surveys is unacceptable in demonstrating that waste from an RMMA is nonradioactive. If radiochemical analyses are not feasible and KOP or radiological surveys indicate no radioactivity, the waste must be classified as *suspect* radioactive.

NOTE: Depleted uranium (DU) by itself does not constitute a hazardous or mixed waste.

Disposing of Hazardous and Mixed Waste

When hazardous or mixed waste is to be disposed of, the waste generator must complete a WPF and either HS Form 10-3A, Chemical Waste Disposal Request (CWDR), or Form 1354 (ES&H Form 10-2A), Radioactive Solid Waste Disposal (RSWD) Record. (See AR 10-2, "Low-Level Radioactive Solid Waste.") When handling transuranic (TRU) waste, the waste generator must use Form 1562 (ES&H Form 10-5A), TRU Waste Storage Record. (See AR 10-5, "Transuranic (TRU) Solid Waste.")

A WPF and a CWDR will be accepted *only* if the waste generator has taken Hazardous Waste Generator Training, course number 4419. Contact the ES&H Training Section of HS-3 for more information.

NOTE: All waste, including hazardous, mixed, radioactive, and chemical waste, destined for TA-54 must have a valid WPF. EM-7 cannot accept waste at TA-54 without a valid WPF unless that waste is an unused, nonradioactive product in its original container.

All the forms listed above can be obtained from the waste management coordinator or EM-7. Send the completed WPFs to EM-8 for processing. Send CWDRs, RSWDs, and TWSRs to EM-7. For unused chemical products, attach a copy of the appropriate MSDS, if available, to the CWDR. The guidance contained in MSDSs must be reviewed and observed by all waste generators. For more information about MSDSs, see the paragraph about listed wastes in the section titled "Identifying Hazardous and Mixed Wastes."

After receiving the CWDR, EM-7 determines the packaging, handling, treatment, transportation, and disposal requirements, based on the type and quantity of waste involved. After the CWDR has been evaluated and the appropriate packaging has been determined, EM-7 will contact the generator and arrange to pick up the waste. In certain circumstances, the waste-generating group may be required to complete predisposal treatment, chemically analyze the waste, or repackage the waste before EM-7 assumes responsibility for disposal. (Contact EM-8 before treating any hazardous waste.) Waste-generating groups must have approval from EM-7 before they transport hazardous or mixed waste and must meet all transportation requirements. Contact the Packaging and Transportation Services Section of the Property and Transportation Management Group (MAT-2) for guidance on transportation requirements.

NOTE: Do not pour chemicals down any drain without approval from EM-7 or EM-8. Hazardous or mixed waste must not be poured down any drain. The radioactive liquid waste collection system (popularly known as the "acid waste line") is intended only for disposal of radioactive liquid wastes meeting the criteria in AR 10-1, "Radioactive Liquid Waste."

Gases/Vapors Do not vent or intentionally release gases considered hazardous or mixed waste to the atmosphere without approval from HS-5, EM-7, and EM-8. Using evaporation to dispose of chemical compounds from items such as rags, adsorbents, or open containers is prohibited. See AR 9-1, "Air Pollution Control," for further information.

Reactive Chemicals. Some hazardous or mixed wastes that are reactive chemicals (for example, water-reactive substances) must be rendered nonreactive before disposal. Such treatment must be performed only by EM-7.

NOTE: Elementary neutralization of acids and bases, in tanks or containers, is the only waste treatment that generators may perform and requires reporting to EM-8.

If EM-7 and EM-8 determine that predisposal treatment cannot be performed safely on site or in accordance with regulatory requirements, EM-7 helps the waste-generating group determine alternate disposal methods.

Equipment Contaminated by High Explosives (HE). Nonhazardous waste potentially contaminated with HE, equipment potentially contaminated with HE, and HE scrap must be treated at designated firing sites through the Weapons Prototype Group (WX-3) (see AR 6-6, "Explosives") or through the Dynamic Testing (M) Division. Contact WX-3 or M Division for assistance.

Oils. EM-7 must be notified before draining oil from any electrical or hydraulic system if PCBs may be present (see AR 10-4, "Polychlorinated Biphenyls"). Other oils, such as vacuum pump fluids and heating bath oils, may become contaminated with solvents, metals, or other hazardous constituents during use. The operating group must determine whether such oils have been contaminated with PCBs, other hazardous constituents, or radioactive substances. Contact EM-8 if contamination by PCBs or other hazardous materials is possible; contact the area radiological control technician (RCT) if radioactive contamination is suspected. Oils are typically not hazardous or mixed waste unless they exhibit one or more of the characteristics listed in the section titled "Identifying Hazardous and Mixed Waste" or contain a listed hazardous waste; they are chemical waste.

Property (and Classified Waste) Disposal. Disposal of a property-numbered item or classified contaminated item must be documented on Form 252-R, Disposal of Contaminated and/or Classified Property (see AR 10-2, "Low-Level Radioactive Solid Waste"). The waste-generating group initiates this form (Stock No. ST-2623) and secures the appropriate signatures. Contact EM-7 and EM-8 for information about the proper procedures for handling classified waste. Classified waste that is also a hazardous or mixed waste is subject to all of the storage requirements herein.

Medical Waste. Infectious medical waste is disposed of through an off-site contractor. Contact EM-7 for further information about medical waste. (See also AR 10-7, "Managing Infectious Waste.")

Lead. Lead (in any form) that fails the TCLP, that is intended to be discarded, or that has served its intended purpose must be managed as hazardous waste. (See also the paragraph about lead-acid batteries in "Identifying Hazardous and Mixed Wastes.") Regardless of its status, all lead must be stored properly. Lead that is stored outdoors must be stored off the ground on pallets or similar devices and must be covered to prevent leaching into the soil.

Waste Acceptance Criteria. Waste acceptance criteria (WAC) for TRU and low-level waste have been developed by DOE and EM-7. WAC have also been developed by DOE for TRU waste destined for the Waste Isolation Pilot Project (WIPP). All waste in these categories must meet the criteria in the WAC documents. Contact EM-7 for more information or to obtain copies of the WAC.

Cleaning Up Leaks and Spills

Hazardous or mixed waste leaks or spills must be cleaned up immediately. See AR 9-4, "Accidental Oil, Chemical, and Airborne Releases," for information on preventing and handling leaks and spills. If you have not been properly trained or if you are unable to *safely* clean up a spill or a release of hazardous or mixed waste, contact the Emergency Management and Response (EM&R) Office. All spills or releases must be reported to the group spill coordinator. See AR 9-4, "Accidental Oil, Chemical, and Airborne Releases."

References

"Accidental Oil, Chemical, and Airborne Releases," Administrative Requirement 9-4, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Accumulation Time," 40 CFR 262.34 (most recent edition).

"Air Pollution Control," Administrative Requirement 9-1, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

Atomic Energy Act, as amended, 42 U.S.C. Sec. 2014, 2021–2021b, 2022, 2111, 2113, 2114.

"Compressed Gases," Technical Bulletin 1402, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Environment, Safety, and Health Training," Administrative Requirement 1-4, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Excess Government Personal Property," Administrative Requirement 10-6, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Explosives," Administrative Requirement 6-6, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Identification and Listing of Hazardous Waste," 40 CFR 261 (most recent edition).

LANL Radiological Control Manual, Los Alamos National Laboratory manual LM107-01 (most recent edition).

"Lists of Hazardous Wastes," 40 CFR 261, Subpart D (most recent edition).

"Low-Level Radioactive Solid Waste," Administrative Requirement 10-2, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Managing Infectious Waste," Administrative Requirement 10-7, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

New Mexico Hazardous Waste Management Regulations, NMHWMR-6, Part III.

"Polychlorinated Biphenyls," Administrative Requirement 10-4, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Radiation Protection for Occupational Workers," Department of Energy Order 5480.11 (most recent edition).

"Radiation Protection of the Public and the Environment," Department of Energy Order 5400.5 (most recent edition).

"Radioactive Liquid Waste," Administrative Requirement 10-1, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Radioactive Waste Management," Department of Energy Order 5820.2A (most recent edition).

Resource Conservation and Recovery Act, as amended, 42 U.S.C. Sec. 6901–6992k.

"Shippers—General Requirements for Shipments and Packaging," 49 CFR 173 (most recent edition).

Spill Prevention Control and Countermeasure Plan, Los Alamos National Laboratory document (most recent edition).

"Standard Operating Procedures and Special Work Permits," Administrative Requirement 1-3, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Standards Applicable to Generators of Hazardous Waste," 40 CFR 262 (most recent edition).

"Test Methods for Evaluating Solid Wastes," Environmental Protection Agency report SW 846 (November 1986).

"Transuranic (TRU) Solid Waste," Administrative Requirement 10-5, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

U. S. Department of Energy Radiological Control Manual, Department of Energy Document DOE/EH-0256T (most recent edition).

"Use of Chemical Carcinogens," Administrative Requirement 6-3, in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Waste Minimization," Administrative Requirement 10-8 in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

"Waste Minimization Plan," 2nd ed., EM-7 Waste Generator Interface Team, Comp., Los Alamos National Laboratory document (April 1990).

"Waste Profile Form," Administrative Requirement 10-9 in *Environment, Safety, and Health Manual*, Los Alamos National Laboratory Manual, Chapter 1 (most recent edition).

Referrals

Chemical and Mixed Waste Operations Section of the Waste Management Group (EM-7), 5-4000

Dynamic Testing (M) Division, 7-5653

Emergency Management and Response (EM&R) Office, 7-6211

Environmental Protection Group (EM-8), 7-5021

ES&H Training Section of the Risk Management Support Group (HS-3), 7-0059

Fire Protection Group of the Emergency Management and Response (EM&R) Office, 7-9045

Gas Processing Facility (MAT-14), 7-5396

Hazardous and Solid Waste Section of the Waste Management Group (EM-8), 5-0677

Health and Safety (HS) Division, 7-4218

Health Physics Measurements Group (HS-4), 5-6065

Health Physics Operations Group (HS-1), 7-7171

Health Physics Policy and Programs Group (HS-12), 7-5296

Industrial Hygiene and Safety Group (HS-5), 7-5231

Johnson Controls World Services, Inc., Redistribution and Marketing, 7-2109

Nuclear Criticality Safety Group (HS-6), 7-7628

Operational Safety Section of the Industrial Hygiene and Safety Group (HS-5), 7-4644

Packaging and Transportation Services Section of the Property and Transportation Management Group (MAT-2), 7-4127

Radioactive Waste Section of the Waste Management Group (EM-7), 7-6095 for scheduling and coordination, 5-4000 with questions

Risk Management Support Group (HS-3), 7-3363

SOP Office (HS-5), 7-9949

Waste Management Group (EM-7), 7-7391

Waste Minimization and Technical Analysis Office of the Environmental Management (EM) Division, 5-2467

Waste Minimization Program Office of the Environmental Management (EM) Division, 5-8293

Weapons Prototype Group (WX-3), 7-6310

Appendixes

Appendix A. Listed Hazardous Waste Constituents
Table A-1. F- and K-Listed Hazardous Waste Constituents
Table A-2. P-Listed Hazardous Waste Constituents (*Acutely Hazardous*)
Table A-3. U-Listed Hazardous Waste Constituents

Appendix B. Summary of Generator Requirements for Storing Hazardous and Mixed Waste

Forms

Form 252-R, Disposal of Contaminated and/or Classified Property (found in AR 10-2)

Form 1354 (ES&H Form 10-2A), Radioactive Solid Waste Disposal (RSWD) Record (found in AR 10-2)

Form 1541 (ES&H Form 10-3A, sample only) Chemical Waste Disposal Request (CWDR)

Form 1562 (ES&H Form 10-5A) TRU Waste Storage Record (found in AR 10-5)

Form 1346 (ES&H Form 10-9A), Waste Profile Form (found in AR 10-9)

Appendix A. Listed Hazardous Waste Constituents

Table A-1. F- and K-Listed Hazardous Waste Constituents

Acenaphthalene
Acetic acid, (2,4,5-trichlorophenoxy)-
Acetone
Acetonitrile
Acrylamide
Acrylonitrile
Allyl chloride (3-chloropropene)
Amine and other salts
Aniline
Antimony
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzotrichloride
Benzyl chloride
n-Butyl alcohol
Carbon disulfide
Chlordane
Chlorinated fluorocarbons
2-Chloro-1,3-butadiene
p-Chloro-m-cresol
Chloroacetaldehyde
Chloroethers
Chloroethylene
Chloromethane
2-Chlorophenol
Chlorophenoxy derivative acids
Chrysene
Creosote
Cresylic acid
Cyclohexanone
4-Diamine
Dibenzo(a)anthracene
Dichloromethane
2,4-Dichlorophenol
Dichloropropane
Dichloropropanol
Dichloropropene
Dimethyl sulfate
1,1-Dimethylhydrazine
2,4-Dimethylphenyl
2,4-Dinitrophenol
Diphenylamine
Endrin
Epichlorohydrin
Esters
2-Ethoxyethanol
Ethyl acetate
Ethyl benzene
Ethyl ether
Ethylene dibromide
Ethylene dichloride
Ethylene thiourea
Fluoranthene
Formaldehyde
Formic acid
Heptachlor
Hexachloro-1,3-butadiene
Hexachlorocyclohexane
Hexachlorocyclopentadiene
Hexachlorodibenzo-p-dioxins
Hexachlorodibenzofurans
Hydrocyanic acid
Indeno(1,2,3-cd)pyrene
Isobutanol
Lindane
Maleic anhydride
Meta-dinitrobenzene
Methanol
Methoxychlor
Methyl bromide
Methylene chloride
Naphthalene
1,4-Naphthoquinone
2-Nitropropane
Paraldehyde
Pentachlorobenzene
Pentachlorodibenzo-p-dioxins
Pentachlorodibenzofurans
Pentachloroethane
Perchloroethylene
Phenol
Phenol, 2,3,4,6-tetrachloro-
Phenol, 2,4,5-trichloro-
Phenol, 2,4,6-trichloro-
Phenol, pentachloro-
Phenolnaphthalene
Phenylenediamine
Phorate
Phosgene
Phosphorodithioic acid
Phosphorothioic acid
Phthalic anhydride
2-Picoline
Silvex (2,4,5-TP)
Tetrachlorobenzene
Tetrachlorodi-benzofurans
Tetrachlorodibenzo-p-dioxins
Tetrachlorodibenzofurans
1,1,1,2-Tetrachloroethane
2,3,4,6-Tetrachlorophenol
Toluene
Toluene diisocyanate
2,4-Toluenediamine
o-Toluidine
p-Toluidineaniline
Toxaphene
1,1,2-Trichloro-1,2,2-trifluoroethane
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
Trichlorofluoromethane
Trichloromethane
Trichloropropane
Vinyl chloride
Vinylidene chloride
Xylene

Table A-2. P-Listed Hazardous Waste Constituents (*Acutely Hazardous*)

Legend
The following letter codes may appear in parentheses after some of the constituents.
(C) – Corrosive waste
(E) – Toxicity characteristic waste
(I) – Ignitable waste
(II) – Acute hazardous waste
(R) – Reactive waste
(T) – Toxic waste

Acetaldehyde, chloro-	P023
Acetamide, 2-fluoro-	P057
Acetamide, N-(aminothioxomethyl)-	P002
Acetic acid, fluoro-, sodium salt	P058
1-Acetyl-2-thiourea	P002
Acrolein	P003
Aldicarb	P070
Aldrin	P004
Allyl alcohol	P005
Aluminum phosphide (R,T)	P006
5-(Aminomethyl)-3-isoxazolol	P007
4-Aminopyridine	P008
Ammonium picrate (R)	P009
Ammonium vanadate	P119
Argentate(1-), bis(cyano-C)-, potassium	P099
Arsenic acid H_3AsO_4	P010
Arsenic oxide As_2O_3	P012
Arsenic oxide As_2O_5	P011
Arsenic pentoxide	P011
Arsenic trioxide	P012
Arsine, diethyl-	P038
Arsonous dichloride, phenyl-	P036
Aziridine	P054
Aziridine, 2-methyl-	P067
Barium cyanide	P013
Benzenamine, 4-chloro-	P024
Benzenamine, 4-nitro-	P077
Benzene, (chloromethyl)-	P028
1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-	P042
Benzeneethanamine, alpha,alpha-dimethyl-	P046
Benzenethiol	P014
2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%	P001
Benzyl chloride	P028
Beryllium	P015
Bromoacetone	P017
Brucine	P018
2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime	P045
Calcium cyanide	P021
Calcium cyanide $Ca(CN)_2$	P021
Carbon disulfide	P022

Carbonic dichloride	P095

Table A-2. (continued)

Chloroacetaldehyde	P023
p-Chloroaniline	P024
1-(o-Chlorophenyl)thiourea	P026
3-Chloropropionitrile	P027
Copper cyanide	P029
Copper cyanide Cu(CN)	P029
Cyanides (soluble cyanide salts), not otherwise specified	P030
Cyanogen	P031
Cyanogen chloride	P033
Cyanogen chloride (CN)Cl	P033
2-Cyclohexyl-4,6-dinitrophenol	P034
Dichloromethyl ether	P016
Dichlorophenylarsine	P036
Dieldrin	P037
O,O-Diethyl O-pyrazinyl phosphorothioate	P040
Diethyl-p-nitrophenyl phosphate	P041
Diethylarsine	P038
Diisopropylfluorophosphate (DFP)	P043
1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha, 4abeta, 5alpha, 8alpha, 8abeta)-	P004
1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha, 4abeta, 5beta, 8beta, 8abeta)-	P060
2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahyro-, (1aalpha, 2beta, 2aalpha, 3beta, 6beta, 6aalpha, 7beta, 7aalpha)-	P037
2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha, 2beta, 2abeta, 3alpha, 6 alpha, 6abeta, 7beta, 7aalpha)-, & metabolites	P051
Dimethoate	P044
alpha, alpha-Dimethylphenethylamine	P046
4,6-Dinitro-o-cresol, & salts	P047
2,4-Dinitrophenol	P048
Dinoseb	P020
Diphosphoramide, octamethyl-	P085
Diphosphoric acid, tetraethyl ester	P111
Disulfoton	P039
Dithiobiuret	P049
Endosulfan	P050
Endothall	P088
Endrin	P051
Endrin, & metabolites	P051
Epinephrine	P042
Ethanedinitrile	P031
Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester	P066
Ethyl cyanide	P101
Ethyleneimine	P054
Famphur	P097
Fluorine	P056
Fluoroacetamide	P057
Fluoroacetic acid, sodium salt	P058
Fulminic acid, mercury(2+) salt (R,T)	P065
Heptachlor	P059

Hexaethyl tetraphosphate	P062
Hydrazine, methyl-	P068

Table A-2. (*continued*)

Hydrazinecarbothioamide	P116
Hydrocyanic acid	P063
Hydrogen cyanide	P063
Hydrogen phosphide	P096
Isodrin	P060
3(2H)-Isoxazolone, 5-(aminomethyl)-	P007
Mercury fulminate (R,T)	P065
Mercury, (acetato-O)phenyl-	P092
Methanamine, N-methyl-N-nitroso-	P082
Methane, isocyanato-	P064
Methane, oxybis[chloro-	P016
Methane, tetranitro- (R)	P112
Methanethiol, trichloro-	P118
6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10, 10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide	P050
4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	P059
Methomyl	P066
Methyl hydrazine	P068
Methyl isocyanate	P064
Methyl parathion	P071
2-Methyllactonitrile	P069
alpha-Napthylthiourea	P072
Nickel carbonyl	P073
Nickel carbonyl $Ni(CO)_4$, (T-4)-	P073
Nickel cyanide	P074
Nickel cynaide $Ni(CN)_2$	P074
Nicotine, & salts	P075
Nitric oxide	P076
p-Nitroaniline	P077
Nitrogen dioxide	P078
Nitrogen oxide NO	P076
Nitrogen oxide NO_2	P078
Nitroglycerine (R)	P081
N-Nitrosodimethylamine	P082
N-Nitrosomethylvinylamine	P084
Octamethylpyrophosphoramide	P085
Osmium oxide OsO_4, (T-4)-	P087
Osmium tetroxide	P087
7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	P088
Parathion	P089
Phenol, 2,4,6-trinitro-, ammonium salt (R)	P009
Phenol, 2,4-dinitro-	P048
Phenol, 2-(1-methylpropyl)-4,6-dinitro-	P020
Phenol, 2-cyclohexyl-4,6-dinitro-	P034
Phenol, 2-methyl-4,6-dinitro-, & salts	P047
Phenylmercury acetate	P092
Phenylthiourea	P093
Phorate	P094

Phosgene	P095
Phosphine	P096

Table A-2. (continued)

Phosphoric acid, diethyl 4-nitrophenyl ester	P041
Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	P094
Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester	P039
Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	P044
Phosphorofluoridic acid, bis(1-methylethyl) ester	P043
Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	P071
Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester	P089
Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	P040
Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester	P097
Plumbane, tetraethyl-	P110
Potassium cyanide	P098
Potassium cyanide K(CN)	P098
Potassium silver cyanide	P099
1,2,3-Propanetriol, trinitrate (R)	P081
Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime	P070
Propanenitrile	P101
Propanenitrile, 2-hydroxy-2-methyl-	P069
Propanenitrile, 3-chloro-	P027
2-Propanone, 1-bromo-	P017
Propargyl alcohol	P102
2-Propen-1-ol	P005
2-Propenal	P003
1,2-Propylenimine	P067
2-Propyn-1-ol	P102
4-Pyridinamine	P008
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts	P075
Selenious acid, dithallium(1+) salt	P114
Selenourea	P103
Silver cyanide	P104
Silver cyanide Ag(CN)	P104
Sodium azide	P105
Sodium cyanide	P106
Sodium cyanide Na(CN)	P106
Strontium sulfide SrS	P107
Strychnidin-10-one, & salts	P108
Strychnidin-10-one, 2,3-dimethoxy-	P018
Strychnine, & salts	P108
Sulfuric acid, dithallium(1+) salt	P115
Tetraethyl lead	P110
Tetraethyl pyrophosphate	P111
Tetraethyldithiopyrophosphate	P109
Tetranitromethane (R)	P112
Tetraphosphoric acid, hexaethyl ester	P062
Thallic oxide	P113
Thallium oxide Tl_2O_3	P113
Thallium(I) selenite	P114
Thallium(I) sulfate	P115
Thiodiphosphoric acid, tetraethyl ester	P109
Thiofanox	P045
Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$	P049

Thiophenol	P014
Thiosemicarbazide	P116

Table A-2. (continued)

Thiourea, (2-chlorophenyl)-	P026
Thiourea, 1-naphthalenyl-	P072
Thiourea, phenyl-	P093
Toxaphene	P123
Trichloromethanethiol	P118
Vanadic acid, ammonium salt	P119
Vanadium oxide V_2O_5	P120
Vanadium pentoxide	P120
Vinylamine, N-methyl-N-nitroso-	P084
Warfarin, & salts, when present at concentrations greater than 0.3%	P001
Zinc cyanide	P121
Zinc cyanide $Zn(CN)_2$	P121
Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)	P122

Table A-3. U-Listed Hazardous Waste Constituents

Acetaldehyde (I)	U001
Acetaldehyde, trichloro-	U034
Acetamide, N-(4-ethoxyphenyl)-	U187
Acetamide, N-9H-fluoren-2-yl-	U005
Acetic acid ethyl ester (I)	U112
Acetic acid, (2,4-dichlorophenoxy)-, salts & esters	U240
Acetic acid, lead(2 +) salt	U144
Acetic acid, thallium(1 +) salt	U214
Acetone (I)	U002
Acetonitrile (I,T)	U003
Acetophenone	U004
Acetyl chloride (C,R,T)	U006
2-Acetylaminofluorene	U005
Acrylamide	U007
Acrylic acid (I)	U008
Acrylonitrile	U009
Amitrole	U011
Aniline (I,T)	U012
Arsinic acid, dimethyl-	U136
Auramine	U014
Azaserine	U015
Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta, aalpha, 8balpha)]-	U010
Benz[a]anthracene	U018
Benz[a]anthracene, 7,12-dimethyl-	U094
Benz[c]acridine	U016
Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	U157
Benzal chloride	U017
Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	U192
Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester	U038
Benzenamine (I,T)	U012
Benzenamine, 2-methyl-	U328
Benzenamine, 2-methyl-, hydrochloride	U222
Benzenamine, 2-methyl-5-nitro-	U181
Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-	U014
Benzenamine, 4,4'-methylenebis[2-chloro-	U158
Benzenamine, 4-chloro-2-methyl-, hydrochloride	U049
Benzenamine, 4-methyl-	U353
Benzenamine, N,N-dimethyl-4-(phenylazo)-	U093
Benzene (I,T)	U019
Benzene, (1-methylethyl)- (I)	U055
Benzene, (dichloromethyl)-	U017
Benzene, (trichloromethyl)-	U023
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-	U061
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-	U247
Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-	U060
Benzene, 1,2,4,5-tetrachloro-	U207
Benzene, 1,2-dichloro-	U070
Benzene, 1,3,5-trinitro-	U234
Benzene, 1,3-dichloro-	U071

Benzene, 1,3-diisocyanatomethyl- (R,T)	U223
Benzene, 1,4-dichloro-	U072

Table A-3. (continued)

Benzene, 1-bromo-4-phenoxy-	U030
Benzene, 1-methyl-2,4-dinitro-	U105
Benzene, 2-methyl-1,3-dinitro-	U106
Benzene, chloro-	U037
Benzene, dimethyl- (I,T)	U239
Benzene, hexachloro-	U127
Benzene, hexahydro- (I)	U056
Benzene, methyl-	U220
Benzene, nitro-	U169
Benzene, pentachloro-	U183
Benzene, pentachloronitro-	U185
Benzenebutanoic acid, 4-[bis(2-chloroethyl) amino]-	U035
Benzenediamine, ar-methyl-	U221
1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	U028
1,2-Benzenedicarboxylic acid, dibutyl ester	U069
1,2-Benzenedicarboxylic acid, diethyl ester	U088
1,2-Benzenedicarboxylic acid, dimethyl ester	U102
1,2-Benzenedicarboxylic acid, dioctyl ester	U107
1,3-Benzenediol	U201
Benzenesulfonic acid chloride (C,R)	U020
Benzenesulfonyl chloride (C,R)	U020
Benzidine	U021
1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts	U202
Benzo[a]pyrene	U022
Benzo[rst]pentaphene	U064
1,3-Benzodioxole, 5-(1-propenyl)-	U141
1,3-Benzodioxole, 5-(2-propenyl)-	U203
1,3-Benzodioxole, 5-propyl-	U090
2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations of 0.3% or less	U248
p-Benzoquinone	U197
Benzotrichloride (C,R,T)	U023
2,2'-Bioxirane	U085
[1,1'-Biphenyl]-4,4'-diamine	U021
[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	U073
[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	U095
[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-	U091
Bromoform	U225
4-Bromophenyl phenyl ether	U030
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	U128
1-Butanamine, N-butyl-N-nitroso-	U172
1-Butanol (I)	U031
2-Butanone (I,T)	U159
2-Butanone, peroxide (R,T)	U160
2-Butenal	U053
2-Butene, 1,4-dichloro- (I,T)	U074
2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*), 7aalpha]]-	U143

n-Butyl alcohol (I)	U031
Cacodylic acid	U136
Calcium chromate	U032

Table A-3. (continued)

Carbamic acid, methylnitroso-, ethyl ester	U178
Carbamic acid, ethyl ester	U238
Carbamic chloride, dimethyl-	U097
Carbamodithioic acid, 1,2-ethanediyl- bis-, salts & esters	U114
Carbamothioc acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester	U062
Carbon oxyfluoride (R,T)	U033
Carbon tetrachloride	U211
Carbonic acid, dithallium(1 +) salt	U215
Carbonic difluoride	U033
Carbonochloridic acid, methyl ester (I,T)	U156
Chlornaphazin	U026
Chloral	U034
Chlorambucil	U035
Chlordane, alpha & gamma isomers	U036
p-Chloro-m-cresol	U039
4-Chloro-o-toluidine, hydrochloride	U049
Chlorobenzene	U037
Chlorobenzilate	U038
2-Chloroethyl vinyl ether	U042
Chloroform	U044
Chloromethyl methyl ether	U046
beta-Chloronaphthalene	U047
o-Chlorophenol	U048
Chromic acid H_2CrO_4, calcium salt	U032
Chrysene	U050
Creosote	U051
Cresol (Cresylic acid)	U052
Crotonaldehyde	U053
Cumene (I)	U055
Cyanogen bromide (CN)Br	U246
2,5-Cyclohexadiene-1,4-dione	U197
Cyclohexane (I)	U056
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha, 3beta, 4alpha, 5alpha, 6beta)-	U129
Cyclohexanone (I)	U057
1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	U130
Cyclophosphamide	U058
2,4-D, salts & esters	U240
DDD	U060
DDT	U061
Daunomycin	U059
Di-n-octyl phthalate	U107
Di-n-propylnitrosamine	U111
Diallate	U062
Dibenz[a,h]anthracene	U063
Dibenzo[a,i]pyrene	U064
1,2-Dibromo-3-chloropropane	U066
Dibutyl phthalate	U069

1,4-Dichloro-2-butene (I,T)	U074
o-Dichlorobenzene	U070
m-Dichlorobenzene	U071
p-Dichlorobenzene	U072
3,3'-Dichlorobenzidine	U073

Table A-3. (continued)

Dichlorodifluoromethane	U075
Dichloroethyl ether	U025
1,1-Dichloroethylene	U078
1,2-Dichloroethylene	U079
Dichloroisopropyl ether	U027
Dichloromethoxy ethane	U024
2,4-Dichlorophenol	U081
2,6-Dichlorophenol	U082
1,3-Dichloropropene	U084
1,2:3,4-Diepoxybutane (I,T)	U085
O,O-Diethyl S-methyl dithiophosphate	U087
Diethyl phthalate	U088
1,4-Diethyleneoxide	U108
Diethylhexyl phthalate	U028
N,N'-Diethylhydrazine	U086
Diethylstilbesterol	U089
Dihydrosafrole	U090
3,3'-Dimethoxybenzidine	U091
Dimethyl phthalate	U102
Dimethyl sulfate	U103
Dimethylamine (I)	U092
p-Dimethylaminoazobenzene	U093
7,12-Dimethylbenz[a]anthracene	U094
3,3'-Dimethylbenzidine	U095
alpha, alpha-Dimethylbenzylhydroperoxide (R)	U096
Dimethylcarbamoyl chloride	U097
1,1-Dimethylhydrazine	U098
1,2-Dimethylhydrazine	U099
2,4-Dimethylphenol	U101
2,4-Dinitrotoluene	U105
2,6-Dinitrotoluene	U106
1,4-Dioxane	U108
1,2-Diphenylhydrazine	U109
Dipropylamine (I)	U110
Epichlorohydrin	U041
Ethanal (I)	U001
Ethanamine, N-ethyl-N-nitroso-	U174
Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	U024
Ethane, 1,1'-oxybis-(I)	U117
Ethane, 1,1'-oxybis[2-chloro-	U025
Ethane, 1,1,1,2-tetrachloro-	U208
Ethane, 1,1,1-trichloro-	U226
Ethane, 1,1,2,2-tetrachloro-	U209
Ethane, 1,1,2-trichloro-	U227
Ethane, 1,1-dicholro-	U076
Ethane, 1,2-dibromo-	U067

Ethane, 1,2-dichloro-	U077
Ethane, hexachloro-	U131
Ethane, pentachloro-	U184
1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	U155
Ethanethioamide	U218
Ethanol, 2,2'-(nitrosoimino)bis-	U173

Table A-3. (continued)

Ethanol, 2-ethoxy-	U359
Ethanone, 1-phenyl-	U004
Ethene, (2-chloroethoxy)-	U042
Ethene, 1,1-dichloro-	U078
Ethene, 1,2-dichloro-, (E)-	U079
Ethene, chloro-	U043
Ethene, tetrachloro-	U210
Ethene, trichloro-	U228
Ethyl acetate (I)	U112
Ethyl acrylate (I)	U113
Ethyl carbamate (urethane)	U238
Ethyl ether (I)	U117
Ethyl methacrylate	U118
Ethyl methanesulfonate	U119
Ethylene dibromide	U067
Ethylene dichloride	U077
Ethylene glycol monoethyl ether	U359
Ethylene oxide (I,T)	U115
Ethylenebisdithiocarbamic acid, salts & esters	U114
Ethylenethiourea	U116
Ethylidene dichloride	U076
Fluoranthene	U120
Formaldehyde	U122
Formic acid (C,T)	U123
Furan (I)	U124
Furan, tetrahydro- (I)	U213
2-Furancarboxaldehyde (I)	U125
2,5-Furandione	U147
Furfural (I)	U125
Furfuran (I)	U124
Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-	U206
D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-	U206
Glycidylaldehyde	U126
Guanidine, N-methyl-N'-nitro-N-nitroso-	U163
Hexachlorobenzene	U127
Hexachlorobutadiene	U128
Hexachlorocyclopentadiene	U130
Hexachloroethane	U131
Hexachlorophene	U132
Hexachloropropene	U243
Hydrazine (R,T)	U133
Hydrazine, 1,1-dimethyl-	U098
Hydrazine, 1,2-diethyl-	U086
Hydrazine, 1,2-dimethyl-	U099

Hydrazine, 1,2-diphenyl-	U109
Hydrofluoric acid (C,T)	U134
Hydrogen fluoride (C,T)	U134
Hydrogen sulfide	U135
Hydrogen sulfide H_2S	U135
Hydroperoxide, 1-methyl-1-phenylethyl- (R)	U096
2-Imidazolidinethione	U116
Indeno[1,2,3-cd]pyrene	U137

Table A-3. (continued)

1,3-Isobenzofurandione	U190
Isobutyl alcohol (I,T)	U140
Isosafrole	U141
Kepone	U142
Lasiocarpine	U143
Lead acetate	U144
Lead phosphate	U145
Lead subacetate	U146
Lead, bis(acetato-O)tetrahydroxytri-	U146
Lindane	U129
MNNG	U163
Maleic anhydride	U147
Maleic hydrazide	U148
Malononitrile	U149
Melphalan	U150
Mercury	U151
Methacrylonitrile (I,T)	U152
Methanamine, N-methyl- (I)	U092
Methane, bromo-	U029
Methane, chloro- (I,T)	U045
Methane, chloromethoxy-	U046
Methane, dibromo-	U068
Methane, dichloro-	U080
Methane, dichlorodifluoro-	U075
Methane, iodo-	U138
Methane, tetrachloro-	U211
Methane, tribromo-	U225
Methane, trichloro-	U044
Methane, trichlorofluoro-	U121
Methanesulfonic acid, ethyl ester	U119
Methanethiol (I,T)	U153
4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	U036
Methanol (I)	U154
Methapyrilene	U155
1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachloro-octahydro-	U142
Methoxychlor	U247
Methyl alcohol (I)	U154
Methyl bromide	U029
Methyl chloride (I,T)	U045
Methyl chlorocarbonate (I,T)	U156
Methyl chloroform	U226
Methyl ethyl ketone (MEK) (I,T)	U159

Methyl ethyl ketone peroxide (R,T)	U160
Methyl iodide	U138
Methyl isobutyl ketone (I)	U161
Methyl methacrylate (I,T)	U162
4-Methyl-2-pentanone (I)	U161
1-Methylbutadiene (I)	U186
3-Methylcholanthrene	U157
Methylene bromide	U068
Methylene chloride	U080
4,4'-Methylenebis(2-chloroaniline)	U158

Table A-3. (continued)

Methylthiouracil	U164
Mitomycin C	U010
5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl) oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-	U059
1-Naphthalenamine	U167
2-Naphthalenamine	U168
Naphthalenamine, N,N'-bis(2-chloroethyl)-	U026
Naphthalene	U165
Naphthalene, 2-chloro-	U047
1,4-Naphthalenedione	U166
2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo) bis[5-amino-4-hydroxy]-, tetrasodium salt	U236
1,4-Naphthoquinone	U166
alpha-Naphthylamine	U167
beta-Naphthylamine	U168
Nitric acid, thallium(1 +) salt	U217
5-Nitro-o-toluidine	U181
Nitrobenzene (I,T)	U169
p-Nitrophenol	U170
2-Nitropropane (I,T)	U171
N-Nitroso-N-ethylurea	U176
N-Nitroso-N-methylurea	U177
N-Nitroso-N-methylurethane	U178
N-Nitrosodi-n-butylamine	U172
N-Nitrosodiethanolamine	U173
N-Nitrosodiethylamine	U174
N-Nitrosopiperidine	U179
N-Nitrosopyrrolidine	U180
1,2-Oxathiolane, 2,2-dioxide	U193
2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide	U058
Oxirane (I,T)	U115
Oxirane, (chloromethyl)-	U041
Oxiranecarboxyaldehyde	U126
Paraldehyde	U182
Pentachlorobenzene	U183
Pentachloroethane	U184
Pentachloronitrobenzene (PCNB)	U185
1,3-Pentadiene (I)	U186
Pentanol, 4-methyl-	U161
Phenacetin	U187

Phenol	U188
Phenol, 2,2'-methylenebis[3,4,6-trichloro-	U132
Phenol, 2,4-dichloro-	U081
Phenol, 2,4-dimethyl-	U101
Phenol, 2,6-dichloro-	U082
Phenol, 2-chloro-	U048
Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-	U089
Phenol, 4-chloro-3-methyl-	U039
Phenol, 4-nitro-	U170
Phenol, methyl-	U052
L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-	U150
Phosphoric acid, lead(2 +) salt (2:3)	U145

Table A-3. (continued)

Phosphorodithioic acid, O,O-diethyl S-methyl ester	U087
Phosphorus sulfide (R)	U189
Phthalic anhydride	U190
2-Picoline	U191
Piperidine, 1-nitroso-	U179
Pronamide	U192
1-Propanamine (I,T)	U194
1-Propanamine, N-nitroso-N-propyl-	U111
1-Propanamine, N-propyl- (I)	U110
1,3-Propane sultone	U193
Propane, 1,2-dibromo-3-chloro-	U066
Propane, 1,2-dichloro-	U083
Propane, 2,2'-oxybis[2-chloro-	U027
Propane, 2-nitro- (I,T)	U171
Propanedinitrile	U149
1-Propanol, 2,3-dibromo-, phosphate (3:1)	U235
1-Propanol, 2-methyl- (I,T)	U140
2-Propanone (I)	U002
2-Propenamide	U007
1-Propene, 1,1,2,3,3,3-hexachloro-	U243
1-Propene, 1,3-dichloro-	U084
2-Propenenitrile	U009
2-Propenenitrile, 2-methyl- (I,T)	U152
2-Propenoic acid (I)	U008
2-Propenoic acid, 2-methyl-, ethyl ester	U118
2-Propenoic acid, 2-methyl-, methyl ester (I,T)	U162
2-Propenoic acid, ethyl ester (I)	U113
n-Propylamine (I,T)	U194
Propylene dichloride	U083
3,6-Pyridazinedione, 1,2-dihydro-	U148
Pyridine	U196
Pyridine, 2-methyl-	U191
2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-	U237
4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	U164
Pyrrolidine, 1-nitroso-	U180
Reserpine	U200
Resorcinol	U201
Saccharin, & salts	U202
Safrole	U203

Selenious acid	U204
Selenium dioxide	U204
Selenium sulfide	U205
Selenium sulfide SeS_2 (R,T)	U205
L-Serine, diazoacetate (ester)	U015
Streptozotocin	U206
Sulfur phosphide (R)	U189
Sulfuric acid, dimethyl ester	U103
1,2,4,5-Tetrachlorobenzene	U207
1,1,1,2-Tetrachloroethane	U208
1,1,2,2-Tetrachloroethane	U209
Tetrachloroethylene	U210
Tetrahydrofuran (I)	U213

Table A-3. (continued)

Thallium chloride TlCl	U216
Thallium (I) acetate	U214
Thallium (I) carbonate	U215
Thallium (I) chloride	U216
Thallium (I) nitrate	U217
Thioacetamide	U218
Thiomethanol (I,T)	U153
Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-	U244
Thiourea	U219
Thiram	U244
Toluene	U220
Toluene diisocyanate (R,T)	U223
Toluenediamine	U221
o-Toluidine	U328
p-Toluidine	U353
o-Toluidine hydrochloride	U222
1H,1,2,4-Triazol-3-amine	U011
1,1,2-Trichloroethane	U227
Trichloroethylene	U228
Trichloromonofluoromethane	U121
1,3,5-Trinitrobenzene (R,T)	U234
1,3,5-Trioxane, 2,4,6-trimethyl-	U182
Tris(2,3-dibromopropyl) phosphate	U235
Trypan blue	U236
Uracil mustard	U237
Urea, N-ethyl-N-nitroso-	U176
Urea, N-methyl-N-nitroso-	U177
Vinyl chloride	U043
Warfarin, & salts, when present at concentrations of 0.3% or less	U248
Xylene (I)	U239
Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta, 16beta, 17alpha, 18beta, 20alpha)-	U200
Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less	U249

Appendix B. Summary of Generator Requirements for Storing Hazardous and Mixed Waste

	<90-Day Storage Areas	Satellite Storage Areas
Special Conditions	No containers shall be stored for more than 90 days from the date accumulation begins before they are delivered to TA-54 or TA-50. The 90-day period includes transport time by the Waste Management Group (EM-7). For disposal, submit HS Form 10-3A, Chemical Waste Disposal Request (CWDR), or Form 1354 (ES&H Form 10-2A), Radioactive Solid Waste Disposal Record (RSWD), to EM-7. Give EM-7 a minimum notice of 10 working days. Form 1346 (ES&H From 10-9A), Waste Profile Form, if required, must be completed before submitting the CWDR to EM-7. See Administrative Requirement (AR) 10-9, "Waste Profile Form."	Generators may accumulate a total of 55 gallons of hazardous or mixed waste or 1 quart of acutely hazardous waste (see Appendix A); contact the Environmental Protection Group (EM-8) for more information. *NOTE: This is the maximum allowable volume for a satellite storage area.* Waste in excess of these amounts must be picked up within three calendar days from the time the amount is exceeded. See labeling and dating requirements below. For disposal, submit a CWDR.
Loading and Unloading Areas	Loading and unloading areas must be free of obstacles or deterioration that could cause a spill or accident.	Same.
Storage Areas	Storage areas must be free of obstacles that could prevent access by emergency personnel and equipment. Containers must be placed at least 2 feet apart or placed in rows that are at least 2 feet apart to allow for visual inspection and access by emergency personnel with equipment. The area should be dry, sheltered, and if ignitable waste is stored, free of possible ignition sources. Secondary containment structures must be free of damage. Storage areas must be established by EM-8. Storage areas used for mixed waste must be located according to *LANL Radiological Control Manual* guidelines. Drums and other containers that are stored outside must be placed on pallets or similar devices. Consult the *LANL Radiological Control Manual* for more information.	Hazardous or mixed waste must be accumulated in containers at or near the point of generation and must be under the control of the generator. Storage areas must be free of obstacles or deterioration that could cause a spill or accident or prevent access by emergency personnel and equipment. Containers must be placed to allow for visual inspection and access by emergency personnel with equipment. The area should be dry, sheltered, and if ignitable waste is stored, free of possible ignition sources. Storage areas must be established by EM-8. Storage areas used for mixed waste must be located according to *LANL Radiological Control Manual* guidelines. Drums and other containers that are stored outside must be placed on pallets or similar devices. Consult the *LANL Radiological Control Manual* for more information.

	<90-Day Storage Areas	Satellite Storage Areas
Compatibility	Containers must be segregated according to the compatibility of the wastes that they hold. A storage container holding hazardous or mixed waste that is incompatible with any other waste or material nearby in other containers, piles, open tanks, or surface impoundments must be separated or protected from the other materials by a dike, berm, wall, or other device. Sound laboratory practices must be followed when storing hazardous or mixed waste. Container material must be compatible with the waste. Do not store a waste that will corrode or otherwise cause deterioration of the container. EM-7 can assist in choosing the appropriate container. Do not package solids and liquids together or use sorbents except in emergencies or if approved by EM-7.	Same.
Containers	Containers must be in good condition as determined by EM-7. Deteriorated or damaged containers must be replaced immediately. Drums for liquid waste must have "bung" tops. All containers must be closed properly when not in use.	Same.
Labeling	All hazardous or mixed waste containers must be properly labeled "HAZARDOUS WASTE," and the major hazardous constituents must be listed. (Do not use this label for containers of nonhazardous waste.) In addition, mixed wastes must also be labeled as "RADIOACTIVE WASTE" (contact the area radiological control technician [RCT]). If a container holds more than one type of hazardous or mixed waste, then the contents must be listed (for example, solvents, acids, and caustics). An accumulation start date must be properly marked on all containers at the time the container *first* receives waste. See AR 10-5, "Transuranic (TRU) Solid Waste," for TRU waste labeling requirements. Mixed waste packages must have a Radioactive Material Tag (see AR 10-2, "Low-Level Radioactive Solid Waste").	All hazardous or mixed waste containers must be properly labeled "HAZARDOUS WASTE," and the major hazardous constituents must be listed. (Do not use this label for containers of nonhazardous waste.) In addition, mixed wastes must also be labeled as "RADIOACTIVE WASTE" (contact the area RCT). Waste in excess of the maximum allowable amount must also be labeled in this manner, and the containers must be marked with the date the excess amount began accumulating. The generator must properly dispose of all waste within three calendar days of that date. See AR 10-5, "Transuranic (TRU) Solid Waste," for TRU waste labeling requirements. Mixed waste packages must have a Radioactive Material Tag (see AR 10-2, "Low-Level Radioactive Solid Waste").

	<90-Day Storage Areas	Satellite Storage Areas
Warning Signs	Warning signs with the legend "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT" must be readable and prominently posted. The storage area must be identified by a sign that reads "HAZARDOUS WASTE LESS THAN 90 DAYS STORAGE AREA." Signs are provided by EM-8.	Warning signs with the legend "SATELLITE HAZARDOUS WASTE STORAGE AREA" should be readable and prominently posted. Signs are provided by EM-8.
Inspection	Storage areas must be inspected daily, and a *copy* of the inspection record form must be submitted weekly to EM-8. Copies of the form may be obtained from EM-8. All original records *must* be maintained by the waste generator for a minimum of three years.	Although regulations do not require formal inspection and record keeping, good management practices dictate that satellite storage site operators perform periodic inspections and keep a log of inspection records.
Leaks and Spills	Hazardous or mixed waste leaks or spills must be cleaned up immediately, and the resulting material must also be handled as hazardous or mixed waste. For mixed waste spills contact the area RCT. See the section titled "Cleaning up Leaks and Spills."	Same.
Disposal	For disposal of hazardous and mixed wastes, generators must properly complete a WPF and submit it to EM-8 at the address on the form. Incomplete or improperly completed WPFs will be returned to the generators for corrections. All WPFs submitted to EM-8 must be signed. When the generators receive their processed WPF, they should submit a CWDR to EM-7. The CWDR provides a space to record the waste profile number for each item to be disposed of. The original WPF must accompany the first CWDR for new waste streams.	Same.

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	1/21/2009

P017	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	1/15/2009	2
NA	AR 10-3 - Hazardous and Mixed Waste Records Submittal for Hazardous & Mixed Waste P2010-0028 2.12.09	4/26/1993	35

None

Acceptance/Rejection Signature and Date

Records Accepted ☑	Sonia Gonzalez Signature	SONIA GONZALEZ Printed Name	02.12.09 Date
Records Rejected ☐	Signature	Printed Name	Date

Reason for Rejection:

N/A

Re-submittal:

Signature	Printed Name	Date

HP LaserJet *M2727nf MFP*

Fax Confirmation Report

HP LASERJET FAX

Feb-12-2009 9:47AM

Job	Date	Time	Type	Identification	Duration	Pages	Result
4610	2/12/2009	9:46:23AM	Send	96283238	0:33	1	OK

Controlled Copy

CCP-QP-008, Rev. 14 **Effective Date: 09/19/2007**
CCP Records Management **Page 29 of 29**

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220
Telephone Number: 505-234-7523
Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ e-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-6689
Telephone Number:	505-234-7523	Date Sent:	1/21/2009

P017	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	1/15/2009	2
NA	AR 10-3 - Hazardous and Mixed Waste Records Submittal for Hazardous & Mixed Waste P208 SG 0078 2.12.09	4/28/1993	35

None

Acceptance/Rejection Signature and Date

Records Accepted ☑ Sonia Gonzalez (Signature) SONIA GONZALEZ (Printed Name) 02.12.09 (Date)

Records Rejected ☐ _____ (Signature) _____ (Printed Name) _____ (Date)

Reason for Rejection: N/A

Re-submitta: _____ (Signature) _____ (Printed Name) _____ (Date)

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
P017	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	2
	N/A		

Comments
Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑ Signature: Sonia Gonzalez — Printed Name: SONIA GONZALEZ — Date: 11/17/09

Records Rejected ☐ Signature — Printed Name — Date

Reason for Rejection: N/A

Re-submittal: Signature — Printed Name — Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	2192
DESTINATION TEL #	92347138
DESTINATION ID	CHEZIE TODD
ST. TIME	11/17 10:51
TIME USE	00'15
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
		Telephone Number:	505-302-8669
Telephone Number:	505-234-7523	Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
P017	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	2

Comments

Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑ Sonia Gonzalez (Signature) SONIA GONZALEZ (Printed Name) 11/17/09 (Date)

DIVIDER

PAGE

Attachment 3 - Acceptable Knowledge Source Document Summary

Waste Stream Number(s): LA-MHD04.001

Site(s): Los Alamos National Laboratory-Technical Area 21	**Source Document Tracking Number:** D042
Acceptable Knowledge Documentation Type: ☑ TRU Waste Management Program Information ☑ Waste Stream-Specific Information ☐ Supplemental Information	**Category:** ☐ C - Correspondence ☑ D - Documents ☐ M - Miscellaneous ☐ P - Procedures ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents

Title of Source Document: Plutonium Processing at the Los Alamos Scientific Laboratory

Source Document Reference Information (author(s), document and revision number, date, publisher): Eldon L. Christensen and William J. Maraman, LA-3542, TWCP-18950, April 1969, LASL

AK # [a]	Source Doc. Page # [b]	AK Information Summary
PR4	1-2	The plutonium purification group was created within the Chemistry Division in May 1943 and was assigned the job of purifying plutonium received from other laboratories. Purification and recovery operations were transferred to DP Site West in Sept. 1945. Various processes have been developed and used between 1944 and 1969 for Pu purification.
WS5, WS8, WS12	Throughout	Process flow diagrams for various Pu purification processes. General references to solvents are made, and various solutions are listed. Fig 17 (p. 18) shows a flow diagram of process for dissolving Pu metal. Fig 19 is a flow diagram for dissolution of Pu-hydride in HCl. Fig. 20 is a flow diagram of the dissolution of Pu-oxide residues. Fig. 23 shows the dissolution procedure for reduction residues in 1951. Fig. 33 is a flow diagram for geometrically favorable slag and crucible dissolvers. Fig. 31 shows the procedure for dissolution of MgO casting crucibles. Fig. 39 is a flow diagram for decontaminating of graphite residues. Fig. 42 shows the stabillzation of tetravalent Pu. Figs. 44-45, 47-51, 53-54, 59-60, 63, 65, 67, 69 show additional Pu processes.
PR1	8, 9	A map of the general layout of DP Site West is provided in Fig. 7. Recovery facilities at DP Site West are shown in Fig. 8.
WS11	17, 20, 21, 48	Plutonium, Cerium, Uranium, Thorium, and Neptunium are specifically mentioned.
WS12	20, 21, 48, 49- 50, 63, 66, 68-69	Mercuric nitrate was used as a catalyst for the dissolution of Pu-Al. Dissolution of alloys containing Cr was conducted. Hg and Cr are again mentioned on pg. 48. Pg. 49 indicates that silver chloride and dichromate was used. Pg. 50 mentions the use of Na2Cr2O4. Sec. 8.8 Discusses the use of organics, including methanol. Sec. 8.9 discusses solvent extraction.
WS8	Throughout	Many different solutions and other materials are used in processes described throughout the document.

SUPERCEDED

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	1900
DESTINATION TEL #	915056627800
DESTINATION ID	ANL
ST. TIME	11/11 13:09
TIME USE	00'16
PAGES SENT	1
RESULT	OK

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
Telephone Number:	505-234-7523	Telephone Number:	505-302-8669
		Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
0026	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	1
	NA		

Comments

Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑ [signature] SONIA GONZALEZ 11/09/09

Attachment 3 - Acceptable Knowledge Source Document Summary (continued)

Site(s): Los Alamos National Laboratory	Source Document Tracking Number: D042

Source Document Data Limitations (if any):

1. None

Acceptable Knowlege Expert:

Amy Johns , Amy Johns Date: 2/21/14

Print /Sign

a Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
b Obtain from Acceptable Knowledge Documentation Checklist
c For microfilm or microfiche, identify box, tape, reel number and location.

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	1900
DESTINATION TEL #	915056827800
DESTINATION ID	LANL
ST. TIME	11/11 13:09
TIME USE	00'16
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 - CCP Records Transmittal/Receiving Form

CCP Central Records / Records Custodian, 4021 National Parks Highway - MS: GSA 203, Carlsbad, New Mexico 88220

Telephone Number: 505-234-7523

Fax Number: 505-234-7014

☒ Original Record
☐ Fax Record
☐ E-mail Record

Attn:	Sheila Pearcy	From:	Amy Johns
Ship to:	CCP Central Records/ CCP Records Custodian	Site:	Los Alamos National Laboratory, CCP-AK-LANL-010
	4021 National Parks Highway - MS GSA 203, Carlsbad, NM 88220	Company:	Technical Specialists, LLC
Telephone Number:	505-234-7523	Telephone Number:	505-302-8669
		Date Sent:	08/27/2009

Document Number	Title/Description	Record Date	Total Pages
D026	Attachment 3 - Acceptable Knowledge Source Document Summary for CCP-AK-LANL-010	8/26/2009	1
	NA		

Comments

Please supercede existing Attachment 3.

Acceptance/Rejection Signature and Date

Records Accepted ☑ Sonia Gonzalez (Signature) SONIA GONZALEZ (Printed Name) 11/09/09

Table C6-3 Radiography Checklist
LANL/CCP Recertification Audit A-14-19
August 19 – 21, 2014

(This page intentionally blank)

Radiography Checklist

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-3 Radiography Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	QUALITY ASSURANCE OBJECTIVES					
233	Are process procedures in place to meet the following Quality Assurance Objectives? Precision • Does the site describe in its QAPjP and SOP(s) activities to reconcile any discrepancies between two radiography operators with regard to identification of the waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases through independent replicate scans and independent observations? And additionally, activities to verify the precision of radiography prior to use by tuning precisely enough to demonstrate compliance with QAOs through viewing an image test pattern? Accuracy • Was accuracy obtained by using a target to tune the image for maximum sharpness and by requiring operators to successfully identify 100 percent of the required items in a training container during their initial qualification and subsequent requalification	CCP-TP-053, S. 3.1.5, 4.3.3, 4.5 & 4.6 CCP-QP-002, S. 4.3.2 [B3](a) & Att. 4	Y	RTR BDRs: LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)** Qualification records for 5 RTR operators **(RTR-2)**	Y	
233a	Completeness • Was an audio/videotape (or equivalent media) of the radiography examination and a radiography data form validated according to the requirements in Section C3-4? • Was an audio/videotape (or equivalent media) of the radiography examination and a radiography data form obtained for 100% of the waste containers subject to radiography? Comparability • Is comparability ensured through the use of standardized radiography procedures and operator training and qualifications (Section C3-2a)	CCP-TP-053, S. 2.2, 4.4, Att. 2 & 3 CCP-PO-001, S. C-3b CCP-QP-002 S. 4.3.2	Y	RTR BDRs: LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)** Qualification records for 5 RTR operators **(RTR-2)**	Y	

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-3 Radiography Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	CHARACTERIZATION AND SYSTEM REQUIREMENTS					
234	Does the site have procedures to ensure that radiography is used to identify and verify waste container contents and verify the waste's physical form? Does the site have procedures to identify prohibited materials? (Section C-3b; C1-1)	CCP-TP-053, S. 1.0, Table 1 & Att. 2	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
235	Do procedures or other supporting documentation ensure that every waste container will undergo radiography and/or VE as necessary to augment AK? (Section C-3b)	CCP-PO-001 S. C-3b CCP-TP-001 S. 1.0 and 4.2	Y	LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** LA13-OSR-VE-017 LA13-OSR-VE-024 LA14-OSR-VE-005 LAVE500504 LAVE500507 LAVE550128 LAVE550132 **(GEN-2)** CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)**	Y	
236	Do procedures ensure that containers whose contents prevent full examination are examined by visual examination rather than by radiography unless the site certifies that visual examination would provide no additional relevant information for that container based on the AK information for the waste stream? (Section C1-1)	CCP-TP-053, S. 4.4.2 [B] & [C]	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-3 Radiography Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
237	Do procedures or other supporting documentation ensure that the physical form determined by radiography is compared with the waste stream descriptions? If discrepancies are noted, will a new waste stream be identified? (Section C-3b)	**RTR** CCP-TP-053, S. 4.4.2[H.2], Att. 2 & 3 **PL** CCP-PO-001 S. C-3b CCP-TP-001 S. 1.0 and 4.2 CCP-TP-002 S. 4.7	Y Y	**RTR:** LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)** **PL** LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)** CP:09:01169 CP:13:01497 CP:14:01060 CP:13:01218 CP:14:01059 CP:14:01128 **(GEN-3)** Acceptable Knowledge Document Summary for Waste Stream LA-MHD04.001 Discrepancy Resolution **(GEN-4)**	Y Y	
238	Are there procedures to ensure the data is obtained from an audio/video recorded scan provided by trained radiography operators? (Section C1-1)	CCP-TP-053, S. 2.2, Att. 2 & 3	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
239	Were all activities required to achieve the radiography objective described in site Quality Assurance Project Plans (QAPjPs) and Standard Operating Procedures	CCP-TP-053, (All)	Y	LA-HERTR-13-0090 LA-HERTR-14-0034	Y	

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-3 Radiography Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	(SOPs)? (Section C3-2)			LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**		
240	Did the radiography system consist of the following equipment or equivalent: • an X-ray producing device? • an imaging system? • an enclosure for radiation protection? • a waste container handling system? • an audio/video recording system or equivalent? • an operator control and data acquisition station? (Section C1-1)	CCP-TP-053, S. 4.2 – 4.4 CCP-TP-198, (All)	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
241	Did the X-ray producing device have controls which allow the operator to vary voltage, thereby controlling image quality? Was it possible to vary the voltage, typically between 150-400 kV, to provide an optimum degree of penetration through the waste? Was high-density material examined with the X-ray device set on the maximum voltage? Was low-density material examined at lower voltage settings to improve contrast and image definition? (Section C1-1)	CCP-TP-053, S. 4.4.1 [C] CCP-TP-122, S. 2.5.6	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
242	Do procedures or other documentation ensure that an audio/videotape or equivalent is made of the waste container scan and maintained as a non-permanent record? (Section C1-1)	CCP-TP-053, S. 4.3, 5.1.2, Att.1, 2 & 3	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
	DATA COMPILATION					
243	Are there procedures to ensure that a radiography data form is used to document the waste matrix code, ensure the waste container contains no ignitable, corrosive or reactive waste by documenting the absence of liquid in excess of TSDF-WAC limits or compressed gases, and verify that the physical form of the waste is consistent with the waste stream description documented on the WSPF?	CCP-TP-053, S. 4.4, Att. 2 & 3	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044	Y	

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-3 Radiography Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	(Section C1-1)			LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**		
245	If radiography indicates that the waste does not match the waste stream description, do procedures ensure that the appropriate corrective action was taken? (Section C-3b)	CCP-TP-053, S. 4.4.2 [H.2]	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
246	If a discrepancy is noted, do procedures ensure that the proper waste stream assignment is determined, the correct hazardous waste numbers assigned, and the resolution documented? (Section C-3b)	CCP-TP-005, S. 4.9	Y	AK Discrepancy Resolutions at Characterization **(AK-15)**	Y	
	TRAINING					
247	Do site procedures ensure that only trained personnel are allowed to operate radiography equipment? (Section C1-1)	CCP-TP-053, S. 2.2.1 CCP-QP-002, S. 4.3.2	Y	Qualification records for 5 RTR operators **(RTR-2)**	Y	
248	Do site procedures ensure that training requirements for radiography operators is based upon existing industry standard training requirements? (Section C1-1)	CCP-QP-002, S. 4.3.2 [A.2]	Y	Qualification records for 5 RTR operators **(RTR-2)**	Y	
249	Does the documented training program provide radiography operators with both formal and on-the-job training (OJT)? (Section C1-1)	CCP-QP-002, S. 4.3.2	Y	Qualification records for 5 RTR operators **(RTR-2)**	Y	
250	Does the documented training program ensure that the radiography operators are instructed in the specific waste generating practices and typical packaging configurations expected to be found in each waste stream at the site? (Section C1-1)	CCP-QP-002, S. 4.1 & 4.2	Y	Qualification records for 5 RTR operators **(RTR-2)**	Y	
251	Does the documented training program ensure that the OJT and apprenticeship are conducted by an experienced, qualified radiography operator prior to qualification of the candidate? (Section C1-1)	CCP-QP-002, S. 4.3.2[A]	Y	Qualification records for 5 RTR operators **(RTR-2)**	Y	
252	Is the documented training program site specific? (Section C1-1)	CCP-QP-002, S. 4.1 & 4.3.2	Y	Qualification records for 5 RTR operators **(RTR-2)**	Y	
262	Does the documented training program ensure that a training drum with various container sizes is scanned by each operator on a semiannual basis? Is the videotape reviewed by a supervisor to ensure that operator's interpretations remain consistent and accurate?	CCP-QP-002, S. 4.3.2 [C.2] & [D]	Y	Qualification records for 5 RTR operators **(RTR-2)**	Y	

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-3 Radiography Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	(Section C1-1)	CCP-TP-028, (All)				
263	Do site procedures ensure that the site prepares Testing Batch Data Reports or equivalent which includes all data pertaining to radiography for up to 20 waste containers without regard to waste matrix? (Section C3-4)	CCP-TP-053, S. 4.9	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
	QUALITY ASSURANCE					
265	Does the documented training program ensure that the imaging system characteristics are verified on a routine basis? (Section C1-1)	CCP-TP-053, S. 4.3 CCP-QP-002, S. 4.3.2	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)** Qualification records for 5 RTR operators **(RTR-2)**	Y	
266	Do procedures ensure that independent replicate scans and replicate observations of the video output of the radiography process are performed under uniform conditions and procedures? Are independent replicate scans performed on one waste container per day or per testing batch of 20 samples, which ever is less frequent, by a qualified radiography operator that was not involved in the original scan of the water container? Are independent observations of one scan (not the replicate scan) performed once per day or per testing batch, which ever is less frequent, by a qualified radiography operator that was not involved in the original scan of the waste container? (Section C1-1)	CCP-TP-053, S. 4.5 & 4.6	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
267	Do procedures ensure that oversight functions include periodic audio/video media reviews of accepted waste containers, are performed by qualified radiography operators that were not involved in the original scans of the waste containers? (Section C1-1)	CCP-TP-053, S. 4.5 & 4.6	Y	LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-3 Radiography Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
268	Is the site project manager responsible for monitoring the quality of the radiography data and calling for corrective action, when necessary? (Section C1-1)	CCP-PO-001 S. C1-1 CCP-TP-001 S. 3.1.8 & 4.2	Y	LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)**	Y	
	DATA VALIDATION, REVIEW, VERIFICATION AND REPORTING					
277	Do procedures ensure that all applicable data generation review verification and validation activities specified in C3-4 are followed, including all signatory releases? (Section C3-4)	CCP-TP-053, S. 4.10 & Att. 3	Y	RTR BDRs: LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
278	Do procedures ensure that radiography tapes have been reviewed at a frequency of one waste container per day or once per testing batch, whichever is less frequent, to ensure data are correct and completed? (Section C1-1)	CCP-TP-053, S. 4.6	Y	RTR BDRs: LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013 **(RTR-1)**	Y	
279	Do procedures ensure that all applicable project-level signatory releases and DQOs (Section C3-3) as specified in the WAP are performed? (Section C3-4b)	CCP-TP-001 S. 4.2 and Att. 2	Y	LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)**	Y	Table C3-3 for Radiography was verified for BDR completeness.
282	At the data generation level, do procedures ensure that all electronic and video data stored appropriately to ensure that waste container, sample, and associated QA data are readily retrievable? Are radiography tapes reviewed, at a frequency of one waste container per day or once per testing batch, whichever is less frequent, against the data reported on the radiography form? (Section C3-4a, C3-4a(1))	CCP-TP-053, S. 4.6 & 5.0	Y	RTR BDRs: LA-HERTR-13-0090 LA-HERTR-14-0034 LA-HERTR-14-0038 LA-HERTR-14-0039 LA-HERTR-14-0044 LA-RTR2-13-0135 LA-RTR2-14-0013	Y	

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-3 Radiography Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				(RTR-1)		
283	At the project level, do procedures require the Site Project Manager to certify that the radiography data are complete and acceptable based on the videotape review of at least one waste container per testing batch or daily, whichever is less frequent? (Section C3-4b(1))	CCP-TP-001 S. 4.2 and Att. 2	Y	LA-HERTR-13-0111 LA-HERTR-13-0125 LA-HERTR-14-0034 LA-HERTR-14-0039 LA-RTR2-13-0121 LA-RTR2-14-0021 **(GEN-1)**	Y	

1. The WAP requirements should be presented in documents, such as procedures. Each of the questions posed under WAP requirements is meant to ask whether procedures are in place or whether documents are evident which demonstrate that the specific WAP requirement is or can be met.

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-13-0090			Examination Date(s): 8/5/2013	
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 94100 94028 94060 94074 94076 94068
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 8.8.13
AH

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0090	**Examination Date(s): 8/5/2013**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-13-0090	Examination Date(s): 8/5/2013			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna			8/7/13
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

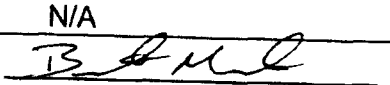
Attachment 5 – CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-13-0090 ☑ CH ☐ RH Date: 08/05/2013

Waste Container ID Numbers	
Replicate Scan:	94068
Independent Observation:	94060
1	94100
2	94028
3	94060
4	94074
5	94076
6	94068
7	N/A
8	N/A
9	N/A
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

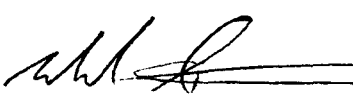
RTR Operator: Benito Maestas — Printed Name

 — Signature

08/05/2013 — Date

Independent Technical Reviewer:

Michael Simmons — Printed Name

 — Signature

08/06/13 — Date

NTPC RECORDS ORIGINAL
DATE REC'D 8/16/13

01

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-13-0090 Date: 08/05/2013

Table Of Contents

Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	NA
6	CCP Independent Technical Reviewer Checklist	28

Batch Narrative

All Quality Checks were performed and recorded on CCP-TP-053, Rev. 13, CCP Radiography Measurement Control Report.

Benito Maestas — RTR Operator

Signature

08/05/2013 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-13-0090		
Examination Date: 08/05/2013		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 9 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator: Benito Maestas (Printed Name) — Signature — 08/05/2013 (Date)		

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0090
Examination Date:	8/5/2013
Waste Container ID:	94068
Video/Audio Recorded Media Number:	LA-HERTR-13-0090 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 180.5 kg Tare Wt.: 33.4 kg Net Wt.: 147.1 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 94068

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic bags, plastic lid
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	12.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	128.1
Soils (S):	
Total WMP Weight:	147.1

CCP Radiography Data Sheet

Waste Container ID: 94068

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Replicate scan agrees with the original scan.	

RTR Operator:

Eric Lyles		8/5/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0090
Examination Date:	8/5/2013
Waste Container ID:	94060
Video/Audio Recorded Media Number:	LA-HERTR-13-0090 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 142.0 kg Tare Wt.: 33.4 kg Net Wt.: 108.6 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

Waste Container ID: 94060

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal lids, metal cans with material

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	8.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	15.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	81.6
Soils (S):	
Total WMP Weight:	108.6

CCP Radiography Data Sheet

Waste Container ID: 94060

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Eric Lyles		8/5/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0090
Examination Date:	8/5/2013
Waste Container ID:	94100
Video/Audio Recorded Media Number:	LA-HERTR-13-0090 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 440.0 kg Tare Wt.: 290.0 kg Net Wt.: 150.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	60 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 94100

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal, hardware, hand tool

AM:

OM:

OI:

C: Wood, coveralls

R: Rubber gloves

XPM: Plastic sheeting, plastic bags, plastic tubing

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	111.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	20.0
Rubber (R):	2.0
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	5.0
Soils (S):	
Total WMP Weight:	150.0

CCP Radiography Data Sheet

Waste Container ID: 94100

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Benito Maestas		8/5/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0090
Examination Date:	8/5/2013
Waste Container ID:	94028
Video/Audio Recorded Media Number:	LA-HERTR-13-0090 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 467.0 kg Tare Wt.: 290.0 kg Net Wt.: 177.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	70 %

CCP Radiography Data Sheet

Waste Container ID: 94028

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Hardware, scrap metal
AM:	
OM:	
OI:	
C:	Wood, tape roll
R:	Rubber gloves
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	11.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	80.0
Rubber (R):	5.0
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	71.0
Soils (S):	
Total WMP Weight:	177.0

CCP Radiography Data Sheet

Waste Container ID: 94028

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Benito Maestas		8/5/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0090
Examination Date:	8/5/2013
Waste Container ID:	94060
Video/Audio Recorded Media Number:	LA-HERTR-13-0090 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 142.0 kg Tare Wt.: 33.4 kg Net Wt.: 108.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 94060

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal lids, scrap metal, metal cans with material

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	10.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	15.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	79.6
Soils (S):	
Total WMP Weight:	108.6

CCP Radiography Data Sheet

Waste Container ID: 94060

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Benito Maestas		8/5/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0090
Examination Date:	8/5/2013
Waste Container ID:	94074
Video/Audio Recorded Media Number:	LA-HERTR-13-0090 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 144.5 kg Tare Wt.: 33.4 kg Net Wt.: 111.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 94074

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Metal lids, scrap metal
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic bags, plastic lid
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	2.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	12.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	91.1
Soils (S):	
Total WMP Weight:	111.1

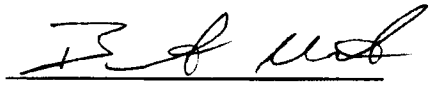
CCP Radiography Data Sheet

Waste Container ID: 94074

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: N/A

RTR Operator:

Benito Maestas		8/5/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0090
Examination Date:	8/5/2013
Waste Container ID:	94076
Video/Audio Recorded Media Number:	LA-HERTR-13-0090 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 191.0 kg Tare Wt.: 145.1 kg Net Wt.: 45.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 94076

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hardware, scrap metal
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP):Rigid Liner/Lid, Liner Bag (Inside POC)	8.1
Other: Fiberboard (CP) Fiberboard Liner Sleeve (Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	1.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	3.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	41.9
Soils (S):	
Total WMP Weight:	45.9

CCP Radiography Data Sheet

Waste Container ID: 94076

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: Standard Pipe Overpack Container (P.O.C.) There is separation between the liner and liner lid, therefore, the liner is vented.	

RTR Operator:

Benito Maestas		8/5/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0090
Examination Date:	8/5/2013
Waste Container ID:	94068
Video/Audio Recorded Media Number:	LA-HERTR-13-0090 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 180.5 kg Tare Wt.: 33.4 kg Net Wt.: 147.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 94068

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags, plastic lid

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	2.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	10.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	131.1
Soils (S):	
Total WMP Weight:	147.1

CCP Radiography Data Sheet

Waste Container ID: 94068

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Benito Maestas		8/5/2013
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-13-0090

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 13	☐ NO	☒ YES	
3.	Are the WMPs entered correctly?	☐ NO	☒ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☒ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☒ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☒ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☒ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☒ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☒ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☒ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☒ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☒ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☒ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☒ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☒ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-13-0090

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☒ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2? (1 per batch or 1 per day, whichever is less frequent).	☐ NO	☒ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☒ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☒ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2? (1 per batch or 1 per day, whichever is less frequent).	☐ NO	☒ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☒ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☒ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☒ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☒ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☒ YES	

Comments:

N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Michael Simmons
Printed Name

Signature

08/06/13
Date

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	08-06-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-13-0090	BACKUP DVD B	08-05-13	N/A
LA-HERTR-13-0090	BACKUP DVD D	08-05-13	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Ashley Hoffer (Signature)	Ashley Hoffer (Printed Name)	8.8.13 (Date)
Records Rejected [ ]	(Signature)	(Printed Name)	(Date)

Reason for Rejection:

Re-submittal:

(Signature)	(Printed Name)	(Date)

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	1684
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	08/08 09:42
TIME USE	00'15
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220
Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095
Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	08-06-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-13-0090	BACKUP DVD B	08-05-13	N/A
LA-HERTR-13-0090	BACKUP DVD D	08-05-13	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓] [signature] Ashley Hoffer 8.8.13

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	08-08-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-13-0090	BDR	08-05-13	29
LA-HERTR-13-0090	PRIMARY DVD A	08-05-13	N/A
LA-HERTR-13-0090	PRIMARY DVD C	08-05-13	N/A
	N/A		

Comments

CHECKED IDC FOR SPM COMPLETION THANKS

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [✓]	Ashley Hoffer (Signature)	Ashley Hoffer (Printed Name)	8.12.13 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	1772
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	08/12 14:03
TIME USE	00'17
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	08-08-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-13-0090	BDR	08-05-13	29
LA-HERTR-13-0090	PRIMARY DVD A	08-05-13	N/A
LA-HERTR-13-0090	PRIMARY DVD C	08-05-13	N/A
	N/A		

Comments

CHECKED IDC FOR SPM COMPLETION THANKS

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓] Ashley Hoffer 8.12.13

DIVIDER

PAGE

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-14-0034				Examination Date(s): 03/14/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 68144 68149 68153 68155 68148 68154 68152
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**	X			NCR-LANL-0550-14 Rejects (68141) NCR-LANL-0551-14 Rejects (68142)
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 3/19/14 (2)

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0034	Examination Date(s): 03/14/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			Except for 68141 68142
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0034	Examination Date(s): 03/14/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Scale not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Scale not used.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna			3/19/14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-14-0034 ☑ CH ☐ RH Date: 03/14/2014

Waste Container ID Numbers	
Replicate Scan:	68149
Independent Observation:	68144
1	68144
2	68149
3	68153
4	68155
5	68148
6	68141
7	68154
8	68152
9	68142
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Michael Simmons — Printed Name

Signature

03/14/2014 — Date

Independent Technical Reviewer:

AARON ELLIOTT — Printed Name

Signature

3/17/2014 — Date

NTPC RECORDS ORIGINAL
DATE REC'D 3/18/14

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-14-0034 Date: 03/14/2014

Table Of Contents

Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	37
6	CCP Independent Technical Reviewer Checklist	43

Batch Narrative

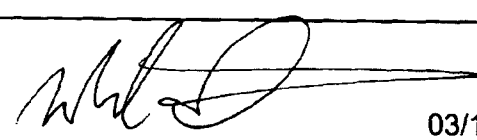
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

Michael Simmons — RTR Operator

Signature

03/14/2014 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-14-0034		
Examination Date: 03/14/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 8 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Michael Simmons		03/14/2014
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68149
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 389.0 kg Tare Wt.: 290.0 kg Net Wt.: 99.0 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

Waste Container ID: 68149

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Hardware, scrap metal
AM:	Respirator filters
OM:	Scrap lead
OI:	
C:	Coveralls, tape rolls
R:	
XPM:	Plastic sheeting, plastic container, plastic bag
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	8.0
Aluminum-based Metals / Alloys (AM):	6.0
Other Metals (OM):	65.0
Other Inorganic Materials (OI)	
Cellulosics (C):	8.0
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	99.0

Waste Container ID: 68149

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: This Replicate Scan agrees with the original scan.	
RTR Operator: Thad Hasselstrom (Print Name) — Signature — 3/14/2014 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68144
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 567.5 kg Tare Wt.: 290.0 kg Net Wt.: 277.5 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	95 %

Waste Container ID: 68144

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Utility knife, hardware
AM:	
OM:	
OI:	
C:	Wood, cardboard tube, tape rolls, coveralls
R:	
XPM:	Plastic containers, plastic bag, open 5 gallon buckets
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	219.5
Rubber (R):	
Plastics (waste materials) (XPM):	25.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	30.0
Soils (S):	
Total WMP Weight:	277.5

Waste Container ID: 68144

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68144
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 567.5 kg Tare Wt.: 290.0 kg Net Wt.: 277.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

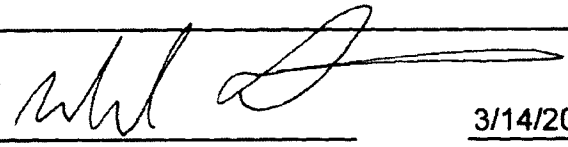
Waste Container ID: 68144

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Hand tools, metal hardware
AM:	
OM:	
OI:	
C:	Wood material, cardboard tube, coveralls, tape rolls, cloth material
R:	
XPM:	Plastic bags, open 5 gal plastic buckets, plastic containers, plastic caps, tubing
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.3
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	220.2
Rubber (R):	
Plastics (waste materials) (XPM):	20.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	34.0
Soils (S):	
Total WMP Weight:	277.5

Waste Container ID: 68144

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:		
Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68149
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 389.0 kg Tare Wt.: 290.0 kg Net Wt.: 99.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	95 %

Waste Container ID: 68149

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, metal hardware, saw blade
AM:	Respirator filters
OM:	Scrap lead
OI:	
C:	Coveralls, tape rolls
R:	Rubber gloves
XPM:	Plastic sheeting, plastic containers
OR:	
IN:	
S:	

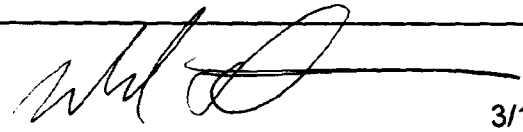
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	10.0
Aluminum-based Metals / Alloys (AM):	8.0
Other Metals (OM):	61.0
Other Inorganic Materials (OI)	
Cellulosics (C):	6.0
Rubber (R):	2.0
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	99.0

Waste Container ID: 68149

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No

Comments: After discussing with the Replicate Scan operator, I agree that there are approximately 5mL of acceptable liquid in this container.

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68153
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 424.5 kg Tare Wt.: 290.0 kg Net Wt.: 134.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	80 %

Waste Container ID: 68153

Section 3: Container Inventory and Comments (Detailed descriptions)

IM:	Hand tools, scrap metal, punctured aerosol cans, metal hardware
AM:	Respirator filters
OM:	
OI:	Glass container
C:	Coveralls, cardboard tube
R:	Rubber gloves
XPM:	Plastic bags, plastic sheeting, plastic caps, plastic containers, flex hose, electrical cord
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	51.3
Aluminum-based Metals / Alloys (AM):	11.0
Other Metals (OM):	
Other Inorganic Materials (OI)	0.2
Cellulosics (C):	40.0
Rubber (R):	10.0
Plastics (waste materials) (XPM):	14.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	8.0
Soils (S):	
Total WMP Weight:	134.5

Waste Container ID: 68153

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: N/A

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68155
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 449.0 kg Tare Wt.: 290.0 kg Net Wt.: 159.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

Waste Container ID: 68155

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, metal hardware, hand tools
AM:	
OM:	
OI:	
C:	Coveralls, tape rolls, cardboard, cardboard tube
R:	Leaded rubber gloves
XPM:	Plastic sheeting, plastic containers, glove ports
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.4
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	35.6
Rubber (R):	82.0
Plastics (waste materials) (XPM):	16.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	22.0
Soils (S):	
Total WMP Weight:	159.0

Waste Container ID: 68155

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68148
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 399.5 kg Tare Wt.: 290.0 kg Net Wt.: 109.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

22 ~~21~~ Joe 3/17/14

CCP Radiography Data Sheet

Waste Container ID: 68148

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Binder clips, saw blades, scrap metal

AM:

OM: Scrap lead

OI:

C: Coveralls, tape roll, cloth material, cardboard tube

R: Rubber gloves

XPM: Plastic sheeting, plastic caps, pen, plastic bags, plastic hand pumps

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	14.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	25.0
Other Inorganic Materials (OI)	
Cellulosics (C):	22.0
Rubber (R):	1.0
Plastics (waste materials) (XPM):	14.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	33.5
Soils (S):	
Total WMP Weight:	109.5

Waste Container ID: 68148

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

24 ~~23~~ 3/17/14

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68141
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[ ] No [X] Yes NCR No.: NCR-LANL-0550-14 NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 456.5 kg Tare Wt.: 290.0 kg Net Wt.: 166.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

Waste Container ID: 68141

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal, hand tool, metal hardware, punctured aerosol cans, unpunctured aerosol can

AM: Respirator filters

OM:

OI:

C: Coveralls, tape roll

R: Rubber gloves

XPM: Plastic bags, plastic caps, flex hose, plastic glove ports

OR:

IN: Homogeneous solids

S:

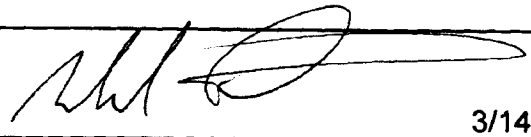
Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	101.5
Aluminum-based Metals / Alloys (AM):	10.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	30.0
Rubber (R):	5.0
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	8.0
Soils (S):	
Total WMP Weight:	166.5

Waste Container ID: 68141

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☒ Yes ☐ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: NCR-LANL-0550-14	

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68154
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 457.5 kg Tare Wt.: 290.0 kg Net Wt.: 167.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

Waste Container ID: 68154

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, HEPA hood, vacuum components
AM:	Respirator filters
OM:	
OI:	
C:	Wood, coveralls, tape rolls
R:	Rubber gloves, leaded rubber gloves
XPM:	Plastic sheeting, plastic caps, plastic containers, flex hose, plastic bags, plastic glove ports
OR:	
IN:	Homogenous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	89.0
Aluminum-based Metals / Alloys (AM):	12.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	12.0
Rubber (R):	18.5
Plastics (waste materials) (XPM):	22.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	14.0
Soils (S):	
Total WMP Weight:	167.5

Waste Container ID: 68154

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68152
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 409.5 kg Tare Wt.: 290.0 kg Net Wt.: 119.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: 68152

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Punctured aerosol cans, scrap metal, metal hardware, drum ring, hand tools

AM: Respirator filters, radiological probe

OM:

OI:

C: Wood framed HEPA filter, coveralls, cloth straps

R: Rubber gloves

XPM: Plastic sheeting, plastic bags, flex hose, plastic glove ports, hand pump, plastic container

OR:

IN: Homogeneous solids

S:

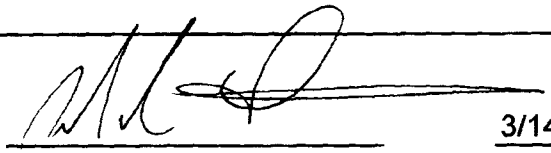
Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	36.0
Aluminum-based Metals / Alloys (AM):	12.5
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	24.0
Rubber (R):	10.0
Plastics (waste materials) (XPM):	16.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	21.0
Soils (S):	
Total WMP Weight:	119.5

Waste Container ID: 68152

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0034
Examination Date:	3/14/2014
Waste Container ID:	68142
Video/Audio Recorded Media Number:	LA-HERTR-14-0034 E&F
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[ ] No [X] Yes NCR No.: NCR-LANL-0551-14 NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 451.0 kg Tare Wt.: 290.0 kg Net Wt.: 161.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	80 %

Waste Container ID: 68142

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal hardware, unpunctured aerosol cans, scrap metal

AM: Respirator filters

OM:

OI:

C: Coveralls, tape rolls, cardboard, wood

R: Rubber gloves, leaded rubber gloves

XPM: Plastic bags, plastic containers, glove ports, plastic caps, plastic tubs

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	8.0
Aluminum-based Metals / Alloys (AM):	11.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	58.0
Rubber (R):	40.0
Plastics (waste materials) (XPM):	16.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	28.0
Soils (S):	
Total WMP Weight:	161.0

35 ~~34~~ JCE 3/17/14

CCP Radiography Data Sheet

Waste Container ID: 68142

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☒ Yes ☐ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: NCR-LANL-0551-14	

RTR Operator:

Michael Simmons		3/14/2014
Print Name	Signature	Date

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0550-14 **Revision** 0

1. Lot No., Heat No., or Serial No. (if applicable):	2. Process (e.g., NDA, NDE, VE, Other):	3. Batch Data Report #(s):
N/A	NDE	LA-HERTR-14-0034
4. Order/Work Order/Job Control Number (if applicable):	5. PO # (if applicable):	Container #(s):
N/A	N/A	68141
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☑ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 14, Section 4.4.2 [H] states, in part, "Using Table 1, Prohibited Items, as a reference...confirm there are NO prohibited items in the waste container." Table 1, Prohibited Items lists, in part, "Compressed gases/Pressurized containers (e.g., aerosol cans)"

7c. Actual Condition:

Unpunctured aerosol can at bottom of SWB

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Michael Simmons (printed name) — signature — 03/14/2014 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☑ NO ☐ INDETERMINATE

10. Trend Code: K

11. Responsible Manager: TERRI ANNE GROOVER

12. Significant Condition? ☐ YES ☑ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☑ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

AARON ELLIOTT (printed name) — signature — 3/17/2014 (date)

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0550-14 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):
☑ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use
☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0550-14 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☑ N/A for Reject, Rework, or Scrap]

☑ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

RETURN CONTAINER TO LANL

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☑ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri. Anne Gruver	T. A Gruver	3.17.14

21. QA Engineer or QA Designee:

printed name	signature	date
AARON ELLIOTT		3/17/2014

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date

23. Attachments:

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date

COPY

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0551-14 **Revision** 0

1. Lot No., Heat No., or Serial No. (if applicable):	2. Process (e.g., NDA, NDE, VE, Other):	3. Batch Data Report #(s):
N/A	NDE	LA-HERTR-14-0034
4. Order/Work Order/Job Control Number (if applicable):	5. PO # (if applicable):	Container #(s):
N/A	N/A	68142
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☑ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

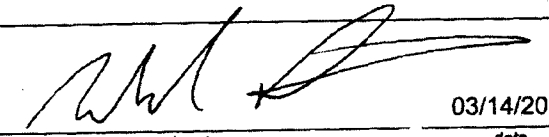
CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 14, Section 4.4.2 [H] states, in part, "Using Table 1, Prohibited Items, as a reference...confirm there are NO prohibited items in the waste container."
Table 1, Prohibited Items lists, in part, "Compressed gases/Pressurized containers (e.g., aerosol cans)"

7c. Actual Condition:

Unpunctured aerosol cans wrapped in leaded rubber gloves in the middle of the box.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

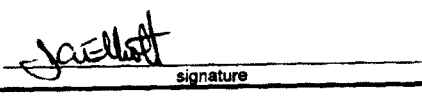
8. NCR Originator:

Michael Simmons (printed name)  (signature) 03/14/2014 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☑ NO ☐ INDETERMINATE

10. Trend Code: K	11. Responsible Manager: Terri Anne Groover
12. Significant Condition? ☐ YES ☑ NO (If Yes, enter CAR No.):	13. Recurring Condition? ☐ YES ☑ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Aaron Elliott (printed name)  (signature) 3/17/2014 (date)

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0551-14 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☑ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0551-14 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☑ N/A for Reject, Rework, or Scrap]

☑ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

RETURN CONTAINER TO LANL

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☑ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Groover		3.17.14

21. QA Engineer or QA Designee:

printed name	signature	date
AARON ELLIOTT		3/17/2014

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date

23. Attachments:

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date

COPY

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-14-0034

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☑ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☑ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-14-0034

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☑ YES	☐ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:

N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

AARON ELLIOTT
Printed Name

Signature

3/17/14
Date

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	03/18/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0034	HE RTR BACK UP DVD B	03/14/14	N/A
LA-HERTR-14-0034	HE RTR BACK UP DVD D	03/14/14	N/A
LA-HERTR-14-0034	HE RTR BACK UP DVD F	03/14/14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	3/20/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	2425
Address	915056291658
Name	LANL
Start Time	03/20 02:46 PM
Call Length	00'18
Sheets	1
Result	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	03/18/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0034	HE RTR BACK UP DVD B	03/14/14	N/A
LA-HERTR-14-0034	HE RTR BACK UP DVD D	03/14/14	N/A
LA-HERTR-14-0034	HE RTR BACK UP DVD F	03/14/14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	3/20/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-24-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0034	BDR FOR NDE HE RTR	03-14-14	44
LA-HERTR-14-0034	PRIMARY DVD A FOR NDE HE RTR	03-14-14	N/A
LA-HERTR-14-0034	PRIMARY DVD C FOR NDE HE RTR	03-14-14	N/A
LA-HERTR-14-0034	PRIMARY DVD E FOR NDE HE RTR	03-14-14	N/A
	N/A		

Comments

RECEIVED RECEIPT ACKNOWLEDGEMENT FOR BACKUP DVD AND CHECKED IDC FOR SPM COMPLETION

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete Printed Name	3/28/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	2608
Address	915056291658
Name	LANL
Start Time	03/28 08:52 AM
Call Length	00'19
Sheets	1
Result	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-24-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0034	BDR FOR NDE HE RTR	03-14-14	44
LA-HERTR-14-0034	PRIMARY DVD A FOR NDE HE RTR	03-14-14	N/A
LA-HERTR-14-0034	PRIMARY DVD C FOR NDE HE RTR	03-14-14	N/A
LA-HERTR-14-0034	PRIMARY DVD E FOR NDE HE RTR	03-14-14	N/A
	N/A		

Comments

RECEIVED RECEIPT ACKNOWLEDGEMENT FOR BACKUP DVD AND CHECKED IDC FOR SPM COMPLETION

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	3/28/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER

PAGE

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-14-0038 **Examination Date(s):** 3/20/2014

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: SB10193 68141 SB10192 68292 54893 66141 66132 66131 66125
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 3/26/14

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0038 **Examination Date(s):** 3/20/2014

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0038 **Examination Date(s):** 3/20/2014

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Weight obtained independent of RTR
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Weight obtained independent of RTR

Comments: None

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Joshua Houghton		3-25-14
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-14-0038 ☑ CH ☐ RH Date: 3-20-14

Waste Container ID Numbers	
Replicate Scan	SB10192
Independent Observation	68141
1	SB10193
2	68141
3	SB10192
4	68292
5	54893
6	66141
7	66132
8	66131
9	66125
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Thad Hasselstrom — Printed Name

Thad Hasselstrom — Signature

3-20-14 — Date

Independent Technical Reviewer:

Dantagnan Jackson — Printed Name

Dantagnan Jackson — Signature

3-21-14 — Date

NTPC RECORDS ORIGINAL
DATE REC'D 3/24/14

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-14-0038 Date: 03/20/2014

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	37

Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

Thad Hasselstrom — RTR Operator

Thad Hasselstrom — Signature

03/20/2014 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-14-0038		
Examination Date: 03/20/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 11 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Thad Hasselstrom Printed Name	Signature	03/20/2014 Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0038
Examination Date:	3/20/2014
Waste Container ID:	SB10192
Video/Audio Recorded Media Number:	LA-HERTR-14-0038 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 703.0 kg Tare Wt.: 290.0 kg Net Wt.: 413.0 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	85 %

Waste Container ID: SB10192

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal, Open 55 gallon degraded drum, metal lids, metal hardware, hand tool

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic sheeting, ear muffs, secondary containment pallet

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	28.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	23.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	15.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	347.0
Soils (S):	
Total WMP Weight:	413.0

CCP Radiography Data Sheet

Waste Container ID: SB10192

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: This Replicate scan agrees with the original scan.	

RTR Operator:

Eddie Rios	Eddie Rios	3/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[ ] RTR Examination [ ] RTR Replicate Scan [X] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0038
Examination Date:	3/20/2014
Waste Container ID:	68141
Video/Audio Recorded Media Number:	LA-HERTR-14-0038 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 487.5 kg Tare Wt.: 290.0 kg Net Wt.: 197.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

07

Waste Container ID: 68141

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Aerosol cans punctured, hand tools, metal hardware, metal cans, metal pipe, scrap metal
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, tape rolls, wood
R:	Leaded rubber gloves
XPM:	Flex hose, plastic sheeting, plastic bag
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	17.0
Aluminum-based Metals / Alloys (AM):	12.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	56.0
Rubber (R):	30.0
Plastics (waste materials) (XPM):	82.5
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	197.5

CCP Radiography Data Sheet

Waste Container ID: 68141

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the original scan.	
RTR Operator: Eddie Rios (Print Name) — Eddie Rios (Signature) — 3/20/2014 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0038
Examination Date:	3/20/2014
Waste Container ID:	SB10193
Video/Audio Recorded Media Number:	LA-HERTR-14-0038 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 687.5 kg Tare Wt.: 290.0 kg Net Wt.: 397.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	80 %

Waste Container ID: SB10193

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Closure ring, open 85 gallon drum, open 55 gallon drum, drum lid

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Drum liner, plastic sheeting, poly pallet

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	60.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	23.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	304.5
Soils (S):	
Total WMP Weight:	397.5

Waste Container ID: SB10193

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	
RTR Operator: Thad Hasselstrom (Print Name) — Signature — 3/20/2014 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0038
Examination Date:	3/20/2014
Waste Container ID:	68141
Video/Audio Recorded Media Number:	LA-HERTR-14-0038 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 487.5 kg Tare Wt.: 290.0 kg Net Wt.: 197.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	100 %

Waste Container ID: 68141

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Aerosol cans punctured, hardware, hand tools, metal cans, pipes, scrap metal
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, tape rolls, wood
R:	Leaded rubber gloves, rubber gloves
XPM:	Flex hose, plastic sheeting, plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	20.0
Aluminum-based Metals / Alloys (AM):	10.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	60.0
Rubber (R):	32.5
Plastics (waste materials) (XPM):	75.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	197.5

Waste Container ID: 68141

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	3/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0038
Examination Date:	3/20/2014
Waste Container ID:	SB10192
Video/Audio Recorded Media Number:	LA-HERTR-14-0038 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 703.0 kg Tare Wt.: 290.0 kg Net Wt.: 413.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	80 %

Waste Container ID: SB10192

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Open 55 gallon drum, drum lid, closure ring, scrap metal, hand tools
AM:	
OM:	Scrap lead
OI:	
C:	
R:	Respirator
XPM:	Plastic sheeting, poly pallet
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	30.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	23.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	1.0
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	349.0
Soils (S):	
Total WMP Weight:	413.0

Waste Container ID: SB10192

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Thad Hasselstrom		3/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0038
Examination Date:	3/20/2014
Waste Container ID:	68292
Video/Audio Recorded Media Number:	LA-HERTR-14-0038 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 552.0 kg Tare Wt.: 290.0 kg Net Wt.: 262.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	100 %

Waste Container ID: 68292

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Equipment dollies, scrap metal, open 20 gal drum, open 55 gal drum, hand tools, drum lids, hardware HEPA filter, chain fall, closure ring, pipe
AM:	Respirator filters
OM:	
OI:	
C:	Cardboard, coveralls, tape rolls, cardboard tubes
R:	Rubber gloves
XPM:	Plastic containers, eletrical cord, plastic bags, open 5 gal buckets, flashlights, plastic handle
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	122.5
Aluminum-based Metals / Alloys (AM):	1.5
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	50.0
Rubber (R):	3.0
Plastics (waste materials) (XPM):	75.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	10.0
Soils (S):	
Total WMP Weight:	262.0

Waste Container ID: 68292

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	3/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0038
Examination Date:	3/20/2014
Waste Container ID:	54893
Video/Audio Recorded Media Number:	LA-HERTR-14-0038 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 243.5 kg Tare Wt.: 50.7 kg Net Wt.: 192.8 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [ ] No [X] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

Waste Container ID: 54893

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bag
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other: Lead Lined (LP)	23.0
Total Packaging Weight	50.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	15.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	175.8
Soils (S):	
Total WMP Weight:	192.8

Waste Container ID: 54893

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom		3/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0038
Examination Date:	3/20/2014
Waste Container ID:	66141
Video/Audio Recorded Media Number:	LA-HERTR-14-0038 E&F
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1489.5 kg Tare Wt.: 290.0 kg Net Wt.: 1199.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	75 %

 CCP Radiography Data Sheet

Waste Container ID: 66141

Section 3: Container Inventory and Comments (Detailed descriptions)
IM: Wire
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soil

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1194.4
Total WMP Weight:	1199.5

Waste Container ID: 66141

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	3/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0038
Examination Date:	3/20/2014
Waste Container ID:	66132
Video/Audio Recorded Media Number:	LA-HERTR-14-0038 E&F
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1676.5 kg Tare Wt.: 290.0 kg Net Wt.: 1386.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

Waste Container ID: 66132

Section 3: Container Inventory and Comments (Detailed descriptions)
IM: Scrap metal
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soil

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1381.4
Total WMP Weight:	1386.5

Waste Container ID: 66132

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Thad Hasselstrom		3/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0038
Examination Date:	3/20/2014
Waste Container ID:	66131
Video/Audio Recorded Media Number:	LA-HERTR-14-0038 E&F
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1579.5 kg Tare Wt.: 290.0 kg Net Wt.: 1289.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

Waste Container ID: 66131

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soil

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1284.5
Total WMP Weight:	1289.5

Waste Container ID: 66131

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	3/20/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0038
Examination Date:	3/20/2014
Waste Container ID:	66125
Video/Audio Recorded Media Number:	LA-HERTR-14-0038 E&F
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1629.0 kg Tare Wt.: 290.0 kg Net Wt.: 1339.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	70 %

Waste Container ID: 66125

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soil

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1333.5
Total WMP Weight:	1339.0

CCP Radiography Data Sheet

Waste Container ID: 66125

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom		3/20/2014
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-14-0038

Description				
1	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	
2	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☒ YES	
3.	Are the WMPs entered correctly?	☐ NO	☒ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☒ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☒ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☒ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☒ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☒ YES	
9	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	
11	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☒ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☒ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☒ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☒ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☒ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	
17	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☒ YES	
18	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☒ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-14-0038

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☒ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☒ YES	
21	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☒ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☒ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☒ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☒ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☒ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☒ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☒ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☒ YES	

Comments: N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Dartagnan Jackson — Printed Name

Dartagnan Jackson — Signature

3-21-14 — Date

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	03/24/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0038	HE RTR BACK UP DVD B	03/19/14	N/A
LA-HERTR-14-0038	HE RTR BACK UP DVD D	03/20/14	N/A
LA-HERTR-14-0038	HE RTR BACK UP DVD F	03/20/14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	3/31/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

```
**********************************
***        Send Results        ***
**********************************

   Sending is complete.

Job No.                    2642
Address                    915056291658
Name                       LANL
Start Time                 03/31 01:58 PM
Call Length                00'17
Sheets                     1
Result                     OK
```

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	03/24/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0038	HE RTR BACK UP DVD B	03/19/14	N/A
LA-HERTR-14-0038	HE RTR BACK UP DVD D	03/20/14	N/A
LA-HERTR-14-0038	HE RTR BACK UP DVD F	03/20/14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	3/31/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0038	BDR FOR NDE HE RTR	03-20-14	38
LA-HERTR-14-0038	PRIMARY DVD A FOR NDE HE RTR	03-20-14	N/A
LA-HERTR-14-0038	PRIMARY DVD C FOR NDE HE RTR	03-20-14	N/A
LA-HERTR-14-0038	PRIMARY DVD E FOR NDE HE RTR	03-20-14	N/A
	N/A		

Comments

RECEIVED RECEIPT ACKNOWLEDGEMENT FOR BACKUP DVDS AND SPM CHECKLIST WAS COMPLETED IN CARLSBAD

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted	[✓]	Signature	Leon Navarrete Printed Name	4/7/14 Date
Records Rejected	[ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	2791
Address	915056291658
Name	LANL
Start Time	04/07 02:22 PM
Call Length	00'18
Sheets	1
Result	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0038	BOR FOR NDE HE RTR	03-20-14	38
LA-HERTR-14-0038	PRIMARY DVD A FOR NDE HE RTR	03-20-14	N/A
LA-HERTR-14-0038	PRIMARY DVD C FOR NDE HE RTR	03-20-14	N/A
LA-HERTR-14-0038	PRIMARY DVD E FOR NDE HE RTR	03-20-14	N/A
	N/A		

Comments

RECEIVED RECEIPT ACKNOWLEDGEMENT FOR BACKUP DVDS AND SPM CHECKLIST WAS COMPLETED IN CARLSBAD

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	4/7/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER

PAGE

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-14-0039				**Examination Date(s): 03/21/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 66122, 66124, 68168, 68169, 66130, 66128, 66134, 66135, 66129, 66142, 66127
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 3/31/14

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0039	**Examination Date(s): 03/21/14**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0039	**Examination Date(s): 03/21/14**			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	Ter. A Groover			3.27.14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-14-0039 ☑ CH ☐ RH Date: 03/21/2014

Waste Container ID Numbers	
Replicate Scan:	66128
Independent Observation:	66130
1	66122
2	66124
3	68168
4	68169
5	66130
6	66128
7	66134
8	66135
9	66129
10	66142
11	66127
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Michael Simmons		03/21/2014
Printed Name	Signature	Date

Independent Technical Reviewer:

AARON ELLIOTT		3/24/2014
Printed Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 3/25/14

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-14-0039 Date: 03/21/2014

Table Of Contents

Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	43

Batch Narrative

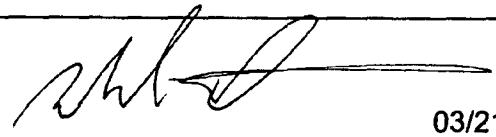
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

Michael Simmons — RTR Operator

Signature

03/21/2014 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-14-0039		
Examination Date: 03/21/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 8 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Michael Simmons		03/21/2014
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66128
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1715.5 kg Tare Wt.: 290.0 kg Net Wt.: 1425.5 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

Waste Container ID: 66128

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, metal can
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic sheeting, electrical cord
OR:	
IN:	
S:	Soil

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	18.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1397.5
Total WMP Weight:	1425.5

CCP Radiography Data Sheet

Waste Container ID: 66128

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No

Comments: The Replicate Scan agrees with the original scan.

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66130
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1516.0 kg Tare Wt.: 290.0 kg Net Wt.: 1226.0 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

Waste Container ID: 66130

Section 3: Container Inventory and Comments (Detailed descriptions)
IM: Scrap metal
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soil

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	4.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1212.0
Total WMP Weight:	1226.0

Waste Container ID: 66130

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Thad Hasselstrom		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66122
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1353.0 kg Tare Wt.: 290.0 kg Net Wt.: 1063.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	50 %

Waste Container ID: 66122

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	Cardboard
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	25.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	1.0
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1025.0
Total WMP Weight:	1063.0

Waste Container ID: 66122

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66124
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1594.0 kg Tare Wt.: 290.0 kg Net Wt.: 1304.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	60 %

Waste Container ID: 66124

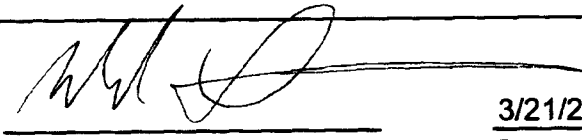
Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	Tape roll
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	9.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	0.2
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1282.8
Total WMP Weight:	1304.0

Waste Container ID: 66124

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	68168
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 457.0 kg Tare Wt.: 290.0 kg Net Wt.: 167.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	80 %

Waste Container ID: 68168

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Saw blades, scrap metal, metal hardware, paint scraper
AM:	Respirator filters
OM:	
OI:	
C:	Cardboard, coveralls, wood, tape roll
R:	Rubber gloves
XPM:	Plastic sheeting, plastic bags, flex hose, hand pump
OR:	
IN:	
S:	

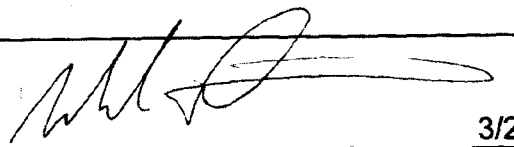
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	130.0
Aluminum-based Metals / Alloys (AM):	6.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	20.0
Rubber (R):	3.0
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	167.0

Waste Container ID: 68168

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: N/A

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	68169
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 503.0 kg Tare Wt.: 290.0 kg Net Wt.: 213.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	75 %

Waste Container ID: 68169

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Metal carts, scrap metal, metal pipes, metal hardware
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, cloth straps, cardboard, tape roll
R:	
XPM:	Plastic sheeting, plastic bags
OR:	
IN:	
S:	

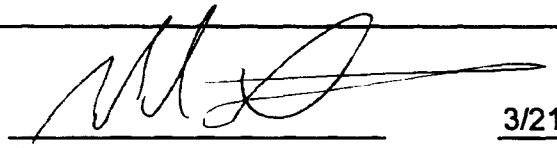
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	185.0
Aluminum-based Metals / Alloys (AM):	8.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	16.0
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	213.0

Waste Container ID: 68169

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: N/A

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66130
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1516.0 kg Tare Wt.: 290.0 kg Net Wt.: 1226.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	50 %

Waste Container ID: 66130

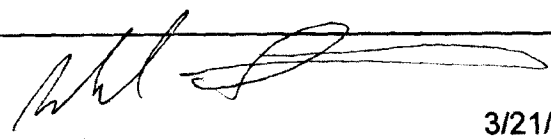
Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1210.5
Total WMP Weight:	1226.0

Waste Container ID: 66130

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66128
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1715.5 kg Tare Wt.: 290.0 kg Net Wt.: 1425.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	60 %

Waste Container ID: 66128

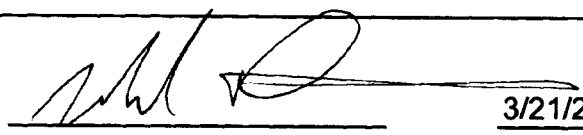
Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic sheeting, electrical cord, plastic container
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	14.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	8.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1391.5
Total WMP Weight:	1425.5

Waste Container ID: 66128

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66134
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1442.0 kg Tare Wt.: 290.0 kg Net Wt.: 1152.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	65 %

Waste Container ID: 66134

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	6.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1134.0
Total WMP Weight:	1152.0

Waste Container ID: 66134

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66135
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 989.5 kg Tare Wt.: 290.0 kg Net Wt.: 699.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	40 %

Waste Container ID: 66135

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	689.5
Total WMP Weight:	699.5

Waste Container ID: 66135

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66129
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1538.5 kg Tare Wt.: 290.0 kg Net Wt.: 1248.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	70 %

Waste Container ID: 66129

Section 3: Container Inventory and Comments (Detailed descriptions)
IM: Scrap metal
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	15.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1221.5
Total WMP Weight:	1248.5

CCP Radiography Data Sheet

Waste Container ID: 66129

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66142
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1651.5 kg Tare Wt.: 290.0 kg Net Wt.: 1361.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	70 %

Waste Container ID: 66142

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic sheeting
OR:
IN:
S: Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1349.5
Total WMP Weight:	1361.5

Waste Container ID: 66142

Section 5: RTR Summary (Questions answered 'Yes' will be explained in the Comment block except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: On the recording the screen displays the Container ID number as "66412," this should have read, "66142" which is the correct ID number for this container. Both this attachment and the video file name on discs C&D reflect this data.	

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0039
Examination Date:	3/21/2014
Waste Container ID:	66127
Video/Audio Recorded Media Number:	LA-HERTR-14-0039 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA211
Waste Matrix Code:	S4200
Waste Stream I.D.:	LA-MSG04.001
Waste Container Weights:	Gross Wt.: 1713.0 kg Tare Wt.: 290.0 kg Net Wt.: 1423.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	70 %

Waste Container ID: 66127

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic sheeting
OR:	
IN:	
S:	Soils

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	22.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	12.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	1389.0
Total WMP Weight:	1423.0

Waste Container ID: 66127

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No

Comments: N/A

RTR Operator:

Michael Simmons		3/21/2014
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-14-0039

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☑ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☑ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-14-0039

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☑ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:
N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

AARON ELLIOTT
Printed Name

Signature

3/24/2014
Date

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-25-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0039	BACKUP DVD B FOR NDE HE RTR	03-21-14	N/A
LA-HERTR-14-0039	BACKUP DVD D FOR NDE HE RTR	03-21-14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	3/31/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	2643
Address	915056291658
Name	LANL
Start Time	03/31 01:59 PM
Call Length	00'17
Sheets	1
Result	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	03-25-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0039	BACKUP DVD B FOR NDE HE RTR	03-21-14	N/A
LA-HERTR-14-0039	BACKUP DVD D FOR NDE HE RTR	03-21-14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	3/31/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0039	SPM CHECKLIST FOR NDE HE RTR	03-27-14	3
LA-HERTR-14-0039	BDR FOR NDE HE RTR	03-21-14	44
LA-HERTR-14-0039	PRIMARY DVD A FOR NDE HE RTR	03-21-14	N/A
LA-HERTR-14-0039	PRIMARY DVD C FOR NDE HE RTR	03-21-14	N/A
	N/A		

Comments

RECEIVED RECEIPT ACKNOWLEDGEMENT FOR BACKUP DVDS

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete Printed Name	4/7/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	2792
Address	915056291658
Name	LANL
Start Time	04/07 02:23 PM
Call Length	00'18
Sheets	1
Result	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0039	SPM CHECKLIST FOR NDE HE RTR	03-27-14	3
LA-HERTR-14-0039	BDR FOR NDE HE RTR	03-21-14	44
LA-HERTR-14-0039	PRIMARY DVD A FOR NDE HE RTR	03-21-14	N/A
LA-HERTR-14-0039	PRIMARY DVD C FOR NDE HE RTR	03-21-14	N/A
	N/A		

Comments

RECEIVED RECEIPT ACKNOWLEDGEMENT FOR BACKUP DVDS

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	4/7/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER

PAGE

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-HERTR-14-0044 **Examination Date(s):** 4/2/2014

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 68159, 68161, 69560, 69585 SB10193
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**			X	
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 04/08/14 (2)

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0044 **Examination Date(s): 4/2/2014**

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-HERTR-14-0044 **Examination Date(s):** 4/2/2014

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Scale not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Scale not used.

Comments: N/A

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Roger Whiteaker	Roger Whiteaker	4/4/2014
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-HERTR-14-0044 ☑ CH ☐ RH Date: 04/02/2014

Waste Container ID Numbers	
Replicate Scan:	69585
Independent Observation:	69560
1	69560
2	69585
3	SB10193
4	68161
5	68159
6	N/A
7	N/A
8	N/A
9	N/A
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Eddie Rios		04/02/2014
Printed Name	Signature	Date

Independent Technical Reviewer:

AARON ELLIOTT		4/3/2014
Printed Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 4/3/14

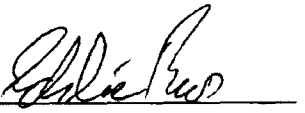
Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-HERTR-14-0044 Date: 04/02/2014

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	25

Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

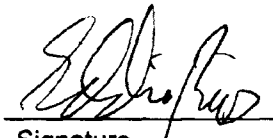
Eddie Rios — RTR Operator



Signature

04/02/2014 — Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-HERTR-14-0044		
Examination Date: 04/02/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 9 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator: Eddie Rios		4/2/14
Printed Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0044
Examination Date:	4/2/2014
Waste Container ID:	69585
Video/Audio Recorded Media Number:	LA-HERTR-14-0044 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 72.0 kg Tare Wt.: 33.4 kg Net Wt.: 38.6 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	65 %

Waste Container ID: 69585

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, metal lids, hardware
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	5.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	5.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	24.6
Soils (S):	
Total WMP Weight:	38.6

Waste Container ID: 69585

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Replicate scan agrees with the original scan.	

RTR Operator:

Benito Maestas	[signature]	4/2/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0044
Examination Date:	4/2/2014
Waste Container ID:	69560
Video/Audio Recorded Media Number:	LA-HERTR-14-0044 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 199.5 kg Tare Wt.: 33.4 kg Net Wt.: 166.1 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 69560

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal cans with material

AM:

OM:

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	10.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	152.1
Soils (S):	
Total WMP Weight:	166.1

Waste Container ID: 69560

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the original scan.	

RTR Operator:

Benito Maestas		4/2/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0044
Examination Date:	4/2/2014
Waste Container ID:	69560
Video/Audio Recorded Media Number:	LA-HERTR-14-0044 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 199.5 kg Tare Wt.: 33.4 kg Net Wt.: 166.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

Waste Container ID: 69560

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic sheeting
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	12.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	1.5
Organic Matrix (OR):	
Inorganic Matrix (IN):	152.6
Soils (S):	
Total WMP Weight:	166.1

Waste Container ID: 69560

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:		
Eddie Rios	Eddie Rios	4/2/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0044
Examination Date:	4/2/2014
Waste Container ID:	69585
Video/Audio Recorded Media Number:	LA-HERTR-14-0044 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 72.0 kg Tare Wt.: 33.4 kg Net Wt.: 38.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	70 %

Waste Container ID: 69585

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, metal lids
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic sheeting, plastic bag
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	8.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	10.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.5
Organic Matrix (OR):	
Inorganic Matrix (IN):	18.1
Soils (S):	
Total WMP Weight:	38.6

Waste Container ID: 69585

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: ~~N/A~~ E.R. 4-3-14 Operator did not mention that container matches waste stream description and Waste matrix code on the video. This attachment 2 Reflects the correct data

RTR Operator: Eddie Rios 4-3-14

Eddie Rios	Eddie Rios	4/2/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0044
Examination Date:	4/2/2014
Waste Container ID:	SB10193
Video/Audio Recorded Media Number:	LA-HERTR-14-0044 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA226
Waste Matrix Code:	S3150
Waste Stream I.D.:	LA-CIN01.001
Waste Container Weights:	Gross Wt.: 695.5 kg Tare Wt.: 290.0 kg Net Wt.: 405.5 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	80 %

Waste Container ID: SB10193

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Open 55 gallon drum, hand tools, hardware
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic sheeting, secondary containment pallet
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	55.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	23.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	20.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	307.5
Soils (S):	
Total WMP Weight:	405.5

Waste Container ID: SB10193

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments:N/A	

RTR Operator:

Eddie Rios		4/2/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0044
Examination Date:	4/2/2014
Waste Container ID:	68161
Video/Audio Recorded Media Number:	LA-HERTR-14-0044 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 645.0 kg Tare Wt.: 290.0 kg Net Wt.: 355.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	95 %

Waste Container ID: 68161

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, eletrical equipment, tubing, shavings, hand tools
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls
R:	
XPM:	Plastic tubing, plastic sheeting
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	221.0
Aluminum-based Metals / Alloys (AM):	20.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	10.0
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	100.0
Soils (S):	
Total WMP Weight:	355.0

Waste Container ID: 68161

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Eddie Rios	Eddie Rios	4/2/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-14-0044
Examination Date:	4/2/2014
Waste Container ID:	68159
Video/Audio Recorded Media Number:	LA-HERTR-14-0044 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	Standard Waste Box
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 492.0 kg Tare Wt.: 290.0 kg Net Wt.: 202.0 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 0 layers
Volume Utilization Percentage:	100 %

Waste Container ID: 68159

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hand tool, scrap metal, hardware, tubing
AM:	Respirator filters
OM:	
OI:	
C:	Coveralls, tape rolls
R:	
XPM:	Plastic sheeting
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	290.0
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	290.0
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	50.0
Aluminum-based Metals / Alloys (AM):	20.0
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	40.0
Rubber (R):	
Plastics (waste materials) (XPM):	50.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	42.0
Soils (S):	
Total WMP Weight:	202.0

CCP Radiography Data Sheet

Waste Container ID: 68159

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:		
Eddie Rios	Eddie Rios	4/2/2014
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-HERTR-14-0044

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☑ YES	☐ N/A
12.	Was justification made for changing the original data?	☐ NO	☑ YES	☐ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☑ YES	☐ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-HERTR-14-0044

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☑ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:
N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

AARON ELLIOT — Printed Name

Signature

4/3/2014 — Date

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-07-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0044	BACKUP DVD B FOR NDE HE RTR	04-02-14	N/A
LA-HERTR-14-0044	BACKUP DVD D FOR NDE HE RTR	04-02-14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	4/9/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

```
**********************************
***        Send Results        ***
**********************************

   Sending is complete.

Job No.                    2908
Address                    915056291658
Name                       LANL
Start Time                 04/10 11:57 AM
Call Length                00'18
Sheets                     1
Result                     OK
```

Controlled Copy

CCP-QP-008, Rev. 22 **Effective Date: 03/24/2014**
CCP Records Management **Page 34 of 34**

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220
Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095
Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-07-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0044	BACKUP DVD B FOR NDE HE RTR	04-02-14	N/A
LA-HERTR-14-0044	BACKUP DVD D FOR NDE HE RTR	04-02-14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	4/9/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GAS-212	Telephone Number:	(505) 412-4821
	N/A	Date Sent:	04/28/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0044	NDE HE RTR BATCH DATA REPORT	04/02/14	26
LA-HERTR-14-0044	NDE HE RTR PRIMARY DVD A	04/02/14	N/A
LA-HERTR-14-0044	NDE HE RTR PRIMARY DVD C	04/02/14	N/A
	N/A		

Comments

BDR is complete. Original SPM is Carlsbad.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [ ]	Signature	Leon Navarrete Printed Name	4/30/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	3211
Address	915056291658
Name	LANL
Start Time	04/30 08:02 AM
Call Length	00'18
Sheets	1
Result	OK

Controlled Copy

CCP-QP-008, Rev. 22
CCP Records Management

Effective Date: 03/24/2014

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GAS-212	Telephone Number:	(505) 412-4821
	N/A	Date Sent:	04/28/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-HERTR-14-0044	NDE HE RTR BATCH DATA REPORT	04/02/14	26
LA-HERTR-14-0044	NDE HE RTR PRIMARY DVD A	04/02/14	N/A
LA-HERTR-14-0044	NDE HE RTR PRIMARY DVD C	04/02/14	N/A
	N/A		

Comments

BDR is complete. Original SPM is Carlsbad.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	4/30/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

DIVIDER

PAGE

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-RTR2-13-0135				Examination Date(s): 12/12/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 69033 69034 68660 68686 68661 93967 93973 94227 65207 68396 ~~69022~~ 68408 94230 69022 VW 12/26/13 JH 1-3-14
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**	X VW 12/26/13		VW 12/26/13 X	NCR-LANL-0908-13 Rework 69022 VW 12/26/13
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 12-18-13 GL

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-13-0135				**Examination Date(s): 12/12/2013**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			~~Except 6~~ UW 12/26/13 JH 1-3-14
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-13-0135	Examination Date(s): 12/12/2013			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used VW 12/26/13
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**	CS 1/9/14		X	Not used VW 12/26/13
Comments: ~~None~~ See SPM-3 CS 1/9/14				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna			12/18/2013
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

Veronica Waldram	Veronica Waldram	Add NCL, add comment	12/26/13
SPM Printed Name	Signature	Reason to 24+25	Date
Joshua Houghton		Add corrections for 69007 69022	1-3-14
SPM Printed Name	Signature	Reason CS 8/21/14	Date
Carolina Soaterna	Carolina Soaterna	Corrections Container 69007 CS 8/21/14	1/9/14
		69022	

Carolina Soaterna Carolina Soaterna ITEMS correction 1/13/14
Carolina Soaterna Carolina Soaterna SPM CKlist correction. 8/21/14

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0908-13 **Revision 0**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-RTR2-13-0135
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 69022
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
CCP-TP-053, Rev. 14 CCP Standard Real-Time Radiography (RTR) Inspection Procedure
Section 4.4.2 [D] Ensure the following data is recorded in Section 2, Waste Container Data, of Attachment 2: [D4] Waste Stream I.D

7c. Actual Condition:

The waste Stream I.D for this container does not match the AK Tracking Spreadsheet.

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☐ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Veronica Waldram (printed name) Veronica Waldram (signature) 12/23/13 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: A

11. Responsible Manager: Terri-Anne Grooved

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Laura R. Jones (printed name) Laura R. Jones (signature) 12/23/2013 (date)

SPM-1
VW 12/26/13

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0908-13 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name signature date

16b. QA Engineer or QA Designee:

printed name signature date

Additional Approval:

printed name signature date

Additional Approval:

printed name signature date

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name signature date

18. Interim Disposition Verified – QA Engineer:

printed name signature date

SPM-2
VW 12/26/13

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0908-13 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☐ Reject ☒ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]
1. Operator correct waste stream ID.
2. ITR review changes.
3. SPM review changes.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☒ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Veronica Waldram	Veronica Waldram	12/23/13

21. QA Engineer or QA Designee:

printed name	signature	date
Laura R. Jong	Laura Ramos Jones	12-23-2013

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date

23. Attachments:

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date

SPM-3
VW 12/26/13

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-RTR2-13-0135 ☑ CH ☐ RH Date: 12-12-13

Waste Container ID Numbers	
Replicate Scan:	94230
Independent Observation:	68396
1	69033
2	69034
3	68660
4	68686
5	68661
6	93967
7	93973
8	94227
9	65207
10	68396
11	69022
12	68408
13	94230
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Printed Name	Signature	Date
Thad Hasselstrom	Thad Hasselstrom	12-12-13

Independent Technical Reviewer:

Printed Name	Signature	Date
Aaron Elliott	Jael Elliott	1/2/14
	Jael Elliott	12/17/13
	Jael Elliott	1/9/14

01

NTPC RECORDS ORIGINAL
DATE REC'D 12/17/13

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-RTR2-13-0135 Date: 12/12/2013

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	N/A
6	CCP Independent Technical Reviewer Checklist	49

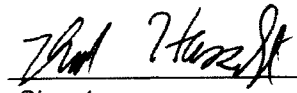
Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

Thad Hasselstrom
RTR Operator

Signature

12/12/2013
Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-RTR2-13-0135		
Examination Date: 12/12/2013		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 9 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Thad Hasselstrom Printed Name	 Signature	12/12/2013 Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	94230
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 83.5 kg Tare Wt.: 33.4 kg Net Wt.: 50.1 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	25 %

CCP Radiography Data Sheet

Waste Container ID: 94230

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal can with material
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	1.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	20.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	24.6
Soils (S):	
Total WMP Weight:	50.1

CCP Radiography Data Sheet

Waste Container ID: 94230

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This drum contains metal cans with material which may require additional Project Office review. This Replicate Scan agrees with the Original Scan.

RTR Operator:

Michael Simmons		12/12/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	68396
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 150.0 kg Tare Wt.: 145.1 kg Net Wt.: 4.9 kg
Rigid Liner and Liner Vent Description:	Liner: ☐ No ☒ Yes Lid: ☐ No ☒ Yes Type: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☒ Yes ☐ N/A Punctured: ☐ No ☒ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	40 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68396

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal

AM:

OM:

OI:

C: Tape roll

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC)	8.1
Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	1.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	0.2
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	1.7
Soils (S):	
Total WMP Weight:	4.9

CCP Radiography Data Sheet

Waste Container ID: 68396

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented. This Independent Observation agrees with the Original Scan.

RTR Operator:

Michael Simmons		12/12/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	69033
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 119.0 kg Tare Wt.: 33.4 kg Net Wt.: 85.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 69033

Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C: Leather gloves

R:

XPM:

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	10.0
Other Inorganic Materials (OI)	
Cellulosics (C):	1.0
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	74.6
Soils (S):	
Total WMP Weight:	85.6

CCP Radiography Data Sheet

Waste Container ID: 69033

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	12/12/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	69034
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 137.0 kg Tare Wt.: 33.4 kg Net Wt.: 103.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

Waste Container ID: 69034

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hardware, scrap metal, closure ring, hand tools, utility knife
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bags, liner lid, plastic container
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	2.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	97.1
Soils (S):	
Total WMP Weight:	103.6

CCP Radiography Data Sheet

Waste Container ID: 69034

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	[signature]	12/12/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	68660
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 116.0 kg Tare Wt.: 33.4 kg Net Wt.: 82.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 68660

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	
AM:	
OM:	
OI:	
C:	
R:	Leaded rubber gloves
XPM:	Plastic bags, liner lid, plastic containers
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	5.0
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	71.6
Soils (S):	
Total WMP Weight:	82.6

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68660

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: N/A

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	12/12/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	68686
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 166.5 kg Tare Wt.: 33.4 kg Net Wt.: 133.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68686

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM: Scrap lead
OI:
C:
R:
XPM: Plastic bags
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	10.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	117.1
Soils (S):	
Total WMP Weight:	133.1

CCP Radiography Data Sheet

Waste Container ID: 68686

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: N/A

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	12/12/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination	[ ] RTR Replicate Scan [ ] RTR Independent Observation
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	68661
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 139.5 kg Tare Wt.: 33.4 kg Net Wt.: 106.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 68661

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM: Scrap lead
OI:
C:
R:
XPM: Plastic bags, liner lid
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	5.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	7.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	94.1
Soils (S):	
Total WMP Weight:	106.1

CCP Radiography Data Sheet

Waste Container ID: 68661

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	12/12/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	93967
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 95.5 kg Tare Wt.: 33.4 kg Net Wt.: 62.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: 93967

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal cans with material, hardware, utility knives, metal lids

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	12.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	15.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	31.1
Soils (S):	
Total WMP Weight:	62.1

CCP Radiography Data Sheet

Waste Container ID: 93967

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	
RTR Operator: Thad Hasselstrom (Print Name) — Signature — 12/12/2013 (Date)	

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	93973
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 94.0 kg Tare Wt.: 33.4 kg Net Wt.: 60.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 93973

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Metal cans with material, scrap metal, metal lids
AM:	
OM:	Scrap lead
OI:	Broken glass
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	12.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	1.0
Other Inorganic Materials (OI)	0.3
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	41.3
Soils (S):	
Total WMP Weight:	60.6

CCP Radiography Data Sheet

Waste Container ID: 93973

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Thad Hasselstrom		12/12/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	94227
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 94.5 kg Tare Wt.: 33.4 kg Net Wt.: 61.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

Waste Container ID: 94227

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Open 30 gal drum, drum lid
AM:	
OM:	Scrap lead
OI:	
C:	
R:	
XPM:	Plastic bag, liner lid
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	22.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	20.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	3.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	16.1
Soils (S):	
Total WMP Weight:	61.1

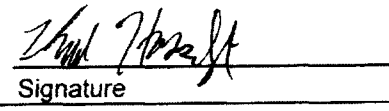
CCP Radiography Data Sheet

Waste Container ID: 94227

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: This drum contains metal cans with material, which may require additional Project Office review.

RTR Operator:

Thad Hasselstrom		12/12/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	65207
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 42.0 kg Tare Wt.: 33.4 kg Net Wt.: 8.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	15 %

CCP Radiography Data Sheet

Waste Container ID: 65207

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal containers with material, scrap metal

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags

OR:

IN:

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	6.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	0.6
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	8.6

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 65207

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	
RTR Operator: Thad Hasselstrom (Print Name) / Thad Hasselstrom (Signature) / 12/12/2013 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	68396
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 150.0 kg Tare Wt.: 145.1 kg Net Wt.: 4.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	45 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68396

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal

AM:

OM:

OI:

C: Tape roll

R:

XPM: Plastic bags

OR:

IN:

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP): Rigid Liner/Lid, Liner Bag (Inside POC)	8.1
Other: Fiberboard (CP), Liner/Sleeve (Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	2.7
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	0.2
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	4.9

CCP Radiography Data Sheet

Waste Container ID: 68396

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: Standard Pipe Overpack Container (P.O.C.) There is separation between liner lid and liner therefore liner is vented.	
RTR Operator: Thad Hasselstrom (Print Name) — Thad Hasselstrom (Signature) — 12/12/2013 (Date)	

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0135	
Examination Date:	12/12/2013	
Waste Container ID:	69022	
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B	
Procedure and Revision No.:	CCP-TP-053	Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	~~[X]~~ No [X] Yes TJH 1-9-14 TJH 1-9-14 NCR No.: ~~N/A~~ NCR-LANL-0904-13 TJH 1-9-14 NCR No.: N/A	

Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	~~LA-MHD01.001~~ LA-MHD03.001 TJH 1-2-14
Waste Container Weights:	Gross Wt.: 100.5 kg Tare Wt.: 33.4 kg Net Wt.: 67.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 69022

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal cans with material, scrap metal, hand tools

AM:

OM: Mercury

OI: Glass containers, glass labware, ceramic blocks

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	50.7
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	0.3
Other Inorganic Materials (OI)	10.0
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	0.1
Soils (S):	
Total WMP Weight:	67.1

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 69022

Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code(s))?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No

Comments: This drum contains metal cans with material, which may require additional Project Office review.
NCR - LANL - 0708 - 13 TJH 1-9-14

RTR Operator:	Thad Hasselstrom	1-9-14
	Thad Hasselstrom	1-2-14
Thad Hasselstrom	Thad Hasselstrom	12/12/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	68408
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 93.5 kg Tare Wt.: 33.4 kg Net Wt.: 60.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	50 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68408

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM: Scrap lead
OI:
C:
R:
XPM: Plastic bags
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	25.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	29.1
Soils (S):	
Total WMP Weight:	60.1

CCP Radiography Data Sheet

Waste Container ID: 68408

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	12/12/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0135
Examination Date:	12/12/2013
Waste Container ID:	94230
Video/Audio Recorded Media Number:	LA-RTR2-13-0135 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 83.5 kg Tare Wt.: 33.4 kg Net Wt.: 50.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	25 %

CCP Radiography Data Sheet

Waste Container ID: 94230

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal can with material

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bag

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	1.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	25.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	22.1
Soils (S):	
Total WMP Weight:	50.1

CCP Radiography Data Sheet

Waste Container ID: 94230

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Thad Hasselstrom	Thad Hasselstrom	12/12/2013
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-RTR2-13-0135

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☑ YES JDE 1/9/14	☑ N/A JDE 1/9/14
12.	Was justification made for changing the original data?	JDE 1/9/14 ☑ NO	☐ YES	☑ N/A JDE 1/9/14
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☑ YES JDE 1/9/14	☑ N/A JDE 1/9/14
14	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-RTR2-13-0135

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☑ YES	~~☑ N/A~~ JQE 1/9/14
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:

~~N/A~~ I HAVE REVIEWED AND AGREE WITH ALL CHANGES.
JQE 1/9/14
1/9/14

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

AARON ELLIOTT
Printed Name

Signature

Date: 1/2/14, 12/17/13, 1/9/14

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-17-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0135	BACKUP DVD B FOR NDE RTR 2	12-12-13	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	12/20/13 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	0215
Address	915056627800
Name	LANL
Start Time	12/31 09:27 AM
Call Length	00'17
Sheets	1
Result	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	12-17-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0135	BACKUP DVD B FOR NDE RTR 2	12-12-13	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	12/20/13 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record
[ ] Fax Record
[ ] Electronic Record
[ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	12/18/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0135	RTR 2 BATCH DATA REPORT	12/12/13	2850 12.23.13
LA-RTR2-13-0135	DVD A FOR RTR 2 BATCH DATA REPORT PRIMARY	12/12/13	N/A
	N/A		

Comments

BDR is complete. Original SPM is in Carlsbad.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete Printed Name	12/31/13 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	0209
Address	915056627800
Name	LANL
Start Time	12/31 08:42 AM
Call Length	00'17
Sheets	1
Result	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	12/18/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0135	RTR 2 BATCH DATA REPORT	12/12/13	20 50 12.23.13
LA-RTR2-13-0135	DVD A FOR RTR 2 BATCH DATA REPORT PRIMARY	12/12/13	N/A
	N/A		

Comments

BDR is complete. Original SPM is in Carlsbad.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	12/31/13 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220
Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095
Fax Number: 575-234-7033

[ ] Original Record [ ] Copy
[ ] Fax Record
[X] Electronic Record

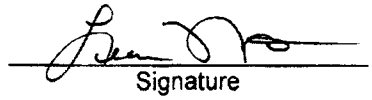
Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	01/02/14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0135	RTR BATCH DATA REPORT COVER SHEET CORRECTION	01/02/14	1
LA-RTR2-13-0135	RTR RADIOGRAPHY DATA SHEET CORRECTION PAGES 69022	01/02/14	2
LA-RTR2-13-0135	RTR ITR CHECKLIST CORRECTION PAGES	01/02/14	2
	N/A		

Comments

ORIGINAL BDR IS IN CARLSBAD. PLEASE CONTACT AN SPM TO INSERT CORRECTIONS IN TO HARD COPY OF BDR.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

	Signature	Printed Name	Date
Records Accepted [✓]		Leon Navarrete	01/03/14
Records Rejected [ ]			

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	0269
Address	915056627800
Name	LANL
Start Time	01/03 11:05 AM
Call Length	00'17
Sheets	1
Result	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[ ] Original Record [ ] Copy
[ ] Fax Record
[X] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	01/02/14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0135	RTR BATCH DATA REPORT COVER SHEET CORRECTION	01/02/14	1
LA-RTR2-13-0135	RTR RADIOGRAPHY DATA SHEET CORRECTION PAGES 69022	01/02/14	2
LA-RTR2-13-0135	RTR ITR CHECKLIST CORRECTION PAGES	01/02/14	2
	N/A		

Comments

ORIGINAL BDR IS IN CARLSBAD. PLEASE CONTACT AN SPM TO INSERT CORRECTIONS IN TO HARD COPY OF BDR.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	01/03/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[ ] Original Record [ ] Copy
[ ] Fax Record
[X] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	01/09/14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0135	RTR 2 BATCH DATA REPORT COVER SHEET CORRECTION	01/09/14	1
LA-RTR2-13-0135	RTR 2 RADIOGRAPHY DATA SHEET CORRECTION PAGES 69022	01/09/14	3
LA-RTR2-13-0135	RTR 2 ITR CHECKLIST CORRECTION PAGE	01/09/14	1
	N/A		

Comments

ORIGINAL ~~SPM~~ BDR IS IN CARLSBAD. PLEASE CONTACT AN SPM TO INSERT CORRECTIONS IN TO HARD COPY OF BDR.
01.09.14

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted	[✓]	Signature	Leon Navarrete (Printed Name)	01/09/14 (Date)
Records Rejected	[ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	2554
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	01/13 14:38
TIME USE	00'16
PAGES SENT	1
RESULT	OK

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013
Page 35 of 35

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[ ] Original Record [ ] Copy
[ ] Fax Record
[X] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	01/09/14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0135	RTR 2 BATCH DATA REPORT COVER SHEET CORRECTION	01/09/14	1
LA-RTR2-13-0135	RTR 2 RADIOGRAPHY DATA SHEET CORRECTION PAGES 69022	01/09/14	3
LA-RTR2-13-0135	RTR 2 ITR CHECKLIST CORRECTION PAGE	01/09/14	1
	N/A		

Comments:

ORIGINAL SPM IS IN CARLSBAD. PLEASE CONTACT AN SPM TO INSERT CORRECTIONS IN TO HARD COPY OF BDR.
BDR
01.09.14

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓] Leon Navarrete 01/09/14

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220
Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095
Fax Number: 575-234-7033

[ ] Original Record [ ] Copy
[ ] Fax Record
[X] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	01/09/14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0135	RTR 2 ITR CHECKLIST CORRECTION	01/09/14	1
	N/A		

Comments

Original bdr is in Carlsbad. Please contact an SPM to insert correction in to hard copy of BDR

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	01/13/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	2553
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	01/13 14:16
TIME USE	00'17
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[ ] Original Record [ ] Copy
[ ] Fax Record
[X] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	01/09/14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-13-0135	RTR 2 ITR CHECKLIST CORRECTION	01/09/14	1
	N/A		

Comments:

Original bdr is in Carlsbad. Please contact an SPM to insert correction in to hard copy of BDR

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓] Leon Navarrete 01/13/14

DIVIDER

PAGE

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: LA-RTR2-14-0013	Examination Date(s): 1/30/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 69299 65223 59362 60511 69290 69286 69300 69298 69280 69289
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**	X			NCR-LANL-0207-14 Reject (69283)
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**	X			
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 2-7-14 PH

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-14-0013	Examination Date(s): 1/30/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			Except for 69283
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**	X			Except for 69283
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**	X			
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**	X			
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**	X			
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**	X			

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: LA-RTR2-14-0013	Examination Date(s): 1/30/2014			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**	X			
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**	X			
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**	X			
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**	X			
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**	X			
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**			X	Not used.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna			2/6/14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5–CCP Radiography Batch Data Report Cover Sheet

Site ID: LANL

Batch Data Report No.: LA-RTR2-14-0013 ☑ CH ☐ RH Date: 1-30-2014

Waste Container ID Numbers	
Replicate Scan:	60511
Independent Observation:	65223
1	69299
2	65223
3	59362
4	69283
5	60511
6	69290
7	69286
8	69300
9	69298
10	69280
11	69289
12	N/A
13	N/A
14	N/A
15	N/A
16	N/A
17	N/A
18	N/A
19	N/A
20	N/A

RTR Operator:

Benito Maestas — Printed Name

Signature

1-30-2014 — Date

Independent Technical Reviewer:

THAD MASSEY — Printed Name

Signature

2-4-14 — Date

NTPC RECORDS ORIGINAL
DATE REC'D 2/4/14

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.: LA-RTR2-14-0013 Date: 01/30/2014

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	1
2	CCP Radiography Batch Data Report Table Of Contents	2
3	CCP RTR Measurement Control Report	3
4	CCP Radiography Data Sheets	4
5	Copy of NCRs (NA, If Not Applicable)	42A ~~N/A~~ BM 2.4.14
6	CCP Independent Technical Reviewer Checklist	43

Batch Narrative
All Quality Checks were performed and recorded on CCP-TP-053, Rev. 14, CCP Radiography Measurement Control Report.

BE 2.4.14

Benito Maestas
RTR Operator

BE
Signature

01/30/2014
Date

Attachment 1 – CCP RTR Measurement Control Report

Site ID: LANL		
Batch Data Report No.: LA-RTR2-14-0013		
Examination Date: 01/30/2014		
Control Checks		
Video/Audio Recorded Media System Check	☑ SAT	☐ UNSAT
Image Test : 9 Lines (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☑ SAT	☐ UNSAT
Comments: N/A		
RTR Operator:		
Benito Maestas (Printed Name)	Signature	01/30/2014 (Date)

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	60511
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD08.001
Waste Container Weights:	Gross Wt.: 36.5 kg Tare Wt.: E.R. 2-3-14 34.4 34.6 kg Net Wt.: E.R 2-3-14 2.4 1.9 kg
Rigid Liner and Liner Vent Description:	Liner: ☐ No ☒ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☒ Yes ☐ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☒ No ☐ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	10 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 60511

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bottles, plastic sheeting
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Rigid Liner and Liner Bag E.R. 2-3-14	E.R. 2-3-14 ~~6.4~~ 6.9
Other:	0.0
Total Packaging Weight	E.R. 2-3-14 ~~34.1~~ 34.6
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	E.R. 2-3-14 ~~1.4~~ .9
Organic Matrix (OR):	
Inorganic Matrix (IN):	1.0
Soils (S):	
Total WMP Weight:	E.R. 2-3-14 ~~2.4~~ 1.9

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	65223
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	☒ No ☐ Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 35.0 kg Tare Wt.: 33.4 kg Net Wt.: 1.6 kg
Rigid Liner and Liner Vent Description:	Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ No ☐ Yes ☒ N/A Punctured: ☒ No ☐ Yes Mechanical Vent: ☒ No ☐ Yes Fiberboard Liner: ☐ No ☒ Yes Lead Lined: ☒ No ☐ Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	5 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 60511

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Replicate Scan agrees with the Original Scan.	

RTR Operator:

Eddie Rios		1/30/2014
Print Name	Signature	Date 2-3-14

CCP Radiography Data Sheet

Waste Container ID: 65223

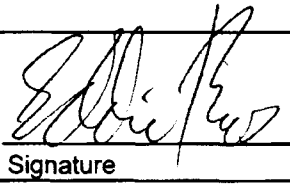
Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bottle
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.4
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	0.2
Organic Matrix (OR):	
Inorganic Matrix (IN):	1.0
Soils (S):	
Total WMP Weight:	1.6

CCP Radiography Data Sheet

Waste Container ID: 65223

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This Independent Observation agrees with the Original Scan.	

RTR Operator:		
Eddie Rios		1/30/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	69299
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 63.0 kg Tare Wt.: 33.4 kg Net Wt.: 29.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 69299

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Open 20 gallon drum with material, hardware, scrap metal
AM:	
OM:	
OI:	
C:	
R:	Leaded rubber gloves
XPM:	Plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	10.6
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	15.0
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	29.6

CCP Radiography Data Sheet

Waste Container ID: 69299

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Benito Maestas		1/30/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	65223
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD09.001
Waste Container Weights:	Gross Wt.: 35.0 kg Tare Wt.: 33.4 kg Net Wt.: 1.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	5 %

CCP Radiography Data Sheet

Waste Container ID: 65223

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bottle
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	0.1
Organic Matrix (OR):	
Inorganic Matrix (IN):	1.0
Soils (S):	
Total WMP Weight:	1.6

CCP Radiography Data Sheet

Waste Container ID: 65223

Section 5: RTR Summary (Questions answered 'Yes' will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Benito Maestas	B E Maestas	1/30/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	59362
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 33.5 kg Tare Wt.: 27.7 kg Net Wt.: 5.8 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	10 %

CCP Radiography Data Sheet

Waste Container ID: 59362

Section 3: Container Inventory and Comments (Detailed descriptions)
IM: Scrap metal
AM:
OM:
OI:
C:
R:
XPM: Plastic bag, plastic bottle
OR:
IN:
S:

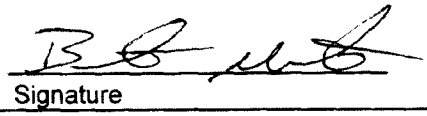
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):	0.0
Other:	0.0
Total Packaging Weight	27.7
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	3.8
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	5.8

CCP Radiography Data Sheet

Waste Container ID: 59362

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Benito Maestas		1/30/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	69283
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [X] Yes BM 2.3.14 BM 2.3.14 NCR No.: ~~N/A~~ BM 2.3.14 NCR-LANL-0207-14 NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 78.0 kg Tare Wt.: 33.4 kg Net Wt.: 44.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	70 %

CCP Radiography Data Sheet

Waste Container ID: 69283

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, hand tools
AM:	
OM:	
OI:	
C:	Coveralls
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	10.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	16.0
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	12.6
Soils (S):	
Total WMP Weight:	44.6

CCP Radiography Data Sheet

Waste Container ID: 69283

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	BM 2.3.14 [+] Yes [X] ~~No~~ BM 2.3.14
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	BM 2.3.14 [+] Yes [X] ~~No~~ BM 2.3.14
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No

Comments: ~~N/A~~ NCR-LANL-6207-14

BM
2.3.14

RTR Operator:

Benito Maestas	B Maestas	2.3.14
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	60511
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD08.001
Waste Container Weights:	Gross Wt.: 36.5 kg Tare Wt.: ~~34.1~~ 34.6 kg BM 2.3.14 Net Wt.: ~~2.4~~ 1.9 kg BM 2.3.14
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	10 %

CCP Radiography Data Sheet

Waste Container ID: 60511

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic bottles
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Rigid Liner AND LINER BAG BM 2.3.14	~~6.4~~ 6.9 BM 2.3.14
Other:	0.0
Total Packaging Weight	~~34.4~~ 34.6 BM 2.3.14
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	~~1.0~~ .5 BM 2.3.14
Organic Matrix (OR):	
Inorganic Matrix (IN):	1.4
Soils (S):	
Total WMP Weight:	~~2.4~~ 1.9. BM 2.3.14

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 60511

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: ~~N/A~~

OPERATOR FAILED TO MENTION LINER BAG THIS ATTACHMENT 2 REFLECTS THE CORRECT DATA.

BM
2.3.14

RTR Operator:

Benito Maestas	[signature]	1/30/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	69290
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 88.0 kg Tare Wt.: 33.4 kg Net Wt.: 54.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 69290

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	Scrap metal, metal can with material
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bags, plastic hose, plastic tubing, plastic bottles
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	10.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	15.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	29.6
Soils (S):	
Total WMP Weight:	54.6

CCP Radiography Data Sheet

Waste Container ID: 69290

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	
RTR Operator: Benito Maestas (Print Name) / Signature / 1/30/2014 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	69286
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 67.0 kg Tare Wt.: 33.4 kg Net Wt.: 33.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 69286

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal cans with material, scrap metal, hardware, metal lids, hand tool
AM:	
OM:	
OI:	Glass bottles
C:	
R:	Leaded rubber gloves
XPM:	Plastic bags, electrical equipment, plastic tubing, plastic bottles
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	5.6
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	5.0
Cellulosics (C):	
Rubber (R):	15.0
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	2.0
Soils (S):	
Total WMP Weight:	33.6

CCP Radiography Data Sheet

Waste Container ID: 69286

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	
RTR Operator: Benito Maestas (Print Name) — Signature — 1/30/2014 (Date)	

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	69300
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 72.0 kg Tare Wt.: 33.4 kg Net Wt.: 38.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 69300

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Open 30 gallon drum, metal can with material, scrap metal, drum lid
AM:	
OM:	
OI:	
C:	
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	24.6
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	4.0
Soils (S):	
Total WMP Weight:	38.6

CCP Radiography Data Sheet

Waste Container ID: 69300

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: This drum contains metal cans with material, which may require additional Project Office review.	

RTR Operator:

Benito Maestas		1/30/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	69298
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 203.0 kg Tare Wt.: 33.4 kg Net Wt.: 169.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 69298

Section 3: Container Inventory and Comments	(Detailed descriptions)
IM:	
AM:	
OM:	Scrap lead
OI:	
C:	Tape roll
R:	
XPM:	Plastic bags, plastic lid
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	5.0
Other Inorganic Materials (OI)	
Cellulosics (C):	0.1
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	160.5
Soils (S):	
Total WMP Weight:	169.6

CCP Radiography Data Sheet

Waste Container ID: 69298

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	[X] Yes [ ] No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	[ ] Yes [X] No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	[ ] Yes [X] No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	[ ] Yes [X] No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	[ ] Yes [X] No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	[ ] Yes [X] No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	[ ] Yes [X] No
Is there an indication of wastes containing explosives or compressed gases?	[ ] Yes [X] No
Is there an indication of PCBs liquids?	[ ] Yes [X] No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	[ ] Yes [X] No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	[ ] Yes [X] No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	[ ] Yes [X] No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	[ ] Yes [X] No
Are there sealed containers GREATER than 4 liters?	[ ] Yes [X] No
Are there indications of inadequate protection for heavy and/or sharp objects?	[ ] Yes [X] No
Comments: N/A	

RTR Operator:

Benito Maestas	B Benitez	1/30/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	69280
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 108.0 kg Tare Wt.: 33.4 kg Net Wt.: 74.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	40 %

CCP Radiography Data Sheet

Waste Container ID: 69280

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM: Scrap lead
OI:
C:
R:
XPM: Plastic bags
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	6.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	64.6
Soils (S):	
Total WMP Weight:	74.6

CCP Radiography Data Sheet

Waste Container ID: 69280

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No
Comments: N/A	

RTR Operator:

Benito Maestas		1/30/2014
Print Name	Signature	Date

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-14-0013
Examination Date:	1/30/2014
Waste Container ID:	69289
Video/Audio Recorded Media Number:	LA-RTR2-14-0013 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD04.001
Waste Container Weights:	Gross Wt.: 75.0 kg Tare Wt.: 33.4 kg Net Wt.: 41.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

Waste Container ID: 69289

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal, hand tool, PUNCTURED AEROSOL CAN BM 2.3.14

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Electrical equipment, plastic bags, plastic hose, plastic tubing

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	10.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	1.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	22.6
Soils (S):	
Total WMP Weight:	41.6

CCP Radiography Data Sheet

Waste Container ID: 69289

Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1)	
Is there observable liquid?	☐ Yes ☒ No
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ Yes ☒ No
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ Yes ☒ No
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐ Yes ☒ No
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ Yes ☒ No
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ Yes ☒ No
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ Yes ☒ No
Is there an indication of wastes containing explosives or compressed gases?	☐ Yes ☒ No
Is there an indication of PCBs liquids?	☐ Yes ☒ No
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ Yes ☒ No
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

Comments: ~~N/A~~

OPERATOR FAILED TO MENTION PUNCTURED AEROSOL CAN AT 26" THIS ATTACHMENT 2 SHOWS THE CORRECT DATA.

BM
2.3.14

RTR Operator:		
Benito Maestas		1/30/2014
Print Name	Signature	Date

Controlled Copy

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR- LANL-0207-14 **Revision** 0

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): NDE	3. Batch Data Report #(s): LA-RTR2-14-0013
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): 69283
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☑ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

CCP-TP-053, Standard Real Time Radiography (RTR) Inspection Procedure, Rev. 14, Section 4.4.2 [H]states in part "Using Table 1, Prohibited Items, as a reference... confirm there are NO prohibited items in the waste container."
Table 1, Prohibited Items lists, in part "Liquid waste- Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited.

7c. Actual Condition:

13L container with 1L of liquid greater than 60mL and greater than 3% by volume

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☑ YES ☐ NO If no is checked, explain:

8. NCR Originator:

Thad Hasselstrom (printed name) Thad Hasselstrom (signature) 1-31-14 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☑ NO ☐ INDETERMINATE

10. Trend Code: K

11. Responsible Manager: Terri-Anne Groover

12. Significant Condition? ☐ YES ☑ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☑ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:

Aaron Elliott (printed name) (signature) 2/4/2014 (date)

COPY

C

42 A

Controlled Copy

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0207-14 **Revision** 0

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):
☑ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use
☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

COPY

Controlled Copy

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- LANL-0207-14 **Revision** 0

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☑ N/A for Reject, Rework, or Scrap]

☑ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

RETURN CONTAINER TO LANL

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☑ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name	signature	date
Terri-Anne Gruebler		2.4.14

21. QA Engineer or QA Designee:

printed name	signature	date
Aaron Elliott		2/4/2014

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date

23. Attachments:

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date

42C

COPY

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.: LA-RTR2-14-0013

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	
2.	Was the correct revision of the procedure used? Procedure: CCP-TP-053 Rev.: 14	☐ NO	☑ YES	
3.	Are the WMPs entered correctly?	☐ NO	☑ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☑ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☑ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☑ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☑ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☑ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☑ YES	☐ N/A
12.	Was justification made for changing the original data?	☐ NO	☑ YES	☐ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☑ YES	☐ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☑ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☑ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☑ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.: LA-RTR2-14-0013

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☑ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☑ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☑ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☑ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☑ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☑ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☑ YES	☐ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☑ YES	

Comments:

N/A

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

THAO HASSELSTROM — Printed Name

Signature

2-4-14 — Date

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	02/05/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-14-0013	NDE RTR 2 BACK UP DVD B	01/30/14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete Printed Name	02/10/14 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	2731
DESTINATION TEL #	915056656753
DESTINATION ID	
ST. TIME	02/10 10:46
TIME USE	00'29
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	02/05/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-14-0013	NDE RTR 2 BACK UP DVD B	01/30/14	N/A
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X] Leon Navarrete 02/10/14

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	02/10/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA-RTR2-14-0013	NDE RTR 2 BATCH DATA REPORT	01/30/14	47
LA-RTR2-14-0013	NDE RTR 2 PRIMARY DVD A	01/30/14	N/A
	N/A		

Comments

BDR is complete. Original SPM is in Carlsbad.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	2/17/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	2936
DESTINATION TEL #	915056291658
DESTINATION ID	LANL
ST. TIME	02/17 14:59
TIME USE	00'18
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	02/10/14
Telephone Number:	(575) 234-7523		

Document Number	Title/ Description	Record Date	Total Pages
LA-RTR2-14-0013	NDE RTR 2 BATCH DATA REPORT	01/30/14	47
LA-RTR2-14-0013	NDE RTR 2 PRIMARY DVD A	01/30/14	N/A
	N/A		

Comments

BDR is complete. Original SPM is in Carlsbad.

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted ☑ Leon Navarrete 2/17/14

COPY

RTR2

Central Characterization Project (CCP) Effective Date: 4/4/2012	RTR-02, Rev. 1 Page 1 of 6

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

[redacted]

Education/Experience		
Resume documenting education on file with Central Characterization Project (CCP) Training.	Cheryl Arrigo CCP Training	09-26-12 Date

National Standard Requirements		
SNT-TC-1A Requirements	1. Certificate from an approved vendor stating the individual operator is a qualified Real-Time Radiography (RTR) operator Level II SNT-TC-1A. *(Required every three (3) years minimum)*	Cheryl Arrigo 09-26-12 CCP Training Date
	2. Eye Examination: *(Annual requirement)* Jaeger Test (J-2) Date: 6-19-12 Color Vision or Gray Scale Test Date: 6-19-12	Cheryl Arrigo 09-26-12 CCP Training Date

☑ Initial Qualification ☐ Requalification ☐ Full Requalification

Qualification Limit	**This qualification is valid for two (2) years.** **If necessary, additional training may be required by the CCP Lead Site Project Manager (SPM) or the CCP Manager Responsible for Training.** **Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.**
Requalification Requirements	**Items required for requalification are identified by text.**

Real-Time Radiography (RTR) Operator/Independent Technical Reviewer (ITR) Qualification Card

[redacted]

Indoctrination

(Required at initial qualification and full requalification)

Initial/Indoctrination Reading:

1. DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
2. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
3. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (TRAMPAC)*
5. CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control*
6. CCP-QP-002, *CCP Training and Qualification Plan*
7. CCP-QP-004, *CCP Corrective Action Management*
8. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
9. CCP-QP-006, *CCP Corrective Action Reporting and Control*
10. CCP-QP-008, *CCP Records Management*
11. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
12. CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*

I have read the listed initial/indoctrination reading and understand my responsibilities as applicable to the procedures above.	Benito Macias	7.11.12
	Trainee	Date

[redacted]

CCP-PO-001	1. WAP/QAPjP Briefing and Test. *(One-time requirement)*	CA 9-26-12	9-26-12
		CCP Training	Date
CCP-RTR-101	2. Real-Time Radiography (RTR) TRU Waste Characterization Briefing. *(Required at qualification and at each requalification)*		9-26-12
		CCP Training	Date
CCP-PO-002	3. RTR Comprehensive Exam (score 80% or higher), administered by CCP Training. *(To be administered at each requalification)*		9-26-12
		CCP Training	Date
CCP-QP-002	4. Test Drum (WAC): *(Required at qualification and at each requalification)*		9-26-12
		CCP Training	Date
CCP-QP-002	5. Training Container[1]: *(Required at qualification, bi-annually, and at each requalification)*		9-26-12
		CCP Training	Date

[1] The Training Container meets the requirements of the Test Drum defined in the WCPIP.

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

[redacted]

[redacted] Training (OJT) Requirements (initial and full requalification)		Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance Objectives (QAOs) validated by RTR.	K. D Sipson 7-11-12
CCP-PO-001	2. List the Data Quality Objectives (DQOs) of RTR.	K. D Sipson 7-11-12
CCP-QP-002	3. State the purpose of the List of Qualified Individuals (*LOQI*).	K. D Sipson 7-11-12
	4. State the requirements for performing the Test demonstration.	K. D Sipson 7-11-12
	5. State the requirements for performing the Training Demonstration.	K. D Sipson 7-11-12
CCP-QP-005	6. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	K. D Sipson 8-1-12
	7. Describe how nonconforming items are documented.	K. D Sipson 8-1-12
	8. Describe how nonconforming items are controlled to prevent their use.	K. D Sipson 8-1-12
	9. State who has the responsibility to validate the NCR once initiated.	K. D Sipson 8-1-12
	10. Describe how to revise an NCR.	K. D Sipson 8-1-12
	11. Describe how to void an NCR.	K. D Sipson 8-1-12
CCP-QP-006	12. Describe the purpose of the corrective action report (CAR) process.	K. D Sipson 8-1-12
	13. State the person responsible for originating a CAR.	K. D Sipson 8-1-12
	14. Describe how corrective actions are documented.	K. D Sipson 8-1-12
	15. State who has the responsibility to validate the CAR once initiated.	K. D Sipson 8-1-12
	16. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	K. D Sipson 7-11-12
CCP-QP-008	17. List the responsibilities of record generators.	K. D Sipson 7-11-12
	18. State the storage and control requirements for CCP records.	K. D Sipson 7-11-12

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

[redacted]

CCP-QP-010	19. Explain the process and proper method to make corrections or revisions to CCP records.	Ken Sipos 7-11-12
	20. State the importance of using approved documents.	Ken Sipos 7-11-12
	21. State when to verify a document revision.	Ken Sipos 7-11-12
CCP-TP-053/ CCP-RTR-101 Briefing	22. Explain the purpose of RTR.	Ken Sipos 7-11-12
	23. State the required information on the video/audio recording media labels.	Ken Sipos 7-11-12
	24. Explain when the image test pattern/lines-pairs resolution test and checking the audio recording must be performed.	Ken Sipos 7-11-12
	25. State the passing requirements for the lines-pair resolution test.	Ken Sipos 7-11-12
	26. Describe the unit of measurement for weights to be recorded for RTR.	Ken Sipos 7-11-12
	27. Describe where to obtain the tare weight of a waste container.	Ken Sipos 7-11-12
	28. Describe where to obtain the gross weight of a waste container.	Ken Sipos 7-11-12
	29. Describe how to determine the Volume Utilization Percentage (VUP).	Ken Sipos 7-11-12
	30. Define the increments in which the fill percent are recorded.	Ken Sipos 7-11-12
	31. State the percentage of the container volume that must be examined.	Ken Sipos 7-11-12
	32. State the waste material parameters (WMP).	Ken Sipos 7-11-12
	33. Define "layers of confinement".	Ken Sipos 7-11-12
	34. Describe acceptable liquids.	Ken Sipos 7-11-12
	35. State the total volume of acceptable liquid that must not be exceeded in the characterized container.	Ken Sipos 7-11-12
	36. Describe the actions taken if prohibited items are found.	Ken Sipos 7-11-12
	37. Describe the information that should be recorded when describing waste items.	Ken Sipos 7-11-12

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

[redacted]

	38. Discuss the requirements for packaging of sharp or heavy objects.	[redacted] 8-1-12
	39. State when an unvented, unpunctured, internal container is allowed.	[redacted] 8-1-12
	40. State the number of waste containers allowed per Batch Data Report (BDR).	[redacted] 8-1-12
	41. State when the replicate scan occurs and who performs it.	[redacted] 8-1-12
	42. State when the independent observation occurs and who performs it.	[redacted] 8-1-12
	43. State the responsibilities and function of the Independent Technical Reviewer (ITR).	[redacted] 8-1-12
	44. Explain who is allowed to make data changes on data sheets.	[redacted] 8-1-12
	45. Describe what constitutes a data affecting change.	[redacted] 8-1-12
[redacted]		[redacted]
CCP-TP-053	1. Perform image test pattern/lines-pair resolution test.	[redacted] 8/22/12
	2. Perform an RTR examination.	[redacted] 8/16/12
	3. Determine the VUP.	[redacted] 8/16/12
	4. Determine layers of confinement.	[redacted] 8/16/12
	5. Determine WMP.	[redacted] 8/16/12
	6. Estimate weight of each WMP.	[redacted] 8/16/12
	7. Verify the physical form of the waste matches the waste description.	[redacted] 8/16/12
	8. Complete an RTR data sheet.	[redacted] 8/16/12
	9. Perform an independent observation.	[redacted] 8/16/12
	10. Assemble a Batch Data Report (BDR).	[redacted] 8-21-12
	11. Complete an ITR review.	[redacted] 8-2-12
	12. Demonstrate how to make changes/corrections to a BDR.	[redacted] 8-1-12

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

[redacted]

[redacted] Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a RTR Operator/ITR.	Benito Maestas 8.22.12 Trainee *(printed name and signature)* — Date
I have monitored the training of this individual and believe they are ready to perform the duties of a RTR Operator/ITR. *(Validation by the SME/OJT instructor(s) involved in the training of this individual).*	Eric Lyles 8/22/12 SME/OJT Instructor *(printed name and signature)* — Date
	Kenneth Simpson 8/22/12 SME/OJT Instructor *(printed name and signature)* — Date
I approve this employee to perform the duties of a RTR Operator/ITR.	Veronica Waldram 9/20/12 CCP Lead or Alternate SPM *(printed name and signature)* — Date

Approved for Content & Format: **Steve Ewing (Approval on file)** — **4/4/2012**
SME/OJT — Date

Approved for Content & Format: **Andrew Stallings (Approval on file)** — **4/4/2012**
Cognizant Engineer — Date

Approved for Content: **Richard Kantrowitz (Approval on file)** — **4/4/2012**
CCP Lead or Alternate SPM — Date

Approved for Use: **AJ Fisher (Approval on file)** — **4/4/2012**
CCP Manager Responsible for Training — Date

DIVIDER

PAGE

COPY

Central Characterization Project (CCP) Effective Date: 09/17/2012	RTR-02, Rev. 2 Page 1 of 7

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Michael Simmons

Education/Experience		
Resume documenting education on file with Central Characterization Project (CCP) Training.		Michele Billett 10/12/12 CCP Training — Date
National Standard Requirements		
SNT-TC-1A Requirements	1. Certificate from an approved vendor stating the individual operator is a qualified Real-Time Radiography (RTR) operator Level II SNT-TC-1A. *(Always Required)*	Michele Billett 10/12/12 CCP Training — Date
	2. Eye Examination: *(Always Required)* Jaeger Test (J-2) Date: 2/17/12 Color Vision or Gray Scale Test Date: 2/17/12	Michele Billett 10/12/12 CCP Training — Date
Job Specific Training		
☐ Initial Qualification ☐ Requalification ☑ Full Requalification		
Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the CCP Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.	
Requalification Requirements	Items required for requalification are identified by text.	

Real-Time Radiography (RTR) Operator/Independent Technical Reviewer (ITR) Qualification Card

Name: Michael Simmons

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
2. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
3. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (TRAMPAC)*
5. CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control*
6. CCP-QP-002, *CCP Training and Qualification Plan*
7. CCP-QP-004, *CCP Corrective Action Management*
8. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
9. CCP-QP-006, *CCP Corrective Action Reporting and Control*
10. CCP-QP-008, *CCP Records Management*
11. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
12. CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.

Trainee — Date: 9/26/12

Document	Additional Training Requirements	CCP Training / Date
CCP-PO-001	1. WAP/QAPjP Briefing and Test. *(One-time Requirement)*	Michele Billett 10/12/12
CCP-RTR-101	2. Real-Time Radiography (RTR) TRU Waste Characterization Briefing. *(Always Required)*	Michele Billett 10/12/12
CCP-QP-002	3. RTR Comprehensive Exam *(Always Required)*	Michele Billett 10/12/12
	4. Test Drum (WAC): *(Always Required)*	Michele Billett 10/12/12
	5. Training Container[1]: *(Always Required)*	Cheryl Munjo 10-16-12

[1] The Training Container meets the requirements of the Test Drum defined in the WCPIP.

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Michael Simmons

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance Objectives (QAOs) validated by RTR.	[signature] 9-26-12
CCP-PO-001	2. List the Data Quality Objectives (DQOs) of RTR.	[signature] 9-26-12
CCP-QP-002	3. State the purpose of the List of Qualified Individuals (LOQI).	[signature] 9-26-12
	4. State the requirements for performing the Test demonstration.	[signature] 9-26-12
	5. State the requirements for performing the Training Demonstration.	[signature] 9-26-12
CCP-QP-005	6. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	[signature] 9-26-12
	7. Describe how nonconforming items are documented.	[signature] 9-26-12
	8. Describe how nonconforming items are controlled to prevent their use.	[signature] 9-26-12
	9. State who has the responsibility to validate the NCR once initiated.	[signature] 9-26-12
	10. Describe how to revise an NCR.	[signature] 9-26-12
	11. Describe how to void an NCR.	[signature] 9-26-12
CCP-QP-006	12. Describe the purpose of the corrective action report (CAR) process.	[signature] 9-26-12
	13. State the person responsible for originating a CAR.	[signature] 9-26-12
	14. Describe how corrective actions are documented.	[signature] 9-26-12
	15. State who has the responsibility to validate the CAR once initiated.	[signature] 9-26-12
	16. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	[signature] 9-26-12

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Michael Simmons

CCP-QP-008	17. List the responsibilities of record generators.	[signature] 9-26-12
	18. State the storage and control requirements for CCP records.	[signature] 9-26-12
	19. Explain the process and proper method to make corrections or revisions to CCP records.	[signature] 9-26-12
CCP-QP-010	20. State the importance of using approved documents.	[signature] 9-26-12
	21. State when to verify a document revision.	[signature] 9-26-12
CCP-TP-053/ CCP-RTR-101 Briefing	22. Explain the purpose of RTR.	[signature] 9-26-12
	23. State the required information on the video/audio recording media labels.	[signature] 9-26-12
	24. Explain when the image test pattern/lines-pairs resolution test and checking the audio recording must be performed.	[signature] 9-26-12
	25. State the passing requirements for the lines-pair resolution test.	[signature] 9-26-12
	26. Describe the unit of measurement for weights to be recorded for RTR.	[signature] 9-26-12
	27. Describe where to obtain the tare weight of a waste container.	[signature] 9-26-12
	28. Describe where to obtain the gross weight of a waste container.	[signature] 9-26-12
	29. Describe how to determine the Volume Utilization Percentage (VUP).	[signature] 9-26-12
	30. Define the increments in which the fill percent are recorded.	[signature] 9-26-12
	31. State the percentage of the container volume that must be examined.	[signature] 9-26-12
	32. State the waste material parameters (WMP).	[signature] 9-26-12
	33. Define "layers of confinement".	[signature] 9-26-12

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Michael Simmons

	34. Describe acceptable liquids.	[signature] 9-26-12
	35. State the total volume of acceptable liquid that must not be exceeded in the characterized container.	[signature] 9-26-12
	36. Describe the actions taken if prohibited items are found.	[signature] 9-26-12
	37. Describe the information that should be recorded when describing waste items.	[signature] 9-26-12
	38. Discuss the requirements for packaging of sharp or heavy objects.	[signature] 9-26-12
	39. State when an unvented, unpunctured, internal container is allowed.	[signature] 9-26-12
	40. State the number of waste containers allowed per Batch Data Report (BDR).	[signature] 9-26-12
	41. State when the replicate scan occurs and who performs it.	[signature] 9-26-12
	42. State when the independent observation occurs and who performs it.	[signature] 9-26-12
	43. State the responsibilities and function of the Independent Technical Reviewer (ITR).	[signature] 9-26-12
	44. Explain who is allowed to make data changes on data sheets.	[signature] 9-26-12
	45. Describe what constitutes a data affecting change.	[signature] 9-26-12
Formal Training	**OJT Practical Requirements** *(Always Required)*	**SME/OJT Signature/Date**
CCP-TP-053	1. Perform image test pattern/lines-pair resolution test.	[signature] 10/2/12
	2. Perform an RTR examination.	[signature] 10/2/12
	3. Determine the VUP.	[signature] 10/2/12
	4. Determine layers of confinement.	[signature] 10/2/12
	5. Determine WMP.	[signature] 10/2/12

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Michael Simmons

	6. Estimate weight of each WMP.	[signature]	10/2/12
	7. Verify the physical form of the waste matches the waste description.	[signature]	10/2/12
	8. Complete an RTR data sheet.	[signature]	10/2/12
	9. Perform an independent observation.	[signature]	10/2/12
	10. Assemble a Batch Data Report (BDR).	[signature]	10/4/12
	11. Complete an ITR review.	[signature]	10-10-12
	12. Demonstrate how to make changes/corrections to a BDR.	[signature]	10-10-12

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Michael Simmons

Approvals		
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a RTR Operator/ITR.	Michael Simmons Trainee *(printed name and signature)*	10/11/12 Date
I have monitored the training of this individual and believe they are ready to perform the duties of a RTR Operator/ITR. *(Validation by the SME/OJT instructor(s) involved in the training of this individual).*	Kenneth Simpson SME/OJT Instructor *(printed name and signature)*	10/11/12 Date
	Emil Lykes SME/OJT Instructor *(printed name and signature)*	10/11/12 Date
I approve this employee to perform the duties of a RTR Operator/ITR.	Richard Kantrowitz CCP SPM *(printed name and signature)*	10/16/12 Date

Approved for Content & Format:	**Kenneth Dale Simpson *(Approval on File)*** SME/OJT	**09/17/2012** Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)*** Cognizant Engineer	**09/17/2012** Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)*** CCP SPM	**09/17/2012** Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)*** CCP Manager Responsible for Training	**09/17/2012** Date

DIVIDER

PAGE

COPY

National TRU Program Certification Effective Date: 10/07/2013	RTR-02, Rev. 5 Page 1 of 7

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: D'artagnan Jackson

Education/Experience			
Resume documenting education on file with National TRU Program Certification (NTPC) Training.		Cheryl Almojo NTPC Training	12-12-13 Date
National Standard Requirements			
SNT-TC-1A Requirements	1. Certificate from an approved vendor stating the individual operator is a qualified Real-Time Radiography (RTR) operator Level II SNT-TC-1A *(Always Required)*	Cheryl Almojo NTPC Training	12-12-13 Date
	2. Eye Examination: *(Always Required)* Jaeger Test (J-2) Date: 12-10-13 Color Vision or Gray Scale Test Date: 12-10-13	Cheryl Almojo NTPC Training	12-12-13 Date
Job Specific Training			
☐ **Initial Qualification** ☐ **Requalification** ☑ **Full Requalification**			
Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification.		
Requalification Requirements	Items required for requalification are identified by text.		

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: D'artagnan Jackson

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
2. WP 15-GM1002, *Issues Management Processing of WIPP Forms*
3. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
4. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
5. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
6. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (TRAMPAC)*
7. CCP-PO-005, *CCP Conduct of Operations*
8. CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control*
9. CCP-QP-002, *CCP Training and Qualification Plan*
10. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
11. CCP-QP-008, *CCP Records Management*
12. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
13. CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	D'artagnan Jackson D'artagnan Jackson Trainee	11-27-13 Date

Document	Additional Training Requirements		
CCP-PO-001	1. WAP/QAPjP Briefing & Exam *(One-time Requirement)*	Cheryl Arroyo NTPC Training	12-12-13 Date
CCP-RTR-101	2. Real-Time Radiography (RTR) TRU Waste Characterization Briefing. *(Always Required)*	Cheryl Arroyo NTPC Training	12-12-13 Date
CCP-QP-002	3. RTR Comprehensive Exam *(Always Required)*	Cheryl Arroyo NPTC Training	12-12-13 Date
	4. Test Drum (WAC) *(Always Required)*	Cheryl Arroyo NTPC Training	12-12-13 Date
	5. Training Container[1] *(Always Required)*	Cheryl Arroyo NTPC Training	12-17-13 Date

[1] The Training Container meets the requirements of the Test Drum defined in the WCPIP.

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Dartagnan Jackson

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance Objectives (QAOs) validated by RTR.	K. D Sipson 11-29-13
CCP-PO-001	2. List the Data Quality Objectives (DQOs) of RTR.	K. D Sipson 11-29-13
CCP-QP-002	3. State the purpose of the List of Qualified Individuals (LOQI).	K. D Sipson 11-29-13
	4. State the requirements for performing the Test demonstration.	K. D Sipson 11-29-13
	5. State the requirements for performing the Training Demonstration.	K. D Sipson 11-29-13
CCP-QP-005	6. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	K. D Sipson 11-29-13
	7. Describe how nonconforming items are documented.	K. D Sipson 11-29-13
	8. Describe how nonconforming items are controlled to prevent their use.	K. D Sipson 11-29-13
	9. State who has the responsibility to validate the NCR once initiated.	K. D Sipson 11-29-13
	10. Describe how to revise an NCR.	K. D Sipson 11-29-13
	11. Describe how to void an NCR.	K. D Sipson 11-29-13
WP 15-GM1002	12. Describe the purpose of the WIPP Form process.	K. D Sipson 11-29-13
	13. State the person responsible for originating a WIPP Form.	K. D Sipson 11-29-13
	14. Describe how WIPP Forms are documented.	K. D Sipson 11-29-13
	15. Describe who has responsibility for processing WIPP Forms, approving Corrective Action Plans, and approving closure of WIPP Forms.	K. D Sipson 11-29-13
	16. Describe actions personnel may take when conditions adverse to quality are discovered.	K. D Sipson 11-29-13

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Dartagnan Jackson

CCP-QP-008	17. List the responsibilities of record generators.	K. D. Sipes 11-29-13
	18. State the storage and control requirements for records.	K. D. Sipes 11-29-13
	19. Explain the process and proper method to make corrections or revisions to records.	K. D. Sipes 11-29-13
CCP-QP-010	20. State the importance of using approved documents.	K. D. Sipes 11-29-13
	21. State when to verify a document revision.	K. D. Sipes 11-29-13
CCP-TP-053/ CCP-RTR-101 Briefing	22. Explain the purpose of RTR.	K. D. Sipes 11-29-13
	23. State the required information on the video/audio recording media labels.	K. D. Sipes 11-29-13
	24. Explain when the image test pattern/lines-pairs resolution test and checking the audio recording must be performed.	K. D. Sipes 11-29-13
	25. State the passing requirements for the lines-pair resolution test.	K. D. Sipes 11-29-13
	26. Describe the unit of measurement for weights to be recorded for RTR.	K. D. Sipes 11-29-13
	27. Describe where to obtain the tare weight of a waste container.	K. D. Sipes 11-29-13
	28. Describe where to obtain the gross weight of a waste container.	K. D. Sipes 11-29-13
	29. Describe how to determine the Volume Utilization Percentage (VUP).	K. D. Sipes 11-29-13
	30. Define the increments in which the fill percent are recorded.	K. D. Sipes 11-29-13
	31. State the percentage of the container volume that must be examined.	K. D. Sipes 11-29-13
	32. State the waste material parameters (WMP).	K. D. Sipes 11-29-13
	33. Define "layers of confinement".	K. D. Sipes 11-29-13

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Dartagnan Jackson

	34. Describe acceptable liquids.	K. Sipes 11-29-13
	35. State the total volume of acceptable liquid that must not be exceeded in the characterized container.	K. Sipes 11-29-13
	36. Describe the actions taken if prohibited items are found.	K. Sipes 11-29-13
	37. Describe the information that should be recorded when describing waste items.	K. Sipes 11-29-13
	38. Discuss the requirements for packaging of sharp or heavy objects.	K. Sipes 11-29-13
	39. State when an unvented, unpunctured, internal container is allowed.	K. Sipes 11-29-13
	40. State the number of waste containers allowed per Batch Data Report (BDR).	K. Sipes 11-29-13
	41. State when the replicate scan occurs and who performs it.	K. Sipes 11-29-13
	42. State when the independent observation occurs and who performs it.	K. Sipes 11-29-13
	43. State the responsibilities and function of the Independent Technical Reviewer (ITR).	K. Sipes 11-29-13
	44. Explain who is allowed to make data changes on data sheets.	K. Sipes 11-29-13
	45. Describe what constitutes a data affecting change.	K. Sipes 11-29-13

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Dartagnan Jackson

Formal Training	OJT Practical Requirements *(Always Required)*	SME/OJT Signature/Date
CCP-TP-053	1. Perform image test pattern/lines-pair resolution test.	JAElliott 12/5/13
	2. Perform an RTR examination.	JAElliott 12/5/13
	3. Determine the VUP.	JAElliott 12/3/13
	4. Determine layers of confinement.	JAElliott 12/3/13
	5. Determine WMP.	JAElliott 12/3/13
	6. Estimate weight of each WMP.	JAElliott 12/3/13
	7. Verify the physical form of the waste matches the waste description.	JAElliott 12/3/13
	8. Complete an RTR data sheet.	JAElliott 12/3/13
	9. Perform an independent observation.	JAElliott 12/3/13
	10. Assemble a Batch Data Report (BDR).	JAElliott 12/3/13
	11. Complete an ITR review.	JAElliott 12/3/13
	12. Demonstrate how to make changes/corrections to a BDR.	JAElliott 12/3/13

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Dartagnan Jackson

Approvals		
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a RTR Operator/ITR.	Dartagnan Jackson Dartagnan Jackson Trainee (printed name and signature)	12/10/13 Date
I have monitored the training of this individual and believe they are ready to perform the duties of a RTR Operator/ITR. *(Validation by the SME/OJT instructor(s) involved in the training of this individual).*	Kenneth Simpson SME/OJT Instructor (printed name and signature)	12/10/13 Date
	Aaron Elliott SME/OJT Instructor (printed name and signature)	12/10/13 Date
I have evaluated the training documentation and determined this individual meets the requirements for certification as an RTR Operator/ITR.	Andrew O. Stallings Cognizant Engineer (printed name and signature)	12/17/13 Date
I approve this employee to perform the duties of a RTR Operator/ITR.	Veronica Waldram Veronica Waldram SPM (printed name and signature)	12/17/13 Date

Approved for Content & Format:	Kenneth Dale Simpson *(Approval on File)* SME/OJT	10/07/2013 Date
Approved for Applicability, Content & Format:	Andrew Stallings *(Approval on File)* Cognizant Engineer	10/07/2013 Date
Approved for Content:	Richard Kautsenits *(Approval on File)* SPM	10/07/2013 Date
Approved for Applicability, Content, Format, & Use:	A.J. Fisher *(Approval on File)* Manager Responsible for Training	10/07/2013 Date

DIVIDER

PAGE

COPY

Real-Time Radiography (RTR) Operator/Independent Technical Reviewer (ITR) Qualification Card

Name: Thaddeus Hasselstrom

Education/Experience		
Resume documenting education on file with National TRU Program Certification (NTPC) Training.		Cheryl Almquist 05-27-14 NTPC Training Date
National Standard Requirements		
SNT-TC-1A Requirements	1. Certificate from an approved vendor stating the individual operator is a qualified Real-Time Radiography (RTR) operator Level II SNT-TC-1A *(Always Required)*	Cheryl Almquist 05-27-14 NTPC Training Date
	2. Eye Examination: *(Always Required)* Jaeger Test (J-2) Date: 02-04-14 Color Vision or Gray Scale Test Date: 02-04-14	Cheryl Almquist 05-27-14 NTPC Training Date
Job Specific Training		
☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**		
Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification.	
Requalification Requirements	Items required for requalification are identified by text.	

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Thaddeus Hasselstrom

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
2. WP 15-GM1002, *Issues Management Processing of WIPP Forms*
3. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
4. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
5. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
6. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (TRAMPAC)*
7. CCP-PO-005, *CCP Conduct of Operations*
8. CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control*
9. CCP-QP-002, *CCP Training and Qualification Plan*
10. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
11. CCP-QP-008, *CCP Records Management*
12. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
13. CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	JPE 5/13/14 NOT REQUIRED FOR REQUALIFICATION Trainee — Date

Document	Additional Training Requirements		
CCP-PO-001	1. WAP/QAPjP Briefing & Exam *(One-time Requirement)*	NTPC Training	05-27-14 Date
CCP-RTR-101	2. Real-Time Radiography (RTR) TRU Waste Characterization Briefing. *(Always Required)*	NTPC Training	05-27-14 Date
CCP-QP-002	3. RTR Comprehensive Exam *(Always Required)*	NPTC Training	05-27-14 Date
	4. Test Drum (WAC) *(Always Required)*	NTPC Training	05-27-14 Date
	5. Training Container[1] *(Always Required)*	NTPC Training	05-27-14 Date

[1] The Training Container meets the requirements of the Test Drum defined in the WCPIP.

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Thaddeus Hasselstrom

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance Objectives (QAOs) validated by RTR.	
CCP-PO-001	2. List the Data Quality Objectives (DQOs) of RTR.	
CCP-QP-002	3. State the purpose of the List of Qualified Individuals (LOQI).	
	4. State the requirements for performing the Test demonstration.	
	5. State the requirements for performing the Training Demonstration.	
CCP-QP-005	6. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	
	7. Describe how nonconforming items are documented.	N/A
	8. Describe how nonconforming items are controlled to prevent their use.	OE
	9. State who has the responsibility to validate the NCR once initiated.	5/13/14
	10. Describe how to revise an NCR.	
	11. Describe how to void an NCR.	
WP 15-GM1002	12. Describe the purpose of the WIPP Form process.	
	13. State the person responsible for originating a WIPP Form.	
	14. Describe how WIPP Forms are documented.	
	15. Describe who has responsibility for processing WIPP Forms, approving Corrective Action Plans, and approving closure of WIPP Forms.	
	16. Describe actions personnel may take when conditions adverse to quality are discovered.	

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Thaddeus Hasselstrom

CCP-QP-008	17. List the responsibilities of record generators.	
	18. State the storage and control requirements for records.	
	19. Explain the process and proper method to make corrections or revisions to records.	
CCP-QP-010	20. State the importance of using approved documents.	
	21. State when to verify a document revision.	
CCP-TP-053/ CCP-RTR-101 Briefing	22. Explain the purpose of RTR.	
	23. State the required information on the video/audio recording media labels.	
	24. Explain when the image test pattern/lines-pairs resolution test and checking the audio recording must be performed.	N/A
	25. State the passing requirements for the lines-pair resolution test.	
	26. Describe the unit of measurement for weights to be recorded for RTR.	
	27. Describe where to obtain the tare weight of a waste container.	
	28. Describe where to obtain the gross weight of a waste container.	
	29. Describe how to determine the Volume Utilization Percentage (VUP).	
	30. Define the increments in which the fill percent are recorded.	
	31. State the percentage of the container volume that must be examined.	
	32. State the waste material parameters (WMP).	
	33. Define "layers of confinement".	

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Thaddeus Hasselstrom

	34. Describe acceptable liquids.	
	35. State the total volume of acceptable liquid that must not be exceeded in the characterized container.	
	36. Describe the actions taken if prohibited items are found.	
	37. Describe the information that should be recorded when describing waste items.	
	38. Discuss the requirements for packaging of sharp or heavy objects.	
	39. State when an unvented, unpunctured, internal container is allowed.	N/A
	40. State the number of waste containers allowed per Batch Data Report (BDR).	
	41. State when the replicate scan occurs and who performs it.	
	42. State when the independent observation occurs and who performs it.	
	43. State the responsibilities and function of the Independent Technical Reviewer (ITR).	
	44. Explain who is allowed to make data changes on data sheets.	
	45. Describe what constitutes a data affecting change.	

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Thaddeus Hasselstrom

Formal Training	OJT Practical Requirements *(Always Required)*	SME/OJT Signature/Date
CCP-TP-053	1. Perform image test pattern/lines-pair resolution test.	5/6/14
	2. Perform an RTR examination.	5/13/14
	3. Determine the VUP.	5/13/14
	4. Determine layers of confinement.	5/13/14
	5. Determine WMP.	5/13/14
	6. Estimate weight of each WMP.	5/13/14
	7. Verify the physical form of the waste matches the waste description.	5/13/14
	8. Complete an RTR data sheet.	5/13/14
	9. Perform an independent observation.	5/13/14
	10. Assemble a Batch Data Report (BDR).	5/13/14
	11. Complete an ITR review.	5/13/14
	12. Demonstrate how to make changes/corrections to a BDR.	5/6/14

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Thaddeus Hasselstrom

Approvals		
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a RTR Operator/ITR.	Thaddeus Hasselstrom Thaddeus Hasselstrom Trainee *(printed name and signature)*	5-22-14 Date
I have monitored the training of this individual and believe they are ready to perform the duties of a RTR Operator/ITR. *(Validation by the SME/OJT instructor(s) involved in the training of this individual).*	Aaron Elliott SME/OJT Instructor *(printed name and signature)*	5/22/14 Date
	NA SME/OJT Instructor *(printed name and signature)*	Date
I have evaluated the training documentation and determined this individual meets the requirements for certification as an RTR Operator/ITR.	Andrew O. Stallings Cognizant Engineer *(printed name and signature)*	5/28/14 Date
I approve this employee to perform the duties of a RTR Operator/ITR.	Carolina Sobrino SPM *(printed name and signature)*	5/28/14 Date

Approved for Content & Format: **Kenneth Dale Simpson *(Approval on File)*** — SME/OJT — **10/07/2013** Date

Approved for Applicability, Content & Format: **Andrew Stallings *(Approval on File)*** — Cognizant Engineer — **10/07/2013** Date

Approved for Content: **Richard Kantrowitz *(Approval on File)*** — SPM — **10/07/2013** Date

Approved for Applicability, Content, Format, & Use: **A.J. Fisher *(Approval on File)*** — Manager Responsible for Training — **10/07/2013** Date

DIVIDER PAGE

COPY

National TRU Program Certification	RTR-02, Rev. 5
Effective Date: 10/07/2013	Page 1 of 7

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Eddie Rios

Education/Experience		
Resume documenting education on file with National TRU Program Certification (NTPC) Training.		Michele Billett 1-8-14 NTPC Training — Date
National Standard Requirements		
SNT-TC-1A Requirements	1. Certificate from an approved vendor stating the individual operator is a qualified Real-Time Radiography (RTR) operator Level II SNT-TC-1A *(Always Required)*	Michele Billett 1-8-14 NTPC Training — Date
	2. Eye Examination: *(Always Required)* Jaeger Test (J-2) Date: 11-5-13 Color Vision or Gray Scale Test Date: 11-5-13	Michele Billett 1-8-14 NTPC Training — Date
Job Specific Training		
☑ Initial Qualification	☐ Requalification	☐ Full Requalification
Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification.	
Requalification Requirements	Items required for requalification are identified by text.	

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Eddie Rios

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
2. WP 15-GM1002, *Issues Management Processing of WIPP Forms*
3. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
4. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
5. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
6. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (TRAMPAC)*
7. CCP-PO-005, *CCP Conduct of Operations*
8. CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control*
9. CCP-QP-002, *CCP Training and Qualification Plan*
10. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
11. CCP-QP-008, *CCP Records Management*
12. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
13. CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	Eddie Rios Trainee	1-6-14 Date

Document	Additional Training Requirements		
CCP-PO-001	1. WAP/QAPjP Briefing & Exam *(One-time Requirement)*	Michele Billett NTPC Training	1-8-14 Date
CCP-RTR-101	2. Real-Time Radiography (RTR) TRU Waste Characterization Briefing. *(Always Required)*	Michele Billett NTPC Training	1-8-14 Date
CCP-QP-002	3. RTR Comprehensive Exam *(Always Required)*	Michele Billett NPTC Training	1-8-14 Date
	4. Test Drum (WAC) *(Always Required)*	Michele Billett NTPC Training	1-8-14 Date
	5. Training Container[1] *(Always Required)*	Michele Billett NTPC Training	1-8-14 Date

[1] The Training Container meets the requirements of the Test Drum defined in the WCPIP.

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Eddie Rios

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance Objectives (QAOs) validated by RTR.	1/6/14
CCP-PO-001	2. List the Data Quality Objectives (DQOs) of RTR.	1/6/14
CCP-QP-002	3. State the purpose of the List of Qualified Individuals (LOQI).	1/6/14
	4. State the requirements for performing the Test demonstration.	1/6/14
	5. State the requirements for performing the Training Demonstration.	1/6/14
CCP-QP-005	6. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	1/6/14
	7. Describe how nonconforming items are documented.	1/6/14
	8. Describe how nonconforming items are controlled to prevent their use.	1/6/14
	9. State who has the responsibility to validate the NCR once initiated.	1/6/14
	10. Describe how to revise an NCR.	1/6/14
	11. Describe how to void an NCR.	1/6/14
WP 15-GM1002	12. Describe the purpose of the WIPP Form process.	1/6/14
	13. State the person responsible for originating a WIPP Form.	1/6/14
	14. Describe how WIPP Forms are documented.	1/6/14
	15. Describe who has responsibility for processing WIPP Forms, approving Corrective Action Plans, and approving closure of WIPP Forms.	1/6/14
	16. Describe actions personnel may take when conditions adverse to quality are discovered.	1/6/14

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Eddie Rios

CCP-QP-008	17. List the responsibilities of record generators.		1/6/14
	18. State the storage and control requirements for records.		1/6/14
	19. Explain the process and proper method to make corrections or revisions to records.		1/6/14
CCP-QP-010	20. State the importance of using approved documents.		1/6/14
	21. State when to verify a document revision.		1/6/14
CCP-TP-053/ CCP-RTR-101 Briefing	22. Explain the purpose of RTR.		1/6/14
	23. State the required information on the video/audio recording media labels.		1/6/14
	24. Explain when the image test pattern/lines-pairs resolution test and checking the audio recording must be performed.		1/6/14
	25. State the passing requirements for the lines-pair resolution test.		1/6/14
	26. Describe the unit of measurement for weights to be recorded for RTR.		1/6/14
	27. Describe where to obtain the tare weight of a waste container.		1/6/14
	28. Describe where to obtain the gross weight of a waste container.		1/6/14
	29. Describe how to determine the Volume Utilization Percentage (VUP).		1/6/14
	30. Define the increments in which the fill percent are recorded.		1/6/14
	31. State the percentage of the container volume that must be examined.		1/6/14
	32. State the waste material parameters (WMP).		1/6/14
	33. Define "layers of confinement".		1/6/14

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Eddie Rios

	34. Describe acceptable liquids.	JaElliott	1/6/14
	35. State the total volume of acceptable liquid that must not be exceeded in the characterized container.	JaElliott	1/6/14
	36. Describe the actions taken if prohibited items are found.	JaElliott	1/6/14
	37. Describe the information that should be recorded when describing waste items.	JaElliott	1/6/14
	38. Discuss the requirements for packaging of sharp or heavy objects.	JaElliott	1/6/14
	39. State when an unvented, unpunctured, internal container is allowed.	JaElliott	1/6/14
	40. State the number of waste containers allowed per Batch Data Report (BDR).	JaElliott	1/6/14
	41. State when the replicate scan occurs and who performs it.	JaElliott	1/6/14
	42. State when the independent observation occurs and who performs it.	JaElliott	1/6/14
	43. State the responsibilities and function of the Independent Technical Reviewer (ITR).	JaElliott	1/6/14
	44. Explain who is allowed to make data changes on data sheets.	JaElliott	1/6/14
	45. Describe what constitutes a data affecting change.	JaElliott	1/6/14

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Eddie Rios

Formal Training	OJT Practical Requirements *(Always Required)*	SME/OJT Signature/Date
CCP-TP-053	1. Perform image test pattern/lines-pair resolution test.	1/7/14
	2. Perform an RTR examination.	1/7/14
	3. Determine the VUP.	1/7/14
	4. Determine layers of confinement.	1/7/14
	5. Determine WMP.	1/7/14
	6. Estimate weight of each WMP.	1/7/14
	7. Verify the physical form of the waste matches the waste description.	1/7/14
	8. Complete an RTR data sheet.	1/7/14
	9. Perform an independent observation.	1/7/14
	10. Assemble a Batch Data Report (BDR).	1/7/14
	11. Complete an ITR review.	1/7/14
	12. Demonstrate how to make changes/corrections to a BDR.	1/7/14

Real-Time Radiography (RTR)
Operator/Independent Technical Reviewer (ITR)
Qualification Card

Name: Eddie Rios

Approvals		
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a RTR Operator/ITR.	Eddie Rios Trainee *(printed name and signature)*	1-7-14 Date
I have monitored the training of this individual and believe they are ready to perform the duties of a RTR Operator/ITR. *(Validation by the SME/OJT instructor(s) involved in the training of this individual).*	[illegible] SME/OJT Instructor *(printed name and signature)*	1/7/14 Date
	N/A SME/OJT Instructor *(printed name and signature)*	Date
I have evaluated the training documentation and determined this individual meets the requirements for certification as an RTR Operator/ITR.	Andrew O. Stallings Cognizant Engineer *(printed name and signature)*	1/9/14 Date
I approve this employee to perform the duties of a RTR Operator/ITR.	Veronica Waldram SPM *(printed name and signature)*	1/9/14 Date

Approved for Content & Format: **Kenneth Dale Simpson *(Approval on File)*** — SME/OJT — **10/07/2013** Date

Approved for Applicability, Content & Format: **Andrew Stallings *(Approval on File)*** — Cognizant Engineer — **10/07/2013** Date

Approved for Content: **Richard Kantrowitz *(Approval on File)*** — SPM — **10/07/2013** Date

Approved for Applicability, Content, Format, & Use: **A.J. Fisher *(Approval on File)*** — Manager Responsible for Training — **10/07/2013** Date

Table C6-4 Visual Examination (VE) Checklist
LANL/CCP Recertification Audit A-14-19
August 19 – 21, 2014

(This page intentionally blank)

Visual Examination (VE) Checklist

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-4 Visual Examination (VE) Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	TRAINING					
296	Is there documentation which shows that a standardized training program for visual examination operators has been developed? Is it specific to the site and include the various waste configurations generated/stored at the site? (Section C1-2)	CCP-QP-002 S. 4.1.2 & 4.3.5 CCP-TP-069 S. 2.2 CCP-TP-113 S. 2.2	Y	Training records for 19 VE operators **(VE-2)**	Y	
297	Is there documentation which shows that the visual examination operators receive training on the specific waste generating processes, typical packaging configurations, and waste material parameters expected to be found in each Waste Matrix Code at the site? (Section C1-2)	CCP-QP-002 S. 4.1.2, 4.2 (NOTE), & 4.3.5 CCP-TP-069 S. 2.2 CCP-TP-113 S. 2.2	Y	Training records for 19 VE operators **(VE-2)**	Y	
298	Are the visual examination personnel requalified once every two years? (Section C1-2)	CCP-QP-002 S. 4.1.2 & 4.3.5 [H] CCP-TP-069 S. 2.2 CCP-TP-113 S. 2.2	Y	Training records for 19 VE operators **(VE-2)**	Y	
298a	Does the training include the following regardless of Summary Category Group? • Identifying and describing the contents of a waste container by examining all items in waste containers of previously packaged waste. • Identifying when VE cannot be used to meet the DQOs. (Section C1-2)	CCP-QP-002 S. 4.1.2 & 4.3.5 CCP-TP-069 S. 1.0, 1.1, & 4.1.4 CCP-TP-113 S. 1.0, 1.1, & 4.4.5	Y	Training records for 19 VE operators **(VE-2)**	Y	
	VISUAL EXAMINATION EXPERT REQUIREMENTS					
300	Does documentation ensure that the site has designated a visual examination	CCP-QP-002	Y	VEE Appointment letters	Y	

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-4 Visual Examination (VE) Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	expert? Is the visual examination expert familiar with the waste generating processes that have taken place at the site? Is the visual examination expert familiar with all of the types of waste being characterized at that site? (Section C1-2)	S. 3.1.6, 4.2, & 4.4.1 CCP-TP-069 S. 3.1 CCP-TP-113 S. 3.2		**(VE-3)**		
301	Does documentation ensure that the visual examination expert shall be responsible for the overall direction and implementation of the visual examination aspects of the program? Does the site's QAPjP specify the selection, qualification, and training requirements of the visual examination expert? (Section C1-2)	CCP-TP-069 S. 3.1 CCP-TP-113 S. 3.2 CCP-PO-001 S. C1-2	Y	VEE Appointment letters **(VE-3)**	Y	
	VISUAL EXAMINATION PROCEDURES					
304	Do procedures indicate that all visual examination activities are documented on video/audio media or VE performed by using a second operator to provide additional verification by reviewing the contents of the waste container to ensure correct reporting? (Section C1-2)	CCP-TP-069 S. 4.1.24 & Att. 4 CCP-TP-113 S. 1.1, Att. 1 & 2	Y	VE BDRs: LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**	Y	
304a	Are procedures in place to ensure that when VE is performed using a second operator, each operator performing VE shall observe for themselves the waste being placed in the container or the contents within the examined waste container when waste is not removed? (Section C1-2)	CCP-TP-069 S. 4.1.24 & Att. 4 CCP-TP-113 S. 2.6.3, Att.1 & 2	Y	VE BDRs: LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095	Y	

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-4 Visual Examination (VE) Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
				LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**		
313	Do site procedures ensure that when liquid is found, the non-transparent internal container holding the liquid will be assumed to be filled with liquid and this volume will be added to the total liquid in the container being characterized using VE? The container being characterized using VE would then be rejected and/or repackaged to exclude the internal container if it is over the TSDF-WAC limits. (Section C-3b)	CCP-TP-113 S. 4.0 (NOTE) Att. 2 & Table 1	Y	VE BDRs: LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120 LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**	Y	
	QUALITY ASSURANCE OBJECTIVES					
314	Are process procedures in place to meet the following Quality Assurance Objectives? Precision • Precision is maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases.	Bullet 1 CCP-TP-069 Att. 4 & 7 CCP-TP-113	Y	VE BDRs: LAVE550090 LAVE550115 LAVE550117 LAVE550123 LAVE550095 LAVE550114 LAVE550118 LAVE550120	Y	

	WAP Requirement[1] LANL/CCP Audit A-14-19 Table C6-4 Visual Examination (VE) Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	<u>Accuracy</u> • Accuracy is maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification. VE operators shall be requalified every two years. <u>Completeness</u> • A validated VE data form will be obtained for 100 percent of the waste containers subject to VE. <u>Comparability</u> • The comparability of VE data from different operators shall be enhanced by using standardized VE procedures and operator qualifications. (Section C3-2b)	Att. 2 & 3 Bullet 2 CCP-QP-002 S. 4.1.2[H] & 4.3.5 Bullet 3 CCP-TP-069 Att. 4 & 7 CCP-TP-113 Att. 1 & 2 & 3 Bullet 4 CCP-QP-002 (ALL) CCP-TP-069 (ALL) CCP-TP-113 (ALL)		LAVE550121 LAVE550127 LAVE550132 LAVE550140 LA14-OSR-VE-002 LA14-OSR-VE-003 LA14-OSR-VE-004 LA14-OSR-VE-005 LA13-OSR-VE-018 LA13-OSR-VE-023 **(VE-1)**		

1. The WAP requirements should be presented in documents, such as procedures. Each of the questions posed under WAP requirements is meant to ask whether procedures are in place or whether documents are evident which demonstrate that the specific WAP requirement is or can be met.

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550090				Examination Date: 03/18/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-10b**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-10b**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-10b**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-10b**				Container Numbers: 66763, 67135, 67154, 67169
5. Is the current implementing procedure and revision number included in the BDR? ***Reference Source:*** **CCP-PO-001, C3-4, C3-10b, Table C3-11**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-11**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-11**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-10**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-10b**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, C3-4**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, C1-4**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, C3-4**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 4/4/13

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550090				**Examination Date: 03/18/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C3-4b**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-4b**			X	No discrepancies
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C1-4, C3-4**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-4**			X	Newly generated
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-4**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-4**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C-3d**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001 C-3d**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550090				**Examination Date: 03/18/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, C-3d**	X			
24. Is the size of the rigid liner vent hole recorded to determine the appropriate DAC? NA if no liner lid. **Reference Source: CCP-PO-001, C-3d**			X	No liner lid
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550090				**Examination Date: 03/18/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	T. A. Groover			04/04/13
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVE550090 Examination Date: 3-18-13

	Waste Container ID Number:
1	66763
2	67135
3	67154
4	67169
5	
6	
7	
8	
9	
10	
11	N/A
12	
13	A.H. 3-18-13
14	
15	
16	
17	
18	
19	
20	

Independent Technical Reviewer:

JOE STEPZINSKI Joseph D Stepinski 3-26-13
Print Name Signature Date

NTPC RECORDS ORIGINAL 01
DATE REC'D 4/3/13

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE550090 Examination Date: 3-18-13

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	01
2	CCP Waste VE Batch Data Report Table of Contents	02
3	CCP Waste Visual Examination General Information Form	03
4	CCP Waste Visual Examination Data Forms	04
5	CCP Waste VE Independent Technical Reviewer Checklist	24
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550090

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 3-18-13	
Procedure No.: CCP-TP-113 Revision No.: 16	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT
Comments: VEE has determined that the VE scale will not be used.	
Visual Examination Operator 1: Anthony Harley (Print Name) — Signature — 3-18-13 (Date)	
Visual Examination Operator 2: Jason Krylowicz (Print Name) — Signature — 3-18-13 (Date)	

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550090

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 66763	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon drum	TRUCON Code: LA 225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 61.9 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 75 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 041587 Calibration Due Date: 4-27-13 Filter: Model No.: Nucfil-019DS Serial No.: CM-1956 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 041586 Calibration Due Date: 4-27-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550090 **Date:** 3-18-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	leaded glovebox gloves	R	12.8	E
N/A	metal lids metal cans metal drill bits	IM	15.8	E
N/A	plastic rings plastic bottle plastic bags vinyl tape	PW	4.0	E
N/A	cheese cloth masking tape	C	1.0	E
		N/A		

R.H. 3-18-13

N/A VEO 1: Print Name N/A Signature N/A Date

N/A VEO 2: Print Name N/A Signature N/A Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 66763

PCI Removed: N/A **PCI Applied:** LANL 028722

N/A VEO 1: Print Name N/A Signature N/A Date

N/A VEO 2: Print Name N/A Signature N/A Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550090

Output Waste Container ID: 66763

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	15.8
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	1.0
Rubber (R):	12.8
Plastics (waste materials) (PW):	4.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	33.6

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550090 **Output Waste Container ID:** 166763

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block.)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE.550090 **Output Waste Container ID:** 66763

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

Anthony Harley
Print Name

Signature

3-18-13
Date

Visual Examination Operator 2:

Jason Krylowicz
Print Name

Signature

3-18-13
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550090

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67135	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon drum	TRUCON Code: LA 225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 56.3 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 75 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 041587 Calibration Due Date: 4-27-13 Filter: Model No.: Nucfil-0190S Serial No.: CM-1961 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 041586 Calibration Due Date: 4-27-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE.550090 **Date:** 3-18-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	leaded glovebox gloves	R	13.6	E
N/A	plastic rings plastic bags vinyl tape	PW	3.8	E
N/A	cheese cloth	C	0.6	E
N/A	metal cans metal lids	IM	10.0	E
		N/A		
			3-18-13	

N/A VEO 1: Print Name N/A Signature N/A Date

N/A VEO 2: Print Name N/A Signature N/A Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67135

PCI Removed: N/A **PCI Applied:** LANL 028721

N/A VEO 1: Print Name N/A Signature N/A Date

N/A VEO 2: Print Name N/A Signature N/A Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550090

Output Waste Container ID: 67135

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	10.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	0.6
Rubber (R):	13.6
Plastics (waste materials) (PW):	3.8
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	28.0

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550090 **Output Waste Container ID:** 67135

Section 4: Prohibited Item(s) Summary (Questions answered YES will be explained in the Comments block.)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE.550090 **Output Waste Container ID:** 67135

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:
Anthony Harley
Print Name

Signature

3-18-13
Date

Visual Examination Operator 2:
Jason Krylowicz
Print Name

Signature

3-18-13
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550090

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67154	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 69.5 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 60 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 041587 Calibration Due Date: 4-27-13 Filter: Model No.: Nucfil-019DS Serial No.: CM-1933 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 041586 Calibration Due Date: 4-27-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550090 **Date:** 3-18-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.[a]]	Weighing Code(s) [Table 4[b]]
N/A	metal scales metal hot plate metal parts metal cans	IM	17.0	E
N/A	metal sawzall	IM	4.5	E
N/A	leaded glovebox gloves	R	16.0	E
N/A	plastic bags vinyl tape	PW	2.5	E
N/A	electrical cords	OM	1.2	E
	N/A	A.H. 3-18-13		

N/A N/A N/A
VEO 1: Print Name Signature Date
N/A N/A N/A
VEO 2: Print Name Signature Date
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67154

PCI Removed: N/A **PCI Applied:** LANL 028718

N/A N/A N/A
VEO 1: Print Name Signature Date
N/A N/A N/A
VEO 2: Print Name Signature Date
Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550090

Output Waste Container ID: 67154

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	21.5
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	1.2
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	16.0
Plastics (waste materials) (PW):	2.5
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	41.2

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550090 **Output Waste Container ID:** 67154

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block.)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT-II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550090 **Output Waste Container ID:** 67154

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

Print Name	Signature	Date
Anthony Harley		3-18-13

Visual Examination Operator 2:

Print Name	Signature	Date
Jason Krylowicz		3-18-13

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550090

Section 1: Output Waste Container Data

Input Waste Container ID, as applicable: N/A

Output Waste Container ID: 67169 | Waste Stream ID: LA-MHD01.001

Container Type: 55 gallon drum | TRUCON Code: LA225 | Waste Matrix Code: S5400

Audio/Video Media Recording Number: ☑ N/A

Waste Container Weights:
Tare Wt: 28.3 kg. Gross Wt: 57.7 kg.

Rigid Liner Present? ☑ NO ☐ YES
Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other:
Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil

Rigid Liner Lid Present? ☑ NO ☐ YES
Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A
☐ Vented: Hole Size: ☑ N/A
☐ Filtered: Model No.: ☑ N/A
Serial No.: ☑ N/A

Bag Liner Present? ☐ NO ☑ YES

Volume Utilization Percentage: 60 %

Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])?
☐ NO ☑ YES

Does the physical form of the waste match the Waste Matrix Code?
☐ NO ☑ YES

Closure Method: TTF
Number of Layers of Confinement: 1

Filter Torque Wrench
Serial/ID No.: 041587
Calibration Due Date: 4-27-13
Filter: Model No.: Nucfil-0190S
Serial No.: CM-1942
Torque Value: 10 ft/lbs

Lid Ring/Bolt Torque Wrench
Serial/ID No.: 041586
Calibration Due Date: 4-27-13
Lid Ring/Bolt Torque Value: 60 ft/lbs

Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES

NCR(s) associated with the output container? ☑ NO ☐ YES
NCR No.: N/A
NCR No.: N/A

Comments:
N/A

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550090 **Date:** 3-18-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	rubber gloves leaded glovebox gloves	R	27.0	E
N/A	glass vials	OI	0.2	E
N/A	plastic lids vinyl tape plastic vials plastic bags	PW	2.0	E
N/A	cheese cloth	C	0.2	E
	N/A A.H. 3-18-13			

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67169

PCI Removed: N/A **PCI Applied:** LANL 028155

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550090

Output Waste Container ID: 67169

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	0.2
Cellulosics (C):	0.2
Rubber (R):	27.0
Plastics (waste materials) (PW):	2.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	29.4

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550090 **Output Waste Container ID:** 67169

Section 4: Prohibited Item(s) Summary (Questions answered YES will be explained in the Comments block.)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT-II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550090 **Output Waste Container ID:** 67169

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:
Anthony Harley
Print Name

Signature

3-18-13
Date

Visual Examination Operator 2:
Jason Krylowicz
Print Name

Signature

3-18-13
Date

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE550090

Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☒ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☒ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☒ YES	☐ N/A
b. Weight totals	☐ NO	☒ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☒ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☒ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☒ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☒ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☒ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☒ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☒ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☐ YES	☒ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☒ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE550090 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☒ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☒ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☒ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☒ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☒ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☒ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☒ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

JOE STEPZINSKI	Joseph D Stepzinski	3-26-13
Printed Name	Signature	Date

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	04/04/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE550090	SPM CHECKLIST	04/04/13	4
LAVE550090	BATCH DATA REPORT	03/18/13	25
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Jeffrey Patterson Printed Name	4/16/13 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	4248
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	04/16 13:52
TIME USE	00'18
PAGES SENT	1
RESULT	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220
Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095
Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	04/04/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE550090	SPM CHECKLIST	04/04/13	4
LAVE550090	BATCH DATA REPORT	03/18/13	25
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X] Jeffrey Patterson 4/16/13

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550115				Examination Date(s) 06/06/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 67210, 67366
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 6/13/13

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550115				Examination Date(s) 06/06/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	No discrepancies
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	Newly generated waste
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550115				Examination Date(s) 06/06/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**			X	No liner lid
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not LANL sealed source
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550115				**Examination Date(s) 06/06/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri Anne Gronewer				6/13/13
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVE550113 Examination Date: 6-6-13

	Waste Container ID Number:
1	67210
2	67366
3	
4	
5	
6	
7	
8	
9	
10	N/A
11	
12	A.H.
13	
14	6-6-13
15	
16	
17	
18	
19	
20	

Independent Technical Reviewer:

Peggy Ausmus	Peggy Ausmus	6-10-13
Print Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 6/12/13

01

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE550115 Examination Date: 6-6-13

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	01
2	CCP Waste VE Batch Data Report Table of Contents	02
3	CCP Waste Visual Examination General Information Form	03
4	CCP Waste Visual Examination Data Forms	04
5	CCP Waste VE Independent Technical Reviewer Checklist	14
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550115

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 6-6-13	
Procedure No.: CCP-TP-113 Revision No.: 17	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT

Comments:

The VEE has determined that the VE scale will not be used.

Visual Examination Operator 1: Anthony Harley (Print Name)	Signature	6-6-13 (Date)
Visual Examination Operator 2: Robert Geyer (Print Name)	Signature	6-6-13 (Date)

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550115

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67210	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 45.8 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 60 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1721 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550115 **Date:** 6-6-13

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	cheese cloth	C	0.5	E
N/A	rubber gloves	R	6.0	E
N/A	plastic containers plastic rings plastic bags vinyl tape	PW	9.5	E
N/A	sanding paper glass	OI	1.5	E
	N/A A.H 6-6-13			

N/A — VEO 1: Print Name | N/A — Signature | N/A — Date

N/A — VEO 2: Print Name | N/A — Signature | N/A — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67210

TID Removed: N/A **TID Applied:** LANL 029919

N/A — VEO 1: Print Name | N/A — Signature | N/A — Date

N/A — VEO 2: Print Name | N/A — Signature | N/A — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550115

Output Waste Container ID: 67210

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	1.5
Cellulosics (C):	0.5
Rubber (R):	6.0
Plastics (waste materials) (PW):	9.5
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	17.5

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550115 **Output Waste Container ID:** 67210

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550115 **Output Waste Container ID:** 67210

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:
Anthony Harley (Print Name) — Signature — 6-6-13 (Date)

Visual Examination Operator 2:
Robert Geyer (Print Name) — Signature — 6-6-13 (Date)

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550115

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67366	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 143.5 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 100 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1282 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550115 **Date:** 6-6-13

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	leaded glovebox gloves	R	56.0	E
N/A	metal pieces metal can	Im	44.0	E
N/A	aluminum plate	AM	3.0	E
N/A	rubber hose	R	0.5	E
N/A	electrical cords	OM	1.7	E
N/A	vinyl tape plastic pieces plastic bags	PW	10.0	E
		N/A A.H. 6-6-13		

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 673666

TID Removed: N/A **TID Applied:** LANL 029920

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container. Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550115

Output Waste Container ID: 67366

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	44.0
Aluminum-based Metals/Alloys (AM):	3.0
Other Metals (OM):	1.7
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	56.5
Plastics (waste materials) (PW):	10.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	115.2

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550115 **Output Waste Container ID:** 67366

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE 550115 **Output Waste Container ID:** 67366

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:
Anthony Hackey
Print Name
Signature
6-6-13
Date

Visual Examination Operator 2:
Robert Geyer
Print Name
Signature
6-6-13
Date

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE550115

Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☑ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☑ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☑ YES	☐ N/A
b. Weight totals	☐ NO	☑ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☑ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☑ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☑ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☑ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☑ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☑ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☐ YES	☑ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☑ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE550115 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☑ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☑ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☑ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☑ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☑ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☑ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☑ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Peggy Rasmus (Printed Name) | Peggy Rasmus (Signature) | 6-10-13 (Date)

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	06/17/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE550115	SPM CHECKLIST	06/13/13	4
LAVE550115	BATCH DATA REPORT	06/06/13	15
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Ashley Hoffer	Ashley Hoffer	6/20/13
	Signature	Printed Name	Date
Records Rejected [ ]			
	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	3722
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	06/20 15:07
TIME USE	00'17
PAGES SENT	1
RESULT	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	06/17/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE550115	SPM CHECKLIST	06/13/13	4
LAVE550115	BATCH DATA REPORT	06/06/13	15
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

[ ] [signature] Ashley Hoffer [illegible]

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	09/19/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE550118	SPM CHECKLIST	09/17/13	4
LAVE550118	BATCH DATA REPORT	09/09/13	15
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [✓]	Ruthie Goff (Signature)	Ruthie Goff (Printed Name)	9-23-13 (Date)
Records Rejected [ ]	(Signature)	(Printed Name)	(Date)

Reason for Rejection:

Re-submittal:

(Signature)	(Printed Name)	(Date)

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	0129
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	09/23 09:12
TIME USE	00'18
PAGES SENT	1
RESULT	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220
Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095
Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	09/19/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE550118	SPM CHECKLIST	09/17/13	4
LAVE550118	BATCH DATA REPORT	09/09/13	15
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X] Ruthie Goff Ruthie Goff 9-23-13

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550117 **Examination Date(s):** 4 September 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				**Containers:** 67220, 67232
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs associated with this BDR
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 9.10.13
AH

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550117 **Examination Date(s):** 4 September 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No observable liquids
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550117 **Examination Date(s):** 4 September 2013

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**			X	
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not a Sealed Source
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550117 **Examination Date(s):** 4 September 2013

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not a Sealed Source

Comments: **None**

The container QC checks were properly performed and meett the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

David W. Moody	David W Moody	10 September 2013
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVE550117 Examination Date: 9-4-13

	Waste Container ID Number:
1	67220
2	67232
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	N/A
13	A.H.
14	9-4-13
15	
16	
17	
18	
19	
20	

Independent Technical Reviewer:

Peggy Ausmus	Peggy Ausmus	9-5-13
Print Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 9/9/13

01

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE550117 Examination Date: 9-4-13

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	01
2	CCP Waste VE Batch Data Report Table of Contents	02
3	CCP Waste Visual Examination General Information Form	03
4	CCP Waste Visual Examination Data Forms	04
5	CCP Waste VE Independent Technical Reviewer Checklist	14
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550117

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 9-4-13	
Procedure No.: CCP-TP-113 Revision No.: 17	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT

Comments:
The VEE has determined that the VE scale will not be used.

Visual Examination Operator 1: Anthony Harley (Print Name)	(Signature)	9-4-13 (Date)
Visual Examination Operator 2: Kenneth T. Salazar (Print Name)	(Signature)	9/4/13 (Date)

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550117

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67220	Waste Stream ID: LA-MHD01.001	
Container Type: 55gallon drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 62.7 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 100 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1559 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550117 **Date:** 9-4-13

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	metal stool	IM	3.4	E
N/A	hepA filters	C	28.0	E
N/A	plastic bags vinyl tape	PW	3.0	E

N/A A.H. 9-4-13

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67220

TID Removed: N/A **TID Applied:** LANL 029926

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550117

Output Waste Container ID: 67220

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.4
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	28.0
Rubber (R):	N/A
Plastics (waste materials) (PW):	3.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	34.4

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550117 **Output Waste Container ID:** 67220

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550117 **Output Waste Container ID:** 67220

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

Anthony Harley
Print Name

Signature

9-4-13
Date

Visual Examination Operator 2:

Kenneth T. Salazar
Print Name

Signature

9/4/13
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550117

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67232	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 66.7 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 100 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1574 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550117 **Date:** 9-4-13

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	hepA filters	C	35.4	E
N/A	plastic bags vinyl tape	PW	3.0	E

N/A AH. 9-4-13

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67232

TID Removed: N/A **TID Applied:** LANL 029927

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550117

Output Waste Container ID: 67232

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	35.4
Rubber (R):	N/A
Plastics (waste materials) (PW):	3.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	38.4

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550117 **Output Waste Container ID:** 67232

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550117 **Output Waste Container ID:** 67232

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

Anthony Harley
Print Name

Signature

9-4-13
Date

Visual Examination Operator 2:

Kenneth T. Salazar
Print Name

Signature

9-4-13
Date

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE550117

Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☑ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☑ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☑ YES	☐ N/A
b. Weight totals	☐ NO	☑ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☑ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☑ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☑ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☑ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☑ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☑ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☐ YES	☑ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☑ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE550117 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☑ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☑ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☑ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☑ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☑ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☑ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☑ N/A
Comments: N/A			

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Peggy Ausmus (Printed Name) Peggy Ausmus (Signature) 9-5-13 (Date)

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	09-12-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE550117	BDR	09-04-13	15
	N/A		

Comments

CHECKED IDC FOR SPM COMPLETION

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Ashley Hoffer Signature	Ashley Hoffer Printed Name	9.17.13 Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	2816
DESTINATION TEL #	915056827800
DESTINATION ID	LANL
ST. TIME	09/17 09:49
TIME USE	00'19
PAGES SENT	1
RESULT	OK

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1337
	N/A	Date Sent:	09-12-13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE550117	BDR	09-04-13	15
	N/A		

Comments

CHECKED IDC FOR SPM COMPLETION

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [signature] Ashley Hoffer 9.17.13

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550123 **Examination Date(s):** 04/02/14

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers:67233, 67234
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 4/17/14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550123				**Examination Date(s): 04/02/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550123	Examination Date(s): 04/02/14			
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**			X	
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not LANL sealed sources
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550123				**Examination Date(s): 04/02/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	T. A Groover			4-17-14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVE550123 Examination Date: 4-2-14

	Waste Container ID Number:
1	67233
2	67234
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

N/A 4-2-14 JC

Independent Technical Reviewer:

JOE STEPZINSKI Joseph D Stepzinski 4-11-14
Print Name Signature Date

NTPC RECORDS ORIGINAL
DATE REC'D 4/16/14

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVES50123 Examination Date: 4.2.14

Table of Contents

Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	1
2	CCP Waste VE Batch Data Report Table of Contents	2
3	CCP Waste Visual Examination General Information Form	3
4	CCP Waste Visual Examination Data Forms	4
5	CCP Waste VE Independent Technical Reviewer Checklist	14
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550123

☐ VE for Previously Packaged Waste ☒ VE for Newly Generated Waste	
☐ Method 1 ☒ Method 2	
Site ID: LA	
Examination Date: 4-02-14	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☒ N/A	☐ SAT
VE Scale Information: ☒ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-2014 Operational Check: ☒ SAT ☐ UNSAT

Comments: The VEE has determined not to use the VE Scale.

Visual Examination Operator 1: JOE CANDELARIA Print Name	Signature	4-2-14 Date
Visual Examination Operator 2: Luis Romero Print Name	Luis Romero Signature	4-2-14 Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550123

Section 1: Output Waste Container Data

Input Waste Container ID, as applicable: N/A

Output Waste Container ID: 67233 | Waste Stream ID: LA-MH001.001

Container Type: 55gal. drum | TRUCON Code: LA225 | Waste Matrix Code: S5400

Audio/Video Media Recording Number: ☒ N/A

Waste Container Weights:
Tare Wt: 28.3 kg. Gross Wt: 994 kg.

Rigid Liner Present? ☒ NO ☐ YES
Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other:
Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil

Rigid Liner Lid Present? ☒ NO ☐ YES
Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☒ N/A
☐ Vented: Hole Size: ☒ N/A
☐ Filtered: Model No.: ☒ N/A
Serial No.: ☒ N/A

Bag Liner Present? ☐ NO ☒ YES

Volume Utilization Percentage: 65 %

Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])?
☐ NO ☒ YES

Does the physical form of the waste match the Waste Matrix Code?
☐ NO ☒ YES

Closure Method: TTF
Number of Layers of Confinement: 1

Filter Torque Wrench
Serial/ID No.: 101382
Calibration Due Date: 12-4-2014
Filter: Model No.: NUCFIL-0190S
Serial No.: LM-1563
Torque Value: 10 ft./LBS

Lid Ring/Bolt Torque Wrench
Serial/ID No.: 101388
Calibration Due Date: 12-11-2014
Lid Ring/Bolt Torque Value: 60 ft./LBS

Is total dose rate greater than 200mrem/hr? ☒ NO ☐ YES

NCR(s) associated with the output container? ☒ NO ☐ YES
NCR No.: N/A
NCR No.: N/A

Comments: N/A

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVESS0123 **Date:** 4.2.2014

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.*]	Weighing Code(s) [Table 4.*]
737831	LEADED GLOVE BOX GLOVES	R	66.4	E
737831	PLASTIC BAGS, VINYL TAPE	PW	4.7	E
N/A				
N/A				
N/A				
N/A				
N/A				

N/A
4-2-14 JC

N/A
VEO 1: Print Name

N/A
Signature

N/A
Date

N/A
VEO 2: Print Name

N/A
Signature

N/A
Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67233

TID Removed: N/A **TID Applied:** LANL026524

N/A
VEO 1: Print Name

N/A
Signature

N/A
Date

N/A
VEO 2: Print Name

N/A
Signature

N/A
Date

Signatures of VEO's verifying the loading of the Output Waste Container.

5

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE 550123

Output Waste Container ID: 67233

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	66.4
Plastics (waste materials) (PW):	4.7
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	71.1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LANE550123 **Output Waste Container ID:** 67233

Section 4: Prohibited Item(s) Summary (Questions answered YES will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☒
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☒
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☒
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☒
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☒
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☒
Is there an indication of wastes containing explosives or compressed gases?	☐	☒
Is there PCB liquids present?	☐	☒
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☒
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☒
TRUPACT-II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☒
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☒
Are there sealed containers **GREATER** than 4 liters?	☐	☒
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☒

Controlled Copy

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50123 **Output Waste Container ID:** 67233

Section 4: [illegible] Summary (Continued)

(Question [illegible] continuation [illegible])

Comments: N/A

Section [illegible]

Visual Examination Operator 1:

Joe Candelaria
Print Name

Signature

4.2-14
Date

Visual Examination Operator 2:

Luis Romero
Print Name

Luis Romero
Signature

4-2-14
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE 550123

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67234	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gal. drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☒ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 105.5 kg.	
Rigid Liner Present? ☒ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☒ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☒ N/A ☐ Vented: Hole Size: ☒ N/A ☐ Filtered: Model No.: ☒ N/A Serial No.: ☒ N/A	
Bag Liner Present? ☐ NO ☒ YES	Volume Utilization Percentage: 80%	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☒ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☒ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-2014 Filter: Model No.: NUCFIL-0190S Serial No.: LM-1573 Torque Value: 10 ft./LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-2014 Lid Ring/Bolt Torque Value: 60 ft./LBS	
Is total dose rate greater than 200mrem/hr? ☒ NO ☐ YES		
NCR(s) associated with the output container? ☒ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550123 **Date:** 4-2-2014

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,*]	Weighing Code(s) [Table 4[5]]
737846	METAL SCALES	IM	6.0	E
737846	Plastic Bags, Vinyl Tape	PW	4.0	E
737846	LEADED GLOVE BOX GLOVES	R	67.2	E
N/A				
N/A				
N/A				
N/A				

N/A

4-2-14 IC

N/A VEO 1: Print Name	N/A Signature	N/A Date
N/A VEO 2: Print Name	N/A Signature	N/A Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67234

TID Removed: N/A **TID Applied:** LANL026525

N/A VEO 1: Print Name	N/A Signature	N/A Date
N/A VEO 2: Print Name	N/A Signature	N/A Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550123

Output Waste Container ID: 67234

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	6.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	67.2
Plastics (waste materials) (PW):	4.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	77.2

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550123 **Output Waste Container ID:** 67234

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block.)		
	Yes	**No**
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☒
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐	☒
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☒
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☒
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☒
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐	☒
Is there an indication of wastes containing explosives or compressed gases?	☐	☒
Is there PCB liquids present?	☐	☒
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☒
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☒
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste?	☐	☒
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☒
Are there sealed containers GREATER than 4 liters?	☐	☒
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☒

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550123 **Output Waste Container ID:** 67234

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1: JOE CANCELARIA (Print Name)	Signature	4.2.14 (Date)
Visual Examination Operator 2: Luis Romero (Print Name)	Luis Romero (Signature)	4-2-14 (Date)

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAWES50123

Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☒ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☒ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☒ YES	☐ N/A
b. Weight totals	☐ NO	☒ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☒ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☒ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☒ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☒ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☒ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☒ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☒ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☐ YES	☒ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☒ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE550123 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☒ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☒ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☒ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☒ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☒ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☒ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☒ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

JOE STEPZINSKI
Printed Name

Joseph D Stepzinski
Signature

4-11-14
Date

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-21-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE550123	SPM CHECKLIST FOR VE	04-17-14	4
LAVE550123	BDR FOR VE	04-02-14	15
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted	[✓]	Signature	Printed Name	Date 5/1/14
Records Rejected	[ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

```
**********************************
***        Send Results        ***
**********************************

Sending is complete.

Job No.          3261
Address          915056291658
Name             LANL
Start Time       05/01 10:10 AM
Call Length      00'18
Sheets           1
Result           OK
```


Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record
[ ] Fax Record
[ ] Electronic Record
[ ] Copy

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-21-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LAVE550123	SPM CHECKLIST FOR VE	04-17-14	4
LAVE550123	BOR FOR VE	04-02-14	15
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Printed Name	Date
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550095				Examination Date: 4/10/13
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-10b**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-10b**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-10b**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-10b**				Container Numbers: 67303 67315 67318 67319
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, C3-4, C3-10b, Table C3-11**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-11**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-11**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-10**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-10b**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, C3-4**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, C1-4**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, C3-4**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 4/25/13

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550095				Examination Date: 4/10/13
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C3-4b**			X	No observable liquid
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-4b**			X	No discrepancies
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C1-4, C3-4**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-4**			X	Newly generated waste
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-4**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-4**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C-3d**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001 C-3d**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550095				Examination Date: 4/10/13
Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, C-3d**	X			
24. Is the size of the rigid liner vent hole recorded to determine the appropriate DAC? NA if no liner lid. **Reference Source: CCP-PO-001, C-3d**			X	No liner lid
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550095				Examination Date: 4/10/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Veronica Waldram	Veronica Waldram			April 25, 2013
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVE550095 Examination Date: 4-10-13

	Waste Container ID Number:
1	67303
2	67315
3	67318
4	67319
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

N/A RH 4-10-13

Independent Technical Reviewer:

Gilbert Gutierrez
Print Name

Signature

4-18-13
Date

NTPC RECORDS ORIGINAL
DATE REC'D 4/24/13

01

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE550095 Examination Date: 4-10-13

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	01
2	CCP Waste VE Batch Data Report Table of Contents	02
3	CCP Waste Visual Examination General Information Form	03
4	CCP Waste Visual Examination Data Forms	04
5	CCP Waste VE Independent Technical Reviewer Checklist	24
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550095

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 4-10-2013	
Procedure No.: CCP-TP-113 Revision No.: 16	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT

Comments:

The VEE has determined that the VE scale will not be used.

Visual Examination Operator 1: Anthony Harley (Print Name)	Signature	4-10-13 (Date)
Visual Examination Operator 2: Levie Archuleta (Print Name)	Levie Archuleta (Signature)	4-10-13 (Date)

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550095

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67303	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 34.4 kg.	Gross Wt: 68.5 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 70 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 041587 Calibration Due Date: 4-27-13 Filter: Model No.: Nucfil-019DS Serial No.: CM-1905 Torque Value: 10 ft / lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 041585 Calibration Due Date: 4-27-13 Lid Ring/Bolt Torque Value: 60 ft / lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550095 **Date:** 4-10-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.[a]]	Weighing Code(s) [Table 4[b]]
N/A	lead shielding	OM	20.0	E
N/A	metal pieces metal cans metal lids	IM	10.0	E
N/A	plastic bags vinyl tape	PW	1.1	E
N/A	electric motor temperature probes	OM	3.0	E

N/A A.H. 4-10-13

N/A N/A N/A
VEO 1: Print Name Signature Date

N/A N/A N/A
VEO 2: Print Name Signature Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67303

PCI Removed: N/A **PCI Applied:** LANL 028477

N/A N/A N/A
VEO 1: Print Name Signature Date

N/A N/A N/A
VEO 2: Print Name Signature Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550095

Output Waste Container ID: 67303

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	6.7
Others:	N/A
Total Packaging Weight:	34.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	10.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	23.0
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	1.1
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	34.1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550095 **Output Waste Container ID:** 67303

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550095 **Output Waste Container ID:** 67303

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:
Anthony Harley
Print Name

Signature

4-10-13
Date

Visual Examination Operator 2:
Levie Archuleta
Print Name

Signature

4-10-13
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550095

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67315	Waste Stream ID: LA-mHD01.001	
Container Type: 55 gal. drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 107.9 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 75 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 041587 Calibration Due Date: 4-27-13 Filter: Model No.: NucFil-0190S Serial No.: CM-1923 Torque Value: 10 Ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 041585 Calibration Due Date: 4-27-13 Lid Ring/Bolt Torque Value: 60 Ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550095 **Date:** 4-10-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	metal cans, metal lids, trays, metal pieces, metal tools, metal pipes, scale, handles	IM	78.6	E
N/A	Rubber gloves	R	0.3	E
N/A	Plastic bags, vinyl tape	PW	0.6	E
N/A	Graphite pieces	OI	0.1	E
	N/A 4-10-13 (S)			

N/A — VEO 1: Print Name; N/A — Signature; N/A — Date
N/A — VEO 2: Print Name; N/A — Signature; N/A — Date
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 607315

PCI Removed: N/A **PCI Applied:** LANL028733

N/A — VEO 1: Print Name; N/A — Signature; N/A — Date
N/A — VEO 2: Print Name; N/A — Signature; N/A — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550095

Output Waste Container ID: 67315

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	78.6
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	0.1
Cellulosics (C):	N/A
Rubber (R):	0.3
Plastics (waste materials) (PW):	0.6
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	79.6

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550095 **Output Waste Container ID:** 67315

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550095 **Output Waste Container ID:** 67315

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson
Print Name

Signature

4-10-13
Date

Visual Examination Operator 2:

Jason Krylowicz
Print Name

Signature

4-10-13
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550095

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67318	Waste Stream ID: LA-mHD01.001	
Container Type: 55gal. drum	TRUCON Code: LA225	Waste Matrix Code: 55406
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 77.3 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 75 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 041587 Calibration Due Date: 4-27-13 Filter: Model No.: Nucfil-0190S Serial No.: CM-1922 Torque Value: 10ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 041585 Calibration Due Date: 4-27-13 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550095 **Date:** 4-10-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	Leaded Glovebox Gloves	R	40.8	E
N/A	metal cans, lids, metal pieces	Im	8.2	E

N/A 4-10-13 (JT)

N/A — VEO 1: Print Name; N/A — Signature; N/A — Date

N/A — VEO 2: Print Name; N/A — Signature; N/A — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 607318

PCI Removed: N/A **PCI Applied:** LANL 028734

N/A — VEO 1: Print Name; N/A — Signature; N/A — Date

N/A — VEO 2: Print Name; N/A — Signature; N/A — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550095

Output Waste Container ID: 67318

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	8.2
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	40.8
Plastics (waste materials) (PW):	N/A
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	49.0

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550095 **Output Waste Container ID:** 607318

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550095 **Output Waste Container ID:** 67318

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson
Print Name

Signature

4-10-13
Date

Visual Examination Operator 2:

Jason Kylawicz
Print Name

Signature

4-10-13
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550095

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67319	Waste Stream ID: LA-mHD01.001	
Container Type: 55gal. drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 38.9 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 90 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 041587 Calibration Due Date: 4-27-13 Filter: Model No.: NucFil-0190S Serial No.: CM-1923 Torque Value: 10 Ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 041585 Calibration Due Date: 4-27-13 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550095 **Date:** 4-10-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	Cheesecloth Filter paper	C	2.0	E
N/A	Rubber gloves Rubber hoses	R	1.0	E
N/A	Glass bottles	OI	1.5	E
N/A	Plastic bottles, plastic trays, Plastic bags, vinyl tape	PW	6.1	E
	N/A 4-10-13			

N/A — VEO 1: Print Name; N/A — Signature; N/A — Date

N/A — VEO 2: Print Name; N/A — Signature; N/A — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67319

PCI Removed: N/A **PCI Applied:** LANL028736

N/A — VEO 1: Print Name; N/A — Signature; N/A — Date

N/A — VEO 2: Print Name; N/A — Signature; N/A — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550095

Output Waste Container ID: 67319

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	1.5
Cellulosics (C):	2.0
Rubber (R):	1.0
Plastics (waste materials) (PW):	6.1
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	10.6

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550095 **Output Waste Container ID:** 67319

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50095 **Output Waste Container ID:** 67319

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson
Print Name

Signature

4-10-13
Date

Visual Examination Operator 2:

Jason Krylovicz
Print Name

Signature

4-10-13
Date

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE550095

Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☒ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☒ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☒ YES	☐ N/A
b. Weight totals	☐ NO	☒ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☒ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☒ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☒ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☒ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☒ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☒ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☒ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☐ YES	☒ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☒ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE550095

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☒ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☒ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☒ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☒ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☒ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☒ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☒ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Gilbert Gutierrez
Printed Name

Signature

4-18-13
Date

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550114				Examination Date(s): 3/15/13, 04/01/13, 04/09/13, 05/09/13, 05/13/13, 06/04/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 67221, 67222, 67223, 67224, 67225, 67226, 67227, 67325, 67326
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			6/3/13
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X		~~X~~	~~No NCRs~~ NCR-LANL-0722-13 for 67222, 67223, 67224 67225 6/10/13
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 6/13/13

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550114				Examination Date(s): 3/15/13, 04/01/13, 04/09/13, 05/09/13, 05/13/13, 06/04/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 67221, 67222, 67223, 67224, 67225, 67226, 67227, 67325, 67326
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

CHECKED BY: CS 6/13/13

NTPC RECORDS ORIGINAL
DATE REC'D 6/13/13

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550114				Examination Date(s): 3/15/13, 04/01/13, 04/09/13, 05/09/13, 05/13/13, 06/04/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	No discrepancies
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	Newly generated waste
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550114				Examination Date(s): 3/15/13, 04/01/13, 04/09/13, 05/09/13, 05/13/13, 06/04/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not LANL sealed source
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550114				**Examination Date(s): 3/15/13, 04/01/13, 04/09/13, 05/09/13, 05/13/13, 06/04/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
Comments: Procedure revised between VE examination and BDR ITR.				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri Anne Groover				6/13/13
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

Terri Anne Groover		corrections for NCR-LANL-0722-13	9-30-13
SPM Printed Name	Signature	Reason	Date
Carolina Soaterna	Carolina Soaterna	inserted corrections	10/1/13
SPM Printed Name	Signature	Reason	Date
Carolina Soaterna	Carolina Soaterna	superceded pages 20 of 21	10/9/13

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550114				**Examination Date(s):** 3/15/13, 04/01/13, 04/09/13, 05/09/13, 05/13/13, 06/04/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
Comments: Procedure revised between VE examination and BDR ITR.				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri Anne Groover				6/13/13
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

Terri Anne Groover		corrections for NEW-LANL-0722-13	9-30-13
SPM Printed Name	Signature	Reason	Date
Carolina Soaterna	Carolina Soaterna	inserted corrections	10/1/13
SPM Printed Name	Signature	Reason	Date
Carolina Soaterna	Carolina Soaterna	superceded pages	10/9/13
SPM Printed Name	Signature	Reason	Date

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550114				Examination Date(s): 3/15/13, 04/01/13, 04/09/13, 05/09/13, 05/13/13, 06/04/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed source
Comments: Procedure revised between VE examination and BDR ITR.				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri Ann Groover			6/13/13	
SPM Printed Name	Signature		Date	

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

SCANNED 6/14/13

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVE550114 Examination Date: 6-4-13

	Waste Container ID Number:
1	67221
2	67222
3	67223
4	67224
5	67225
6	67226
7	67227
8	67325
9	67326
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

N/A A.H. 6-4-13

Independent Technical Reviewer:

Print Name	Signature	Date
DAVID L EMSING	DAVE L EMSING	06/11/13
DAVID L EMSING	DAVE L EMSING	09/26/13

01

NTPC RECORDS ORIGINAL
DATE REC'D 6/12/13

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVE550114 Examination Date: 6-4-13

	Waste Container ID Number:
1	67221
2	67222
3	67223
4	67224
5	67225
6	67226
7	67227
8	67325
9	67326
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

N/A A.H. 6-4-13

Independent Technical Reviewer:

DAVID LEMSING — DAVID LEMSING — 06/11/13

Print Name — Signature — Date

REVIEWED CJ 10/1/13

01A CJ 10/1/13

NTPC RECORDS ORIGINAL
DATE REC'D 6/12/13

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE.550114 Examination Date: 6-4-13

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	01
2	CCP Waste VE Batch Data Report Table of Contents	02
3	CCP Waste Visual Examination General Information Form	03
4	CCP Waste Visual Examination Data Forms	04
5	CCP Waste VE Independent Technical Reviewer Checklist	51
6	Copy of NCRs (N/A, If Not Applicable)	53 N/A 9.26.13
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE550114 Examination Date: 6-4-13

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	01
2	CCP Waste VE Batch Data Report Table of Contents	02
3	CCP Waste Visual Examination General Information Form	03
4	CCP Waste Visual Examination Data Forms	04
5	CCP Waste VE Independent Technical Reviewer Checklist	51
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

CERTIFIED CS 10/1/13

02A
CS 10/1/13

DIVIDER PAGE ONLY

Not part of page count

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550114

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 6-4-13	
Procedure No.: CCP-TP-113 Revision No.: 16	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT

Comments:

The VEE has determined that the VE scale will not be used

Visual Examination Operator 1: Anthony Harley Print Name	Signature	6-4-13 Date
Visual Examination Operator 2: Jason Krylowicz Print Name	Signature	6-4-13 Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67221	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 158.6 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1511 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

04 ~~03~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 4-1-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
735712 LANL 021256	metal can metal lid	IM	2.0	E
735712 LANL 021256	vinyl tape plastic bag	PW	0.5	E
735712 LANL 021256	ceramic pieces	OI	0.9	E

N/A A.H. 4-1-13

Anthony Harley — VEO 1: Print Name — Signature — Date 4-1-13

Robert Geyer — VEO 2: Print Name — Signature — Date 4-1-13

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67221

PCI Removed: N/A **PCI Applied:** LANL021335

Anthony Harley — VEO 1: Print Name — Signature — Date 6-4-13

Jason Krylowicz — VEO 2: Print Name — Signature — Date 6-4-13

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 4-9-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738611 LANL 011876	ceramic pieces	OI	1.0	E
738611 LANL 011876	metal can metal lid	IM	2.0	E
738611 LANL 011876	vinyl tape plastic bag	PW	0.5	E
	N/A	A.H. 4-9-13		

Anthony Harley — VEO 1: Print Name — Signature — 4-9-13 Date
Jason Krylowicz — VEO 2: Print Name — Signature — 4-9-13 Date
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67221

PCI Removed: N/A **PCI Applied:** LANL 021335

Anthony Harley — VEO 1: Print Name — Signature — 6-4-13 Date
Jason Krylowicz — VEO 2: Print Name — Signature — 6-4-13 Date
Signatures of VEO's verifying the loading of the Output Waste Container.

Page 2 of 2

06

~~05~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67221

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	4.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	1.9
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	1.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	6.9

07 ~~06~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67221

Section 4: Prohibited Item(s) Summary
(Questions answered "YES" will be explained in the Comments block)

	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE.550114 **Output Waste Container ID:** 67221

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:
Anthony Harley
Print Name

Signature

6-4-13
Date

Visual Examination Operator 2:
Jason Krylowicz
Print Name

Signature

6-4-13
Date

09

08 A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67222	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 156.4 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1517 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ~~☐ NO~~ ☑ YES NCR No.: N/A (S) 9-26-13 NCR No.: ~~N/A~~ (S) 9-26-13 NCR-LANL-0722-13		
Comments: N/A		

10

DS A.H 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 5-13-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.*]	Weighing Code(s) [Table 4*]
738964 LANL 023742	salts	IN ~~DI~~ 9-26-13	2.0	E
738964 LANL 023742	metal can metal lid	IM	2.0	E
738964 LANL 023742	plastic bag vinyl tape	PW	0.7	E

N/A A.H. 5-13-13

Anthony Harley — VEO 1: Print Name; Signature; 5-13-13 — Date; James E. Thompson 9-26-13

Lewis Archuleta — VEO 2: Print Name; Signature; 5-13-13 — Date; JOE STEPZINSKI Joseph B Stepinski 9-26-13

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67222

PCI Removed: N/A **PCI Applied:** LANL 021336

Anthony Harley — VEO 1: Print Name; Signature; 6-4-13 — Date; James E. Thompson 9-26-13

Jason Krylowicz — VEO 2: Print Name; Signature; 6-4-13 — Date; JOE STEPZINSKI Joseph B Stepinski 9-26-13

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67222

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	2.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	~~2.0~~ (S) 9-26-13 N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.7
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	2.0 ~~N/A~~ (S) 9-26-13
Soils (S):	N/A
Total WMP Weight:	4.7

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE 550114 **Output Waste Container ID:** 67222

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

12 A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67222

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:		
Anthony Harley Print Name	Signature	6-4-13 Date
James E. Thompson		9-26-13
Visual Examination Operator 2:		6-4-13
Jason Kozlowicz Print Name	Signature	Date
JOE STEPZINSKI	Joseph W Stepzinski	9-26-13

~~13~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67222	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 156.4 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 93 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1517 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

CONTROLLED COPY

~~10~~ 14A e) 10/1/13

~~09~~ A.H 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 5-13-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738964 LANL 023742	salts	OI	2.0	E
738964 LANL 023742	metal can metal lid	IM	2.0	E
738964 LANL 023742	plastic bag vinyl tape	PW	0.7	E

N/A A.H. 5-13-13

Anthony Harley — VEO 1: Print Name — Signature — Date 5-13-13
Levi Archuleta — VEO 2: Print Name — Signature — Date 5-13-13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67222

PCI Removed: N/A **PCI Applied:** LANL 021336

Anthony Harley — VEO 1: Print Name — Signature — Date 6-4-13
Jason Krylowicz — VEO 2: Print Name — Signature — Date 6-4-13
Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

CJ 10/1/13

~~11~~ 10 A.H. 6-5-13

~~11~~ 148 CJ 10/1/13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67222

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	2.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	2.0
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.7
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	4.7

CJ 10/1/13

~~12~~14C CJ 10/1/13

~~1~~1 A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE 550114 **Output Waste Container ID:** 67222

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

CS 10/1/13

~~13~~ 14 CS 10/1/13

~~12~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67222

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1: Anthony Harley (Print Name)	Signature	6-4-13 (Date)
Visual Examination Operator 2: Jason Kozlowicz (Print Name)	Signature	6-4-13 (Date)

CD REVIEWED 10/1/13

14E CD 10/1/13

13 A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67223	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 155.4 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-0190S Serial No.: LM-1507 Torque Value: 10ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ~~☑ NO~~ ☑ YES NCR No.: N/A NCR No.: ~~N/A~~ (3) 9-26-13 NCR-LANL-0722-13		
Comments: N/A		

15 ~~14~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 5-13-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738977 LANL 021296	salts	IN ~~OI~~ 9-26-13	1.7	E
738977 LANL 021296	metal can metal lid	IM	1.5	E
738977 LANL 021296	plastic bag vinyl tape	PW	0.5	E

N/A A.H. 5-13-13

Anthony Harley — VEO 1: Print Name; Signature; 5-13-13 — Date; James E. Thompson 9-26-13

Levie Archuleta — VEO 2: Print Name; Signature; 5-13-13 — Date; JOE STEPZINSKI 9-26-13

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67223

PCI Removed: N/A **PCI Applied:** LANL 021337

Anthony Harley — VEO 1: Print Name; Signature; 6-4-13 — Date; James E. Thompson 9-26-13

Jason Krylowicz — VEO 2: Print Name; Signature; 6-4-13 — Date; JOE STEPZINSKI 9-26-13

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67223

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	1.5
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	~~1.7~~ (3) 9/26/13 N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.5
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	1.7 ~~N/A~~ (3) 9.26-13
Soils (S):	N/A
Total WMP Weight:	3.7

~~16~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67223

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

A.H. 6-5-1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67223

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1: Anthony Harley Print Name	Signature	6-4-13 Date
James E Thompson		9-26-13
Visual Examination Operator 2: Jason Krylowicz Print Name	Signature	6-4-13 Date
JOE STEPZINSKI	Joseph D Stepinski	9-26-13

~~18~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67223	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 155.4 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1507 Torque Value: 10ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

CJ 10/1/13

~~15~~ 19A CJ 10/1/13

~~14~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 5-13-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738977 LANL 021296	salts	OI	1.7	E
738977 LANL 021296	metal can metal lid	IM	1.5	E
738977 LANL 021296	plastic bag vinyl tape	PW	0.5	E
	N/A A.H. 5-13-13			

Anthony Harley — Signature — 5-13-13
VEO 1: Print Name — Signature — Date

Levie Archuleta — Signature — 5-13-13
VEO 2: Print Name — Signature — Date

Signatures annotate the absence of prohibited items.

CJ 10/1/13

Output Waste Container ID: 67223

PCI Removed: N/A **PCI Applied:** LANL 021337

Anthony Harley — Signature — 6-4-13
VEO 1: Print Name — Signature — Date

Jason Krylowicz — Signature — 6-4-13
VEO 2: Print Name — Signature — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

16 198 CJ 10/1/13 ~~15~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67223

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (c)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	1.5
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	1.7
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.5
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	3.7

17 19C CS 10/1/13

16 A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67223

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

1890 CD 10/1/13

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67223

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1: Anthony Harley (Print Name)	Signature	6-4-13 (Date)
Visual Examination Operator 2: Jason Krylowicz (Print Name)	Signature	6-4-13 (Date)

CD 10/1/13

19E
CD 10/1/13

18 A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67224	Waste Stream ID: LA-MHD01.001	
Container Type: 55gallon Poc	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 155.1 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1501 Torque Value: 10ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ~~☑ NO~~ ☑ YES NCR No.: N/A 9-26-13 NCR No.: ~~N/A~~ 9-26-13 NCR-LANL-0722-13		
Comments: N/A		

20

~~19~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 5-13-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.a]	Weighing Code(s) [Table 4b]
738978 LANL 021297	salts	IN 9-26-13 OI	1.4	E
738978 LANL 021297	metal can metal lid	IM	1.5	E
738978 LANL 021297	plastic bag vinyl tape	PW	0.5	E
	N/A	A.H. 5-13-13		

Anthony Harley — 5-13-13 — James E. Thompson 9-26-13
VEO 1: Print Name — Signature — Date

Levie Archuleta — 5-13-13 — JOE STEPZINSKI 9-26-13
VEO 2: Print Name — Signature — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67224

PCI Removed: N/A **PCI Applied:** LANL 021338

Anthony Harley — 6-4-13 — James E. Thompson 9-26-13
VEO 1: Print Name — Signature — Date

Jason Krylowicz — 6-4-13 — JOE STEPZINSKI 9-26-13
VEO 2: Print Name — Signature — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67224

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (c)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	1.5
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	~~1.4~~ (J) 9-26-13 N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.5
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	1.4 ~~N/A~~ (J) 9-26-13
Soils (S):	N/A
Total WMP Weight:	3.4

~~21~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67224

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

~~22~~ A.H 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE.550114 **Output Waste Container ID:** 67224

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1: Anthony Harley (Print Name)	Signature	Date: 6-4-13
James E Thompson		9-26-13
Visual Examination Operator 2: Jason Krylowicz (Print Name)	Signature	Date: 6/4/13
JOE STEPZINSKI	Joseph D Stepzinski	9-26-13

A.H. 6-5-13

~~23~~

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67224	Waste Stream ID: LA-MHD01.001	
Container Type: 55gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 155.1 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1501 Torque Value: 10ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

CJ 10/1/13

~~20~~ 24A A.H. 6-5-13 ~~19~~
CJ 10/1/13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 5-13-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.a]	Weighing Code(s) [Table 4.b]
738978 LANL 021297	salts	OI	1.4	E
738978 LANL 021297	metal can metal lid	IM	1.5	E
738978 LANL 021297	plastic bag vinyl tape	PW	0.5	E
	N/A	A.H. 5-13-13		

Anthony Harley — 5-13-13
VEO 1: Print Name — Signature — Date

Levie Archuleta — 5-13-13
VEO 2: Print Name — Signature — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67224

PCI Removed: N/A **PCI Applied:** LANL 021338

Anthony Harley — 6-4-13
VEO 1: Print Name — Signature — Date

Jason Krylowicz — 6-4-13
VEO 2: Print Name — Signature — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

CJ 10/1/13

Page 1 of 1

~~21~~ 24B
CJ 10/1/13

~~20~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67224

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (c)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	1.5
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	1.4
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.5
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	3.4

CJ 10/1/13

~~22~~ 24C PS 10/1/13

21 A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67224

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

CJ 10/1/13

~~23~~ 24D
CJ 10/1/13

~~22~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE.550114 **Output Waste Container ID:** 67224

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:
N/A

Section 5: Approvals

Visual Examination Operator 1: Anthony Harley (Print Name)	Signature	6-4-13 (Date)
Visual Examination Operator 2: Jason Krylowicz (Print Name)	Signature	6/4/13 (Date)

CJR 6/11/13

24 E CJR 10/1/13 ~~23~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67225	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 156.5 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1516 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ~~☑ NO~~ ☑ YES NCR No.: N/A (3) 9-26-13 NCR No.: ~~N/A~~ (3) 9-26-13 NCR-LANL-0722-13		
Comments: N/A		

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 3-15-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,*]	Weighing Code(s) [Table 4*]
37097 LANL 028671	metal can metal lid	IM	1.0	E
37097 LANL 028671	salts	IN ③ 9-26-13 OI	1.2	E
37097 LANL 028671	vinyl tape plastic bag	PW	0.4	E

N/A A.H. 3-15-13

Anthony Harley — VEO 1: Print Name
Signature
3-15-13 — Date
James E. Thompson 9-26-13

Michael C. Trujillo — VEO 2: Print Name
Signature
3-15-13 — Date
JOE STEPZINSKI 9-26-13

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67225

PCI Removed: N/A **PCI Applied:** LANL 021339

Anthony Harley — VEO 1: Print Name
Signature
6-4-13 — Date
James E. Thompson 9-26-13

Jason Krylowicz — VEO 2: Print Name
Signature
6-4-13 — Date
JOE STEPZINSKI 9-26-13

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 3-15-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.a]	Weighing Code(s) [Table 4.b]
737099 LANL 028673	metal can metal lid	IM	1.0	E
737099 LANL 028673	salts	IN (3) 9-26-13 OI	0.8	E
737099 LANL 028673	plastic bag vinyl tape	PW	0.4	E

N/A A.H. 3-15-13

Anthony Harley — Signature — 3-15-13 — James E. Thompson 9-26-13
VEO 1: Print Name — Signature — Date

Michael C. Trujillo — Michael C. Trujillo — 3-15-13 — JOE STEPZINSKI 9-26-13
VEO 2: Print Name — Signature — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67225

PCI Removed: N/A **PCI Applied:** LANL021339

Anthony Harley — Signature — 6-4-13 — James E. Thompson 9-26-13
VEO 1: Print Name — Date

Jason Krajewicz — Signature — 6-4-13 — JOE STEPZINSKI 9-26-13
VEO 2: Print Name — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67225

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	2.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	~~2.0~~ (J) 9-26-13 N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.8
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	2.0 ~~N/A~~ (J) 9-26-13
Soils (S):	N/A
Total WMP Weight:	4.8

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67225

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

~~29~~ A.H. 6-5-13 ~~28~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67225

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1: Anthony Harley (Print Name)	Signature	6-4-13 (Date)
James E. Thompson		9-26-13
Visual Examination Operator 2: Jason Krylowicz (Print Name)	Signature	6-4-13 (Date)
JOE STEPZINSKI		9-26-13

A.H. 6-5-13

~~29~~

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67225	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 156.5 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1516 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

SUPERCEDED CJ 10/1/13

A.H. 6-5-13

~~25~~ 30A ~~24~~

CJ 10/1/13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 3-15-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
37097 LANL 028671	metal can metal lid	IM	1.0	E
37097 LANL 028671	salts	OI	1.2	E
37097 LANL 028671	vinyl tape plastic bag	PW	0.4	E
		N/A	A.H. 3-15-13	

Anthony Harley — Signature — 3-15-13
VEO 1: Print Name — Signature — Date

Michael C. Trujillo — Michael C. Trujillo — 3-15-13
VEO 2: Print Name — Signature — Date

Signatures annotate the absence of prohibited items.

SUPERCEDED CJ 10/1/13

Output Waste Container ID: 67225

PCI Removed: N/A **PCI Applied:** LANL 021339

Anthony Harley — Signature — 6-4-13
VEO 1: Print Name — Signature — Date

Jason Krylowicz — Signature — 6-4-13
VEO 2: Print Name — Signature — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

~~26~~ 30B CJ 10/1/13

~~25~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 3-15-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
737099 LANL 028673	metal can metal lid	IM	1.0	E
737099 LANL 028673	salts	OI	0.8	E
737099 LANL 028673	plastic bag vinyl tape	PW	0.4	E

N/A A.H. 3-15-13

Anthony Harley — VEO 1: Print Name; Signature; Date 3-15-13
Michael C. Trujillo — VEO 2: Print Name; Signature; Date 3-15-13
Signatures annotate the absence of prohibited items.

SUPERCEDED 3 10/9/13

Output Waste Container ID: 67225

PCI Removed: N/A **PCI Applied:** LANL021339

Anthony Harley — VEO 1: Print Name; Signature; Date 6-4-13
Jason Koplowicz — VEO 2: Print Name; Signature; Date 6-4-13

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 2 of 2

~~27~~ 30C CD 10/1/13

~~26~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67225

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	2.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	2.0
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.8
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	4.8

SUPERCEDED CJ 10/9/13

A.H. 6-5-13

~~28~~ 30D ~~27~~

CJ 10/1/13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67225

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

SUPERCEDED 10/9/13

~~29~~
10/1/13 30E
A.H.
~~29~~ 6-5-13

A.H.
~~28~~ 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67225

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1: Anthony Harley (Print Name)	Signature	6-4-13 (Date)
Visual Examination Operator 2: Jason Krylowicz (Print Name)	Signature	6-4-13 (Date)

SUPERCEDED CJ 10/9/13 A.H. 6-5-13

~~29~~ 30F

CJ ~~10/1/13~~ 10/1/13

CJ 10/1/13

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67226	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 157.9 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1506 Torque Value: 10 ft / lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft / lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

A.H. 6-5-13

~~30~~ 31

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 4-9-13

Section 2: Waste Package Data				
Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
728935 LANL 011877	plastic filter media	PW	2.7	E
728935 LANL 011877	metal can metal lid	IM	3.0	E
728935 LANL 011877	vinyl tape plastic bag	PW	0.5	E

N/A A.H. 4-9-13

Anthony Harley — VEO 1: Print Name — Signature — Date 4-9-13
Jason Krylowicz — VEO 2: Print Name — Signature — Date 4-9-13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67226

PCI Removed: N/A **PCI Applied:** LANL 021340

Anthony Harley — VEO 1: Print Name — Signature — Date 6-4-13
Jason Krylowicz — VEO 2: Print Name — Signature — Date 6-4-13

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

~~31~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67226

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	3.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	6.2

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67226

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

34 ~~34~~ A.H. 6-5-13 ~~33~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67226

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1: Anthony Harley Print Name	Signature	6-4-13 Date
Visual Examination Operator 2: Jason Krylowicz Print Name	Signature	6-4-13 Date

A.H. 6-5-13
~~34~~

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67227	Waste Stream ID: LA-MHD01.001	
Container Type: 55gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 157.9 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1512 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

A.H. 6-5-13
~~35~~

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 4-9-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
728936 LANL 011878	plastic filter media	PW	2.7	E
728936 LANL 011878	metal can metal lid	IM	3.0	E
728936 LANL 011878	plastic bag vinyl tape	PW	0.5	E
	N/A A.H. 4-9-13 A.H. 6-5-13			

Anthony Harley — VEO 1: Print Name / Signature / Date 4-9-13
Jason Krylowicz — VEO 2: Print Name / Signature / Date 4-9-13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67227

PCI Removed: N/A **PCI Applied:** LANL 021341

Anthony Harley — VEO 1: Print Name / Signature / Date 6-4-13
Jason Krylowicz — VEO 2: Print Name / Signature / Date 6-4-13

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67227

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	3.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	6.2

A.H. 6-5-13

~~37~~

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67227

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

A.H.
~~38~~ 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67227

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:
Anthony Harley
Print Name

Signature

6-4-13
Date

Visual Examination Operator 2:
Jason Krylowicz
Print Name

Signature

6-4-13
Date

~~39~~ A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67325	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 142.1 kg.	Gross Wt: 145.9 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: CM-1255 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 4-9-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
728937 LANL 011879	plastic filter media	PW	1.3	E
728937 LANL 011879	metal can metal lid	IM	2.0	E
728937 LANL 011879	vinyl tape plastic bag	PW	0.5	E

N/A A.H. 4-9-13

Anthony Harley — VEO 1: Print Name — Signature — Date: 4-9-13
Jason Krylowicz — VEO 2: Print Name — Signature — Date: 4-9-13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67325

PCI Removed: N/A **PCI Applied:** LANL 021342

Anthony Harley — VEO 1: Print Name — Signature — Date: 6-4-13
Jason Krylowicz — VEO 2: Print Name — Signature — Date: 6-4-13

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67325

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 82.0 = 109.0
Plastics (PP):	8.1
Others: (c)	25.0
Total Packaging Weight:	142.1
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	2.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	1.8
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	3.8

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67325

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

A.H. 6-5-13
~~43~~

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67325

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:
Anthony Harley
Print Name

Signature

6-4-13
Date

Visual Examination Operator 2:
Jason Krylowicz
Print Name

Signature

6-4-13
Date

A.H. 6-5-13
~~44~~

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550114

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67326	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 142.1 kg.	Gross Wt: 145.1 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: JJ-494 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

A.H. 6-5-13
45

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550114 **Date:** 5-9-13

Section 2: Waste Package Data				
Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738983 LANL 021291	broken ceramics	OI	1.0	E
738983 LANL 021291	Metal can, lid	IM	1.5	E
738983 LANL 021291	Plastic bag, vinyl tape	PW	0.5	E
	N/A 5-9-13			
		(JJ)		

James E. Thompson — Jam E J — 5-9-13
VEO 1: Print Name — Signature — Date

Michael C. Trujillo — Michael C. Trujillo — 5/9/13
VEO 2: Print Name — Signature — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67326

PCI Removed: N/A **PCI Applied:** LANL 021343

Anthony Harley — Anthony Harley — 6-4-13
VEO 1: Print Name — Signature — Date

Jason Krylowicz — Jason Krylowicz — 6-4-13
VEO 2: Print Name — Signature — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550114

Output Waste Container ID: 67326

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 82.0 = 109.0
Plastics (PP):	8.1
Others: (C)	25.0
Total Packaging Weight:	142.1
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	1.5
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	1.0
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.5
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	3.0

A.H. 6-5-13

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67326

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT-II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

A.H. 6-5-13
~~48~~

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550114 **Output Waste Container ID:** 67326

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:
Anthony Harley
Print Name

Signature

6-4-13
Date

Visual Examination Operator 2:
Jason Krylewicz
Print Name

Signature

6-4-13
Date

A.H. 6-5-13

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE550114

Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☑ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☑ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☑ YES	☐ N/A
b. Weight totals	☐ NO	☑ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☑ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☑ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☑ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☑ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☑ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☑ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☑ YES	☐ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☑ YES	☐ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☑ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE550114 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☑ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☑ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☑ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☑ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQ!)?	☐ NO	☑ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☑ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☑ YES	☑ N/A

/ DEH 09/26/13 / DEH 09/26/13 / DEH 09/26/13

Comments: / DEH 09/26/13 N/A NCR WAS GENERATED AT THE PROJECT LEVEL.

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

/ DAVID HEMSING / DAVE HEMSING 09/11/13
Printed Name Signature Date

/ DAVID HEMSING / DAVE HEMSING 09/26/13

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE550114 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☑ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☑ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☑ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☑ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☑ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☑ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☑ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

DAVID HEMSING — DAVE HEMSING — 06/11/15

Printed Name — Signature — Date

SUPERSEDED

524
05/01/15

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-LANL-0722-13 **Revision 0**

1. Lot No., Heat No., or Serial No. (if applicable): N/A	2. Process (e.g., NDA, NDE, VE, Other): VE	3. Batch Data Report #(s): a. LAVE550105 b. LAVE550107 c. LAVE550114
4. Order/Work Order/Job Control Number (if applicable): N/A	5. PO # (if applicable): N/A	Container #(s): a. 67371, 67372, 67373, 67374, 67375 b. 67351, 67353, 67357, 67358, 67359, 67383, 67390 c. 67222, 67223, 67224, 67225
	6. Supplier (if applicable): N/A	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☒ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):
CCP-TP-113, Revision 17, *CCP Standard Contact-Handled Waste Visual Examination*, Section 4.4.5 states "Examine the waste, **AND** record the applicable data in Section 2 of Attachment 2:" Section 4.4.5 [F] states "Determine the contents by WMP category per Table 3, **AND** document as follows:"
9-25-13

7c. Actual Condition:
Salt is listed as other inorganic materials (OI) in Section 2 of Attachment 2. Based on the Acceptable Knowledge Summary report, it should be listed as Inorganic matrix (IN).

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☐ YES ☐ NO If no is checked, explain:

8. NCR Originator:
Veronica Waldram (printed name) Veronica Waldram (signature) 9/25/13 (date)

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☒ NO ☐ INDETERMINATE

10. Trend Code: A

11. Responsible Manager: T. A. Grover

12. Significant Condition? ☐ YES ☒ NO (If Yes, enter CAR No.):

13. Recurring Condition? ☐ YES ☒ NO (If YES, list NCRs and CARs):

14. QA Engineer or QA Designee validation:
T. MUELLER (printed name) T Mueller (signature) 9.26.13 (date)

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0722-13 **Revision 0**

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☒ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name _____ signature _____ date _____

16b. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name _____ signature _____ date _____

18. Interim Disposition Verified – QA Engineer:

printed name _____ signature _____ date _____

COPY

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR-LANL-0722-13 **Revision 0**

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☒ N/A for Reject, Rework, or Scrap]

☐ Reject ☒ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

1. Operator corrects WMP on Attachment 2, Section 2.
2. Operator correct weights for WMP on Attachment 2, Section 3.
3. Operator inserts NCR into BDR and correct Table of Contents.
4. ITR perform re-review.
5. SPM perform re-review.

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☐ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]
Brief VE operators on homogenous solids.
mg 9.25.13

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

Veronica Waldron	Veronica Waldron	9/25/13
printed name	signature	date

21. QA Engineer or QA Designee:

T. MUELLER	T Mueller	9.25.13
printed name	signature	date

Additional Approval:

printed name	signature	date

Additional Approval:

printed name	signature	date

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name	signature	date

23. Attachments:

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name	signature	date

COPY

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550118				Examination Date(s): 09/09/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 67231, 67398
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 9/18/13

COPY

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550118				**Examination Date(s): 09/09/2013**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550118				**Examination Date(s): 09/09/2013**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**			X	
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not LANL sealed sources
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550118				Examination Date(s): 09/09/2013
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	T. A. Groover			9\17\13
SPM Prnted Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVE550118 Examination Date: 9-9-13

	Waste Container ID Number:
1	67231
2	67398
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

N/A
D.H. 9-9-13

Independent Technical Reviewer:

DAVID HEMSING	DAVE HEMSING	09/16/13
Print Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 9/17/13

01

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE550118 Examination Date: 9-9-13

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	01
2	CCP Waste VE Batch Data Report Table of Contents	02
3	CCP Waste Visual Examination General Information Form	03
4	CCP Waste Visual Examination Data Forms	04
5	CCP Waste VE Independent Technical Reviewer Checklist	14
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550118

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 9-9-13	
Procedure No.: CCP-TP-113	Revision No.: 17
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT

Comments:
The VEE has determined that the VE scale shall not be used.

Visual Examination Operator 1: Anthony Harley Print Name	Signature	9-9-13 Date
Visual Examination Operator 2: Kenneth T. Salazar Print Name	Signature	9.9.13 Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550118

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67231	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gallon drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 95.6 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 60 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 2		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1560 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550118 **Date:** 9-9-13

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	cheese cloth	C	10.0	E
N/A	plastic bottles plastic lids plastic bags vinyl tape	PW	37.3	E
N/A	metal cans metal lids	Im	10.0	E
N/A	rubber gloves	R	10.0	E
	N/A B.H. 9-9-13			

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67231

TID Removed: N/A **TID Applied:** LANL 029929

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550118

Output Waste Container ID: 67231

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	10.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	10.0
Rubber (R):	10.0
Plastics (waste materials) (PW):	37.3
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	67.3

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550118 **Output Waste Container ID:** 62231

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE 550118 **Output Waste Container ID:** 67231

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1: Anthony Harley (Print Name)	Signature	9-9-13 (Date)
Visual Examination Operator 2: Kenneth T. Salazar (Print Name)	Signature	9.9.13 (Date)

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVES50118

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67398	Waste Stream ID: LA-MH001.001	
Container Type: 55 gallon drum	TRUCON Code: LA 225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 85.4 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 60 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 100157 Calibration Due Date: 12-3-13 Filter: Model No.: Nucfil-019DS Serial No.: LM-1565 Torque Value: 10 ft/lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 100159 Calibration Due Date: 12-3-13 Lid Ring/Bolt Torque Value: 60 ft/lbs	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550118 **Date:** 9-9-13

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
N/A	cheese cloth	C	10.0	E
N/A	plastic bottles plastic lids plastic bags vinyl tape	PW	37.1	E
N/A	rubber gloves	R	10.0	E
	N/A A.H. 9-9-13			

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67398

TID Removed: N/A **TID Applied:** LANL 029928

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550118

Output Waste Container ID: 67398

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	10.0
Rubber (R):	10.0
Plastics (waste materials) (PW):	37.1
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	57.1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550118 **Output Waste Container ID:** 67398

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550118 **Output Waste Container ID:** 67398

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

Anthony Harley
Print Name

Signature

9-9-13
Date

Visual Examination Operator 2:

Kenneth T. Salazar
Print Name

Signature

9.9.13
Date

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE550118

Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☑ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☑ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☑ YES	☐ N/A
b. Weight totals	☐ NO	☑ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☑ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☑ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☑ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☑ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☑ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☑ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☐ YES	☑ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☑ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE550118 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☑ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☑ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☑ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☑ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☑ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☑ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☑ N/A
Comments: N/A			

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

DAVID HEMSING	DAVE HEMSING	09/16/13
Printed Name	Signature	Date

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550120				Examination Date(s): 5/9/13, 4/30/13, 5/13/13, 6/3/13, 3/11/14
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 67289, 67294, 67295, 67296
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 3/17/14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550120				Examination Date(s): 5/9/13, 4/30/13, 5/13/13, 6/3/13, 3/11/14
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550120				Examination Date(s): 5/9/13, 4/30/13, 5/13/13, 6/3/13, 3/11/14
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not LANL sealed sources
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550120				Examination Date(s): 5/9/13, 4/30/13, 5/13/13, 6/3/13, 3/11/14
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	T. A. Groover			3-17-14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVES50120 Examination Date: 3-11-14

	Waste Container ID Number:
1	67289
2	67294
3	67295
4	67296
5	
6	
7	
8	
9	N/A
10	
11	3-11-14
12	
13	
14	
15	
16	
17	
18	
19	
20	

Independent Technical Reviewer:

Gilbert Gutierrez — Print Name

Signature

3-12-14 — Date

NTPC RECORDS ORIGINAL
DATE REC'D 3/12/14

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE550120 Examination Date: 3-11-14

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	1
2	CCP Waste VE Batch Data Report Table of Contents	2
3	CCP Waste Visual Examination General Information Form	3
4	CCP Waste Visual Examination Data Forms	4
5	CCP Waste VE Independent Technical Reviewer Checklist	24
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550120

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 3-11-14	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT
Comments: The VEE has determined not to use the VE Scale in glovebox.	
Visual Examination Operator 1: James E. Thompson (Print Name) — Signature — 3-11-14 (Date)	
Visual Examination Operator 2: Michael C. Trujillo (Print Name) — Signature — 3/11/14 (Date)	

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVES50120

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67289	Waste Stream ID: LA-mHD01.001	
Container Type: 55gal. POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 142.1 kg.	Gross Wt: 148.2 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-14 Filter: Model No.: Nucfil-019DS Serial No.: CM-1237 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: (JJ) 3-11-14 N/A The VE was initiated on CCP-TP-113, Rev. 16.		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVES50120 **Date:** 5-9-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.*]	Weighing Code(s) [Table 4°]
738404 LANL 021292	broken ceramics	OI	2.9	E
738404 LANL 021292	metal can, lid	IM	3.0	E
738404 LANL 021292	plastic bag, vinyl tape	PW	0.2	E
	N/A 5-9-13 (J)			

James E. Thompson — VEO 1: Print Name; Signature; Date 5-9-13
Michael C. Trujillo — VEO 2: Print Name; Signature; Date 5/9/13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67289

PCI Removed: N/A **PCI Applied:** LANL 029731

James E. Thompson — VEO 1: Print Name; Signature; Date 3-11-14
Michael C. Trujillo — VEO 2: Print Name; Signature; Date 3/11/14
Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550120

Output Waste Container ID: 67289

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+82.0=109.0
Plastics (PP):	8.1
Others: (C)	25.0
Total Packaging Weight:	142.1
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	2.9
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	6.1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVES50120 **Output Waste Container ID:** 67289

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block.)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550120 **Output Waste Container ID:** 67289

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson
Print Name

Signature

3-11-14
Date

Visual Examination Operator 2:

Michael C. Trujillo
Print Name

Signature

3/11/14
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550120

Section 1: Output Waste Container Data

Input Waste Container ID, as applicable: N/A

Output Waste Container ID: 67294 | Waste Stream ID: LA-MHD01.001

Container Type: 55gal. Poc | TRUCON Code: LA225 | Waste Matrix Code: S5400

Audio/Video Media Recording Number: ☑ N/A

Waste Container Weights:
Tare Wt: 142.1 kg. Gross Wt: 149.7 kg.

Rigid Liner Present? ☐ NO ☑ YES
Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other:
Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil

Rigid Liner Lid Present? ☐ NO ☑ YES
Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A
☑ Vented: Hole Size: 0.375 ☐ N/A
☐ Filtered: Model No.: ☑ N/A
Serial No.: ☑ N/A

Bag Liner Present? ☑ NO ☐ YES

Volume Utilization Percentage: 95 %

Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])?
☐ NO ☑ YES

Does the physical form of the waste match the Waste Matrix Code?
☐ NO ☑ YES

Closure Method: TTF
Number of Layers of Confinement: 1

Filter Torque Wrench
Serial/ID No.: 101382
Calibration Due Date: 12-4-14
Filter: Model No.: Nucfil-01905
Serial No.: CM-1281
Torque Value: 10 ft. / lbs.

Lid Ring/Bolt Torque Wrench
Serial/ID No.: 101381
Calibration Due Date: 12-4-14
Lid Ring/Bolt Torque Value: 60 ft. / lbs.

Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES

NCR(s) associated with the output container? ☑ NO ☐ YES
NCR No.: N/A
NCR No.: N/A

Comments: (5) 3-11-14 N/A The VE was initiated on CCP-TP-113, Rev. 16.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550120 **Date:** 4-30-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738456 LANL 021278	ceramic pieces	OI	3.4	E
738456 LANL 021278	metal can metal lid	IM	4.0	E
738456 LANL 021278	plastic bag vinyl tape	PW	0.2	E

N/A A.H. 4-30-13

Anthony Harley — 4-30-13
VEO 1: Print Name — Signature — Date

Levie Archuleta — 4-30-13
VEO 2: Print Name — Signature — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67294

PCI Removed: N/A **PCI Applied:** LANL 029728

James E. Thompson — 3-11-14
VEO 1: Print Name — Signature — Date

Michael C. Trujillo — 3/11/14
VEO 2: Print Name — Signature — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550120

Output Waste Container ID: 67294

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+82.0 = 109.0
Plastics (PP):	8.1
Others: (C)	25.0
Total Packaging Weight:	142.1
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	4.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	3.4 N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	7.6

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVES50120 **Output Waste Container ID:** 67294

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block.)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50120 **Output Waste Container ID:** 67294

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson	James E. Thompson	3-11-14
Print Name	Signature	Date

Visual Examination Operator 2:

Michael C. Trujillo	Michael C. Trujillo	3/11/14
Print Name	Signature	Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550120

Section 1: Output Waste Container Data

Input Waste Container ID, as applicable: N/A

Output Waste Container ID: 67295 | Waste Stream ID: LA-mHD01.001

Container Type: 55gal. POC | TRUCON Code: LA225 | Waste Matrix Code: S5400

Audio/Video Media Recording Number: ☑ N/A

Waste Container Weights:
Tare Wt: 142.1 kg. Gross Wt: 146.4 kg.

Rigid Liner Present? ☐ NO ☑ YES
Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other:
Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil

Rigid Liner Lid Present? ☐ NO ☑ YES
Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A
☑ Vented: Hole Size: 0.375 ☐ N/A
☐ Filtered: Model No.: ☑ N/A
Serial No.: ☑ N/A

Bag Liner Present? ☑ NO ☐ YES

Volume Utilization Percentage: 95 %

Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])?
☐ NO ☑ YES

Does the physical form of the waste match the Waste Matrix Code?
☐ NO ☑ YES

Closure Method: TTF
Number of Layers of Confinement: 1

Filter Torque Wrench
Serial/ID No.: 101382
Calibration Due Date: 12-4-14
Filter: Model No.: Nucfil-019DS
Serial No.: CM-1280
Torque Value: 10 ft./lbs.

Lid Ring/Bolt Torque Wrench
Serial/ID No.: 101381
Calibration Due Date: 12-4-14
Lid Ring/Bolt Torque Value: 60 ft./lbs.

Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES

NCR(s) associated with the output container? ☑ NO ☐ YES
NCR No.: N/A
NCR No.: N/A

Comments: JT 3-11-14 N/A The VE was initiated on CCP-TP-113, Rev. 16.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550120 **Date:** 5-13-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738908 LANL 021300	metal cans metal lids	Im	3.0	E
738908 LANL 021300	plastic bag vinyl tape	PW	0.2	E
738908 LANL 021300	salts	IN 10-7-13 OI	1.1	E
	N/A			
		A.H. 5-13-13		

Anthony Harley — VEO 1: Print Name — Signature — 5-13-13 Date
Jason Krylowicz — VEO 2: Print Name — Signature — 5-13-13 Date
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67295

PCI Removed: N/A **PCI Applied:** LANL 029729

James E. Thompson — VEO 1: Print Name — Signature — 3-11-14 Date
Michael C. Trujillo — VEO 2: Print Name — Signature — 3/11/14 Date
Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550120

Output Waste Container ID: 67295

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+82.0 = 109.0
Plastics (PP):	8.1
Others: (C)	25.0
Total Packaging Weight:	142.1
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	1.1
Soils (S):	N/A
Total WMP Weight:	4.3

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550120 **Output Waste Container ID:** 67295

Section 4: Prohibited Item(s) Summary (Questions answered 'YES' will be explained in the Comments block.)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVESS0120 **Output Waste Container ID:** 67295

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James F. Thompson
Print Name

Signature

3-11-14
Date

Visual Examination Operator 2:

Michael C. Trujillo
Print Name

Signature

3/11/14
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550120

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67296	Waste Stream ID: LA-mHD01.001	
Container Type: 55gal. POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 155.8 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-14 Filter: Model No.: Nucfil-0190S Serial No.: LM-1732 Torque Value: 10 ft./lbs	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: (5) 3-11-14 ~~N/A~~ The VE was initiated on CCP-TP-113, Rev. 16.		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550120 **Date:** 6-3-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
938912 LANL 021331	salts	IN ③ 10-7-13 ~~OI~~	0.9	E
938912 LANL 021331	metal can metal lid	IM	3.0	E
938912 LANL 021331	plastic bag vinyl tape	PW	0.2	E

N/A A.H. 6-3-13

Anthony Harley — VEO 1: Print Name — Signature — Date 6-3-13
Robert Geyer — VEO 2: Print Name — Signature — Date 6-3-13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67296

PCI Removed: N/A **PCI Applied:** LANL 029730

James E. Thompson — VEO 1: Print Name — Signature — Date 3-11-14
Michael C. Trujillo — VEO 2: Print Name — Signature — Date 3/11/14
Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVES50120

Output Waste Container ID: 67296

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+95.6=122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	0.9
Soils (S):	N/A
Total WMP Weight:	4.1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550120 **Output Waste Container ID:** 67296

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50126 **Output Waste Container ID:** 67296

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:		
James E. Thompson Print Name	James E. Thompson Signature	3-11-14 Date
Visual Examination Operator 2:		
Michael C. Trujillo Print Name	Michael C. Trujillo Signature	3/11/14 Date

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE550120 Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☒ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☒ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☒ YES	☐ N/A
b. Weight totals	☐ NO	☒ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☒ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☒ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☒ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☒ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☒ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☒ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☒ YES	☐ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☒ YES	☐ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☒ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVES50120 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☒ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☒ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☒ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☒ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☒ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☒ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☒ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Gilbert Gutierrez
Printed Name

Signature

3-12-14
Date

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550121				Examination Date(s): 3/15/13, 4/9/13, 5/9/13, 6/3/13 & 3/12/14
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 67286 67287 67290 67291 67292 67293 67337 67399
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 3-21-14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550121				Examination Date(s): 3/15/13, 4/9/13, 5/9/13, 6/3/13 & 3/12/14
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No observable liquid.
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550121				Examination Date(s): 3/15/13, 4/9/13, 5/9/13, 6/3/13 & 3/12/14
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not a LANL Sealed Source.
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550121				Examination Date(s): 3/15/13, 4/9/13, 5/9/13, 6/3/13 & 3/12/14
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna		3/20/14	
SPM Printed Name	Signature		Date	

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVES50121 Examination Date: 3-12-14

	Waste Container ID Number:
1	67286
2	67287
3	67290
4	67291
5	67292
6	67293
7	67337
8	67399
9	
10	
11	
12	
13	N/A
14	3-12-14 (JT)
15	
16	
17	
18	
19	
20	

Independent Technical Reviewer:

Joe Candelaria
Print Name

Signature

3/18/14
Date

NTPC RECORDS ORIGINAL
DATE REC'D 3/19/14

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE550121 Examination Date: 3-12-14

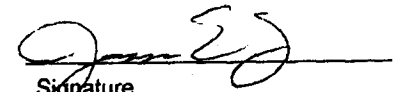
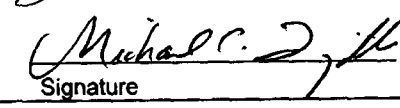
Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	1
2	CCP Waste VE Batch Data Report Table of Contents	2
3	CCP Waste Visual Examination General Information Form	3
4	CCP Waste Visual Examination Data Forms	4
5	CCP Waste VE Independent Technical Reviewer Checklist	44
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVESSO121

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 3-12-14	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-2014 Operational Check: ☑ SAT ☐ UNSAT

Comments:
The VEE has determined not to use the VE scale in glovebox.

Visual Examination Operator 1:		
James E. Thompson Print Name	 Signature	3-12-14 Date
Visual Examination Operator 2:		
Michael C. Trujillo Print Name	 Signature	3/12/14 Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550121

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67286	Waste Stream ID: LA-MHD01.001	
Container Type: 55gal. Poc.	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 157.8 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-14 Filter: Model No.: Nucfil-0190S Serial No.: LM-1341 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: The VE was initiated on CCP-TP-113 Rev. 16.		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550121 **Date:** 5-9-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.[a]]	Weighing Code(s) [Table 4[b]]
738914 LANL 021295	broken ceramics	OI	2.9	E
738914 LANL 021295	metal can, lid	IM	3.0	E
738914 LANL 021295	Plastic bag, vinyl tape	PW	0.2	E
	N/A 5-9-13	(J)		

James E. Thompson — 5-9-13
VEO 1: Print Name — Signature — Date

Michael C. Trujillo — 5/9/13
VEO 2: Print Name — Signature — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67286

PCI Removed: N/A **PCI Applied:** LANL 029736

James E. Thompson — 3-12-14
VEO 1: Print Name — Signature — Date

Michael C. Trujillo — 3/12/14
VEO 2: Print Name — Signature — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVES50121

Output Waste Container ID: 67286

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+95.6=122.6
Plastics (PP):	8.1
Others: (c)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	2.9
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	6.1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550121 **Output Waste Container ID:** 67286

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50121 **Output Waste Container ID:** 67286

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:
James E. Thompson (Print Name) — (Signature) — 3-12-14 (Date)

Visual Examination Operator 2:
Michael C. Trujillo (Print Name) — (Signature) — 3/12/14 (Date)

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE 550121

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67287	Waste Stream ID: LA-mH001.001	
Container Type: 55gal. Poly	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 158.3 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-14 Filter: Model No.: Nucfil-0190S Serial No.: LM-1320 Torque Value: 10 Ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 Ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: The VE was initiated on CCP-TP-113 Rev. 16.		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVES50121 **Date:** 5-9-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738915 LANL 021294	broken ceramics	OI	3.0	E
738915 LANL 021294	metal can, lid	IM	3.4	E
738915 LANL 021294	Plastic bag, vinyl tape	PW	0.2	E
	N/A (N) 5-9-13			

James E. Thompson VEO 1: Print Name — Signature — Date 5-9-13

Michael C. Trujillo VEO 2: Print Name — Signature — Date 5/9/13

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67287

PCI Removed: N/A **PCI Applied:** LANL 029737

James E. Thompson VEO 1: Print Name — Signature — Date 3-12-14

Michael C. Trujillo VEO 2: Print Name — Signature — Date 3/12/14

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550121

Output Waste Container ID: 67287

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+95.6=122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.4
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	3.0
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	6.6

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVC550121 **Output Waste Container ID:** 67287

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50121 **Output Waste Container ID:** 67287

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson
Print Name

Signature

3-12-14
Date

Visual Examination Operator 2:

Michael C. Trujillo
Print Name

Signature

3/12/14
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVES50121

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67290	Waste Stream ID: LA-mHD01.001	
Container Type: 55gal. POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 155.4 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-14 Filter: Model No.: Nucfil-019DS Serial No.: LM-1727 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: The VE was initiated on CCP-TP-113 Rev. 16.		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE 550121 **Date:** 6-3-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738913 LANL 021332	salts	IN (10-7-13) OI	0.5	E
738913 LANL 021332	metal can metal lid	IM	3.0	E
738913 LANL 021332	plastic bag vinyl tape	PW	0.2	E
	N/A	Anth 6-3-13		

Anthony Harley — VEO 1: Print Name — Signature — Date: 6-3-13
Robert Geyer — VEO 2: Print Name — Signature — Date: 6-3-13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67290

PCI Removed: N/A **PCI Applied:** LANL 029732

James E. Thompson — VEO 1: Print Name — Signature — Date: 3-12-14
Michael C. Trujillo — VEO 2: Print Name — Signature — Date: 3/12/14

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVESS0121

Output Waste Container ID: 67290

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+95.6 = 122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	0.5
Soils (S):	N/A
Total WMP Weight:	3.7

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550121 **Output Waste Container ID:** 67290

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550121 **Output Waste Container ID:** 67290

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

Print Name	Signature	Date
James E. Thompson	James E. Thompson	3-12-14

Visual Examination Operator 2:

Print Name	Signature	Date
Michael C. Trujillo	Michael C. Trujillo	3/12/14

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550121

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67291	Waste Stream ID: LA-mHD01.001	
Container Type: 55gal. poc	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 156.9 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-14 Filter: Model No.: Nucfil-0190S Serial No.: LM-1726 Torque Value: 10ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: The VE was initiated on CCP-TP-113 Rev. 16		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVES50121 **Date:** 3-15-13

Section 2: Waste Package Data				
Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
737100 LANL 028674	metal can metal lid	IM	3.0	E
737100 LANL 028674	ceramic dust	OI	2.0	E
737100 LANL 028674	plastic bag vinyl tape	PW	0.2	E

N/A AHH 3-15-13

Anthony Hurley — VEO 1: Print Name — Signature — 3-15-13 — Date
Michael C. Trujillo — VEO 2: Print Name — Signature — 3/15/13 — Date
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67291

PCI Removed: N/A **PCI Applied:** LANL 029733

James E Thompson — VEO 1: Print Name — Signature — 3-12-14 — Date
Michael C. Trujillo — VEO 2: Print Name — Signature — 3/12/14 — Date
Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550121

Output Waste Container ID: 67291

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+95.6=122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	2.0
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	5.2

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVES50121 **Output Waste Container ID:** 67291

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550121 **Output Waste Container ID:** 67291

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson
Print Name

James E. Thompson
Signature

3-12-14
Date

Visual Examination Operator 2:

Michael C. Trujillo
Print Name

Michael C. Trujillo
Signature

3/12/14
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550121

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67292	Waste Stream ID: LA-mHD01.001	
Container Type: 55gal. POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 142.1 kg.	Gross Wt: 144.7 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.375 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-14 Filter: Model No.: NucFil-0190S Serial No.: CM-1238 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: The VE was initiated on CCP-TP-113 Rev. 16.		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550121 **Date:** 3-15-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
37098 LANL 028672	metal can metal lid	IM	2.0	E
37098 LANL 028672	vinyl tape plastic bag	PW	0.2	E
37098 LANL 028672	ceramic dust	OI	0.4	E

N/A A.H. 3-15-13

Anthony Harley — VEO 1: Print Name — Signature — Date: 3-15-13
Michael C. Trujillo — VEO 2: Print Name — Signature — Date: 3/15/13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67292

PCI Removed: N/A **PCI Applied:** LANL 029734

James E. Thompson — VEO 1: Print Name — Signature — Date: 3-12-14
Michael C. Trujillo — VEO 2: Print Name — Signature — Date: 3/12/14

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550121

Output Waste Container ID: 67292

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+82.0= 109.0
Plastics (PP):	8.1
Others: (c)	25.0
Total Packaging Weight:	142.1
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	2.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	0.4
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	2.6

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVES50121 **Output Waste Container ID:** 67292

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50121 **Output Waste Container ID:** 67292

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

Print Name	Signature	Date
James E. Thompson	James E. Thompson	3-12-14

Visual Examination ~~Operator 2:~~

Print Name	Signature	Date
Michael C. Trujillo	Michael C. Trujillo	3/12/14

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550121

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67293	Waste Stream ID: LA-MH001.001	
Container Type: 55gal. POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 157.0 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-14 Filter: Model No.: Nucfil-019 DS Serial No.: LM-1728 Torque Value: 10 ft. / lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 ft. / lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: The VE was initiated on CCP-TP-113 Rev. 16.		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVES50121 **Date:** 4-9-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
728934 LANL 021265	ceramic ~~pieces~~ pieces KSA 5-18-14	OI	2.1	E
728934 LANL 021265	metal can metal lid	IM	3.0	E
728934 LANL 021265	vinyl tape plastic bag	PW	0.2	E

N/A A.H. 4-9-13

Anthony Harley — VEO 1: Print Name — Signature — Date 4-9-13
Jason Krzlawicz — VEO 2: Print Name — Signature — Date 4-9-13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67293

PCI Removed: N/A **PCI Applied:** LANL 029735

James E. Thompson — VEO 1: Print Name — Signature — Date 3-12-14
Michael C. Trujillo — VEO 2: Print Name — Signature — Date 3/12/14
Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550121

Output Waste Container ID: 67293

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+95.6=122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	2.1
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	5.3

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVESS0121 **Output Waste Container ID:** 67293

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550121 **Output Waste Container ID:** 67293

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

Print Name	Signature	Date
James E. Thompson	James E. Thompson	3-12-14

Visual Examination Operator 2:

Print Name	Signature	Date
Michael C. Trujillo	Michael C. Trujillo	3/12/14

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVES50121

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67337	Waste Stream ID: LA-MHD01.001	
Container Type: 55gal. POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 157.6 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101332 Calibration Due Date: 12-4-14 Filter: Model No.: NucFil-0190S Serial No.: LM-1301 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: The VE was initiated on CCP-TP-113 Rev. 16.		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550121 **Date:** 5-9-13

Section 2: Waste Package Data				
Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,*]	Weighing Code(s) [Table 4*]
738916 LANL 021293	broken ceramics	OI	2.2	E
738916 LANL 021293	metal can, lid	IM	3.5	E
738916 LANL 021293	Plastic bag, vinyl tape	PW	0.2	E
	N/A 5-9-13 (JT)			

James E. Thompson [signature] 5-9-13
VEO 1: Print Name Signature Date
Michael C. Trujillo [signature] 5/9/13
VEO 2: Print Name Signature Date
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67337

PCI Removed: N/A **PCI Applied:** LANL 029738

James E. Thompson [signature] 3-12-14
VEO 1: Print Name Signature Date
Michael C. Trujillo [signature] 3/12/14
VEO 2: Print Name Signature Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550121

Output Waste Container ID: 67337

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0 + 95.6 = 122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.5
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	2.2
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	5.9

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550121 **Output Waste Container ID:** 67337

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50121 **Output Waste Container ID:** 67337

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson — Print Name | [signature] — Signature | 3-12-14 — Date

Visual Examination Operator 2:

Michael C. Trujillo — Print Name | [signature] — Signature | 3/12/14 — Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVES50121

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67399	Waste Stream ID: LA-mHD01.001	
Container Type: 55gal. POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 151.7 kg.	Gross Wt: 158.5 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☑ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☑ YES ☐ N/A ☑ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☑ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-14 Filter: Model No.: NucFil-0190S Serial No.: LM-1729 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: The VE was initiated on CCP-TP-113 Rev. 16.		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550121 **Date:** 4-9-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
728938 LANL 011875	ceramic rocks oxide calcc	OI	2.6	E
728938 LANL 011875	metal can metal lid	IM	4.0	E
728938 LANL 011875	vinyl tape plastic bag	PW	0.2	E

N/A AH 4-9-13

Anthony Harley — VEO 1: Print Name — Signature — Date: 4-9-13
Jason Krylowicz — VEO 2: Print Name — Signature — Date: 4-9-13
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67399

PCI Removed: N/A **PCI Applied:** LANL 029739

James E. Thompson — VEO 1: Print Name — Signature — Date: 3-12-14
Michael C. Trujillo — VEO 2: Print Name — Signature — Date: 3/12/14

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550121

Output Waste Container ID: 67399

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.0+95.6=122.6
Plastics (PP):	8.1
Others: (C)	21.0
Total Packaging Weight:	151.7
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	4.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	2.6
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	6.8

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550121 **Output Waste Container ID:** 67399

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVESS0121 **Output Waste Container ID:** 67399

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

Print Name	Signature	Date
James E. Thompson	James E. Thompson	3-12-14

Visual Examination Operator 2:

Print Name	Signature	Date
Michael C. Trujillo	Michael C. Trujillo	3/12/14

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: CAVE550121 Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☒ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☒ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☒ YES	☐ N/A
b. Weight totals	☐ NO	☒ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☒ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☒ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☒ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☒ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☒ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☒ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☒ YES	☐ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☒ YES	☐ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☒ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVES50121 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☒ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☒ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☒ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☒ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☒ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☒ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☒ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Joe Candelaria		3/18/2014
Printed Name	Signature	Date

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550127				**Examination Date(s): 4/30/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 67283 67603 67605 67606
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 5/22/14 JN

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550127				**Examination Date(s): 4/30/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No observable liquids.
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550127				**Examination Date(s): 4/30/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**			X	
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not a LANL Sealed Source.
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550127				**Examination Date(s): 4/30/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna			5/20/14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVE550127 Examination Date: 4.30.14

	Waste Container ID Number:
1	67283
2	67603
3	67605
4	67606
5	
6	
7	
8	
9	
10	
11	N/A
12	
13	4.30.14 JC
14	
15	
16	
17	
18	
19	
20	

Independent Technical Reviewer:

JOE STEPZINSKI — Print Name
Joseph D Stepzinski — Signature
5-7-14 — Date

NTPC RECORDS ORIGINAL
DATE REC'D 5/19/14

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE550127 Examination Date: 4.30.14

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	1
2	CCP Waste VE Batch Data Report Table of Contents	2
3	CCP Waste Visual Examination General Information Form	3
4	CCP Waste Visual Examination Data Forms	4
5	CCP Waste VE Independent Technical Reviewer Checklist	24
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550127

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 4.30.14	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT
Comments: THE VEE HAS DETERMINED NOT TO USE THE VE SCALE	
Visual Examination Operator 1: JOE CANDELARIA (Print Name) — Signature — 4.30.14 (Date)	
Visual Examination Operator 2: Michael C Trujillo (Print Name) — Michael C. Trujillo (Signature) — 4/30/14 (Date)	

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550127

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67283	Waste Stream ID: LA-MHD01.00	
Container Type: 55gal. drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 54.7 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101391 Calibration Due Date: 12-10-14 Filter: Model No.: NUCFIL-019DS Serial No.: LM-1504 Torque Value: 10 Ft./LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 Ft./LBS	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550127 **Date:** 4.30.14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.1]	Weighing Code(s) [Table 4.6]
735947	Plastic Bags, Plastic Gloves, Vinyl Tape	PW	8.8	E
735947	Cloth Booties	C	8.7	E
735947	Rubber Gloves	R	8.9	E
	N/A			
	4.30.14	SC		

N/A — VEO 1: Print Name — N/A — Signature — N/A — Date

N/A — VEO 2: Print Name — N/A — Signature — N/A — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67283

TID Removed: N/A **TID Applied:** LANL022946

N/A — VEO 1: Print Name — N/A — Signature — N/A — Date

N/A — VEO 2: Print Name — N/A — Signature — N/A — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550127

Output Waste Container ID: 67283

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	8.7
Rubber (R):	8.9
Plastics (waste materials) (PW):	8.8
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	26.4

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550127 **Output Waste Container ID:** 67283

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550127 **Output Waste Container ID:** 67283

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1: Joe Candelaria Print Name	Signature	4.30.14 Date
Visual Examination Operator 2: Luis Romero Print Name	Luis Romero Signature	4-30-14 Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550127

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67603	Waste Stream ID: LA-MHD01.001	
Container Type: 55gal. drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 34.4 kg.	Gross Wt: 50.1 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101391 Calibration Due Date: 12-10-14 Filter: Model No.: NUCFIL-019DS Serial No.: LM-1567 Torque Value: 10 Ft./LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 Ft./LBS	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550127 **Date:** 4-30-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738011	Paper, CARDBOARD Boxes, Cheese Cloth	C	1.7	E
738011	Rubber glovebox gloves	R	6.5	E
738011	Plastic bags, plastic caps Plastic bottles, Vinly tape	PW	7.5	E
	4.30.14 NA /JC			

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67603

TID Removed: N/A **TID Applied:** LANL030055

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550127

Output Waste Container ID: 67603

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	6.7
Others:	N/A
Total Packaging Weight:	34.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	1.7
Rubber (R):	6.5
Plastics (waste materials) (PW):	7.5
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	15.7

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550127 **Output Waste Container ID:** 67603

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550127 **Output Waste Container ID:** 67603

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1: Joe Candelaria (Print Name)	Signature	4.30.14 (Date)
Visual Examination Operator 2: Michael C. Trujillo (Print Name)	Signature	4/30/14 (Date)

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550127

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67605	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gal. drum	TRUCON Code: LA 225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 34.4 kg.	Gross Wt: 70.0 kg.	
Rigid Liner Present? ☐ NO ☑ YES Type of Liner: ☐ Lead ☑ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☑ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 75 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101391 Calibration Due Date: 12-10-14 Filter: Model No.: NUCFIL-0190S Serial No.: LM-1551 Torque Value: 10 Ft./LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 Ft./LBS	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE 550127 **Date:** 4-30-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
738012	LAB EQUIPMENT, METAL CANS, METAL LIDS	IM	15.7	E
738012	ALUMINUM CANS ALUMINUM LIDS	AM	10.5	E
738012	SANDING DISKS	OI	9.4	E
	N/A JC 4-30-14			

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67605

TID Removed: N/A **TID Applied:** LANL030056

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550127

Output Waste Container ID: 67605

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	6.7
Others:	N/A
Total Packaging Weight:	34.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	15.7
Aluminum-based Metals/Alloys (AM):	10.5
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	9.4
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	N/A
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	35.6

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550127 **Output Waste Container ID:** 67605

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAE550137 **Output Waste Container ID:** 67605

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1:
JOE CANDELARIA (Print Name) | Signature | 4.30.14 (Date)

Visual Examination Operator 2:
Michael C. Trujillo (Print Name) | Michael C. Trujillo (Signature) | 4/30/14 (Date)

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550127

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67606	Waste Stream ID: LA-MH001.001	
Container Type: 55 gal. drum	TRUCON Code: LA 225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 50.2 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101391 Calibration Due Date: 12-10-14 Filter: Model No.: NUCFIL-0190S Serial No.: LM-1571 Torque Value: 10 Ft./LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 Ft./LBS	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550127 **Date:** 4-30-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4.[a]]	Weighing Code(s) [Table 4[b]]
735946	Plastic bags, plastic gloves, Vinyl Tape	PW	7.3	E
735946	Cloth Booties	C	7.1	E
735946	Rubber Gloves	R	7.5	E
	N/A JC 4-30-14			

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67606

TID Removed: N/A **TID Applied:** LANL022945

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container. Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550127

Output Waste Container ID: 67606

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	7.1
Rubber (R):	7.5
Plastics (waste materials) (PW):	7.3
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	21.9

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550127 **Output Waste Container ID:** 67606

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550127 **Output Waste Container ID:** 67606

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1: JOE CANDELARIA Print Name	Signature	4.30.14 Date
Visual Examination Operator 2: Luis Romero Print Name	Signature	4-30-14 Date

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE550127

Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☒ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☒ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☒ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☒ YES	☐ N/A
b. Weight totals	☐ NO	☒ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☒ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☒ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☒ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☒ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☒ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☒ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☒ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☒ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☒ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☐ YES	☒ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☒ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE550127

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☒ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☒ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☒ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☒ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☒ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☒ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☒ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☒ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☒ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

JOE STEPZINSKI — Printed Name

Joseph D Stepzinski — Signature

5-7-14 — Date

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550132				**Examination Date(s): 05/29/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 67256, 67626
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

COPY

NTPC RECORDS ORIGINAL
DATE REC'D 6/5/14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550132				**Examination Date(s): 05/29/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550132				**Examination Date(s): 05/29/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**			X	
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not LANL sealed sources
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550132				**Examination Date(s): 05/29/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not LANL sealed sources
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover				6\3\14
SPM Printed Name		Signature		Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVES50132 Examination Date: 5-29-14

	Waste Container ID Number:
1	67256
2	67626
3	
4	
5	
6	
7	
8	
9	N/A
10	
11	
12	5-29-14
13	
14	
15	
16	
17	
18	
19	
20	

Independent Technical Reviewer:

Peggy Ausmus	Peggy Ausmus	6-2-14
Print Name	Signature	Date

NTPC RECORDS ORIGINAL
DATE REC'D 6/3/14

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVES50132 Examination Date: 5-29-14

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	1
2	CCP Waste VE Batch Data Report Table of Contents	2
3	CCP Waste Visual Examination General Information Form	3
4	CCP Waste Visual Examination Data Forms	4
5	CCP Waste VE Independent Technical Reviewer Checklist	14
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550132

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 5-29-14	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-6-14 Operational Check: ☑ SAT ☐ UNSAT
Comments: The VEE has determined not to use the VE scale.	
Visual Examination Operator 1: James E. Thompson (Print Name) — James E. Thompson (Signature) — 5-29-14 (Date)	
Visual Examination Operator 2: Luis Romero (Print Name) — Luis Romero (Signature) — 5-29-14 (Date)	

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550132

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67256	Waste Stream ID: LA-MHD01.001	
Container Type: 55gal. drum	TRUCON Code: LA 225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 51.2 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 100 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101391 Calibration Due Date: 12-10-14 Filter: Model No.: NucFil-019 DS Serial No.: LM-1524 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550132 **Date:** 5-29-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
741140	Plastic bottles, plastic lids, plastic bags, vinyl tape, plastic discs	PW	21.0	E
741140	cheese cloth, paint brushes	C	1.5	E
741140	Electrical cord	R	0.2	E
741140	vermiculite	OI	0.2	E
	N/A (JT) 5-29-14			

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67256

TID Removed: N/A **TID Applied:** LANL 023729

N/A	N/A	N/A
VEO 1: Print Name	Signature	Date
N/A	N/A	N/A
VEO 2: Print Name	Signature	Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550132

Output Waste Container ID: 67256

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	0.2
Cellulosics (C):	1.5
Rubber (R):	0.2
Plastics (waste materials) (PW):	21.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	22.9

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550132 **Output Waste Container ID:** 67256

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block.)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550132 **Output Waste Container ID:** 672560

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson	[signature]	5-29-14
Print Name	Signature	Date

Visual Examination Operator 2:

Luis Romero	Luis Romero	5-29-14
Print Name	Signature	Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550132

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67626	Waste Stream ID: LA-MHD01.001	
Container Type: 55gal. drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 46.3 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 90 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101391 Calibration Due Date: 12-10-14 Filter: Model No.: Nucfil-0190S Serial No.: KM-651 Torque Value: 10 Ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-14 Lid Ring/Bolt Torque Value: 60 Ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550132 **Date:** 5-29-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
741141	Plastic bottles, plastic lids, Plastic bags, plastic discs, vinyl tape	PW	17.2	E
741141	cheese cloth	C	0.8	E
	N/A 5-29-14			

N/A — VEO 1: Print Name | N/A — Signature | N/A — Date

N/A — VEO 2: Print Name | N/A — Signature | N/A — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67626

TID Removed: N/A **TID Applied:** LANL 023728

N/A — VEO 1: Print Name | N/A — Signature | N/A — Date

N/A — VEO 2: Print Name | N/A — Signature | N/A — Date

Signatures of VEO's verifying the loading of the Output Waste Container. Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550132

Output Waste Container ID: 67626

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	N/A
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	0.8
Rubber (R):	N/A
Plastics (waste materials) (PW):	17.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	18.0

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550132 **Output Waste Container ID:** 67626

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block.)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater.	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550132 **Output Waste Container ID:** 67626

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

Print Name	Signature	Date
James E. Thompson	James E. Thompson	5-29-14

Visual Examination Operator 2:

Print Name	Signature	Date
Luis Romero	Luis Romero	5-29-14

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE550132 Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☑ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☑ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☑ YES	☐ N/A
b. Weight totals	☐ NO	☑ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☑ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☑ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☑ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☑ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☑ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☑ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☑ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☐ YES	☑ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☑ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVE550132 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☑ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☑ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☑ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☑ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☑ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☑ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☑ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Printed Name	Signature	Date
Peggy Ausmus	Peggy Ausmus	6-2-14

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LAVE550140				**Examination Date(s): 6/3/2013, 5/15/2014, 7/17/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: 67641 67645 67646 67647 67648 67649 67650 67654
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs.
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 8/11/14

COPY

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550140				Examination Date(s): 6/3/2013, 5/15/2014, 7/17/2014
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No observable liquid.
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550140				**Examination Date(s): 6/3/2013, 5/15/2014, 7/17/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**			X	Not a LANL Sealed Source.
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LAVE550140				**Examination Date(s): 6/3/2013, 5/15/2014, 7/17/2014**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**			X	Not a LANL Sealed Source.
Comments: None				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Carolina Soaterna	Carolina Soaterna			8/7/14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: LAVE550140 Examination Date: 7-17-14

	Waste Container ID Number:
1	67641
2	67645
3	67646
4	67647
5	67648
6	67649
7	67650
8	67654
9	
10	
11	
12	
13	
14	N/A
15	(J)
16	7-17-14
17	
18	
19	
20	

Independent Technical Reviewer:

Peggy Ausmus	Peggy Ausmus	7-31-14
Print Name	Signature	Date

01

NTPC RECORDS ORIGINAL
DATE REC'D 8/4/14

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: LAVE550140 Examination Date: 7-17-2014

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	01
2	CCP Waste VE Batch Data Report Table of Contents	02
3	CCP Waste Visual Examination General Information Form	03
4	CCP Waste Visual Examination Data Forms	05
5	CCP Waste VE Independent Technical Reviewer Checklist	45
6	Copy of NCRs (N/A, If Not Applicable)	N/A
7	Field Records (N/A, If Not Applicable)	N/A

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550140

☐ VE for Previously Packaged Waste ☑ VE for Newly Generated Waste	
☐ Method 1 ☑ Method 2	
Site ID: LA	
Examination Date: 7-17-14	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☑ N/A	☐ SAT
VE Scale Information: ☑ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 100523 Calibration Due Date: 6-11-15 Operational Check: ☑ SAT ☐ UNSAT

Comments:

The VEE has determined not to use the VE scale.

Visual Examination Operator 1:		
James E. Thompson Print Name	James E. Thompson Signature	7-17-14 Date
Visual Examination Operator 2:		
Michael C. Trujillo Print Name	Michael C. Trujillo Signature	7/17/14 Date

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.: LAVE550140

☐ VE for Previously Packaged Waste ☒ VE for Newly Generated Waste	
☐ Method 1 ☒ Method 2	
Site ID: LA	
Examination Date: 7-17-2014	
Procedure No.: CCP-TP-113 Revision No.: 18	
Camera/Audio/Video Media Recording Check: ☒ N/A	☐ SAT
VE Scale Information: ☒ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: 208622 Calibration Due Date: 6-5-2015 Operational Check: ☒ SAT ☐ UNSAT

Comments:

THE VEE HAS DETERMINED NOT TO USE THE VE SCALE.

Visual Examination Operator 1:		
JOE STEPZINSKI	Joseph D Stepzinski	7-17-2014
Print Name	Signature	Date
Visual Examination Operator 2:		
Luis Romero	Luis Romero	7-17-2014
Print Name	Signature	Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550140

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67641	Waste Stream ID: LA-MHD01.001	
Container Type: 55 gal. drum	TRUCON Code: LA 225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 31.5 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 5 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-14 Filter: Model No.: Nucfil-019DS Serial No.: FN-2090 Torque Value: 10 ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE 550140 **Date:** 7-17-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
741955	metal can, metal lid metal floor sweepings	IM	3.0	E
741955	plastic bag, vinyl tape	PW	0.2	E
	N/A 7-17-14	JT		

N/A — VEO 1: Print Name — N/A — Signature — N/A — Date

N/A — VEO 2: Print Name — N/A — Signature — N/A — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67641

TID Removed: N/A **TID Applied:** LANL 023674

N/A — VEO 1: Print Name — N/A — Signature — N/A — Date

N/A — VEO 2: Print Name — N/A — Signature — N/A — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550140

Output Waste Container ID: 67641

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	3.0
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	3.2

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550140 **Output Waste Container ID:** 67641

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50140 **Output Waste Container ID:** 607641

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

James E. Thompson
Print Name

Signature

7-17-14
Date

Visual Examination Operator 2:

Michael C. Trujillo
Print Name

Signature

7/17/14
Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550140

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67645	Waste Stream ID: LA-MHD01.001	
Container Type: 55GAL POC	TRUCON Code: LA225	Waste Matrix Code: 55400
Audio/Video Media Recording Number: ☒ N/A		
Waste Container Weights: Tare Wt: 152.4 kg.	Gross Wt: 161.8 kg.	
Rigid Liner Present? ☐ NO ☒ YES Type of Liner: ☐ Lead ☒ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☒ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☒ YES ☐ N/A ☒ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☒ N/A Serial No.: ☒ N/A	
Bag Liner Present? ☒ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☒ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☒ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-2014 Filter: Model No.: NUCFIL-019DS Serial No.: LM-1154 Torque Value: 10 FT/LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-2014 Lid Ring/Bolt Torque Value: 60 FT/LBS	
Is total dose rate greater than 200mrem/hr? ☒ NO ☐ YES		
NCR(s) associated with the output container? ☒ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: THE VE WAS INITIATED ON CCP-TP-113 REV 16		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550140 **Date:** 6-3-13

Section 2: Waste Package Data

Package and Package PCI Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
JDS 7-17-14 938911 7 LANL 021330	ceramic pieces	OI	0.5	E
JDS 7-17-14 938911 7 LANL 021330	metal can metal lid	IM	8.7	E
JDS 7-17-14 938911 7 LANL 021330	plastic bag vinyl tape	PW	0.2	E
	N/A AH 6-3-13			

Anthony Harley — VEO 1: Print Name — Signature — 6-3-13 — Date
Robert Geyer — VEO 2: Print Name — Signature — 6-3-13 — Date
Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67645

PCI Removed: N/A **PCI Applied:** LANL 029761

JOE STEPZINSKI — VEO 1: Print Name — Joseph D Stepinski — Signature — 7-17-2014 — Date
Luis Romero — VEO 2: Print Name — Luis Romero — Signature — 7-17-2014 — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVES50140

Output Waste Container ID: 67645

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	123.3 = 27.7 + 95.6
Plastics (PP):	8.1
Others: CELLULOSICS (C)	21.0
Total Packaging Weight:	152.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	8.7
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	0.5
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	9.4

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550140 **Output Waste Container ID:** 67645

Section 4: Prohibited Item(s) Summary (Questions answered YES will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☒
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☒
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☒
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☒
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☒
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☒
Is there an indication of wastes containing explosives or compressed gases?	☐	☒
Is there PCB liquids present?	☐	☒
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☒
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☒
TRUPACT-II Only		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☒
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☒
Are there sealed containers **GREATER** than 4 liters?	☐	☒
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☒

13
~~12~~
7-29-14

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550140 **Output Waste Container ID:** 67645

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered 'YES' will be explained in the Comments block.)

Comments:
N/A

Section 5: Approvals

Visual Examination Operator 1:
JOE STEPZINSKI (Print Name) Joseph O Stepinski (Signature) 7-17-2014 (Date)

Visual Examination Operator 2:
Luis Romero (Print Name) Luis Romero (Signature) 7-17-2014 (Date)

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVES50140

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67646		Waste Stream ID: LA-MHD01.001
Container Type: 55 GAL POL	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☒ N/A		
Waste Container Weights: Tare Wt: 152.4 kg.		Gross Wt: 157.2 kg.
Rigid Liner Present? ☐ NO ☒ YES Type of Liner: ☐ Lead ☒ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil		Rigid Liner Lid Present? ☐ NO ☒ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☒ YES ☐ N/A ☒ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☒ N/A Serial No.: ☒ N/A
Bag Liner Present? ☒ NO ☐ YES		Volume Utilization Percentage: 95 %
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☒ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☒ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-2014 Filter: Model No.: NUCFIL-019DS Serial No.: LM-1152 Torque Value: 10 FT/LBS		Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-2014 Lid Ring/Bolt Torque Value: 60 FT/LBS
Is total dose rate greater than 200mrem/hr? ☒ NO ☐ YES		
NCR(s) associated with the output container? ☒ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550140 **Date:** 5-15-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
735954 LANL 019625	salts	IN	0.2	E
735954 LANL 019625	metal can, metal lid	IM	4.4	E
735954 LANL 019625	plastic bags, vinyl tape	PW	0.2	E
	N/A (SI) 5-15-14			

James E. Thompson — Signature — 5-15-14
VEO 1: Print Name — Signature — Date

Michael C. Trujillo — Michael C. Trujillo — 5/15/14
VEO 2: Print Name — Signature — Date

Signatures annotate the absence of prohibited items. ~~LANL~~ 7-17-14

Output Waste Container ID: 67646

TID Removed: N/A **TID Applied:** LANL 029762

JOE STEPZINSKI — Joseph W Stepzinski — 7-17-2014
VEO 1: Print Name — Signature — Date

Luis Romero — Luis Romero — 7-17-2014
VEO 2: Print Name — Signature — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVES50140

Output Waste Container ID: 67646

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	123.3=27.7+95.6
Plastics (PP):	8.1
Others: CELLULOSICS (C)	21.0
Total Packaging Weight:	152.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	4.4
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	0.2
Soils (S):	N/A
Total WMP Weight:	4.8

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVES50140 **Output Waste Container ID:** 67646

	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☒
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☒
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☒
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☒
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☒
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☒
Is there an indication of wastes containing explosives or compressed gases?	☐	☒
Is there PCB liquids present?	☐	☒
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☒
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☒
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☒
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☒
Are there sealed containers **GREATER** than 4 liters?	☐	☒
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☒

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550140 **Output Waste Container ID:** 67646

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1:

Print Name	Signature	Date
JOE STEPZINSKI	Joseph D Stepzinski	7.17.2014

Visual Examination Operator 2:

Print Name	Signature	Date
Luis Romero	Luis Romero	7-17-2014

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVES50140

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67647	Waste Stream ID: LA-MHD01.001	
Container Type: 55 GAL POD	TRUCON Code: LA 225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☒ N/A		
Waste Container Weights: Tare Wt: 152.4 kg.	Gross Wt: 157.6 kg.	
Rigid Liner Present? ☐ NO ☒ YES Type of Liner: ☐ Lead ☒ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☒ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☒ YES ☐ N/A ☒ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☒ N/A Serial No.: ☒ N/A	
Bag Liner Present? ☒ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☒ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☒ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-2014 Filter: Model No.: NUCFIL-0190S Serial No.: LM-1450 Torque Value: 10 FT/LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-2014 Lid Ring/Bolt Torque Value: 60 FT/LBS	
Is total dose rate greater than 200mrem/hr? ☒ NO ☐ YES		
NCR(s) associated with the output container? ☒ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVES50140 **Date:** 5-15-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
735955 LANL 019626	salts	IN	0.2	E
735955 LANL 019626	metal can, metal lid	IM	~~4.98~~ 7-31-14 4.98	E
735955 LANL 019626	Plastic bags, vinyl tape	PW	0.2	E
	N/A 5-15-14 (JT)			

James E. Thompson — VEO 1: Print Name
Signature
5-15-14 — Date

Michael C. Trujillo — VEO 2: Print Name
Michael C. Trujillo — Signature
5/15/14 — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67647

TID Removed: N/A **TID Applied:** LANL 029763

JOE STEPZINSKI — VEO 1: Print Name
Joseph O Stepinski — Signature
7-17-2014 — Date

Luis Romero — VEO 2: Print Name
Luis Romero — Signature
7-17-2014 — Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550140

Output Waste Container ID: 6764

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	123.3 = 27.7 + 95.6
Plastics (PP):	8.1
Others: CELLULOSICS (C)	21.0
Total Packaging Weight:	152.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	4.8
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	0.2
Soils (S):	N/A
Total WMP Weight:	5.2

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVE550140 **Output Waste Container ID:** 67647

Section 4: Prohibited Item(s) Summary (Questions answered YES will be explained in the comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☒
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☒
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☒
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☒
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☒
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☒
Is there an indication of wastes containing explosives or compressed gases?	☐	☒
Is there PCB liquids present?	☐	☒
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☒
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☒
Prohibited Items		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☒
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☒
Are there sealed containers **GREATER** than 4 liters?	☐	☒
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☒

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVE550140 **Output Waste Container ID:** 67647

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1: JOE STEPZINSKI (Print Name)	Joseph B Stepzinski (Signature)	7.17.2014 (Date)
Visual Examination Operator 2: Luis Romero (Print Name)	Luis Romero (Signature)	7-17-2014 (Date)

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550140

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67648	Waste Stream ID: LA-MHD01.001	
Container Type: 55 GAL POC	TRUCON Code: LA225	Waste Matrix Code: 55400
Audio/Video Media Recording Number: ☒ N/A		
Waste Container Weights: Tare Wt: 152.4 kg.	Gross Wt: 157.9 kg.	
Rigid Liner Present? ☐ NO ☒ YES Type of Liner: ☐ Lead ☒ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☒ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☒ YES ☐ N/A ☒ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☒ N/A Serial No.: ☒ N/A	
Bag Liner Present? ☒ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☒ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☒ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-2014 Filter: Model No.: NUCFIL-0190S Serial No.: LM-1148 Torque Value: 10 FT/LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-2014 Lid Ring/Bolt Torque Value: 60 FT/LBS	
Is total dose rate greater than 200mrem/hr? ☒ NO ☐ YES		
NCR(s) associated with the output container? ☒ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVES50140 **Date:** 5-15-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
735951 LANL 019622	Ceramics	OI	0.5	E
735951 LANL 019622	metal can, metal lid	Im	4.8	E
735951 LANL 019622	Plastic bags, vinyl tape	PW	0.2	E
	N/A 5-15-14	(S)		

James E. Thompson — VEO 1: Print Name — Signature — 5-15-14 Date
Michael C. Trujillo — VEO 2: Print Name — Signature — 5/15/14 Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67648 LANL

TID Removed: N/A **TID Applied:** 029764

JOE STEPZINSKI — VEO 1: Print Name — Signature — 7-17-2014 Date
Luis Romero — VEO 2: Print Name — Signature — 7-17-2014 Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550140

Output Waste Container ID: 67648

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	123.3 = 27.7 + 95.6
Plastics (PP):	8.1
Others: CELLULOSICS (C)	21.0
Total Packaging Weight:	152.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	4.8
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	0.5
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	5.5

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVES50140 **Output Waste Container ID:** 67648

	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☒
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☒
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☒
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☒
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☒
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☒
Is there an indication of wastes containing explosives or compressed gases?	☐	☒
Is there PCB liquids present?	☐	☒
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☒
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☒
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☒
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☒
Are there sealed containers **GREATER** than 4 liters?	☐	☒
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☒

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50140 **Output Waste Container ID:** 67648

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments:
N/A

Section 5: Approvals

Visual Examination Operator 1:
JOE STEPZINSKI (Print Name) Joseph O Stepzinski (Signature) 7-17-2014 (Date)

Visual Examination Operator 2:
Luis Romero (Print Name) Luis Romero (Signature) 7-17-2014 (Date)

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVES50140

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67649	Waste Stream ID: LA-MHD01.001	
Container Type: 55GAL POC	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☒ N/A		
Waste Container Weights: Tare Wt: 152.4 kg.	Gross Wt: 157.2 kg.	
Rigid Liner Present? ☐ NO ☒ YES Type of Liner: ☐ Lead ☒ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☒ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☒ YES ☐ N/A ☒ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☒ N/A Serial No.: ☒ N/A	
Bag Liner Present? ☒ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☒ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☒ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-2014 Filter: Model No.: NUCFIL-0190S Serial No.: LM-1456 Torque Value: 10FT/LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-2014 Lid Ring/Bolt Torque Value: 60FT/LBS	
Is total dose rate greater than 200mrem/hr? ☒ NO ☐ YES		
NCR(s) associated with the output container? ☒ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550140 **Date:** 5-15-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
735952 LANL 019623	ceramics	OI	0.5	E
735952 LANL 019623	metal can, metal lid	IM	4.1	E
735952 LANL 019623	Plastic bags, vinyl tape	PW	0.2	E
	N/A (JT) 5-15-14			

James E. Thompson — VEO 1: Print Name | Signature | 5-15-14 Date
Michael C. Trujillo — VEO 2: Print Name | Signature | 5/15/14 Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67649

TID Removed: N/A **TID Applied:** LANL 029765

JOE STEPZINSKI — VEO 1: Print Name | Signature | 7-17-2014 Date
Luis Romero — VEO 2: Print Name | Signature | 7-17-2014 Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVES50140

Output Waste Container ID: 67649

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	123.3 = 27.7 + 95.6
Plastics (PP):	8.1
Others: CELLULOSICS (C)	21.0
Total Packaging Weight:	152.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	4.1
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	0.5
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	4.8

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVES50140 **Output Waste Container ID:** 67649

	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☒
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☒
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☒
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☒
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☒
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☒
Is there an indication of wastes containing explosives or compressed gases?	☐	☒
Is there PCB liquids present?	☐	☒
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☒
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☒
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☒
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☒
Are there sealed containers **GREATER** than 4 liters?	☐	☒
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☒

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50140 **Output Waste Container ID:** 67649

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered 'YES' will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1:

JOE STEPZINSKI	Joseph Stepzinski	7-17-2014
Print Name	Signature	Date

Visual Examination Operator 2:

Luis Romero	Luis Romero	7-17-2014
Print Name	Signature	Date

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVESS0140 **Date:** 5-15-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
735953 LANL 019624	ceramics	OI	0.5	E
735953 LANL 019624	metal can, metal lid	IM	5.4	E
735953 LANL 019624	plastic bags, vinyl tape	PW	0.2	E
	N/A 5-15-14			

James E. Thompson — VEO 1: Print Name — Signature — 5-15-14 Date

Michael C. Trujillo — VEO 2: Print Name — Signature — 5/15/14 Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67650

TID Removed: N/A **TID Applied:** LANL 029766

JOE STEPZINSKI — VEO 1: Print Name — Signature — 7-17-2014 Date

Luis Romero — VEO 2: Print Name — Signature — 7-17-2014 Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVES50140

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67650	Waste Stream ID: LA-MHD01.001	
Container Type: 55GALPOL	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☒ N/A		
Waste Container Weights: Tare Wt: 152.4 kg.	Gross Wt: 158.5 kg.	
Rigid Liner Present? ☐ NO ☒ YES Type of Liner: ☐ Lead ☒ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☒ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☐ NO ☒ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☒ YES ☐ N/A ☒ Vented: Hole Size: 0.875 ☐ N/A ☐ Filtered: Model No.: ☒ N/A Serial No.: ☒ N/A	
Bag Liner Present? ☒ NO ☐ YES	Volume Utilization Percentage: 95 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☒ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☒ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-2014 Filter: Model No.: NUCFIL-019DS Serial No.: LM-1695 Torque Value: 10FT/LBS	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101388 Calibration Due Date: 12-11-2014 Lid Ring/Bolt Torque Value: 60 FT/LBS	
Is total dose rate greater than 200mrem/hr? ☒ NO ☐ YES		
NCR(s) associated with the output container? ☒ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550140

Output Waste Container ID: 67650

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	123.3 = 27.7 + 95.6
Plastics (PP):	8.1
Others: CELLULOSICS (C)	21.0
Total Packaging Weight:	152.4
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	5.4
Aluminum-based Metals/Alloys (AM):	N/A
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	0.5
Cellulosics (C):	N/A
Rubber (R):	N/A
Plastics (waste materials) (PW):	0.2
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	6.1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVESS0140 **Output Waste Container ID:** 67650

Section 4: Prohibited Item(s) Summary (Questions answered "Yes" will be explained in the Comments block)	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☒
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☒
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☒
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☒
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☒
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☒
Is there an indication of wastes containing explosives or compressed gases?	☐	☒
Is there PCB liquids present?	☐	☒
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☒
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☒
Project (Cont'd)		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☒
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☒
Are there sealed containers **GREATER** than 4 liters?	☐	☒
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☒

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVESSO140 **Output Waste Container ID:** 67650

Section 4: Prohibited Item(s) Summary (Continued)
(Questions answered "YES" will be explained in the Comments block)

Comments: N/A

Section 5: Approvals

Visual Examination Operator 1:		
JOE STEPZINSKI	Joseph O Stepzinski	7-17-2014
Print Name	Signature	Date
Visual Examination Operator 2:		
Luis Romero	Luis Romero	7-17-2014
Print Name	Signature	Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.: LAVE550140

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable: N/A		
Output Waste Container ID: 67654	Waste Stream ID: LA-mHD01.001	
Container Type: 55gal drum	TRUCON Code: LA225	Waste Matrix Code: S5400
Audio/Video Media Recording Number: ☑ N/A		
Waste Container Weights: Tare Wt: 28.3 kg.	Gross Wt: 81.9 kg.	
Rigid Liner Present? ☑ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil	Rigid Liner Lid Present? ☑ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☑ N/A ☐ Vented: Hole Size: ☑ N/A ☐ Filtered: Model No.: ☑ N/A Serial No.: ☑ N/A	
Bag Liner Present? ☐ NO ☑ YES	Volume Utilization Percentage: 100 %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☑ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☑ YES		
Closure Method: TTF Number of Layers of Confinement: 1		
Filter Torque Wrench Serial/ID No.: 101382 Calibration Due Date: 12-4-14 Filter: Model No.: NucFil-019DS Serial No.: FN-2074 Torque Value: 10 Ft./lbs.	Lid Ring/Bolt Torque Wrench Serial/ID No.: 101381 Calibration Due Date: 12-4-14 Lid Ring/Bolt Torque Value: 60 ft./lbs.	
Is total dose rate greater than 200mrem/hr? ☑ NO ☐ YES		
NCR(s) associated with the output container? ☑ NO ☐ YES NCR No.: N/A NCR No.: N/A		
Comments: N/A		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.: LAVE550140 **Date:** 7-17-14

Section 2: Waste Package Data

Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]
741954	Metal cans, lids, metal tools, metal pieces, metal flanges, drill bits	IM	49.1	E
741954	plastic bottles, plastic vials, plastic pieces, plastic bags, vinyl tape	PW	4.0	E
741954	Cardboard tray Cheesecloth	C	0.4	E
741954	Aluminum foil	AM	0.1	E
	N/A 7-17-14			

N/A — VEO 1: Print Name | N/A — Signature | N/A — Date

N/A — VEO 2: Print Name | N/A — Signature | N/A — Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID: 67654

TID Removed: N/A **TID Applied:** LANL023675

N/A — VEO 1: Print Name | N/A — Signature | N/A — Date

N/A — VEO 2: Print Name | N/A — Signature | N/A — Date

Signatures of VEO's verifying the loading of the Output Waste Container. Page 1 of 1

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.: LAVE550140

Output Waste Container ID: 67654

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP):	0.6
Others:	N/A
Total Packaging Weight:	28.3
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	49.1
Aluminum-based Metals/Alloys (AM):	0.1
Other Metals (OM):	N/A
Other Inorganic Materials (OI):	N/A
Cellulosics (C):	0.4
Rubber (R):	N/A
Plastics (waste materials) (PW):	4.0
Organic Matrix (OR):	N/A
Inorganic Matrix (IN):	N/A
Soils (S):	N/A
Total WMP Weight:	53.6

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.: LAVES50140 **Output Waste Container ID:** 67654

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there PCB liquids present?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
TRUPACT-II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers **GREATER** than 4 liters?	☐	☑
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☑

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.: LAVES50140 **Output Waste Container ID:** 67654

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

N/A

Section 5: Approvals

Visual Examination Operator 1:

Print Name	Signature	Date
James E. Thompson	James E. Thompson	7-17-14

Visual Examination Operator 2:

Print Name	Signature	Date
Michael C. Trujillo	Michael C. Trujillo	7/17/14

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.: LAVE550140 Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☑ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☑ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☑ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☑ YES	☐ N/A
b. Weight totals	☐ NO	☑ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☑ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☑ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☑ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☑ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☑ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☑ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☑ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☑ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☑ YES	☐ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☑ YES	☐ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☑ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: LAVES50140 Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☑ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☑ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☑ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☑ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☑ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☑ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☑ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☑ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☑ N/A

Comments: N/A

I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Peggy Ausmus	Peggy Ausmus	7-31-14
Printed Name	Signature	Date

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LA14-OSR-VE-002 **Examination Date(s): 1/28/14 - 1/29/14**

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: LA00000067523, LA00000067524
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-002				**Examination Date(s): 1/28/14 - 1/29/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-002				**Examination Date(s): 1/28/14 - 1/29/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**	X			
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**	X			
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-002				**Examination Date(s):** 1/28/14 - 1/29/14
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**	X			
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**	X			
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**	X			
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	T. A. Groover			4/2/14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – Visual Examination Batch Data Report Cover Page

VE BDR Number: LA14-OSR-VE-002	
Waste stream number: LA-OS-00-01.001	Container Type: Drum

Container Identifiers included in this VE BDR			
1	LA00000067523	11	NA
2	LA00000067524	12	NA
3	NA	13	NA
4	NA	14	NA
5	NA	15	NA
6	NA	16	NA
7	NA	17	NA
8	NA	18	NA
9	NA	19	NA
10	NA	20	NA

VE Independent Technical Reviewer

IOANA WITKOWSKI (Printed Name) Ioana Witkowski (Signature) 3/24/14 (Date)

NTPC RECORDS ORIGINAL
DATE REC'D 3/25/14

Attachment 6 – Visual Examination Batch Data Report Table of Contents

VE BDR LA14-OSR-VE-002

Table of Contents		
Item	Description	Page No.
1	Visual Examination Batch Data Report Cover Page (Attachment 5)	1
2	Visual Examination Batch Data Report Table of Contents (Attachment 6)	2
3	Visual Examination Independent Technical Reviewer Review Checklist (Attachment 7)	3
4	Container Packaging and Visual Examination Data Record(s) (Attachment 4)	5
5	Weights for Standardized OSRP Packaging Configurations (Attachment 2)	11
6	List of Acceptable Knowledge Documentation Identifier	12
7	List of Sources in Special Form Capsules	25
8	Copy of Radiological Contamination Surveys	30
9	List of Special Form Documentation	N/A
10	Copy of NCRs, if applicable	N/A
11	Other information (if any; otherwise enter NA for page number)	35

Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist

Page 1 of 1

VE BDR LA14-QSR-VE-002

This review verifies that all quality assurance and quality control requirements are met at the data generation level as stated in this procedure.

Criteria Met?	Required Criterion
☑Yes ☐No	1. The correct revision of CCP-TP-069 was used? Note revision number, R 6.
☐Yes ☐No ☑NA	2. Deviations, if any, have been documented. (Choose NA if there were no deviations.)
☑Yes ☐No	3. The weight data were reported in the correct units. (Note: Total weight must be reported in kilograms (Kg) and the weights of individual sealed sources are reported in grams.) Data are reported with the correct number of significant figures (one decimal place).
☑Yes ☐No	4. The WMPs identified during VE are consistent with those assigned to these materials based on AK.
☑Yes ☐No	5. The Waste Matrix Code is consistent with the AK.
☑Yes ☐No	6. Data generation and reduction were conducted in a technically correct manner in accordance with CCP-TP-069, as evidenced by checks of items 1-5.
☑Yes ☐No	7. Calibration data for torque wrenches are recorded and within the calibration period.
☑Yes ☐No	8. Calculations have been verified by 100% check of all hand calculations. • Sum or waste material parameter weights • Estimated POC or waste weight
☑Yes ☐No	9. The data were reviewed for transcription errors and the data recorded is legible, accurate, and include any identifier numbers.
☑Yes ☐No	10. The forms in the VE BDR are complete and match the Table of Contents (Attachment 6).
☐Yes ☐No ☑NA	11. All NCRs relevant to the packaging of the loaded sealed sources were initiated and entered on the VE BDR. (Choose NA if there were no NCRs.)
☑Yes ☐No	12. Precision: Precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases? (Enter Yes if there were no unresolved discrepancies.)
☑Yes ☐No	13. Accuracy and Comparability: Accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (e.g. operators on LOQI)?
☑Yes ☐No	14. Completeness: There is a completed VE data form for each waste container in the BDR?
Comments, if "No" is checked for any criterion above:	

Independent Technical Review conducted by:

IOANA WITKOWSKI	Ioana Witkowski	3/24/14
VE Independent Technical Reviewer (Printed Name)	(Signature)	(Date)

The Following Documents used for this VE BDR are the Best Available Copies

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA14-OSR-VE-002 Page 1 of 3

Container Identifier	LA000000675 23
Printed name of VE Packager	Rick Day
Printed name of VE Recorder	Michael Fleming

Step	Requirement	
1	Indicate the container configuration used (refer to Attachment 2 for configuration types. *(check one)*: ___ Standard Pipe Overpack (12" pipe component) ✓ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)	
2	• Drum lid filter model: NUCFIL013 • Drum lid filter serial number: LC-921 • Drum lid filter manufacture date: 12/02 • POC lid filter model: VT9400 • POC lid filter serial number: 025756 • POC lid filter manufacture date: FEB 2003	
3	Verify based on VE:	Verified
	• The item(s) meet a sealed source regulatory definition.	Yes☑ No☐
	• The outer casing is made of non-VOC bearing material, as the sources are placed in the container	Yes☑ No☐
	• That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size.	Yes☑ No☐
	• That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK.	Yes☑ No☐
	• That there are no non-packaging items placed in the container other than the source(s).	Yes☑ No☐
	• Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources*	Yes☑ No☐
	• If POC lid and body have visible serial numbers, ensure the serial numbers match	Yes☑ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100	
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 9/12/14	
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 9/12/14	

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-0SR-VE-002

Page 2 of 3

Container Identifier LA 0000006 1523

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	SFL 114-669 241 AMBE	OM	720	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A

Total estimated weight (kg) for each WMP listed for above items.	7.2 kg	[redacted]	
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA ☑ None ☐ kg	Description: N/A	WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2 kg	[redacted]	
Total estimated weight (kg) for loaded container.	226.4 kg		
Container percent full.	95 %		

If the list of items is continued on additional pages, attach and number added pages appropriately.* WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-OSR-VE-002 Page 3 of 3

Container Identifier LA0000000 67523

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☑	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☑	2. Non-radionuclide pyrophoric material.
☐	☑	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☑	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☑	5. Explosives.
☐	☑	6. Compressed gas or potentially pressurized containers.
☐	☑	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☑	8. Wastes exhibiting the characteristic of ignitability.
☐	☑	9. Wastes exhibiting the characteristic of reactivity.
☐	☑	10. Wastes exhibiting the characteristic of corrosivity.
☐	☑	11. Radioactive pyrophorics greater than or equal to 1% by weight of the container that have not been rendered nonreactive.
☐	☑	12. Inadequately blocked or braced sharp or heavy items.
☐	☑	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

This Drum was packaged with Zero layers of Containment

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Rick Day — Printed Name VE Packager
Rick Day — Signature
1-29-2014 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Michael Fanning — Printed Name VE Recorder
Michael Fanning — Signature
1/28/14 — Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA14 LA-OSR-VE-002 MJ 3/10/14

Container Identifier	LA000000875 24
Printed name of VE Packager	Michael Fenning
Printed name of VE Recorder	Rick Day

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types. *(check one)*: ___ Standard Pipe Overpack (12" pipe component) ✓ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL013 • Drum lid filter serial number: LL-949 • Drum lid filter manufacture date: 12/02 • POC lid filter model: U79400 • POC lid filter serial number: 025781 • POC lid filter manufacture date: FEB 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☑ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container Yes☑ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☑ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☑ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☑ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☑ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match Yes☑ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: 55100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 9/12/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 9/12/14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-OSR-VE-002 Page 2 of 3

Container Identifier LA0000067524

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	SFC II-1-670, AM 241/Be 241Am 55137	OM	7200	NONE
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A

Total estimated weight (kg) for each WMP listed for above items.	7.2 kg	[redacted]	
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA ☑ None ☐ kg	Description: N/A	WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2 kg	[redacted]	
Total estimated weight (kg) for loaded container.	226.4 kg	[redacted]	
Container percent full.	95 %	[redacted]	

If the list of items is continued on additional pages, attach and number added pages appropriately.* WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-OSR-VE-002 Page 3 of 3

Container Identifier LA0000067524

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☑	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☑	2. Non-radionuclide pyrophoric material.
☐	☑	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☑	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☑	5. Explosives.
☐	☑	6. Compressed gas or potentially pressurized containers.
☐	☑	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☑	8. Wastes exhibiting the characteristic of ignitability.
☐	☑	9. Wastes exhibiting the characteristic of reactivity.
☐	☑	10. Wastes exhibiting the characteristic of corrosivity.
☐	☑	11. Radioactive pyrophorics greater than or equal to 1% by weight of the container that have not been rendered nonreactive.
☐	☑	12. Inadequately blocked or braced sharp or heavy items.
☐	☑	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

This Drum was packaged with zero layers of Confinement

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Michael Fanning — Printed Name VE Packager; Signature; 1/29/14 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Rick Day — Printed Name VE Recorder; Signature; 1-29-2014 — Date

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component	Estimated Component(s) Weight (kg)						
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Acceptable Knowledge Documentation

Acceptable Knowledge Documentation

Source Serial No.	LA00000067523	
0253NE	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 1/31/90	**Activity** Source Markings
0507NK	Source Certificate Record Numbers: 25905	
0619NK	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 4/25/90	**Activity** Source Markings
1194NK	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 12/11/90	**Activity** Source Markings
1202NK	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 12/11/90	**Activity** Source Markings
1254NK	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 12/20/90	**Activity** Source Markings
2144NN	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 9/22/03	**Activity** Source Markings
4822NK	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 1/17/95	**Activity** Source Markings

6881NK	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, AI	**Activity** Source Markings
7552NK	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 1/16/86	**Activity** Source Markings
8160NE	**Isotope** Source Markings Markings: 241Am/Be, 100mCi, AI	**Activity** Source Markings
8811NE	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 6/1/87	**Activity** Source Markings
9038NE	Source Certificate Record Numbers: 25938	
9194NK	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 10/5/99	**Activity** Source Markings
AM12F	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 4/20/81	**Activity** Source Markings
AM193	**Isotope** Source Markings Markings: 241AmBe, 50mCi, 6/15/78	**Activity** Source Markings
AM31C	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 11/28/83	**Activity** Source Markings

AM438

Isotope
Source Markings

Activity
Source Markings

Markings: 241Am/Be, 50mCi, 10/3/80

AM7572

Isotope
Source Markings

Activity
Source Markings

Markings: 241Am/Be, 300mCi, Al, 9/2/85

AM81H

Isotope
Source Markings

Activity
Source Markings

Markings: 241AmBe, 50mci, 8/19/81

AM8219

Isotope
Source Markings

Activity
Source Markings

Markings: 241Am/Be, 100mCi, Al, 9/1/88

AM89T

Isotope
Source Markings

Activity
Source Markings

Markings: 241Am/Be, 50mCi, 11/28/83

AM9U

Isotope
Source Markings

Activity
Source Markings

Markings: 241AmBe, 50 mCi, 12/6/83

AMK42

Isotope
Source Markings

Activity
Source Markings

Markings: 241Am/Be, 50mCi, 6/17/86

CAA10805

Isotope
Source Markings

Activity
Source Markings

Markings: 241Am/Be, 40mCi, Al, 10/22/87

CAA11328

Isotope
Source Markings

Activity
Source Markings

Markings: 241Am/Be, 40mCi, Al, 3/18/88

CAA12551	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 1/26/94	**Activity** Source Markings
CAA12562	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 1/26/89	**Activity** Source Markings
CAA14069	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 3/15/90	**Activity** Source Markings
CAA14090	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 3/15/90	**Activity** Source Markings
CAA14093	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 3/15/90	**Activity** Source Markings
CAA14268	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 4/6/90	**Activity** Source Markings
CAA14293	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 4/6/90	**Activity** Source Markings
CAA2460	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, TRC, 4/17/79	**Activity** Source Markings
CAA5790	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI	**Activity** Source Markings

CAA8572	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI	**Activity** Source Markings
CAA8675	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 11/13/85	**Activity** Source Markings
CAA8791	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 1/15/86	**Activity** Source Markings
CAA9702	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 9/22/86	**Activity** Source Markings
CAA9703	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 9/22/86	**Activity** Source Markings
CAA9728	**Isotope** Source Markings Markings: 241Am/Be, 40mCi, AI, 9/22/1986	**Activity** Source Markings
NE766	**Isotope** NRC Registry Comments: MC-1 gauge, mfgr logbook date 9/6/77 Record Numbers: 00628 00140	**Activity** NRC Registry
NE789	**Isotope** NRC Registry Comments: MC-1 gauge, mfgr logbook date 12/15/77 Record Numbers: 00628 00140	**Activity** NRC Registry
NE81755	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 12/14/77	**Activity** Source Markings

NJ01815

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am/Be, 40mCi, Al, 11/11/94

NJ2839

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am/Be, 40mCi, Al, 12/9/97

T1702

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am/Be, 40mCi, 10/14/83

Source Serial No. **LA00000067524**

0594NK

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am/Be, 50mCi, 4/25/90

0954NK

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am/Be, 50mCi, 4/25/90

10121NE

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am/Be, 50mCi, 6/14/89

1075NN

Isotope	Activity
NRC Registry	NRC Registry

Comments: MC-3 gauge, mfgr logbook date 2/12/2001

Record Numbers: 03868 01816

5478NK

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am/Be, 50mCi, 12/20/95

6650NK

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am/Be, 50mCi, 12/11/96

7136NE	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 9/20/85	**Activity** Source Markings
7345NE	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 11/19/01	**Activity** Source Markings
7903NE	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 7/5/86	**Activity** Source Markings
8432NK	**Isotope** Source Markings Markings: Am241/Be, 50mCi, AI	**Activity** Source Markings
8725NK	Source Certificate Comments: MC-S-24 Stratagauge: 10mCi Cs137 and 50mCi 241AmBe Record Numbers: 25905 01816	
9077NE	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 3/10/88	**Activity** Source Markings
9275NK	**Isotope** Source Markings Markings: Am241/Be, 50mCi, AI	**Activity** Source Markings
9393NK	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 4/20/00	**Activity** Source Markings
9417LX	**Isotope** Source Markings Markings: Am241, 10mCi, AI	**Activity** Source Markings

9600NK	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 8/2/00	**Activity** Source Markings
AM191	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 6/15/78	**Activity** Source Markings
AM22V	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 2/27/84	**Activity** Source Markings
AM244	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 9/22/78	**Activity** Source Markings
AM28H	**Isotope** Source Markings Markings: Am241 Comments: MC-M gauge, mfgr logbook date 6/4/81 Record Numbers: 25935 04436	**Activity** NRC Registry
AM39M	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 4/23/82	**Activity** Source Markings
AM493	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 5/18/79	**Activity** Source Markings
AM74Q	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 5/6/83	**Activity** Source Markings
AM-80N	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 7/27/82	**Activity** Source Markings

AM870	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 8/20/82	**Activity** Source Markings
AM88T	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 11/28/83	**Activity** Source Markings
AM919	**Isotope** Source Markings Markings: Am241/Be, 50mCi, 1/17/80	**Activity** Source Markings
AMC88	**Isotope** Source Markings Markings: Am241/Be, 50mCi, 7/30/85	**Activity** Source Markings
AMC99	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 7/30/85	**Activity** Source Markings
AMK09	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 5/12/86	**Activity** Source Markings
AMK27	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 6/17/86	**Activity** Source Markings
AMK77	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 9/4/86	**Activity** Source Markings
AMK79	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 9/4/86	**Activity** Source Markings

AMK88	**Isotope** Source Markings Markings: 241Am/Be, 50mCi, 9/4/86	**Activity** Source Markings
CAA1000	**Isotope** Source Markings Markings: Am241/Be, 40mCi, TRC, 7/22/77	**Activity** Source Markings
CAA12616	**Isotope** Source Markings Markings: Am241/Be, 40mCi, AI, 2/22/89	**Activity** Source Markings
CAA14567	**Isotope** Source Markings Markings: Am241/Be, 40mCi, AI, 5/14/90	**Activity** Source Markings
CAA1695	**Isotope** Source Markings Markings: Am241/Be, 40mCi, AI, 6/14/78, TRC	**Activity** Source Markings
CAA2744	**Isotope** Source Markings Markings: Am241/Be, 40mCi, TRC, 7/5/79	**Activity** Source Markings
CAA3313	**Isotope** Source Markings Markings: Am241/Be, 40mCi, TRC, 12/14/79	**Activity** Source Markings
CAA9729	**Isotope** Source Markings Markings: Am241/Be, 40mCi, AI, 9/22/86	**Activity** Source Markings
E119	**Isotope** NRC Registry Comments: Model 501(137Cs 10mCi & 241AmBe 50mCi). Note: device & source predate logbooks date bound by next highest SN in series found in logbook (E136) 12/4/76.	**Activity** NRC Registry

Record Numbers: 03770 00140

NE15A

Isotope	Activity
Source Markings	Source Markings

Markings: Am241/Be, 50mCi: 137Cs 10mCi: 8/24/81

NE33A

Isotope	Activity
Source Markings	Source Markings

Markings: Am241/Be, 50mCi: 137Cs 10mCi: 2/9/82

NE743

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am/Be, 50mCi, 8/24/77

NE820

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am/Be, 50mCi, 12/14/77

NE913

Isotope	Activity
Source Markings	Source Markings

Markings: Am241/Be, 50mCi: 137Cs 10 mCi: 11/13/78

NE956

Isotope	Activity
Source Markings	Source Markings

Markings: Am241/Be, 50mCi: 137Cs 10mCi: 12/22/80

NEE251

Isotope	Activity
Source Markings	Source Markings

Markings: Am-241Be, 10mCi Cs-137, 50mCi Am/Be, 8-29-75

NJ2833

Isotope	Activity
Source Markings	Source Markings

Markings: Am241/Be, 40mCi, Al, 12/9/97

TI798

Isotope	Activity
Source Markings	Source Markings

Markings: AmBe, 40mCi, 10/14/83

T2097

Isotope
Source Markings

Activity
Source Markings

Markings: 40 mCi Am241Be, 2/20/84

Sources in Special Form Capsules

Appendix B
Sources In Special Form Capsules

(Curies 1 in red if isotope is short-lived and no decayed activity is available)

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
LA00000067523					
II-1-669					
	CPN (InstroTek, Inc.)	0253NE	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	0507NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	0619NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	1194NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	1202NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	1254NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	2144NN	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	4822NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	6881NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	7552NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	8160NE	241Am/Be	0.03	0.10
	CPN (InstroTek, Inc.)	8811NE	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	9038NE	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	9194NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM12F	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM193	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM31C	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM438	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM7572	241Am/Be	0.09	0.30
	CPN (InstroTek, Inc.)	AM81H	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM8219	241Am/Be	0.03	0.10
	CPN (InstroTek, Inc.)	AM89T	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM9U	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AMK42	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	CAA10805	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA11328	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA12551	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA12562	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA14069	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA14090	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA14093	241Am/Be	0.01	0.04

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	CPN (InstroTek, Inc.)	CAA14268	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA14293	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA2460	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA5790	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA8572	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA8675	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA8791	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA9702	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA9703	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA9728	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	NE766	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	NE789	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	NE81755	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	NJ01815	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	NJ2839	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	T1702	241Am/Be	0.01	0.04
Total Sources in SFCII-1-669 (47 sources)					
Sum				***0.72***	***2.49***
Total Sources in container LA00000067523 (47 sources)					
Sum				***0.72***	***2.49***

LA00000067524

II-1-670

	CPN (InstroTek, Inc.)	0594NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	0954NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	10121NE	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	1075NN	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	5478NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	6650NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	7136NE	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	7345NE	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	7903NE	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	8432NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	8725NK	241Am/Be/137Cs	0.01	0.05
	CPN (InstroTek, Inc.)	9077NE	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	9275NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	9393NK	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	9417LX	241Am	0.00	0.01
	CPN (InstroTek, Inc.)	9600NK	241Am/Be	0.01	0.05

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
	CPN (InstroTek, Inc.)	AM191	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM22V	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM244	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM28H	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM39M	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM493	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM74Q	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM-80N	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM870	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM88T	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AM919	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AMC88	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AMC99	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AMK09	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AMK27	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AMK77	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AMK79	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	AMK88	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	CAA1000	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA12616	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA14567	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA1695	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA2744	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA3313	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	CAA9729	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	E119	241Am/Be/137Cs	0.01	0.05
	CPN (InstroTek, Inc.)	NE15A	241Am/Be/137Cs	0.01	0.05
	CPN (InstroTek, Inc.)	NE33A	241Am/Be/137Cs	0.01	0.05
	CPN (InstroTek, Inc.)	NE743	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	NE820	241Am/Be	0.01	0.05
	CPN (InstroTek, Inc.)	NE913	241Am/Be/137Cs	0.01	0.05
	CPN (InstroTek, Inc.)	NE956	241Am/Be/137Cs	0.01	0.05
	CPN (InstroTek, Inc.)	NEE251	241Am/Be/137Cs	0.01	0.05
	CPN (InstroTek, Inc.)	NJ2833	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	T1798	241Am/Be	0.01	0.04
	CPN (InstroTek, Inc.)	T2097	241Am/Be	0.01	0.04
Total Sources in SFCII-1-670 (52 sources)					
Sum				***0.71***	***2.46***

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
Total Sources in container LA00000067524 (52 sources)					
Sum				*0.71*	*2.46*
Grand Total				*1.43*	*4.95*

Radiological Contamination Surveys

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 01/28/14 - 01/29/14 (BL 2-19-14) No. of Samples: 69

TA: 36 (BL 2/5/14) Rm: n/a

RCT: Billy Terrazas Z Number: 115030

RCT Signature: MS: E541

Phone: 505-665-9238 Fax: n/a

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☑ Non-Routine / Other: CPN, Concord ,Ca.

ADDITIONAL INFORMATION

RWP No.: n/a

Work Request No.: n/a Incident No.: n/a counted @#37-10.5α · 249β mda · 36.45α · 163.75β

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	13652	2/22/2014	0.3810	n/a	14.4	41.47
Beta S43-10-1	13652	2/22/2014	0.3490	n/a	352	193.23
SHP270	13693	5/13/2014	n/a	n/a	n/a	n/a
SNRD	13756	4/2/2014	n/a	n/a	n/a	n/a

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☑ MEARS COUNTED IN FIELD

FIELD SMEAR COUNTER MDA (dpm)

alpha: 41.47

beta: 193.23

RP-1 REVIEW BY

WA 152423

SAMPLE TRACKING NUMBER

29047069

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma		at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	pre-job Drums # 600	nda	nda	nda	nda	n/a						
2	pre-job Drums #903	nda	nda	nda	nda	n/a						
3	pre-job Drums #68	nda	nda	nda	nda	n/a						
4	pre-job Drums #60	nda	nda	nda	nda	n/a						
5	pre-job shield	nda	nda	nda	nda	n/a						
6	pre-job shield	nda	nda	nda	nda	n/a						
7	pre-job shield	nda	nda	nda	nda	n/a						
8	pre-job table	nda	nda	nda	nda	n/a						
9	pre-job floor	nda	nda	nda	nda	n/a						
10	pre-job sfc wk bench	nda	nda	nda	nda	n/a						
11	pre-job floor	nda	nda	nda	nda	n/a						
12	pre-job count cart	nda	nda	nda	nda	n/a						
13	pre-job floor	nda	nda	nda	nda	n/a						
14	pre-job inside drum #68	nda	nda	nda	nda	n/a						
15	pre-job inside drum #68	nda	nda	nda	nda	n/a						

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29047069

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	pre-job in drum #68	nda	nda	nda	nda	n/a						
17	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
18	leak test 241AmBe sources	nda	nda	8	nda	n/a						
19	leak test 241AmBe sources	nda	nda	11.9	nda	n/a						
20	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
21	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
22	SFC II-1-669 w/241AmBe sources	nda	nda	nda	nda	n/a	37.0	157.0				
23	Drum LA67523 w/ SFCII-1-669 top	nda	nda	nda	nda	n/a						
24	Drum LA67523 w/ SFCII-1-669 ring	nda	nda	nda	nda	n/a						
25	Drum LA67523 w/ SFCII-1-669 side	nda	nda	nda	nda	n/a	3.6	4.2			0.1	1.1
26	Drum LA67523 w/ SFCII-1-669 side	nda	nda	nda	nda	n/a						
27	Drum LA67523 w/ SFCII-1-669 btm	nda	nda	nda	nda	n/a						
28	leak test 241AmBe,137Cs sources	570	nda	nda	nda	n/a						
29	shield and tools	90	nda	101.3	16.5	n/a						
30	pig	nda	nda	11.6	nda	n/a						
31	pig	nda	nda	nda	nda	n/a						
32	post-job tools	nda	nda	37.4	nda	n/a						
33	post-job tools	nda	nda	nda	nda	n/a						
34	post-job poly shield	nda	nda	nda	nda	n/a						
35	post-job roller	nda	nda	79.2	11	n/a						
36	post-job poly shield	nda	nda	nda	nda	n/a						
37	pre-job sfc work table	nda	nda	nda	nda	n/a						
38	pre-job record table	nda	nda	nda	nda	n/a						
39	pre-job shield inspection area	nda	nda	47.4	nda	n/a						
40	pre-job floor	50	nda	nda	nda	n/a						

*dpm/100 cm²

RP-1 Survey Number: 29047069

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
41	pre-job count cart	nda	nda	nda	nda	n/a						
42	leak test 241AmBe sources	nda	nda	nda	11.5	n/a						
43	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
44	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
45	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
46	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
47	leak test 241AmBe sources	270	nda	nda	nda	n/a						
48	shield	nda	nda	20.2	nda	n/a						
49	scale	nda	nda	nda	nda	n/a						
50	tongs	nda	nda	10.4	nda	n/a						
51	pig BB5	nda	nda	nda	nda	n/a						
52	pig A	nda	nda	nda	nda	n/a						
53	pig 3	nda	nda	nda	nda	n/a						
54	pig 1	nda	nda	nda	nda	n/a						
55	Al can small	nda	nda	11.7	nda	n/a						
56	Al can large	nda	nda	nda	nda	n/a						
57	SFC II-1-670 w/241AmBe, 241AmBe 137Cs	nda	nda	nda	nda	n/a	178.5	174.0				
58	Drum LA67524 w/SFC II-1-670 top	nda	nda	nda	nda	n/a						
59	Drum LA67524 w/SFC II-1-670 ring	nda	nda	nda	nda	n/a						
60	Drum LA67524 w/SFC II-1-670 side	nda	nda	nda	nda	n/a	14.2	4.7			1.4	0.9
61	Drum LA67524 w/SFC II-1-670 side	nda	nda	nda	nda	n/a						
62	Drum LA67524 w/SFC II-1-670 btm	nda	nda	nda	nda	n/a						
63	post-job tools	nda	nda	nda	nda	n/a						
64	post-job tools	nda	nda	nda	nda	n/a						
65	post-job dino cam	nda	nda	nda	nda	n/a						

*dpm/100 cm²

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29047069

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
66	post-job roller	nda	nda	nda	nda	n/a						
67	post-job shielding	nda	nda	6.8	nda	n/a						
68	post-job sfc kit	nda	nda	nda	nda	n/a						
69	post-job sfc kit	nda	nda	nda	nda	n/a						
70	End of survey											
71												
72												
73												
74												
75												
76					N							
77												
78												
79												
80												
81												
82												
83												
84												
85												
86												
87												
88												
89												
90												

*dpm/100 cm²

WD

Other Information

Drum number LA00000067523 and LA00000067524 of BDR LA14-OSR-VE-002 and LA14-OSR-CH-002: one may find serial numbers or identifying information that may not match exactly between documents (e.g. VE attachment 4, rad surveys, markings, source cert, regulatory docs, etc) . This is an artifact that source manufacturers, regulators and customers may use somewhat different nomenclature to identify the same source. Some examples include:

1) Alpha Numeric numbering where the suffix or prefix may be used interchangeably throughout the life of the source. Examples include: LP123 vs LP-123 or 123LP vs 123 LP, etc... 7-1-123G vs 71 1 123g, etc...
2) The addition of a secondary serial number or identification number to reflect the device in which it is used. The most common methods used to identify these are to put the secondary ID number in parenthesis or following a slash. Examples include: MRC-246(135NP), 123LV/269, etc...
3) In addition to secondary numbering some regulators or users may add nomenclature to further identify the source. NMMSS is one of the more common. For example a source manufactured by MRC may be inscribed as MRC PU8PU123 or just PU8PU123 where as the NMMSS database added the manufacture designation to the front of the serial number; in this case the serial in NMMSS is listed as MRPU8BE123
4) Dashes or spacing is also interchangeable in that depending upon the author of the document (including regulators) the format could be determined by internal procedures, typeset, etc.... For example 7-1-123G vs 71 1 123 g found in the Texas State Health Department source list.
5) How the source ID or serial number translated during a recovery. Cylindrical sources with the inscription along the axis may lead to the alpha numeric order not being an exact match to the documentation, e.g. MRC 1234 vs 1234 MRC.
6) The most conservative values is used when assigning activity values in cases where the supporting data differs, e.g. SSDR value vs site log entries.
7) One source marked on the certificate 002277 is comprised of 3 separate sources 2277-1, 2277-2, 2277-3. One source serial number 004 98 has an extra slash in the markings 004/98. Source MRC-AmBe-2542 serial number is the same as AmBe-2542. Source MRC-Pu8Li/Cs-1 has additional nomenclature in the serial number entered in the shipping record MRC-NG-SS-W-Pu8Li/Cs-1.

Although there may be instances where the source identification is not "exact" between differing documentation, the offsite source recovery project (OSRP) makes every effort though experience, documentation and research to ensure that the information is accurate, e.g. the identified source isotope is correct and the source activity is conservatively accurate.

Los Alamos
NATIONAL LABORATORY
EST 1943

Memorandum

Nuclear Engineering & Nonproliferation Division
International Threat Reduction Group
Off-Site Source Recovery Project (OSRP)

Subject: ERID Numbers for Off-Site Source Recovery Project Acceptable Knowledge Documentation

The ERID numbers corresponding to the acceptable knowledge documentation for each drum in this Off-Site Source Recovery Project BDR package are listed below:

OSRP Drum Identifier	ERID Number
LA00000067523	ERID-254725
LA00000067524	ERID-254725

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA14-OSR-VE-002	SPM CHECKLIST FOR OSR VE	04-02-14	4
LA14-OSR-VE-002	BDR FOR OSR VE	~~01-28-14~~ 03.24.14	37
			4.8.14
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	4/8/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	2823
Address	915056291658
Name	LANL
Start Time	04/08 12:21 PM
Call Length	00'20
Sheets	1
Result	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	04-02-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA14-OSR-VE-002	SPM CHECKLIST FOR OSR VE	04-02-14	4
LA14-OSR-VE-002	BDR FOR OSR VE	~~04-28-14~~ 03.24.14 4.8.14	37
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	4/8/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LA14-OSR-VE-003				**Examination Date(s): 2/25/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: LA00000065463
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 5/1/14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-003				**Examination Date(s): 2/25/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-003				**Examination Date(s): 2/25/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**	X			
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**	X			
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-003				**Examination Date(s): 2/25/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**	X			
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**	X			
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**	X			
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	T. A. Groover			5.1.14
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – Visual Examination Batch Data Report Cover Page

VE BDR Number: LA14-OSR-VE-003	
Waste stream number: LA-OS-00-01.001	Container Type: Drum

Container Identifiers included in this VE BDR			
1	LA00000065463	11	NA
2	NA	12	NA
3	NA	13	NA
4	NA	14	NA
5	NA	15	NA
6	NA	16	NA
7	NA	17	NA
8	NA	18	NA
9	NA	19	NA
10	NA	20	NA

VE Independent Technical Reviewer

IOANA WITKOWSKI (Printed Name)

Ioana Witkowski (Signature)

4/29/14 (Date)

NTPC RECORDS ORIGINAL
DATE REC'D 4/29/14

Attachment 6 – Visual Examination Batch Data Report Table of Contents

VE BDR LA14-OSR-VE-003

Table of Contents		
Item	Description	Page No.
1	Visual Examination Batch Data Report Cover Page (Attachment 5)	1
2	Visual Examination Batch Data Report Table of Contents (Attachment 6)	2
3	Visual Examination Independent Technical Reviewer Review Checklist (Attachment 7)	3
4	Container Packaging and Visual Examination Data Record(s) (Attachment 4)	5
5	Weights for Standardized OSRP Packaging Configurations (Attachment 2)	8
6	List of Acceptable Knowledge Documentation Identifier	9
7	List of Sources in Special Form Capsules	20
8	Copy of Radiological Contamination Surveys	24
9	List of Special Form Documentation	NA
10	Copy of NCRs, if applicable	NA
11	Other information (if any; otherwise enter NA for page number)	25

Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist

Page 1 of 1

VE BDR LA14-OSR-VE-003

This review verifies that all quality assurance and quality control requirements are met at the data generation level as stated in this procedure.

Criteria Met?	Required Criterion
☑Yes ☐No	1. The correct revision of CCP-TP-069 was used? Note revision number, R 6.
☐Yes ☐No ☑NA	2. Deviations, if any, have been documented. (Choose NA if there were no deviations.)
☑Yes ☐No	3. The weight data were reported in the correct units. (Note: Total weight must be reported in kilograms (Kg) and the weights of individual sealed sources are reported in grams.) Data are reported with the correct number of significant figures (one decimal place).
☑Yes ☐No	4. The WMPs identified during VE are consistent with those assigned to these materials based on AK.
☑Yes ☐No	5. The Waste Matrix Code is consistent with the AK.
☑Yes ☐No	6. Data generation and reduction were conducted in a technically correct manner in accordance with CCP-TP-069, as evidenced by checks of items 1-5.
☑Yes ☐No	7. Calibration data for torque wrenches are recorded and within the calibration period.
☑Yes ☐No	8. Calculations have been verified by 100% check of all hand calculations. • Sum or waste material parameter weights • Estimated POC or waste weight
☑Yes ☐No	9. The data were reviewed for transcription errors and the data recorded is legible, accurate, and include any identifier numbers.
☑Yes ☐No	10. The forms in the VE BDR are complete and match the Table of Contents (Attachment 6).
☐Yes ☐No ☑NA	11. All NCRs relevant to the packaging of the loaded sealed sources were initiated and entered on the VE BDR. (Choose NA if there were no NCRs.)
☑Yes ☐No	12. Precision: Precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases? (Enter Yes if there were no unresolved discrepancies.)
☑Yes ☐No	13. Accuracy and Comparability: Accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (e.g. operators on LOQI)?
☑Yes ☐No	14. Completeness: There is a completed VE data form for each waste container in the BDR?
Comments, if "No" is checked for any criterion above: none	

Independent Technical Review conducted by:

IOANA WITKOWSKI — VE Independent Technical Reviewer (Printed Name)

Ioana Witkowski — (Signature)

4/29/14 — (Date)

The Following Documents used for this VE BDR are the Best Available Copies

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA14-OSR-VE-003 Page 1 of 3

Container Identifier		LA00000065463
Printed name of VE Packager		Adam Martinez
Printed name of VE Recorder		Leonard Manzanares
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X_ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)	
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-960 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT9400 • POC lid filter serial number: 026022 • POC lid filter manufacture date: Feb.2003	
3	Verify based on VE:	Verified
	• The item(s) meet a sealed source regulatory definition.	Yes☒ No☐
	• The outer casing is made of non-VOC bearing material, as the sources are placed in the container.	Yes☒ No☐
	• That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size.	Yes☒ No☐
	• That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK.	Yes☒ No☐
	• That there are no non-packaging items placed in the container other than the source(s).	Yes☒ No☐
	• Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources*	Yes☒ No☐
	• If POC lid and body have visible serial numbers, ensure the serial numbers match.	Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100	
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 035314 • Calibration due date of torque wrench 5-7-14	
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 035314 • Calibration due date of torque wrench 5-7-14	

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-OSR-VE-003 Page 2 of 3

Container Identifier LA00000065463

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	Am-241, SFC II-1-675	OM	8239	none
2	n/a	n/a	n/a	n/a
3	n/a	n/a	n/a	n/a
4	n/a	n/a	n/a	n/a
5	n/a	n/a	n/a	n/a
6	n/a	n/a	n/a	n/a
7	n/a	n/a	n/a	n/a
8	n/a	n/a	n/a	n/a
9	n/a	n/a	n/a	n/a
10	n/a	n/a	n/a	n/a
11	n/a	n/a	n/a	n/a
12	n/a	n/a	n/a	n/a
13	n/a	n/a	n/a	n/a
14	n/a	n/a	n/a	n/a
15	n/a	n/a	n/a	n/a

Total estimated weight (kg) for each WMP listed for above items.	8.2kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA☐ None☒ kg	Description: n/a	WMP: n/a
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2kg		
Total estimated weight (kg) for loaded container.	227.4kg		
Container percent full.	95%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-OSR-VE-003 Page 3 of 3

Container Identifier LA000000065463 4-1-14

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of confinement present.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Adam Martinez — Printed Name VE Packager — Signature — 2/25/14 Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Leonard Manzanares — Printed Name VE Recorder — Signature — 2/25/14 Date

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component		Estimated Component(s) Weight (kg)					
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Acceptable Knowledge Documentation

Acceptable Knowledge Documentation

Source Serial No.	LA00000065463
0099CW	Source Certificate
	Record Numbers: 04435
0172CW	Source Certificate
	Record Numbers: 04435
0198CW	Source Certificate
	Record Numbers: 04435
0224LQ	Source Certificate
	Record Numbers: 04435
0239LQ	Source Certificate
	Record Numbers: 04435
0240LQ	Source Certificate
	Record Numbers: 04435
0241LQ	Source Certificate
	Record Numbers: 04435
0242LQ	Source Certificate
	Record Numbers: 04435
0373LX	Source Certificate
	Record Numbers: 04435

0485CW	Source Certificate
	Record Numbers: 04435
0507LX	Source Certificate
	Record Numbers: 04435
0539CW	Source Certificate
	Record Numbers: 04435
0575LQ	Source Certificate
	Record Numbers: 04435
0637LQ	Source Certificate
	Record Numbers: 04435
0638LQ	Source Certificate
	Record Numbers: 04435
0643CW	Source Certificate
	Record Numbers: 04435
0663CW	Source Certificate
	Record Numbers: 04435
0664CW	Source Certificate
	Record Numbers: 04435
0677CW	Source Certificate
	Record Numbers: 04435

0679CW	Source Certificate
	Record Numbers: 04435
0682LX	Source Certificate
	Record Numbers: 04435
1443LQ	Source Certificate
	Record Numbers: 04435
1444LQ	Source Certificate
	Record Numbers: 04435
1497LQ	Source Certificate
	Record Numbers: 04435
156/02	Source Certificate
	Record Numbers: 04435
1584LQ	Source Certificate
	Record Numbers: 04435
1596LQ	Source Certificate
	Record Numbers: 04435
1610LQ	Source Certificate
	Record Numbers: 04435
2112CW	Source Certificate
	Record Numbers: 04435

2181CW	Source Certificate
	Record Numbers: 04435
2995LV	Source Certificate
	Comments: 5.55 GBq= 150mCi
	Record Numbers: 04435
2998LV	Source Certificate
	Comments: 5.55 GBq= 150mCi
	Record Numbers: 04435
3220LQ	Source Certificate
	Record Numbers: 04435
3224LQ	Source Certificate
	Record Numbers: 04435
3234LQ	Source Certificate
	Record Numbers: 04435
3360LQ	Source Certificate
	Record Numbers: 04435
3365LQ	Source Certificate
	Record Numbers: 04435
4021LQ	Source Certificate
	Record Numbers: 04435
4128LQ	Source Certificate

	Record Numbers: 04435
4139LQ	Source Certificate
	Record Numbers: 04435
4163LQ	Source Certificate
	Record Numbers: 04435
4169LQ	Source Certificate
	Record Numbers: 04435
4197LQ	Source Certificate
	Record Numbers: 04435
4274LX	Source Certificate
	Record Numbers: 04435
4400LX	Source Certificate
	Record Numbers: 04435
5145LQ	Source Certificate
	Record Numbers: 04435
5151LX	Source Certificate
	Record Numbers: 04435
5167LQ	Source Certificate
	Record Numbers: 04435
5223LQ	Source Certificate

Record Numbers: 04435

5240LQ Source Certificate

Record Numbers: 04435

5260LQ Source Certificate

Record Numbers: 04435

5305LQ Source Certificate

Record Numbers: 04435

5485LQ Source Certificate

Record Numbers: 04435

5495LQ Source Certificate

Record Numbers: 04435

5519LQ Source Certificate

Record Numbers: 04435

5614LQ Source Certificate

Record Numbers: 04435

5648LQ Source Certificate

Record Numbers: 04435

5789LX Source Certificate

Record Numbers: 04435

5790LX Source Certificate

Record Numbers: 04435

5791LX Source Certificate

Record Numbers: 04435

5793LX Source Certificate

Record Numbers: 04435

5901LQ Source Certificate

Record Numbers: 04435

5902LQ Source Certificate

Record Numbers: 04435

5926LQ Source Certificate

Record Numbers: 04435

6398LX Source Certificate

Record Numbers: 04435

6440LV Source Certificate

Record Numbers: 04435

6550LQ Source Certificate

Record Numbers: 04435

6616LQ Source Certificate

Record Numbers: 04435

6759LQ Source Certificate

Record Numbers: 04435

6779LQ Source Certificate

Record Numbers: 04435

6877LQ Source Certificate

Record Numbers: 04435

6881LQ Source Certificate

Record Numbers: 04435

7143LQ Source Certificate

Record Numbers: 04435

7149LQ Source Certificate

Record Numbers: 04435

7955LQ Source Certificate

Record Numbers: 04435

7964LQ Source Certificate

Record Numbers: 04435

8436LX Source Certificate

Record Numbers: 04435

8477LX Source Certificate

Record Numbers: 04435

8595LQ Source Certificate

Record Numbers: 04435

8676LQ Source Certificate

Record Numbers: 04435

8700LQ Source Certificate

Record Numbers: 04435

8991LV Source Certificate

Record Numbers: 04435

9039LV Source Certificate

Record Numbers: 04435

9040LV Source Certificate

Record Numbers: 04435

9234LV Source Certificate

Record Numbers: 04435

9376LQ Source Certificate

Record Numbers: 04435

9746LX Source Certificate

Record Numbers: 04435

9748LX Source Certificate

Record Numbers: 04435

9751LX Source Certificate

Record Numbers: 04435

9787LX Source Certificate

Record Numbers: 04435

Sources in Special Form Capsule

Appendix B
Sources In Special Form Capsules

(Curies 1 in red if isotope is short-lived and no decayed activity is available)

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
LA00000065463					
II-1-675					
	NDC Infrared	0099CW	241Am	0.04	0.15
	NDC Infrared	0172CW	241Am	0.04	0.15
	NDC Infrared	0198CW	241Am	0.02	0.08
	NDC Infrared	0224LQ	241Am	0.02	0.08
	NDC Infrared	0239LQ	241Am	0.04	0.15
	NDC Infrared	0240LQ	241Am	0.04	0.15
	NDC Infrared	0241LQ	241Am	0.04	0.15
	NDC Infrared	0242LQ	241Am	0.04	0.15
	NDC Infrared	0373LX	241Am	0.04	0.15
	NDC Infrared	0485CW	241Am	0.04	0.15
	NDC Infrared	0507LX	241Am	0.04	0.15
	NDC Infrared	0539CW	241Am	0.01	0.03
	NDC Infrared	0575LQ	241Am	0.04	0.15
	NDC Infrared	0637LQ	241Am	0.04	0.15
	NDC Infrared	0638LQ	241Am	0.04	0.15
	NDC Infrared	0643CW	241Am	0.01	0.03
	NDC Infrared	0663CW	241Am	0.02	0.08
	NDC Infrared	0664CW	241Am	0.02	0.08
	NDC Infrared	0677CW	241Am	0.02	0.08
	NDC Infrared	0679CW	241Am	0.04	0.15
	NDC Infrared	0682LX	241Am	0.04	0.15
	NDC Infrared	1443LQ	241Am	0.04	0.15
	NDC Infrared	1444LQ	241Am	0.04	0.15
	NDC Infrared	1497LQ	241Am	0.04	0.15
	NDC Infrared	156/02	241Am	0.04	0.15
	NDC Infrared	1584LQ	241Am	0.04	0.15
	NDC Infrared	1596LQ	241Am	0.04	0.15
	NDC Infrared	1610LQ	241Am	0.04	0.15
	NDC Infrared	2112CW	241Am	0.04	0.15
	NDC Infrared	2181CW	241Am	0.04	0.15
	NDC Infrared	2995LV	241Am	0.04	0.15

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	NDC Infrared	2998LV	241Am	0.04	0.15
	NDC Infrared	3220LQ	241Am	0.04	0.15
	NDC Infrared	3224LQ	241Am	0.04	0.15
	NDC Infrared	3234LQ	241Am	0.04	0.15
	NDC Infrared	3360LQ	241Am	0.04	0.15
	NDC Infrared	3365LQ	241Am	0.02	0.08
	NDC Infrared	4021LQ	241Am	0.02	0.08
	NDC Infrared	4128LQ	241Am	0.04	0.15
	NDC Infrared	4139LQ	241Am	0.04	0.15
	NDC Infrared	4163LQ	241Am	0.04	0.15
	NDC Infrared	4169LQ	241Am	0.04	0.15
	NDC Infrared	4197LQ	241Am	0.04	0.15
	NDC Infrared	4274LX	241Am	0.04	0.15
	NDC Infrared	4400LX	241Am	0.04	0.15
	NDC Infrared	5145LQ	241Am	0.04	0.15
	NDC Infrared	5151LX	241Am	0.03	0.10
	NDC Infrared	5167LQ	241Am	0.04	0.15
	NDC Infrared	5223LQ	241Am	0.04	0.15
	NDC Infrared	5240LQ	241Am	0.04	0.15
	NDC Infrared	5260LQ	241Am	0.04	0.15
	NDC Infrared	5305LQ	241Am	0.02	0.08
	NDC Infrared	5485LQ	241Am	0.02	0.08
	NDC Infrared	5495LQ	241Am	0.02	0.08
	NDC Infrared	5519LQ	241Am	0.04	0.15
	NDC Infrared	5614LQ	241Am	0.02	0.08
	NDC Infrared	5648LQ	241Am	0.04	0.15
	NDC Infrared	5789LX	241Am	0.04	0.15
	NDC Infrared	5790LX	241Am	0.04	0.15
	NDC Infrared	5791LX	241Am	0.04	0.15
	NDC Infrared	5793LX	241Am	0.04	0.15
	NDC Infrared	5901LQ	241Am	0.04	0.15
	NDC Infrared	5902LQ	241Am	0.04	0.15
	NDC Infrared	5926LQ	241Am	0.04	0.15
	NDC Infrared	6398LX	241Am	0.04	0.15
	NDC Infrared	6440LV	241Am	0.04	0.15
	NDC Infrared	6550LQ	241Am	0.04	0.15
	NDC Infrared	6616LQ	241Am	0.01	0.03
	NDC Infrared	6759LQ	241Am	0.04	0.15
	NDC Infrared	6779LQ	241Am	0.04	0.15

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	NDC Infrared	6877LQ	241Am	0.01	0.03
	NDC Infrared	6881LQ	241Am	0.01	0.03
	NDC Infrared	7143LQ	241Am	0.02	0.08
	NDC Infrared	7149LQ	241Am	0.02	0.08
	NDC Infrared	7955LQ	241Am	0.01	0.03
	NDC Infrared	7964LQ	241Am	0.01	0.03
	NDC Infrared	8436LX	241Am	0.04	0.15
	NDC Infrared	8477LX	241Am	0.04	0.15
	NDC Infrared	8595LQ	241Am	0.01	0.03
	NDC Infrared	8676LQ	241Am	0.04	0.15
	NDC Infrared	8700LQ	241Am	0.04	0.15
	NDC Infrared	8991LV	241Am	0.04	0.15
	NDC Infrared	9039LV	241Am	0.04	0.15
	NDC Infrared	9040LV	241Am	0.04	0.15
	NDC Infrared	9234LV	241Am	0.03	0.10
	NDC Infrared	9376LQ	241Am	0.04	0.15
	NDC Infrared	9746LX	241Am	0.04	0.15
	NDC Infrared	9748LX	241Am	0.04	0.15
	NDC Infrared	9751LX	241Am	0.04	0.15
	NDC Infrared	9787LX	241Am	0.04	0.15
Total Sources in SFCII-1-675 (90 sources)					
Sum				***3.31***	***11.49***
Total Sources in container LA00000065463 (90 sources)					
Sum				***3.31***	***11.49***
Grand Total				***3.31***	***11.49***

Radiological Contamination Surveys

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 2/24/2014 - 2/25/2014 No. of Samples: 50

TA: _____ Rm: n/a

RCT: Billy Terrazas Z Number: 115030

RCT Signature: [signature] MS: E541

Phone: 5-9238 Fax: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	13658	1/9/2015	0.3640	1	2.7	18.28
Beta S43-10-1	13658	10/9/2014	0.3620	1	116	110.13
Shp 270	13184	10/11/2014			0.2	~0.1mR/hr
SNRD	13757	4/2/2014			<0.1	0.25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ MEARS COUNTED IN FIELD

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☑ Non-Routine / Other: NDC Infrared , Irwindale,Ca.

FIELD SMEAR COUNTER MDA (dpm)

alpha: 18.28

beta: 110.13

SAMPLE TRACKING NUMBER

29147073

ADDITIONAL INFORMATION

RWP No.: n/a

Work Request No.: n/a Incident No.: n/a counted @#30 5.5α - 120β mda 24.9 α - 111.9β

RP-1 REVIEW BY

[signature] 1524/13.

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	pre-job count table	nda	nda	nda	nda	n/a						
2	pre-job floor	nda	nda	nda	nda	n/a						
3	pre-job record table	nda	nda	nda	nda	n/a						
4	pre-job record table	nda	nda	nda	nda	n/a						
5	pre-job floor	nda	nda	nda	nda	n/a						
6	pre-job work bench	nda	nda	nda	nda	n/a						
7	pre-job work bench	nda	nda	nda	nda	n/a						
8	pre-job floor	nda	nda	nda	nda	n/a						
9	pre-job shield	nda	nda	nda	nda	n/a						
10	pre-job shield	nda	nda	nda	nda	n/a						
11	pre-job shield	nda	nda	nda	nda	n/a						
12	pre-job shield	nda	nda	nda	nda	n/a						
13	pre-job work bench	nda	nda	nda	nda	n/a						
14	pre-job work bench	nda	nda	nda	nda	n/a						
15	pre-job cart	nda	nda	nda	nda	n/a						

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147073

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	pre-job cart	nda	nda	nda	nda							
17	pre-job cart	nda	nda	nda	nda	n/a						
18	leak test 241 Am sources	nda	nda	nda	nda	n/a						
19	leak test 241 Am sources	nda	nda	nda	nda	n/a						
20	leak test 241 Am sources	nda	nda	nda	nda	n/a						
21	leak test 241 Am sources	nda	nda	nda	nda	n/a						
22	leak test 241 Am sources	nda	nda	nda	nda	n/a						
23	leak test 241 Am sources	nda	nda	nda	nda	n/a						
24	leak test 241 Am sources	nda	nda	nda	nda	n/a						
25	leak test 241 Am sources	nda	nda	nda	nda	n/a						
26	post-job tweezers	nda	nda	nda	nda	n/a						
27	post-job scale	nda	nda	nda	nda	n/a						
28	post-job source pig	nda	nda	nda	nda	n/a						
29	post-job work bench	nda	nda	nda	nda	n/a						
30	pre-job record table	nda	nda	nda	nda	n/a						
31	pre-job floor	nda	nda	nda	nda	n/a						
32	pre-job floor	nda	nda	nda	nda	n/a						
33	pre-job shield	nda	nda	nda	nda	n/a						
34	pre-job shield	nda	nda	nda	nda	n/a						
35	pre-job shield	nda	nda	nda	nda	n/a						
36	pre-job record cart	nda	nda	nda	nda	n/a						
37	leak test 241 Am sources	nda	nda	nda	nda	n/a						
38	leak test 241 Am sources	nda	nda	nda	nda	n/a						
39	SFC II-1-675 w/241Am sources	nda	nda	nda	nda	n/a						
40	Drum LA65463 w/sfc II-1-675 top	nda	nda	nda	nda	n/a						

*dpm/100 cm²

RP-1 Survey Number: 29147073

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
41	Drum LA65463 w/sfc II-1-675 ring	nda	nda	nda	nda	n/a						
42	Drum LA65463 w/sfc II-1-675 side	nda	nda	nda	nda	n/a	0.2	0.2			0.0	0.0
43	Drum LA65463 w/sfc II-1-675 side	nda	nda	nda	nda	n/a						
44	Drum LA65463 w/sfc II-1-675 btm	nda	nda	nda	nda	n/a						
45	post-job tools	nda	nda	nda	nda	n/a						
46	post-job tools	nda	nda	nda	nda	n/a						
47	post-job tools	nda	nda	nda	nda	n/a						
48	post-job SFC kit	nda	nda	nda	nda	n/a						
49	post-job behind shield	nda	nda	nda	nda	n/a						
50	post-job behind shield	nda	nda	nda	nda	n/a						
51	End of survey											
52												
53												
54												
55												
56												
57												
58												
59												
60												
61												
62												
63												
64												
65												

*dpm/100 cm²

Other Information

Drum number LA00000065463 of BDR LA14-OSR-VE-003 and LA14-OSR-CH-003: one may find serial numbers or identifying information that may not match exactly between documents (e.g. VE attachment 4, rad surveys, markings, source cert, regulatory docs, etc) . This is an artifact that source manufacturers, regulators and customers may use somewhat different nomenclature to identify the same source. Some examples include:

1) Alpha Numeric numbering where the suffix or prefix may be used interchangeably throughout the life of the source. Examples include: LP123 vs LP-123 or 123LP vs 123 LP, etc... 7-1-123G vs 71 1 123g, etc...
2) The addition of a secondary serial number or identification number to reflect the device in which it is used. The most common methods used to identify these are to put the secondary ID number in parenthesis or following a slash. Examples include: MRC-246(135NP), 123LV/269, etc...
3) In addition to secondary numbering some regulators or users may add nomenclature to further identify the source. NMMSS is one of the more common. For example a source manufactured by MRC may be inscribed as MRC PU8PU123 or just PU8PU123 where as the NMMSS database added the manufacture designation to the front of the serial number; in this case the serial in NMMSS is listed as MRPU8BE123
4) Dashes or spacing is also interchangeable in that depending upon the author of the document (including regulators) the format could be determined by internal procedures, typeset, etc.... For example 7-1-123G vs 71 1 123 g found in the Texas State Health Department source list.
5) How the source ID or serial number translated during a recovery. Cylindrical sources with the inscription along the axis may lead to the alpha numeric order not being an exact match to the documentation, e.g. MRC 1234 vs 1234 MRC.
6) The most conservative values is used when assigning activity values in cases where the supporting data differs, e.g. SSDR value vs site log entries.
7) One source marked on the certificate 002277 is comprised of 3 separate sources 2277-1, 2277-2, 2277-3. One source serial number 004 98 has an extra slash in the markings 004/98. Source MRC-AmBe-2542 serial number is the same as AmBe-2542. Source MRC-Pu8Li/Cs-1 has additional nomenclature in the serial number entered in the shipping record MRC-NG-SS-W-Pu8Li/Cs-1.

Although there may be instances where the source identification is not "exact" between differing documentation, the offsite source recovery project (OSRP) makes every effort though experience, documentation and research to ensure that the information is accurate, e.g. the identified source isotope is correct and the source activity is conservatively accurate.

Los Alamos
NATIONAL LABORATORY
EST.1943

Memorandum

Nuclear Engineering & Nonproliferation Division
International Threat Reduction Group
Off-Site Source Recovery Project (OSRP)

Subject: ERID Numbers for Off-Site Source Recovery Project Acceptable Knowledge Documentation

The ERID numbers corresponding to the acceptable knowledge documentation for each drum in this Off-Site Source Recovery Project BDR package are listed below:

OSRP Drum Identifier	ERID Number
LA00000065463	ERID-255161

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GAS-212	Telephone Number:	(505) 412-4821
	N/A	Date Sent:	05/05/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA14-OSR-VE-003	OSR VE SPM CHECKLIST	05/01/14	4
LA14-OSR-VE-003	OSR-VE BATCH DATA REPORT	02/25/14	30
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓] — Signature: J. Gurrola — Printed Name: Jennell Gurrola — Date: 5/8/14

Records Rejected [ ] — Signature — Printed Name — Date

Reason for Rejection:

Re-submittal: Signature — Printed Name — Date

****
*** Send Results ***
****

Sending is complete.

Job No.	3326
Address	915056291658
Name	LANL
Start Time	05/08 12:30 PM
Call Length	00'21
Sheets	1
Result	OK

Controlled Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GAS-212	Telephone Number:	(505) 412-4821
	N/A	Date Sent:	05/05/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA14-OSR-VE-003	OSR VE SPM CHECKLIST	05/01/14	4
LA14-OSR-VE-003	OSR-VE BATCH DATA REPORT	02/25/14	30
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted	[✓]	Signature	Jessell Yurrealde	5/8/14
			Printed Name	Date
Records Rejected	[ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LA14-OSR-VE-004 **Examination Date(s):** 2/11/14 – 2/13/14

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: LA00000067506, LA00000067507, LA00000067508, LA00000067509, LA00000067510
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 5/8/14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-004				**Examination Date(s): 2/11/14 – 2/13/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-004				Examination Date(s): 2/11/14 – 2/13/14
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**	X			
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**	X			
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-004 **Examination Date(s):** 2/11/14 – 2/13/14

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**	X			
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**	X			
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**	X			

Comments: N/A

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Terri-Anne Groover	T. A. Groover	5.7.14
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – Visual Examination Batch Data Report Cover Page

VE BDR Number: LA14-OSR-VE-004	
Waste stream number: LA-OS-00-01.001	Container Type: Drum

Container Identifiers included in this VE BDR			
1	LA00000067506	11	NA
2	LA00000067507	12	NA
3	LA00000067508	13	NA
4	LA00000067509	14	NA
5	LA00000067510	15	NA
6	NA	16	NA
7	NA	17	NA
8	NA	18	NA
9	NA	19	NA
10	NA	20	NA

VE Independent Technical Reviewer

IOANA WITKOWSKI (Printed Name)

Ioana Witkowski (Signature)

5/1/14 (Date)

NTPC RECORDS ORIGINAL
DATE REC'D 5/1/14

Attachment 6 – Visual Examination Batch Data Report Table of Contents

VE BDR LA14-OSR-VE-004

Table of Contents		
Item	Description	Page No.
1	Visual Examination Batch Data Report Cover Page (Attachment 5)	1
2	Visual Examination Batch Data Report Table of Contents (Attachment 6)	2
3	Visual Examination Independent Technical Reviewer Review Checklist (Attachment 7)	3
4	Container Packaging and Visual Examination Data Record(s) (Attachment 4)	5
5	Weights for Standardized OSRP Packaging Configurations (Attachment 2)	20
6	List of Acceptable Knowledge Documentation Identifier	21
7	List of Sources in Special Form Capsules	34
8	Copy of Radiological Contamination Surveys	39
9	List of Special Form Documentation	NA
10	Copy of NCRs, if applicable	NA
11	Other information (if any; otherwise enter NA for page number)	47

Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist

Page 1 of 1

VE BDR LA14-OSR-VE-004

This review verifies that all quality assurance and quality control requirements are met at the data generation level as stated in this procedure.

Criteria Met?	Required Criterion
☑Yes ☐No	1. The correct revision of CCP-TP-069 was used? Note revision number, R 6.
☐Yes ☐No ☑NA	2. Deviations, if any, have been documented. (Choose NA if there were no deviations.)
☑Yes ☐No	3. The weight data were reported in the correct units. (Note: Total weight must be reported in kilograms (Kg) and the weights of individual sealed sources are reported in grams.) Data are reported with the correct number of significant figures (one decimal place).
☑Yes ☐No	4. The WMPs identified during VE are consistent with those assigned to these materials based on AK.
☑Yes ☐No	5. The Waste Matrix Code is consistent with the AK.
☑Yes ☐No	6. Data generation and reduction were conducted in a technically correct manner in accordance with CCP-TP-069, as evidenced by checks of items 1-5.
☑Yes ☐No	7. Calibration data for torque wrenches are recorded and within the calibration period.
☑Yes ☐No	8. Calculations have been verified by 100% check of all hand calculations. • Sum or waste material parameter weights • Estimated POC or waste weight
☑Yes ☐No	9. The data were reviewed for transcription errors and the data recorded is legible, accurate, and include any identifier numbers.
☑Yes ☐No	10. The forms in the VE BDR are complete and match the Table of Contents (Attachment 6).
☐Yes ☐No ☑NA	11. All NCRs relevant to the packaging of the loaded sealed sources were initiated and entered on the VE BDR. (Choose NA if there were no NCRs.)
☑Yes ☐No	12. Precision: Precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases? (Enter Yes if there were no unresolved discrepancies.)
☑Yes ☐No	13. Accuracy and Comparability: Accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (e.g. operators on LOQI)?
☑Yes ☐No	14. Completeness: There is a completed VE data form for each waste container in the BDR?
Comments, if "No" is checked for any criterion above: none	

Independent Technical Review conducted by:

IOANA WITKOWSKI	Ioana Witkowski	5/1/14
VE Independent Technical Reviewer (Printed Name)	(Signature)	(Date)

The Following Documents used for this VE BDR are the Best Available Copies

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA19-0SR-VE-004 Page 1 of 3

Container Identifier	LA0000006750 6
Printed name of VE Packager	Adam MARTINEZ
Printed name of VE Recorder	Rick Day

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X_ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: ~~LC-720~~ LC-720 (RSD 2.11.14) • Drum lid filter manufacture date: 12/07 • POC lid filter model: UT9400 • POC lid filter serial number: 025219 • POC lid filter manufacture date: JAN. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☑ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☑ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☑ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☑ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☑ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☑ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☑ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 09-12-14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 09-12-14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA19-OSR-VE-004 Page 2 of 3

Container Identifier LA 000000675 06

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	SFC II-1-626, Am 241 and Am241/Be	OM	7200	None
2				
3				
4				
5				
6				
7			NA	
8				
9				
10				
11				
12				
13				
14				
15				

Total estimated weight (kg) for each WMP listed for above items.	7.2 kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA ☑ None ☐ kg	Description: NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2 kg		
Total estimated weight (kg) for loaded container.	2264 kg		
Container percent full.	95 %		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-0SR-VE-004 Page 3 of 3

Container Identifier LA000000675O6

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☑	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☑	2. Non-radionuclide pyrophoric material.
☐	☑	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☑	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☑	5. Explosives.
☐	☑	6. Compressed gas or potentially pressurized containers.
☐	☑	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☑	8. Wastes exhibiting the characteristic of ignitability.
☐	☑	9. Wastes exhibiting the characteristic of reactivity.
☐	☑	10. Wastes exhibiting the characteristic of corrosivity.
☐	☑	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☑	12. Inadequately blocked or braced sharp or heavy items.
☐	☑	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

This container has Ø layers of contaminad

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

ADAM MARTINEZ — Printed Name VE Packager
Signature
2-11-14 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Rick Day — Printed Name VE Recorder
Signature
2-11-14 — Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA14-OSR-VE-004 Page 1 of 3

Container Identifier	LA0000067507
Printed name of VE Packager	ADAM MARTINEZ
Printed name of VE Recorder	ADAM MARTINEZ

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) X S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-594 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT9400 • POC lid filter serial number: 025175 • POC lid filter manufacture date: JAN. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☑ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☑ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☑ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☑ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☑ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☑ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☑ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 09-12-14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 09-12-14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-OSR-VE-004 Page 2 of 3

Container Identifier LA00000067507

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	SFC 11-1-619, Am241Be	OM	7200	None
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Total estimated weight (kg) for each WMP listed for above items.	7.2 kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA☒ None☐ kg	Description: NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	kg 219.2		
Total estimated weight (kg) for loaded container.	kg 226.4		
Container percent full.	95 %		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-0SR-VE-0091 Page 3 of 3

Container Identifier LA0000067507

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☑	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☑	2. Non-radionuclide pyrophoric material.
☐	☑	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☑	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☑	5. Explosives.
☐	☑	6. Compressed gas or potentially pressurized containers.
☐	☑	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☑	8. Wastes exhibiting the characteristic of ignitability.
☐	☑	9. Wastes exhibiting the characteristic of reactivity.
☐	☑	10. Wastes exhibiting the characteristic of corrosivity.
☐	☑	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☑	12. Inadequately blocked or braced sharp or heavy items.
☐	☑	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

This container has ø layers of containment

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Alex Feldman — Printed Name VE Packager; Signature; 8-12-14 Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

ADAM MARTINEZ — Printed Name VE Recorder; Signature; 8-12-14 Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA14-OSR-VE-004 Page 1 of 3

Container Identifier	LA000000675O8
Printed name of VE Packager	ADAM MARTINEZ
Printed name of VE Recorder	Rick Day

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) X S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-939 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT9400 • POC lid filter serial number: 026492 • POC lid filter manufacture date: APR. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☑ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☑ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☑ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☑ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☐ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☑ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☑ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 09-12-14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 09-12-14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA19-OSR-VE-004 Page 2 of 3

Container Identifier LA0000067508

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	SFC II-1-623, Am241/Be	OM	7200	None
2				
3				
4				
5				
6				
7			NA	
8				
9				
10				
11				
12				
13				
14				
15				

Total estimated weight (kg) for each WMP listed for above items.	7.2 kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA ☑ None ☐ kg	Description: NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2 kg		
Total estimated weight (kg) for loaded container.	226.4 kg		
Container percent full.	95 %		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-OSR-VE-004 Page 3 of 3

Container Identifier LA0000067508

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☑	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☑	2. Non-radionuclide pyrophoric material.
☐	☑	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☑	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☑	5. Explosives.
☐	☑	6. Compressed gas or potentially pressurized containers.
☐	☑	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☑	8. Wastes exhibiting the characteristic of ignitability.
☐	☑	9. Wastes exhibiting the characteristic of reactivity.
☐	☑	10. Wastes exhibiting the characteristic of corrosivity.
☐	☑	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☑	12. Inadequately blocked or braced sharp or heavy items.
☐	☑	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

This container has Ø layers of Containment

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Printed Name VE Packager	Signature	Date
ADAM MARTINEZ		2-12-14

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Printed Name VE Recorder	Signature	Date
Rick Day		2-12-14

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA14-OSR-VE-0049 Page 1 of 3

Container Identifier	LA0000067509
Printed name of VE Packager	ADAM MARTINEZ
Printed name of VE Recorder	Alex Feldman

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) X S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-987 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT9400 • POC lid filter serial number: 016738 • POC lid filter manufacture date: NOV. 2000
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☑ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☑ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☑ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☑ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☑ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☑ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☑ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 09-12-14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 09-12-14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA19-OSR-VE-004 Page 2 of 3

Container Identifier LA000000067509

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	SFC 11-1-646, Am241/Be	OM	7200	None
2				
3				
4				
5				
6				
7				
8			NA	
9				
10				
11				
12				
13				
14				
15				

Total estimated weight (kg) for each WMP listed for above items.	7.2 kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA ☑ None ☐ kg	Description: NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2 kg		
Total estimated weight (kg) for loaded container.	226.4 kg		
Container percent full.	95%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-05R-VE-004 Page 3 of 3

Container Identifier LA0000006750?

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☑	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☑	2. Non-radionuclide pyrophoric material.
☐	☑	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☑	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☑	5. Explosives.
☐	☑	6. Compressed gas or potentially pressurized containers.
☐	☑	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☑	8. Wastes exhibiting the characteristic of ignitability.
☐	☑	9. Wastes exhibiting the characteristic of reactivity.
☐	☑	10. Wastes exhibiting the characteristic of corrosivity.
☐	☑	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☑	12. Inadequately blocked or braced sharp or heavy items.
☐	☑	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

This container has Ø layers of containment

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

ADAM MARTINEZ — Printed Name VE Packager; Signature; 2-13-14 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Alex Feldman — Printed Name VE Recorder; Signature; 2-13-14 — Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA14-05R-VE-004 Page 1 of 3

Container Identifier	LA000000067510
Printed name of VE Packager	Rick Day
Printed name of VE Recorder	ADAM MARTINEZ

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) X S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-684 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT9400 • POC lid filter serial number: 025912 • POC lid filter manufacture date: FEB 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☑ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☑ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☑ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☑ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☑ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☑ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☑ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 09/12/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 035312 • Calibration due date of torque wrench 09/12/14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-0SR-VE-004 Page 2 of 3

Container Identifier LA000000067510

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	SFC II-1-655 Am241/Be	OM	7200	None
2				
3				
4				
5				
6				
7		N/A		
8				
9				
10				
11				
12				
13				
14				
15				

Total estimated weight (kg) for each WMP listed for above items.	1.2 kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA ☑ None ☐ ~~219.2~~ kg	Description: EXP 2.13.14 NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2 kg		
Total estimated weight (kg) for loaded container.	226.4 kg		
Container percent full.	95 %		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-0SR-VE-004 Page 3 of 3

Container Identifier LA0000000675/0

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☑	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☑	2. Non-radionuclide pyrophoric material.
☐	☑	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☑	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☑	5. Explosives.
☐	☑	6. Compressed gas or potentially pressurized containers.
☐	☑	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☑	8. Wastes exhibiting the characteristic of ignitability.
☐	☑	9. Wastes exhibiting the characteristic of reactivity.
☐	☑	10. Wastes exhibiting the characteristic of corrosivity.
☐	☑	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☑	12. Inadequately blocked or braced sharp or heavy items.
☐	☑	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

This container has 0 layers of confinement

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Rick Day — Printed Name VE Packager; Signature; 2-13-14 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

ADAM MARTINEZ — Printed Name VE Recorder; Signature; 2-13-14 — Date

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component		Estimated Component(s) Weight (kg)						
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Acceptable Knowledge Documentation

Acceptable Knowledge Documentation

Source Serial No.	LA00000067506	
16136	Shipping Record	
	Markings: 16136 Comments: Kay-Ray Model 7100B, MRC-AmBe-5718 Record Numbers: 07748	
7367 NK	**Isotope** Source Markings Markings: 7367 NK Am241Be 100mCi Al Comments: Amersham	**Activity** Source Markings
AO 155	**Isotope** Other Doc Markings: AO 155 Comments: Amersham, X3 capsule, AMNQ 5609 Record Numbers: 00145	**Activity** Other Doc
AO 182	**Isotope** Other Doc Markings: AO 182 Comments: Amersham, X3 capsule, AMNQ 5609 Record Numbers: 00145	**Activity** Other Doc
AO36	**Isotope** Source Markings Markings: AO36 Am241/Be Al 1Ci Comments: Amersham	**Activity** Source Markings
C-050	**Isotope** Source Markings Markings: C-050 AmBe AN-HP 350 mCi Comments: Gammatron Record Numbers: 03773	**Activity** Source Markings
C-064	**Isotope** Source Markings Markings: C-064 AmBe AN-HP 350 mCi Comments: Gammmatron Record Numbers: 03773	**Activity** Source Markings

C-071

Isotope
Source Markings
Markings: C-071 AmBe AN-HP 350 mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

MRC AM 1107

Isotope
Source Markings
Markings: MRC AM 1107 1Ci Mod 2404 10-75

Activity
Source Markings

MRC AMBE 5715

Shipping Record

Markings: MRC AmBe 5715 8-83 Radioactive
Comments: Kay-Ray Model 7100B
Record Numbers: 07748

MRC AMBE 5716

Shipping Record

Markings: MRC AmBe 5716 8-83 Radioactive
Comments: Kay-Ray Model 7100B
Record Numbers: 07748

MRC AMBE 5717

Shipping Record

Markings: MRC AmBe 5717 8-83 Radioactive
Comments: Kay-ray Model 7100B
Record Numbers: 07748

Source Serial No. **LA00000067507**

8508 NK

Isotope
Source Markings
Markings: 8508 NK AM241BE Al 400mCi
Comments: Amersham

Activity
Source Markings

AO 133

Isotope
Source Markings
Markings: AO 133 Am241/Be Al 1Ci
Comments: Amersham

Activity
Source Markings

AO 134

Isotope
Source Markings
Markings: AO 134 Am241/Be Al 1Ci
Comments: Amersham

Activity
Source Markings

AO 135

Isotope
Source Markings
Markings: AO 135 Am241/Be Al 1Ci
Comments: Amersham

Activity
Source Markings

AO 141

Isotope
Source Markings
Markings: AO 141 Am241/Be Al 1Ci
Comments: Amersham

Activity
Source Markings

AO 142

Isotope
Source Markings
Markings: AO 142 Am241/Be Al 1Ci
Comments: Amersham

Activity
Source Markings

AO 145

Isotope
Source Markings
Markings: AO 145 Am241/Be Al 1Ci
Comments: Amersham

Activity
Source Markings

AO 370

Isotope
Source Markings
Markings: AO 370 Am241/Be Al 1Ci
Comments: Amersham

Activity
Source Markings

AO25

Isotope
Source Markings
Markings: AO25 Am241/Be Al 1Ci
Comments: Amersham

Activity
Source Markings

AO33

Isotope
Source Markings
Markings: AO33 Am241/Be Al 1Ci
Comments: Amersham

Activity
Source Markings

C-672

Isotope
Source Markings
Markings: C-672 Am241Be AN-HP 500mCi
Comments: Gammatron

Activity
Source Markings

Record Numbers: 03773

C-679	**Isotope** Source Markings Markings: C-679 Am241Be AN-HP 500mCi Comments: Gammatron Record Numbers: 03773	**Activity** Source Markings
KR-1043	**Isotope** Source Markings Markings: KR-1043 Am241Be AN-HP 400mCi Comments: Gammatron Record Numbers: 03773	**Activity** Source Markings
MRC N SS W AMBE 322	**Isotope** Source Markings Markings: MRC N SS W AmBe 322 Comments: TN Technologies Model 5010 Record Numbers: 03262	**Activity** NRC Registry

Source Serial No. **LA00000067508**

1489 NK	**Isotope** Source Markings Markings: 1489 NK Am241Be 300mCi Al Comments: Amersham	**Activity** Source Markings
5206 NE	**Isotope** Source Markings Markings: 5206 NE Am241Be Al 100mCi Comments: Amersham	**Activity** Source Markings
5794 NE	**Isotope** Source Markings Markings: 5794 NE Am241/Be 100mCi Al Comments: Amersham	**Activity** Source Markings
8509 NK	**Isotope** Source Markings Markings: 8509 NK Am241-Be 400mCi Al Comments: Amersham	**Activity** Source Markings

8963 NK

Isotope
Source Markings
Markings: 8963 NK Am241/Be 400mCi AI
Comments: Amersham

Activity
Source Markings

AO 106

Isotope
Source Markings
Markings: AO 106 Am241/Be 200mCi AI
Comments: Amersham

Activity
Source Markings

AO 159

Isotope
Source Markings
Markings: AO 159 Am241/Be 200mCi AI
Comments: Amersham

Activity
Source Markings

AO 271

Isotope
Source Markings
Markings: AO 271 Am241Be 1Ci AI
Comments: Amersham

Activity
Source Markings

AO 355

Isotope
Source Markings
Markings: AO 355 Am241Be 1Ci AI
Comments: Amersham

Activity
Source Markings

AO 363

Isotope
Source Markings
Markings: AO 363 Am241Be 1Ci AI
Comments: Amersham

Activity
Source Markings

AO 366

Isotope
Source Markings
Markings: AO 366 Am241Be 1Ci AI
Comments: Amersham

Activity
Source Markings

AO 371

Isotope
Source Markings
Markings: AO 371 Am241Be 1Ci AI
Comments: Amersham

Activity
Source Markings

AO 77

Isotope
Source Markings
Markings: AO 77 Am241Be 1Ci Al
Comments: Amersham

Activity
Source Markings

AO44

Isotope
Source Markings
Markings: AO44 Am241Be 1Ci Al
Comments: Amersham

Activity
Source Markings

C-241

Isotope
Source Markings
Markings: C-241 Am241Be AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

C-650

Isotope
Source Markings
Markings: C-650 Am241Be AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

C-652

Isotope
Source Markings
Markings: C-652 Am241Be AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

C-866

Isotope
Source Markings
Markings: C-866 Am241Be AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

KR-022

Isotope
Source Markings
Markings: KR-022 Am/Be AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

KR-038

Isotope
Source Markings
Markings: KR-038 Am/Be AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

KR-042

Isotope
Source Markings
Markings: KR-042 Am/Be AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

KR-044

Isotope
Source Markings
Markings: KR-044 Am/Be AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

KR-045

Isotope
Source Markings
Markings: KR-045 Am/Be AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

KR-1036

Isotope
Source Markings
Markings: KR-1036 Am/Be AN-HP 400mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

KR-1048

Isotope
Source Markings
Markings: KR-1048 Am/Be AN-HP 400mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

MRC-AMBE 5788

Isotope
Source Markings
Markings: MRC-AmBe 5788 Am241/Be .5Ci 3/84

Activity
Source Markings

Source Serial No. **LA00000067509**

8366 NK

Isotope
Source Markings
Markings: 8366 NK AM241/BE 400mCi Al
Comments: Amersham

Activity
Source Markings

8368 NK

Isotope
Source Markings
Markings: 8368 NK AM241/BE 400mCi Al
Comments: Amersham

Activity
Source Markings

8369 NK

Isotope
Source Markings
Markings: 8369 NK AM241/BE 400mCi AI
Comments: Amersham

Activity
Source Markings

8372 NK

Isotope
Source Markings
Markings: 8372 NK AM241/BE 400mCi AI
Comments: Amersham

Activity
Source Markings

8958 NK

Isotope
Source Markings
Markings: 8958 NK AM241/BE 400mCi AI
Comments: Amersham

Activity
Source Markings

8961 NK

Isotope
Source Markings
Markings: 8961 NK AM241/BE 400mCi AI
Comments: Amersham

Activity
Source Markings

AO 364

Isotope
Source Markings
Markings: AO 364 AI AM241BE 1Ci
Comments: Amersham

Activity
Source Markings

AO 374

Isotope
Source Markings
Markings: AO 374 AI AM241BE 1Ci
Comments: Amersham

Activity
Source Markings

AO 449

Isotope
Source Markings
Markings: AO 449 AI AM241BE 1Ci
Comments: Amersham

Activity
Source Markings

AO 94

Isotope
Source Markings
Markings: AO 94 AI AM241BE 1Ci
Comments: Amersham

Activity
Source Markings

AO 96

Isotope
Source Markings
Activity
Source Markings

Markings: AO 96 Al AM241BE 1Ci
Comments: Amersham

AO49

Isotope
Source Markings
Activity
Source Markings

Markings: AO49 Al AM241BE 1Ci
Comments: Amersham

C-155

Isotope
Source Markings
Activity
Source Markings

Markings: C-155 AM/BE AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

C-156

Isotope
Source Markings
Activity
Source Markings

Markings: C-156 AM241BE AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

C-165

Isotope
Source Markings
Activity
Source Markings

Markings: C-165 AM/BE AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

C-195

Isotope
Source Markings
Activity
Source Markings

Markings: C-195 AM/BE AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

C-210

Isotope
Source Markings
Activity
Source Markings

Markings: C-210 AM/BE AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

C-213

Isotope
Source Markings
Activity
Source Markings

Markings: C-213 AM/BE AN-HP 500mCi
Comments: Gammatron

Record Numbers: 03773

C-804	**Isotope** Source Markings Markings: C-804 AM/BE AN-HP 500mCi Comments: Gammatron Record Numbers: 03773	**Activity** Source Markings
C-806	**Isotope** Source Markings Markings: C-806 AM/BE AN-HP 500mCi Comments: Gammatron Record Numbers: 03773	**Activity** Source Markings
KR-1044	**Isotope** Source Markings Markings: KR-1044 AM/BE AN-HP 400mCi Comments: Gammatron Record Numbers: 03773	**Activity** Source Markings
MRC AMBE 402	**Isotope** Source Markings Markings: MRC AMBE 402 Comments: Kay-Ray source model 7701 Record Numbers: 04482	**Activity** NRC Registry
MRC N SS W AMBE 774	**Isotope** Source Markings Markings: MRC N SS W AMBE 774 Comments: Kay-Ray source model 7701 Record Numbers: 04482	**Activity** NRC Registry

Source Serial No. **LA00000067510**

0227NN	**Isotope** Source Markings Markings: 0227NN AM241BE 400mCi AI Comments: Amersham	**Activity** Source Markings
2276NE	**Isotope** Source Markings Markings: 2276NE AM241BE 10mCi TRC Comments: Amersham	**Activity** Source Markings

230NN

Isotope
Source Markings
Markings: 230NN AM241BE Al 400mCi
Comments: Amersham

Activity
Source Markings

5072NE

Isotope
Source Markings
Markings: 5072NE AM241BE 10mCi Al
Comments: Amersham

Activity
Source Markings

8514 NK

Isotope
Source Markings
Markings: 8514 NK AM241BE Al 400mCi
Comments: Amersham

Activity
Source Markings

9815

Isotope
Source Markings
Markings: 9815 AM241BE 400mCi Al
Comments: Amersham

Activity
Source Markings

AO 193

Isotope
Source Markings
Markings: AO 193 AM241BE 1Ci Al
Comments: Amersham

Activity
Source Markings

C-168

Isotope
Source Markings
Markings: C-168 AM/BE AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

C-200

Isotope
Source Markings
Markings: C-200 AM/BE AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

C-206

Isotope
Source Markings
Markings: C-206 AM/BE AN-HP 500mCi
Comments: Gammatron

Activity
Source Markings

Record Numbers: 03773

C-421

Isotope
Source Markings
Markings: C-421 Am241Be AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

C-800

Isotope
Source Markings
Markings: C-800 AM/BE AN-HP 500mCi
Comments: Gammatron
Record Numbers: 03773

Activity
Source Markings

M-003

Isotope
Source Markings

Markings: M-003 AM241(Be) 1.3 Ci
Comments: TN Technologies Model 5010A
Record Numbers: 03262

Activity

NRC Registry

MRC N SS W AMBE 318

Isotope
Source Markings

Markings: MRC N SS W AMBE 318
Comments: TN Technologies Model 5010A
Record Numbers: 03262

Activity

NRC Registry

MRC N SS W AMBE 327

Isotope
Source Markings

Markings: MRC N SS W AMBE 327
Comments: TN Technologies Model 5010A
Record Numbers: 03262

Activity

NRC Registry

MRC-AM-BE-2517

Isotope
Source Markings
Markings: MRC-AM-BE-2517 1Ci M04
Comments: Monsanto

Activity
Source Markings

Sources in Special Form Capsules

Appendix B
Sources In Special Form Capsules

(Curies 1 in red if isotope is short-lived and no decayed activity is available)

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
LA00000067506					
II-1-626					
	Thermo Fisher - Sugarland	16136	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	7367 NK	241Am/Be	0.03	0.10
	Thermo Fisher - Sugarland	AO 155	241Am/Be	0.06	0.20
	Thermo Fisher - Sugarland	AO 182	241Am/Be	0.06	0.20
	Thermo Fisher - Sugarland	AO36	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	C-050	241Am/Be	0.10	0.35
	Thermo Fisher - Sugarland	C-064	241Am/Be	0.10	0.35
	Thermo Fisher - Sugarland	C-071	241Am/Be	0.10	0.35
	Thermo Fisher - Sugarland	MRC AM 1107	241Am	0.29	1.00
	Thermo Fisher - Sugarland	MRC AMBE 5715	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	MRC AMBE 5716	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	MRC AMBE 5717	241Am/Be	0.14	0.50
Total Sources in SFCII-1-626 (12 sources)					
Sum				***1.60***	***5.55***
Total Sources in SFC in container LA00000067506 (12 sources)					
Sum				***1.60***	***5.55***
LA00000067507					
II-1-619					
	Thermo Fisher - Sugarland	8508 NK	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	AO 133	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 134	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 135	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 141	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 142	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 145	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 370	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO25	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO33	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	C-672	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-679	241Am/Be	0.14	0.50

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	Thermo Fisher - Sugarland	KR-1043	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	MRC N SS W AMBE 322	241Am/Be	0.37	1.30
Total Sources in SFCII-1-619 (14 sources)					
Sum				***3.49***	***12.10***
Total Sources in SFC in container LA00000067507 (14 sources)					
Sum				***3.49***	***12.10***
LA00000067508					
II-1-623					
	Thermo Fisher - Sugarland	1489 NK	241Am/Be	0.09	0.30
	Thermo Fisher - Sugarland	5206 NE	241Am/Be	0.03	0.10
	Thermo Fisher - Sugarland	5794 NE	241Am/Be	0.03	0.10
	Thermo Fisher - Sugarland	8509 NK	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	8963 NK	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	AO 106	241Am/Be	0.06	0.20
	Thermo Fisher - Sugarland	AO 159	241Am/Be	0.06	0.20
	Thermo Fisher - Sugarland	AO 271	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 355	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 363	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 366	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 371	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 77	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO44	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	C-241	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-650	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-652	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-866	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	KR-022	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	KR-038	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	KR-042	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	KR-044	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	KR-045	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	KR-1036	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	KR-1048	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	MRC-AMBE 5788	241Am/Be	0.01	0.05
Total Sources in SFCII-1-623 (26 sources)					
Sum				***4.05***	***14.05***

3 Le

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
Total Sources in SFC in container LA00000067508 (26 sources)					
Sum				***4.05***	***14.05***
LA00000067509					
II-1-646					
	Thermo Fisher - Sugarland	8366 NK	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	8368 NK	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	8369 NK	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	8372 NK	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	8958 NK	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	8961 NK	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	AO 364	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 374	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 449	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 94	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO 96	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	AO49	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	C-155	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-156	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-165	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-195	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-210	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-213	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-804	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-806	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	KR-1044	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	MRC AMBE 402	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	MRC N SS W AMBE 774	241Am/Be	0.14	0.50
Total Sources in SFCII-1-646 (23 sources)					
Sum				***3.98***	***13.80***
Total Sources in SFC in container LA00000067509 (23 sources)					
Sum				***3.98***	***13.80***
LA00000067510					
II-1-655					
	Thermo Fisher - Sugarland	0227NN	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	2276NE	241Am/Be	0.00	0.01
	Thermo Fisher - Sugarland	230NN	241Am/Be	0.12	0.40

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	Thermo Fisher - Sugarland	5072NE	241Am/Be	0.00	0.01
	Thermo Fisher - Sugarland	8514 NK	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	9815	241Am/Be	0.12	0.40
	Thermo Fisher - Sugarland	AO 193	241Am/Be	0.29	1.00
	Thermo Fisher - Sugarland	C-168	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-200	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-206	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-421	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	C-800	241Am/Be	0.14	0.50
	Thermo Fisher - Sugarland	M-003	241Am/Be	0.37	1.30
	Thermo Fisher - Sugarland	MRC N SS W AMBE 318	241Am/Be	0.37	1.30
	Thermo Fisher - Sugarland	MRC N SS W AMBE 327	241Am/Be	0.37	1.30
	Thermo Fisher - Sugarland	MRC-AM-BE-2517	241Am/Be	0.29	1.00
Total Sources in SFCII-1-655 (16 sources)					
Sum				***2.89***	***10.02***
Total Sources in SFC in container LA00000067510 (16 sources)					
Sum				***2.89***	***10.02***
Grand Total				***16.00***	***55.52***

Radiological Contamination Surveys

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 02/11/2014 thru 02/13/2014 No. of Samples: 100
TA: Rm: n/a
RCT: Billy Terrazas Z Number: 115030
RCT Signature: MS: E541
Phone: 5-9238 Fax: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	13665	10/9/2014	0 3520	1	4 3	28 02
Beta S43-10-1	13665	10/9/2014	0 3560	1	552	235 30
Shp 270	n/a	n/a			0 2	-0 1mR/hr
SNRD	n/a	n/a			0	0 25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ MEARS COUNTED IN FIELD

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job
☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment
☑ Non-Routine / Other: Thermo , Sugarland, Tx. 1-100

FIELD SMEAR COUNTER MDA (dpm)

alpha: 28 02
beta: 235 30

SAMPLE TRACKING NUMBER

29147071

ADDITIONAL INFORMATION

RWP No.: n/a
Work Request No.: n/a Incident No.: n/a

RP-1 REVIEW BY

15/1/13

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	Pre-job floor	nda	349	nda	nda	n/a						
2	Pre-job floor	28	617	nda	nda	n/a						
3	Pre-job floor	nda	300	nda	nda	n/a						
4	Pre-job floor	nda	330	nda	nda	n/a						
5	Pre-job floor	nda	812	nda	nda	n/a						
6	Pre-job floor	nda	419	nda	230.4	n/a						
7	Pre-job floor	nda	nda	nda	nda	n/a						
8	Pre-job floor	nda	135	nda	12 9	n/a						
9	Pre-job floor	nda	93	nda	nda	n/a						
10	Pre-job chair	nda	63	nda	29 1	n/a						
11	Pre-job pig ext not used	nda	160	nda	nda	n/a						
12	Pre-job pig int not used	nda	814	nda	nda	n/a						
13	Pre-job pig ext	nda	nda	nda	nda	n/a						
14	Pre-job pig int	nda	nda	nda	nda	n/a						
15	Pre-job pig ext	nda	120	nda	12 6	n/a						

40

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147071

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	Pre-job pig int	nda	120	nda	nda	n/a						
17	pig w/ sources	nda	172	nda	nda	n/a						
18	leak test 241Am	nda	163	nda	nda	n/a						
19	leak test 241Am	nda	219	15.1	nda	n/a						
20	pig w/ sources	nda	120	nda	nda	n/a						
21	leak test 241AmBe	nda	280	nda	nda	n/a						
22	poly cart cup	nda	nda	nda	nda	n/a						
23	poly cart port	nda	nda	nda	nda	n/a						
24	pig w/ sources	nda	nda	71.7	21	n/a						
25	leak test 241AmBe	nda	5290	nda	15.2	n/a						
26	poly pig ext	nda	nda	nda	nda	n/a						
27	poly pig ext	nda	nda	47.9	15.5	n/a						
28	poly pig int	nda	nda	nda	65.3	n/a						
29	post- job count table	nda	nda	nda	19.2	n/a						
30	post- job poly pig	nda	nda	86.3	127.7	n/a						
31	post-job behind shield	236	939	nda	nda	n/a						
32	post-job tools	12	723	nda	nda	n/a						
33	post-job re swipe behind shield	nda	nda	nda	nda	n/a						
34	post-job reswipe tools	nda	nda	nda	26.5	n/a						
35	SFC II-1-626 w/241AmBe, 241Am	nda	nda	nda	nda	n/a						
36	Drum LA67506 w/ SFC II-1-626 top	nda	nda	nda	nda	n/a						
37	Drum LA67506 w/ SFC II-1-626 ring	nda	nda	nda	nda	n/a						
38	Drum LA67506 w/ SFCII-1-626 side	nda	nda	nda	nda	n/a	5.7	7.6	3.0	3.3	0.7	1.9
39	Drum LA67506 w/ SFC II-1-626 side	nda	nda	nda	nda	n/a						
40	Drum LA67506 w/ SFC II-1-626 btm	nda	nda	nda	nda	n/a						

*dpm/100 cm

RP-1 Survey Number: 29147071

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
41	pre-job count table	nda	nda	nda	nda	n/a						
42	pre-job behind shield ,scale & base	nda	nda	nda	nda	n/a						
43	pre-job tools	nda	nda	nda	nda	n/a						
44	pre-job sfc kit	nda	nda	6.2	nda	n/a						
45	pre-job floor	nda	nda	nda	17.2	n/a						
46	pre-job floor	nda	nda	nda	42.6	n/a						
47	pre-job floor	nda	nda	nda	nda	n/a						
48	pig plug	nda	nda	nda	29.2	n/a						
49	leak test 241AmBe	10	600	16.3	209.6	n/a						
50	leak test 241AmBe	nda	400	134	91.8	n/a						
51	pig with sources	nda	nda	7.6	nda	n/a						
52	leak test 241AmBe	nda	nda	nda	12.7	n/a						
53	SFC II-1-619 w/241AmBe	nda	nda	nda	nda	n/a						
54	Drum LA67507 w/SFC II-1-619 top	nda	nda	nda	nda	n/a						
55	Drum LA67507 w/SFC II-1-619 ring	nda	nda	nda	nda	n/a						
56	Drum LA67507 w/SFC II-1-619 side	nda	nda	nda	nda	n/a	14.3	18.7	4.6	11.0	1.5	3.3
57	Drum LA67507 w/SFC II-1-619 side	nda	nda	nda	nda	n/a						
58	Drum LA67507 w/SFC II-1-619 btm	nda	nda	nda	nda	n/a						
59	behind shield	nda	nda	nda	14.4	n/a						
60	leak test 241AmBe	nda	nda	9.4	17.4	n/a						
61	leak test 241AmBe	nda	nda	48.7	21.6	n/a						
62	leak test 241AmBe	nda	nda	16.3	22.3	n/a						
63	leak test 241AmBe	nda	nda	68.3	nda	n/a						
64	Drum Neutron #4 storage	nda	nda	nda	nda	n/a						
65	SFC II-1-623 w/241AmBe	nda	nda	nda	nda	n/a	185.0	1550.0				

*dpm/100 cm

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147071

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
66	Drum LA67508 w/SFC II-1-623 top	nda	nda	nda	nda	n/a						
67	Drum LA67508 w/SFC II-1-623 ring	nda	nda	nda	nda	n/a						
68	Drum LA67508 w/SFC II-1-623 side	nda	nda	nda	nda	n/a	17.4	24.2	7.4	10.9	1.9	6.6
69	Drum LA67508 w/SFC II-1-623 side	nda	nda	nda	nda	n/a						
70	Drum LA67508 w/SFC II-1-623 btm	nda	nda	nda	nda	n/a						
71	post-job tools	nda	nda	nda	nda	n/a						
72	post-job tools	nda	nda	nda	nda	n/a						
73	post-job behind shield	nda	nda	nda	nda	n/a						
74	post-job behind shield	nda	nda	nda	nda	n/a						
75	pre-job floor	nda	nda	nda	nda	n/a						
76	pre-job floor	nda	nda	nda	14.7	n/a						
77	pre-job floor	nda	nda	nda	14.1	n/a						
78	pre-job floor	nda	nda	nda	nda	n/a						
79	pre-job floor	nda	nda	nda	nda	n/a						
80	pre-job behind shield ,scale & base	nda	nda	nda	nda	n/a						
81	pre-job floor sfc bench	nda	nda	nda	nda	n/a						
82	pre-job floor work bench	nda	nda	nda	nda	n/a						
83	leak test 241AmBe	nda	nda	13	nda	n/a						
84	leak test 241AmBe	nda	nda	6.2	nda	n/a						
85	leak test 241AmBe	nda	nda	30.3	51.5	n/a						
86	leak test 241AmBe	nda	nda	8.3	266.6	n/a						
87	SFC II 1-646 w/ 241AmBe	nda	nda	nda	220.1	n/a	138.0	1700.0				
88	Drum LA67509 w/SFC II-1-646 top	nda	nda	nda	nda	n/a						
89	Drum LA67509 w/SFC II-1-646 ring	nda	nda	nda	nda	n/a						
90	Drum LA67509 w/SFC II-1-646 side	nda	nda	nda	nda	n/a	21.0	22.8	5.8	9.4	2.0	3.7

*dpm/100 cm

43

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147071

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
91	Drum LA67509 w/SFC II-1-646 side	nda	nda	nda	nda	n/a						
92	Drum LA67509 w/SFC II-1-646 btm	nda	nda	nda	nda	n/a						
93	leak test 241AmBe	nda	nda	nda	117.3	n/a						
94	leak test 241AmBe	nda	nda	87.1	90.5	n/a						
95	leak test 241AmBe	62	14000	nda	nda	n/a						
96	leak test 241AmBe	nda	nda	nda	15	n/a						
97	leak test 241AmBe	90	27000	nda	nda	n/a						
98	SFC II-1-655 pre close w/241AmBe	nda	nda	nda	nda	n/a						
99	SFC II-1-655 w/241AmBe	nda	nda	nda	nda	n/a						
100	Drum LA67510 w/SFC II-1-655 top	nda	nda	nda	nda	n/a						
101	End of survey											
102												
103												
104												
105												
106												
107												
108												
109												
110												

*dpm/100 cm

Remarks:

44

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 2/11/2014 - 2/13/2014 No. of Samples: 21

TA: 35 2 Rm: n/a

RCT: Billy Terrazas Z Number: 115030

RCT Signature: MS: E541

Phone: 5-9238 Fax: n/a

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☑ Non-Routine / Other: Thermo, Sugarland 101-121

ADDITIONAL INFORMATION

RWP No.: n/a

Work Request No.: n/a Incident No.: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	13665	10/9/2014	0.3520	1	7.1	28.83
Beta S43-10-1	13665	10/9/2014	0.3560	1	300	175.47
Shp 270	13707	5/14/2014			0.2	~0.1mR/hr
SNRD	13756	4/2/2014			<0.1	0.25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ MEARS COUNTED IN FIELD

FIELD SMEAR COUNTER MDA (dpm)

alpha: 28.83

beta: 175.47

RP-1 REVIEW BY

SAMPLE TRACKING NUMBER

29147072

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	Drum LA67510 w/SFC II-1-655 ring	nda	nda	nda	25	n/a						
2	Drum LA67510 w/SFC II-1-655 side	nda	nda	nda	nda	n/a	10.2	17.3	4.3	11.6	1.3	2.7
3	Drum LA67510 w/SFC II-1-655 side	nda	nda	nda	nda	n/a						
4	Drum LA67510 w/SFC II-1-655 btm	nda	nda	nda	nda	n/a						
5	post-job shield	nda	nda	nda	nda	n/a						
6	post-job camera & scale	nda	nda	nda	nda	n/a						
7	post-job tools	nda	nda	nda	nda	n/a						
8	post-job sfc kit	nda	nda	nda	nda	n/a						
9	post-job inspection table	nda	nda	nda	nda	n/a						
10	post-job inspection table	nda	nda	nda	nda	n/a						
11	post-job inspection table	nda	nda	nda	nda	n/a						
12	post-job tools	nda	nda	nda	nda	n/a						
13	post-job tools	nda	nda	nda	nda	n/a						
14	post-job tool kits	nda	nda	nda	16.5	n/a						
15	post-job tool kits	nda	nda	nda	nda	n/a						

45

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147072

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	post-job shoes	nda	nda	8.3	14.7							
17	post-job shoes	nda	nda	nda	13.2	n/a						
18	post-job floor	nda	nda	nda	11 8	n/a						
19	post-job floor	nda	nda	nda	224.7	n/a						
20	post-job floor	nda	nda	nda	12.7	n/a						
21	post-job floor	nda	nda	nda	23.1	n/a						
22	End of Survey											
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												

*dpm/100 cm²

Other Information

Drum number LA00000067506, LA00000067507, LA00000067508, LA00000067509, and LA00000067510 of BDR LA14-OSR-VE-004 and LA14-OSR-CH-004: one may find serial numbers or identifying information that may not match exactly between documents (e.g. VE attachment 4, rad surveys, markings, source cert, regulatory docs, etc) . This is an artifact that source manufacturers, regulators and customers may use somewhat different nomenclature to identify the same source. Some examples include:

1) Alpha Numeric numbering where the suffix or prefix may be used interchangeably throughout the life of the source. Examples include: LP123 vs LP-123 or 123LP vs 123 LP, etc... 7-1-123G vs 71 1 123g, etc...
2) The addition of a secondary serial number or identification number to reflect the device in which it is used. The most common methods used to identify these are to put the secondary ID number in parenthesis or following a slash. Examples include: MRC-246(135NP), 123LV/269, etc...
3) In addition to secondary numbering some regulators or users may add nomenclature to further identify the source. NMMSS is one of the more common. For example a source manufactured by MRC may be inscribed as MRC PU8PU123 or just PU8PU123 where as the NMMSS database added the manufacture designation to the front of the serial number; in this case the serial in NMMSS is listed as MRPU8BE123
4) Dashes or spacing is also interchangeable in that depending upon the author of the document (including regulators) the format could be determined by internal procedures, typeset, etc.... For example 7-1-123G vs 71 1 123 g found in the Texas State Health Department source list.
5) How the source ID or serial number translated during a recovery. Cylindrical sources with the inscription along the axis may lead to the alpha numeric order not being an exact match to the documentation, e.g. MRC 1234 vs 1234 MRC.

Although there may be instances where the source identification is not "exact" between differing documentation, the offsite source recovery project (OSRP) makes every effort though experience, documentation and research to ensure that the information is accurate, e.g. the identified source isotope is correct and the source activity is conservatively accurate.

Los Alamos
NATIONAL LABORATORY
EST. 1943

Memorandum

Nuclear Engineering & Nonproliferation Division
International Threat Reduction Group
Off-Site Source Recovery Project (OSRP)

Subject: ERID Numbers for Off-Site Source Recovery Project Acceptable Knowledge Documentation

The ERID numbers corresponding to the acceptable knowledge documentation for each drum in this Off-Site Source Recovery Project BDR package are listed below:

OSRP Drum Identifier	ERID Number
LA00000067506	ERID-255486
LA00000067507	ERID-255486
LA00000067508	ERID-255486
LA00000067509	ERID-255486
LA00000067510	ERID-255486

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	05-07-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA14-OSR-VE-004	SPM CHECKLIST FOR VE OSR	05-07-14	4
LA14-OSR-VE-004	BDR FOR VE OSR	02-11-14	49
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	5/13/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:	Signature	Printed Name	Date

```
**********************************
***        Send Results        ***
**********************************

   Sending is complete.

Job No.                    3367
Address                    915056291658
Name                       LANL
Start Time                 05/13 07:41 AM
Call Length                00'17
Sheets                     1
Result                     OK
```


Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	05-07-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA14-OSR-VE-004	SPM CHECKLIST FOR VE OSR	05-07-14	4
LA14-OSR-VE-004	BDR FOR VE OSR	02-11-14	49
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	5/13/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LA14-OSR-VE-005 **Examination Date(s):** 3/11/14 – 3/12/14

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: LA00000067538, LA00000067539, LA00000067540
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 5/15/14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-005				**Examination Date(s): 3/11/14 – 3/12/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-005				**Examination Date(s): 3/11/14 – 3/12/14**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**	X			
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**	X			
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA14-OSR-VE-005 **Examination Date(s):** 3/11/14 – 3/12/14

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**	X			
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**	X			
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**	X			
Comments: N/A				

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Terri-Anne Groover	T. A. Groover	5.14.14
SPM Printed Name	Signature	Date 5-20-14

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – Visual Examination Batch Data Report Cover Page

VE BDR Number: LA14-OSR-VE-005	
Waste stream number: LA-OS-00-01.001	Container Type: Drum

Container Identifiers included in this VE BDR			
1	LA00000067538	11	NA
2	LA00000067539	12	NA
3	LA00000067540	13	NA
4	NA	14	NA
5	NA	15	NA
6	NA	16	NA
7	NA	17	NA
8	NA	18	NA
9	NA	19	NA
10	NA	20	NA

VE Independent Technical Reviewer

Rick Day (Printed Name) _____ (Signature) 5-1-2014 (Date)

NTPC RECORDS ORIGINAL
DATE REC'D 5/8/14

Attachment 6 – Visual Examination Batch Data Report Table of Contents

VE BDR LA14-OSR-VE-005

Table of Contents		
Item	Description	Page No.
1	Visual Examination Batch Data Report Cover Page (Attachment 5)	1
2	Visual Examination Batch Data Report Table of Contents (Attachment 6)	2
3	Visual Examination Independent Technical Reviewer Review Checklist (Attachment 7)	3
4	Container Packaging and Visual Examination Data Record(s) (Attachment 4)	5
5	Weights for Standardized OSRP Packaging Configurations (Attachment 2)	17
6	List of Acceptable Knowledge Documentation Identifier	18
7	List of Sources in Special Form Capsules	27
8	Copy of Radiological Contamination Surveys	30
9	List of Special Form Documentation	36
10	Copy of NCRs, if applicable	n/a
11	Other information (if any; otherwise enter NA for page number)	39

Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist

VE BDR LA14-OSR-VE-005

This review verifies that all quality assurance and quality control requirements are met at the data generation level as stated in this procedure.

Criteria Met?	Required Criterion
☑Yes ☐No	1. The correct revision of CCP-TP-069 was used? Note revision number, R 6.
☐Yes ☐No ☑NA	2. Deviations, if any, have been documented. (Choose NA if there were no deviations.)
☑Yes ☐No	3. The weight data were reported in the correct units. (Note: Total weight must be reported in kilograms (Kg) and the weights of individual sealed sources are reported in grams.) Data are reported with the correct number of significant figures (one decimal place).
☑Yes ☐No	4. The WMPs identified during VE are consistent with those assigned to these materials based on AK.
☑Yes ☐No	5. The Waste Matrix Code is consistent with the AK.
☑Yes ☐No	6. Data generation and reduction were conducted in a technically correct manner in accordance with CCP-TP-069, as evidenced by checks of items 1-5.
☑Yes ☐No	7. Calibration data for torque wrenches are recorded and within the calibration period.
☑Yes ☐No	8. Calculations have been verified by 100% check of all hand calculations. • Sum or waste material parameter weights • Estimated POC or waste weight
☑Yes ☐No	9. The data were reviewed for transcription errors and the data recorded is legible, accurate, and include any identifier numbers.
☑Yes ☐No	10. The forms in the VE BDR are complete and match the Table of Contents (Attachment 6).
☐Yes ☐No ☑NA	11. All NCRs relevant to the packaging of the loaded sealed sources were initiated and entered on the VE BDR. (Choose NA if there were no NCRs.)
☑Yes ☐No	12. Precision: Precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases? (Enter Yes if there were no unresolved discrepancies.)
☑Yes ☐No	13. Accuracy and Comparability: Accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (e.g. operators on LOQI)?
☑Yes ☐No	14. Completeness: There is a completed VE data form for each waste container in the BDR?
Comments, if "No" is checked for any criterion above: None	

Independent Technical Review conducted by:

Rick Day — VE Independent Technical Reviewer (Printed Name)

Rick Day — (Signature)

5-1-2014 — (Date)

The Following Documents used for this VE BDR are the Best Available Copies

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR #LA14-OSR-VE-005 Page 1 of 6

Container Identifier	**LA00000067538**
Printed name of VE Packager	Mike Gurley
Printed name of VE Recorder	Bill Stewart

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: _X_ Standard Pipe Overpack (12" pipe component) ___ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-019 EPD • Drum lid filter serial number: LD-89 • Drum lid filter manufacture date: 12/03 • POC lid filter model: UT 9400 • POC lid filter serial number: 028110 • POC lid filter manufacture date: JUL. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☒ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☒ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☒ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☒ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☒ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☒ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 65 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 2 of 6

Container Identifier LA00000067538

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	II-1-578, 241Am	OM	6335	None
2	III-1-086, 241Am	OM	3413	None
3	III-1-388, 241Am/Be, 241Am	OM	3401	None
4	0196CW, 241Am	OM	39	None
5	0229CW, 241Am	OM	39	None
6	1996CW, 241Am	OM	39	None
7	4747LX, 241Am	OM	39	None
8	4765LX, 241Am	OM	39	None
9	5945LX, 241Am	OM	39	None
10	5971LX, 241Am	OM	39	None
11	5975LX, 241Am	OM	39	None
12	5984LX, 241Am	OM	39	None
13	6044LX, 241Am	OM	39	None
14	6645LQ, 241Am	OM	39	None
15	T1905(46 1905) , 241Am/Be	OM	39	None
Total estimated weight (kg) for each WMP listed for above items.			N/A	[redacted]
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.			NA☒ None☐ kg	Description: N/A; WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).			N/A	[redacted]
Total estimated weight (kg) for loaded container.			N/A	
Container percent full.			N/A	

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 3 of 6

Container Identifier LA00000067538

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
16	T1906(46 1906) , 241Am/Be	OM	39	None
17	T1907(46 1907) , 241Am/Be	OM	39	None
18	CAA 3721 (47 3721) , 241Am/Be	OM	39	None
19	CAA 6240 (47 6240) , 241Am/Be	OM	39	None
20	CAA 6245 (47 6245) , 241Am/Be	OM	39	None
21	CAA 7695 (47 7695) , 241Am/Be	OM	39	None
22	CAA 7776 (47 7776) , 241Am/Be	OM	39	None
23	CAA 8209 (47 8209) , 241Am/Be	OM	39	None
24	CAA1029, 241Am/Be	OM	39	None
25	CAA1343, 241Am/Be	OM	39	None
26	CAA3922, 241Am/Be	OM	39	None
27	Am8663 (55-8663) , 241Am/Be	OM	39	None
28	Am9066 (55-9066) , 241Am/Be	OM	39	None
29	Am9372 (55-9372) , 241Am/Be	OM	39	None
30	Am9026 (55-9026) , 241Am/Be	OM	39	None

Total estimated weight (kg) for each WMP listed for above items.	N/A		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☒ None☐ kg	Description: N/A	WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	N/A		
Total estimated weight (kg) for loaded container.	N/A		
Container percent full.	N/A		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 4 of 6

Container Identifier LA00000067538

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
31	B-085, 241Am	OM	39	None
32	B-319, 241Am	OM	39	None
33	B-390, 241Am	OM	39	None
34	B-431, 241Am	OM	39	None
35	B-424, 241Am	OM	39	None
36	1867, 241Am	OM	39	None
37	2732, 241Am	OM	39	None
38	4929LX, 241Am	OM	39	None
39	3-191867, 241Am	OM	20	None
40	F325B, 241Am	OM	20	None
41	Foil-1, 241Am	OM	20	None
42	Foil-2, 241Am	OM	20	None
43	Foil-3, 241Am	OM	20	None
44	Foil-4, 241Am	OM	20	None
45	Foil-5, 241Am	OM	20	None
Total estimated weight (kg) for each WMP listed for above items.			N/A	[redacted]
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.			NA☒ None☐ kg	Description: N/A; WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).			N/A	[redacted]
Total estimated weight (kg) for loaded container.			N/A	
Container percent full.			N/A	

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 5 of 6

Container Identifier LA00000067538

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
46	Foil-6, 241Am	OM	20	None
47	T2129(46 2129) , 241Am/Be	OM	40	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
N/A	N/A	N/A	N/A	None
Total estimated weight (kg) for each WMP listed for above items.			14.7kg	
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.			NA☐ None☐ 8 kg	Description: Cane fiberboard; WMP: C
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).			152.4	
Total estimated weight (kg) for loaded container.			175.1kg	
Container percent full.			95%	

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 6 of 6

Container Identifier LA000000675378 IW 4/2/14

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Mike Gurley — Printed Name VE Packager — Signature — 3-11-14 Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Bill Stewart — Printed Name VE Recorder — Signature — 3/11/14 Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA14-OSR-VE-005 Page 1 of 3

Container Identifier	**LA00000067539**
Printed name of VE Packager	Mike Gurley
Printed name of VE Recorder	Bill Stewart

Step	**Requirement**
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X_ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-490 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT 9400 • POC lid filter serial number: 017177 • POC lid filter manufacture date: NOV. 2000
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☒ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☒ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☒ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☒ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☒ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☒ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14

11

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 2 of 3

Container Identifier LA00000067539

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	71-1-944B, 241Am/Be	OM	66	None
2	A158, 241Am/Be	OM	549	None
3	A211. 241Am/Be	OM	500	None
4	N/A	N/A	N/A	None
5	N/A	N/A	N/A	None
6	N/A	N/A	N/A	None
7	N/A	N/A	N/A	None
8	N/A	N/A	N/A	None
9	N/A	N/A	N/A	None
10	N/A	N/A	N/A	None
11	N/A	N/A	N/A	None
12	N/A	N/A	N/A	None
13	N/A	N/A	N/A	None
14	N/A	N/A	N/A	None
15	N/A	N/A	N/A	None
Total estimated weight (kg) for each WMP listed for above items.			1.1kg	[redacted]
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.			NA☒ None☐ kg	Description: N/A; WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).			219.2kg	[redacted]
Total estimated weight (kg) for loaded container.			220.3kg	
Container percent full.			95%	

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA14-OSR-VE-005 Page 3 of 3

Container Identifier LA00000067539

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Mike Gurley — Printed Name VE Packager
Signature
3-11-14 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Bill Stewart — Printed Name VE Recorder
Signature
3/11/14 — Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR #LA14-OSR-VE-005 Page 1 of 3

Container Identifier	LA00000067540
Printed name of VE Packager	Mike Gurley
Printed name of VE Recorder	Bill Stewart

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X_ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-621 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT 9400 • POC lid filter serial number: 025261 • POC lid filter manufacture date: JAN. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☒ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☒ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☒ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☒ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☒ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☒ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 2 of 3

Container Identifier LA00000067540

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	III-1-241, 238Pu	OM	3389	None
2	MRC-Pu8Li-24, 238Pu/Li	OM	114	None
3	MRC-Pu8Li-19, 238Pu/Li	OM	76	None
4	N/A	N/A	N/A	None
5	N/A	N/A	N/A	None
6	N/A	N/A	N/A	None
7	N/A	N/A	N/A	None
8	N/A	N/A	N/A	None
9	N/A	N/A	N/A	None
10	N/A	N/A	N/A	None
11	N/A	N/A	N/A	None
12	N/A	N/A	N/A	None
13	N/A	N/A	N/A	None
14	N/A	N/A	N/A	None
15	N/A	N/A	N/A	None

Total estimated weight (kg) for each WMP listed for above items.	3.6kg	[redacted]	
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☒ None☐ kg	Description: N/A	WMP: N/A
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2kg	[redacted]	
Total estimated weight (kg) for loaded container.	222.8kg		
Container percent full.	95%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #LA14-OSR-VE-005 Page 3 of 3

Container Identifier LA00000067540

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Mike Gurley — Printed Name VE Packager | Signature | 3-12-14 Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Bill Stewart — Printed Name VE Recorder | Signature | 3/12/14 Date

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component	Estimated Component(s) Weight (kg)						
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Acceptable Knowledge Documentation

Acceptable Knowledge Documentation

Source Serial No.	LA00000067538
0196CW	Source Certificate Record Numbers: 04052
0229CW	Source Certificate Record Numbers: 04052
0819CW	Source Certificate Record Numbers: 04408
1007	**Isotope** **Activity** Source Markings Source Markings Markings: CEA AME3 1007; Am241 300 mCi 1007 24/03/82 Comments: foreign origin letter CEA sources Record Numbers: 04209
1867	**Isotope** **Activity** Source Markings Source Markings Markings: 1867; Am241; 100mCi; 5/3/76
1996CW	Source Certificate Record Numbers: 04052
2732	**Isotope** **Activity** Source Markings Source Markings Markings: 2732; Am241; 100mCi; 3/13/79
3-191867	**Isotope** **Activity** NRC Registry NRC Registry Comments: Model F5B; recovery date 7/21/10; NRD Model A-001 Record Numbers: 02385; 03741

3669LQ	Source Certificate	
	Record Numbers: 04408	
421	**Isotope**	**Activity**
	Other Doc	Other Doc
	Markings: 421; Amersham; 0.1 Ci	
	Comments: letter to state regulator; Model AMC-K280	
	Record Numbers: 04409	
4747LX	Source Certificate	
	Record Numbers: 04052	
4765LX	Source Certificate	
	Record Numbers: 04052	
4929LX	**Isotope**	**Activity**
	Source Markings	Source Markings
	Markings: 4929LX; Am241; 300mCi; 6/26/91	
5-012	**Isotope**	**Activity**
	Source Markings	Source Markings
	Markings: 5-012; Am241, AR.5, 1.03E5 dpm 5/70	
	Comments: 1.03E5/2.22E12 = 4.64E-8 Ci	
5430LX	Source Certificate	
	Record Numbers: 04408	
5945LX	Source Certificate	
	Record Numbers: 04052	
5971LX	Source Certificate	
	Record Numbers: 04052	
5975LX	Source Certificate	

Record Numbers: 04052

5984LX Source Certificate

Record Numbers: 04052

6044LX Source Certificate

Record Numbers: 04052

6645LQ Source Certificate

Record Numbers: 04052

992

Isotope **Activity**
Source Markings Source Markings
Markings: CEA AME3 992; Am241 300 mCi 992 24/03/82
Comments: foreign origin letter CEA sources
Record Numbers: 04209

AM 8663 (55-8663)

Isotope **Activity**
Source Markings Source Markings
Markings: AM 8863; Am241Be; 100mCi; 12/5/89
Comments: Device label 55-8663

AM 9026 (55-9026)

Isotope **Activity**
Source Markings Source Markings
Markings: AM 9026; Am241Be; 100mCi; 8/15/90
Comments: Device label 55-9026

AM 9066 (55-9066)

Isotope **Activity**
Source Markings Source Markings
Markings: AM 9066; Am241Be; 100mCi; 8/23/90
Comments: Device label 55-9066

AM 9372 (55-9372)

Isotope **Activity**
Source Markings Source Markings
Markings: AM 9372; Am241Be; 100mCi; 11/8/92
Comments: Device label 55-9372

AMC 2513

Isotope
Other Doc

Activity
Other Doc

Comments: Amersham logbook, Capsule X93

Record Numbers: 00145, 04408

B-085

Isotope
Other Doc

Activity
Other Doc

Comments: New Mexico License # WL405-11; Gamma Industries model VD-HP

Record Numbers: 04434

B-319

Isotope
Source Markings

Activity
Source Markings

Markings: B-319; GI; 25mci; VDHP; Am241

Comments: Gamma Industries

B-390

Isotope
Source Markings

Activity
Source Markings

Markings: B-390; GI; 25mci; VDHP; Am241

Comments: Gamma Industries

B-424

Isotope
Source Markings

Activity
Source Markings

Markings: B-424; GI; 25mci; VDHP; Am241

Comments: Gamma Industries

B-431

Isotope
Source Markings

Activity
Source Markings

Markings: B-431; GI; 25mci; VDHP; Am241

Comments: Gamma Industries

CAA 3721 (47 3721)

Isotope
Source Markings

Activity
Source Markings

Markings: CAA 3721; Am241Be; 40mCi; 3/14/80

Comments: Device label 47 3721

CAA 6240 (47 6240)

Isotope
Source Markings

Activity
Source Markings

Markings: CAA 6240; Am241Be; 40mCi; 3/13/84

Comments: Device label 47 6240

CAA 6245 (47 6245)

Isotope	Activity
Source Markings	Source Markings

Markings: CAA 6245; Am241Be; 40mCi; 3/13/84
Comments: Device label 47 6245

CAA 7695 (47 7695)

Isotope	Activity
Source Markings	Source Markings

Markings: CAA 7695; Am241Be; 40mCi; 3/21/85
Comments: Device label 47 7695

CAA 7776 (47 7776)

Isotope	Activity
Source Markings	Source Markings

Markings: CAA 7776; Am241Be; 40mCi; 4/25/85
Comments: Device label 47 7776

CAA 8209 (47 8209)

Isotope	Activity
Source Markings	Source Markings

Markings: CAA 8209;Am241Be; 40mCi; 2/8/85
Comments: Device label 47 8209

CAA1029

Isotope	Activity
Source Markings	Source Markings

Markings: CAA1029; Am241Be; 40mCi; 9/14/77

CAA1343

Isotope	Activity
Source Markings	Source Markings

Markings: CAA1343; Am241Be; 40mCi; 2/14/78

CAA3922

Isotope	Activity
Other Doc	Other Doc

Comments: Amersham logbook; 40mCi 8/29/80; model AMNV997

Record Numbers: 04052, 00145

F325B

Isotope	Activity
NRC Registry	NRC Registry

Comments: Model F5B; recovery date 7/21/10; Model NRD A-001

Record Numbers: 02385;03741

Foil-1

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

Foil-2

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

Foil-3

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

Foil-4

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

Foil-5

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

Foil-6

Isotope	Activity
NRC Registry	NRC Registry

Comments: Recovery date 7/21/10; NRD Model A-001

Record Numbers: 03981

MRC AM 56F

Isotope	Activity
Other Doc	Other Doc

Markings: Americium-241 100 millicuries

Comments: State Material Licence Ammendment Application dated August 3,1964; MRC source

Record Numbers: 04409

MRC AP-1 (AP-AM-1)

Isotope	Activity
Sales Catalogue	Sales Catalogue

Markings: MRC AP-1, AM 241

Comments: Monsanto

Record Numbers: 03323

MRC-AmBe-16

Shipping Record

Record Numbers: 01958

NEN-1

Isotope	Activity
Source Markings	Source Markings

Markings: 241Am,6.7E4 dpm, 10/73, NEN-1
Comments: 6.7E4 dpm/2.22E12 = 3E-8 Ci

T 1905 (46 1905)

Isotope	Activity
Source Markings	Source Markings

Markings: T 1905; Am241Be, 40mCi, 12/23/83

T 1906 (46 1906)

Isotope	Activity
Source Markings	Source Markings

Markings: T 1906; Am241Be, 40mCi, 12/23/83

T 1907 (46 1907)

Isotope	Activity
Source Markings	Source Markings

Markings: T 1907; Am241Be, 40mCi, 12/23/83

T 2129 (46 2129)

Isotope	Activity
Source Markings	Source Markings

Markings: T 2129; Am241Be; 40mCi; 2/20/84

Source Serial No. **LA00000067539**

71-1-944B

Isotope	Activity
Other Doc	Other Doc

Comments: Texas Dept Health Gulf Nuclear Database

Record Numbers: 01027

A158

Isotope	Activity
NRC Registry	NRC Registry

Comments: Manufactured by MRC

Record Numbers: 02171

A211

Isotope
NRC Registry
Comments: Manufactured by MRC

Activity
NRC Registry

Record Numbers: 02171

Source Serial No.

LA00000067540

F-555

Isotope
Source Markings
Markings: Pu-238, 5nCi, F-555, IPL
Comments: Recovery date 3/12/14

Activity
Source Markings

LANL-2

Isotope
Source Markings
Markings: Pu238, 85947 dpm
Comments: 85947dpm/2.22e12 = 3.87E-8 Ci

Activity
Source Markings

MRC-Pu8Li-19

NMMSS

Record Numbers: 05463

MRC-Pu8Li-24

NMMSS

Record Numbers: 05463

PPC-239

Isotope
NRC Registry
Markings: PPC-239; Pu238;
Comments: Amersham Model PPC-X
Record Numbers: 09459

Activity
NRC Registry

S-349

Isotope
Source Markings
Markings: S-349 200uCi Pu-238
Comments: Recovery date 3/12/14

Activity
Source Markings

Sources in Special Form Capsules

Appendix B
Sources In Special Form Capsules

(Curies 1 in red if isotope is short-lived and no decayed activity is available)

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
LA00000067538					
II-1-578					
	Eastman Kodak Company	421	241Am	0.03	0.10
	Eastman Kodak Company	MRC AM 56F	241Am	0.03	0.09
Total Sources in SFCII-1-578 (2 sources)					
Sum				***0.06***	***0.19***
III-1-086					
	Advanced Gauging Technologies, LLC	0819CW	241Am	0.14	0.50
	Advanced Gauging Technologies, LLC	3669LQ	241Am	0.29	1.00
	Advanced Gauging Technologies, LLC	5430LX	241Am	0.29	1.00
	Advanced Gauging Technologies, LLC	AMC 2513	241Am	0.29	1.00
Total Sources in SFCIII-1-086 (4 sources)					
Sum				***1.01***	***3.50***
III-1-388					
	Automation and Control Technology, Inc	1007	241Am	0.09	0.30
	SUNY Buffalo	5-012	241Am	0.00	0.00
	Automation and Control Technology, Inc	992	241Am	0.09	0.30
	SUNY Buffalo	AP-AM-1	241Am	0.00	0.00
	TA18	MRC-AmBe-16	241Am/Be	0.55	1.90
	SUNY Buffalo	NEN-1	241Am	0.00	0.00
Total Sources in SFCIII-1-388 (6 sources)					
Sum				***0.72***	***2.50***
Total Sources in SFC in container LA00000067538 (12 sources)					
Sum				***1.78***	***6.19***
LA00000067540					
III-1-241					
	Los Alamos National Laboratory TA-3/SM-40	F-555	238Pu	0.00	0.00
	Los Alamos National Laboratory	LANL-2	238Pu	0.00	0.00
	SPECTRO Analytical Instruments, Inc (1)	PPC-239	238Pu	0.00	0.03
	Los Alamos National Laboratory TA54	S-349	238Pu	0.00	0.00

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
Total Sources in SFCIII-1-241 (4 sources)					
Sum				***0.00***	***0.03***
Total Sources in SFC in container LA00000067540 (4 sources)					
Sum				***0.00***	***0.03***
Grand Total				***1.79***	***6.22***

Radiological Contamination Surveys

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 3/10/14 -thru 3/13/14 — No. of Samples: 100

TA: _____ — Rm: n/a

RCT: Billy Terrazas — Z Number: 115030

RCT Signature: [signature] — MS: E541

Phone: 5-9238 — Fax: n/a

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☑ Non-Routine / Other: NSSI, Houston,Tx

ADDITIONAL INFORMATION

RWP No.: n/a

Work Request No.: n/a — Incident No.: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	13665	10/9/2014	0.3520	1	12.8	37.78
Beta S43-10-1	13665	10/9/2014	0.3560	1	279	169.48
Shp 270	13707	5/14/2014			<0.1	~0.1mR/hr
SNRD	13756	4/2/2014			<0.1	0.25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ MEARS COUNTED IN FIELD

FIELD SMEAR COUNTER MDA (dpm)

alpha: 37.78

beta: 169.48

RP-1 REVIEW BY

[signature] - 152423

SAMPLE TRACKING NUMBER

29147100

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	pre-job count table	nda	nda	nda	nda	n/a						
2	pre-job floor	nda	nda	nda	nda	n/a						
3	pre-job record table	nda	nda	nda	nda	n/a						
4	pre-job floor	nda	nda	nda	nda	n/a						
5	pre-job floor	nda	nda	nda	nda	n/a						
6	pre-job floor	nda	nda	nda	nda	n/a						
7	pre-job floor	nda	nda	nda	nda	n/a						
8	pre-job small table	nda	nda	nda	nda	n/a						
9	pre-job floor	nda	nda	nda	nda	n/a						
10	pre-job floor	nda	nda	nda	nda	n/a						
11	pre-job floor	nda	nda	nda	nda	n/a						
12	pre-job floor	nda	nda	nda	nda	n/a						
13	pre-job floor	nda	nda	nda	nda	n/a						
14	pre-job floor	nda	nda	7.5	nda	n/a						
15	pre-job floor	nda	nda	nda	nda	n/a						

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147100

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	pre-job floor	nda	nda	nda	nda	n/a						
17	pre-job floor	nda	nda	nda	12.3	n/a						
18	pre-job floor	nda	nda	nda	nda	n/a						
19	pre-job floor	nda	nda	nda	nda	n/a						
20	pre-job work bench	nda	nda	nda	nda	n/a						
21	pre-job work bench	nda	nda	nda	nda	n/a						
22	pre-job work bench	nda	nda	nda	nda	n/a						
23	pre-job work bench	nda	nda	nda	nda	n/a						
24	drum sn32988R Empty top	nda	nda	nda	nda	n/a						
25	drum sn32988R Empty ring	nda	nda	nda	nda	n/a						
26	drum sn32988R Empty side	nda	nda	nda	nda	n/a						
27	drum sn32988R btm	nda	nda	nda	nda	n/a						
28	drum sn32988R inside	nda	nda	nda	nda	n/a						
29	drum sn36064 Empty top	nda	nda	nda	nda	n/a						
30	drum sn36064 Empty ring	nda	nda	nda	nda	n/a						
31	drum sn36064 Empty side	nda	nda	nda	nda	n/a						
32	drum sn36064 Empty side	nda	nda	nda	nda	n/a						
33	drum sn36064 Empty inside	nda	nda	nda	nda	n/a						
34	drum s100 sn00752 Empty top	nda	nda	nda	nda	n/a						
35	drum s100 sn00752 Empty ring	nda	nda	nda	nda	n/a						
36	drum s100 sn00752 Empty side	nda	nda	nda	nda	n/a						
37	drum s100 sn00752 Empty btm	nda	nda	nda	nda	n/a						
38	drum s100 sn00752 Empty inside	nda	nda	nda	nda	n/a						
39	pre-job shielding	nda	nda	nda	nda	n/a						
40	pre-job shielding	nda	nda	nda	nda	n/a						

*dpm/100 cm

32

RP-1 Survey Number: 29147100

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
41	pre-job poly holder	nda	nda	nda	nda	n/a						
42	pre-job sfc holder	nda	nda	26.4	nda	n/a						
43	pre-job bird feederholder	nda	nda	nda	nda	n/a						
44	pre-job cart	nda	nda	nda	nda	n/a						
45	pre-job cart	nda	nda	nda	nda	n/a						
46	source buckets	nda	nda	nda	nda	n/a						
47	source buckets	nda	nda	nda	nda	n/a						
48	source buckets	nda	nda	nda	nda	n/a						
49	leak test 241AmBe sources	nda	nda	13.8	nda	n/a						
50	leak test 241AmBe sources	nda	nda	6.7	28.6	n/a						
51	Bird feeder w/ 241AmBe sources	nda	nda	nda	nda	n/a						
52	Drum LA67539 w/Birdfeeder top	nda	nda	nda	nda	n/a						
53	Drum LA67539 w/Birdfeeder ring	nda	nda	nda	nda	n/a						
54	Drum LA67539 w/Birdfeeder side	nda	nda	nda	nda	n/a	41.0	62.0			3.5	9.0
55	Drum LA67539 w/Birdfeeder side	nda	nda	nda	nda	n/a						
56	Drum LA67539 w/Birdfeeder btm	nda	nda	nda	nda	n/a						
57	leak test 241Am sources	nda	nda	nda	nda	n/a						
58	leak test 241AmBe sources	nda	nda	23.6	nda	n/a						
59	leak test 241AmBe sources	nda	nda	18.9	nda	n/a						
60	leak test 241AmBe sources	nda	nda	nda	nda	n/a						
61	leak test 241Am sources	nda	nda	nda	nda	n/a						
62	leak test 241Am sources	nda	nda	27.6	nda	n/a						
63	leak test 241Am sources	nda	nda	nda	nda	n/a						
64	post-job tools	nda	nda	nda	nda	n/a						
65	post-job tools	nda	nda	27.6	nda	n/a						

*dpm/100 cm²

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147100

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma		at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
66	post-job shield	nda	nda	nda	nda	n/a						
67	post-job behind shield	nda	nda	nda	nda	n/a						
68	pre-job shield	nda	nda	nda	nda	n/a						
69	pre-job scale	nda	nda	nda	nda	n/a						
70	pre-job shield	nda	nda	nda	nda	n/a						
71	pre-job shield	nda	nda	nda	nda	n/a						
72	pre-job hot cell table	nda	nda	nda	nda	n/a						
73	pre-job hot cell table	nda	nda	31.4	nda	n/a						
74	Al can with sources ext	nda	nda	nda	nda	n/a						
75	Al can with sources inside	nda	nda	nda	nda	n/a						
76	leak test 241AmBe sources	200	nda	nda	nda	n/a						
77	SFC II-1-578 w/ 241Am sources	nda	nda	nda	nda	n/a						
78	SFC III-1-086 w/ 241Am sources	nda	nda	nda	nda	n/a						
79	SFC III-1-388 w/241AmBe , 241Am sources	nda	nda	nda	nda	n/a						
80	Drum LA67538 w/SFCs and sources top	nda	nda	nda	nda	n/a						
81	Drum LA67538 w/SFCs and sources ring	nda	nda	nda	nda	n/a						
82	Drum LA67538 w/SFCs and sources side	nda	nda	nda	nda	n/a	2.6	41.0			0.3	7.0
83	Drum LA67538 w/SFCs and sources side	nda	nda	nda	nda	n/a						
84	Drum LA67538 w/SFCs and sources btm	nda	nda	nda	nda	n/a						
85	empty drum sn00658 top	nda	nda	nda	nda	n/a						
86	empty drum sn00658 side	nda	nda	nda	nda	n/a						
87	empty drum sn00658 btm	nda	nda	nda	nda	n/a						
88	empty drum sn00658 inside	nda	nda	nda	nda	n/a						
89	leak test 238PuLi source	nda	nda	nda	nda	n/a						
90	leak test 238PuLi source	nda	nda	nda	nda	n/a						

*dpm/100 cm

34

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147100

Survey Point	Item / Area 3-26-14	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
91	SFC III-1-241 w/238Pu/ sources	nda	nda	nda	nda	n/a						
92	Drum LA67540 w/SFC and sources top	nda	nda	nda	nda	n/a						
93	Drum LA67540 w/SFC w/SFCs and sources ring	nda	nda	nda	nda	n/a						
94	Drum LA67540 w/SFC w/SFCs and sources side	nda	nda	6.2	nda	n/a	1.1	1.2			0.4	1
95	Drum LA67540 w/SFC w/SFCs and sources side	nda	nda	nda	nda	n/a						
96	Drum LA67540 w/SFC w/SFCs and sources btm	nda	nda	5.8	nda	n/a						
97	leak test 244Cm sources	200	nda	nda	nda	n/a						
98	leak test 244Cm sources	98	nda	38.7	nda	n/a						
99	leak test 244Cm sources	nda	nda	nda	nda	n/a						
100	Post-job behind shield	nda	nda	nda	nda	n/a						
101	End of Survey											
102												
103												
104												
105												
106												
107												
108												
109												
110												

*dpm/100 cm²

Remarks: Bkgd recounted at #39 9.9 α - 270β MDA 33.6α - 167β Bkgd recounted at #68 12.8 α -263β MDA 37.86α - 165β

35

Special Form Documentation

Appendix D
Special Form Certificate Status

Serial No	Source Model	Certificate No	Revision	Expiration Date
LA00000067538 (44 Sources)				
0196CW	AMC.P6 (X1277)	USA-0716-S	1	6/30/2015
0229CW	AMC.P6 (X1277)	USA-0716-S	1	6/30/2015
1867	AMCQ505 (XN270)	OSR-SF-009		
1996CW	AMC24 (X101)	USA-0715-S	1	6/30/2015
2732	AMCQ505 (XN270)	OSR-SF-009		
3-191867	A-001	USA-0036-S	11	1/31/2019
4747LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
4765LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
4929LX	AMC.17	USA-0688-S	1	9/30/2014
5945LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
5971LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
5975LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
5984LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
6044LX	AMC24 (X101)	USA-0715-S	1	6/30/2015
6645LQ	AMC.P6 (X1277)	USA-0716-S	1	6/30/2015
AM 8663 (55-8663)	X.1188	USA-0620-S	3	10/31/2017
AM 9026 (55-9026)	X.1188	USA-0620-S	3	10/31/2017
AM 9066 (55-9066)	X.1188	USA-0620-S	3	10/31/2017
AM 9372 (55-9372)	X.1188	USA-0620-S	3	10/31/2017
B-085	VD-HP	USA-0166-S	11	4/30/2017
B-319	VD-HP	USA-0166-S	11	4/30/2017
B-390	VD-HP	USA-0166-S	11	4/30/2017
B-424	VD-HP	USA-0166-S	11	4/30/2017
B-431	VD-HP	USA-0166-S	11	4/30/2017
CAA 3721 (47 3721)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA 6240 (47 6240)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA 6245 (47 6245)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA 7695 (47 7695)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA 7776 (47 7776)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA 8209 (47 8209)	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA1029	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA1343	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
CAA3922	AMNV997 (X.1)	USA-0632-S	8	10/31/2017
F325B	A-001	USA-0036-S	11	1/31/2019
Foil-1	A-001	USA-0036-S	11	1/31/2019
Foil-2	A-001	USA-0036-S	11	1/31/2019
Foil-3	A-001	USA-0036-S	11	1/31/2019
Foil-4	A-001	USA-0036-S	11	1/31/2019
Foil-5	A-001	USA-0036-S	11	1/31/2019
Foil-6	A-001	USA-0036-S	11	1/31/2019

Serial No	Source Model	Certificate No	Revision	Expiration Date
T 1905 (46 1905)	24195	USA-0263-S	5	9/30/2016
T 1906 (46 1906)	24195	USA-0263-S	5	9/30/2016
T 1907 (46 1907)	24195	USA-0263-S	5	9/30/2016
T 2129 (46 2129)	24195	USA-0263-S	5	9/30/2016
LA00000067539 (3 Sources)				
71-1-944B	71-1	USA-0114-S	8	1/31/2018
A158	NSR-F	USA-0113-S	11	1/31/2018
A211	NSR-F	USA-0113-S	11	1/31/2018
LA00000067540 (2 Sources)				
MRC-Pu8Li-19	2724	USA-0043-S	12	1/31/2017
MRC-Pu8Li-24	2726-B	USA-0043-S	12	1/31/2017

Other Information

Drum number LA00000067538, LA00000067539, or LA00000067540 in BDRs LA14-OSR-VE-005 and LA14-OSR-CH-005: one may find serial numbers or identifying information that may not match exactly between documents (e.g. VE attachment 4, rad surveys, markings, source cert, regulatory docs, etc) . This is an artifact that source manufacturers, regulators and customers may use somewhat different nomenclature to identify the same source. Some examples include:

1) Alpha Numeric numbering where the suffix or prefix may be used interchangeably throughout the life of the source. Examples include: LP123 vs LP-123 or 123LP vs 123 LP, etc... 7-1-123G vs 71 1 123g, etc...
2) The addition of a secondary serial number or identification number to reflect the device in which it is used. The most common methods used to identify these are to put the secondary ID number in parenthesis or following a slash. Examples include: MRC-246(135NP), 123LV/269, etc...
3) In addition to secondary numbering some regulators or users may add nomenclature to further identify the source. NMMSS is one of the more common. For example a source manufactured by MRC may be inscribed as MRC PU8PU123 or just PU8PU123 where as the NMMSS database added the manufacture designation to the front of the serial number; in this case the serial in NMMSS is listed as MRPU8BE123
4) Dashes or spacing is also interchangeable in that depending upon the author of the document (including regulators) the format could be determined by internal procedures, typeset, etc.... For example 7-1-123G vs 71 1 123 g found in the Texas State Health Department source list.
5) How the source ID or serial number translated during a recovery. Cylindrical sources with the inscription along the axis may lead to the alpha numeric order not being an exact match to the documentation, e.g. MRC 1234 vs 1234 MRC.

Although there may be instances where the source identification is not "exact" between differing documentation, the offsite source recovery project (OSRP) makes every effort though experience, documentation and research to ensure that the information is accurate, e.g. the identified source isotope is correct and the source activity is conservatively accurate.

Los Alamos
NATIONAL LABORATORY
EST. 1943

Memorandum

Nuclear Engineering & Nonproliferation Division
International Threat Reduction Group
Off-Site Source Recovery Project (OSRP)

Subject: ERID Numbers for Off-Site Source Recovery Project Acceptable Knowledge Documentation

The ERID numbers corresponding to the acceptable knowledge documentation for each drum in this Off-Site Source Recovery Project BDR package are listed below:

OSRP Drum Identifier	ERID Number
LA00000067538	ERID-255487
LA00000067539	ERID-255487
LA00000067540	ERID-255487

DIVIDER PAGE ONLY

Not part of page count

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	05-15-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA14-OSR-VE-005	SPM CHECKLIST FOR VE OSR	05-14-13	4
LA14-OSR-VE-005	BDR FOR VE OSR	03-11-14	41
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)

Acceptance/Rejection Signature and Date

Records Accepted [✓] Signature: [signature] Printed Name: Jewell Hurrabe Date: 5/29/14

Records Rejected [ ] Signature _____ Printed Name _____ Date _____

Reason for Rejection:

Re-submittal: Signature _____ Printed Name _____ Date _____

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	4365
DESTINATION TEL #	915056291658
DESTINATION ID	LANL
ST. TIME	06/02 12:55
TIME USE	00'16
PAGES SENT	1
RESULT	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220
Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095
Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	RANADA T. BACA
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-412-4820
	N/A	Date Sent:	05-15-14
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA14-OSR-VE-005	SPM CHECKLIST FOR VE OSR	05-14-13	4
LA14-OSR-VE-005	BDR FOR VE OSR	03-11-14	41
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓] Signature Printed Name: Lewell Yurrade Date: 5/29/14

Records Rejected [ ]

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LA13-OSR-VE-018				**Examination Date(s): 06/18/13 & 06/20/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: LA00000066719, LA00000067500
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	No NCRs
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 10/3/13

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-018				**Examination Date(s): 06/18/13 & 06/20/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-018				**Examination Date(s): 06/18/13 & 06/20/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**	X			
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**	X			
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-018				**Examination Date(s):** 06/18/13 & 06/20/13
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**	X			
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**	X			
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**	X			
Comments: N/A				
The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.				
Terri-Anne Groover	T. A Groover			10-03-13
SPM Printed Name	Signature			Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – Visual Examination Batch Data Report Cover Page

VE BDR Number: LA13-OSR-VE-018	
Waste stream number: LA-OS-00-01.001	Container Type: Drum

Container Identifiers included in this VE BDR			
1	LA00000066719	11	NA
2	LA00000067500	12	NA
3	NA	13	NA
4	NA	14	NA
5	NA	15	NA
6	NA	16	NA
7	NA	17	NA
8	NA	18	NA
9	NA	19	NA
10	NA	20	NA

VE Independent Technical Reviewer

IOANA WITKOWSKI (Printed Name)

Ioana Witkowski (Signature)

9/30/13 (Date)

NTPC RECORDS ORIGINAL
DATE REC'D 10/1/13

Attachment 6 – Visual Examination Batch Data Report Table of Contents

VE BDR LA13-OSR-VE-018

Table of Contents		
Item	Description	Page No.
1	Visual Examination Batch Data Report Cover Page (Attachment 5)	1
2	Visual Examination Batch Data Report Table of Contents (Attachment 6)	2
3	Visual Examination Independent Technical Reviewer Review Checklist (Attachment 7)	3
4	Container Packaging and Visual Examination Data Record(s) (Attachment 4)	5
5	Weights for Standardized OSRP Packaging Configurations (Attachment 2)	11
6	List of Acceptable Knowledge Documentation Identifier	12
7	List of Sources in Special Form Capsules	38
8	Copy of Radiological Contamination Surveys	45
9	List of Special Form Documentation	NA
10	Copy of NCRs, if applicable	NA
11	Other information (if any; otherwise enter NA for page number)	51

Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist

Page 1 of 1

VE BDR LA13-OSR-VE-018

This review verifies that all quality assurance and quality control requirements are met at the data generation level as stated in this procedure.

Criteria Met?	Required Criterion
☑Yes ☐No	1. The correct revision of CCP-TP-069 was used? Note revision number, R 6 .
☐Yes ☐No ☑NA	2. Deviations, if any, have been documented. (Choose NA if there were no deviations.)
☑Yes ☐No	3. The weight data were reported in the correct units. (Note: Total weight must be reported in kilograms (Kg) and the weights of individual sealed sources are reported in grams.) Data are reported with the correct number of significant figures (one decimal place).
☑Yes ☐No	4. The WMPs identified during VE are consistent with those assigned to these materials based on AK.
☑Yes ☐No	5. The Waste Matrix Code is consistent with the AK.
☑Yes ☐No	6. Data generation and reduction were conducted in a technically correct manner in accordance with CCP-TP-069, as evidenced by checks of items 1-5.
☑Yes ☐No	7. Calibration data for torque wrenches are recorded and within the calibration period.
☑Yes ☐No	8. Calculations have been verified by 100% check of all hand calculations. • Sum or waste material parameter weights • Estimated POC or waste weight
☑Yes ☐No	9. The data were reviewed for transcription errors and the data recorded is legible, accurate, and include any identifier numbers.
☑Yes ☐No	10. The forms in the VE BDR are complete and match the Table of Contents (Attachment 6).
☐Yes ☐No ☑NA	11. All NCRs relevant to the packaging of the loaded sealed sources were initiated and entered on the VE BDR. (Choose NA if there were no NCRs.)
☑Yes ☐No	12. Precision: Precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases? (Enter Yes if there were no unresolved discrepancies.)
☑Yes ☐No	13. Accuracy and Comparability: Accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (e.g. operators on LOQI)?
☑Yes ☐No	14. Completeness: There is a completed VE data form for each waste container in the BDR?
Comments, if "No" is checked for any criterion above: None	

Independent Technical Review conducted by:

JOHNA WITKOWSKI	Joanna Witkowski	9/30/13
VE Independent Technical Reviewer (Printed Name)	(Signature)	(Date)

The Following Documents used for this VE BDR are the Best Available Copies

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA13-OSR-VE-018 Page 1 of 3

Container Identifier	LA000000 66719
Printed name of VE Packager	R. [illegible]
Printed name of VE Recorder	[illegible] MICHAEL FANNING

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types. *(check one)*: ___ Standard Pipe Overpack (12" pipe component) ✓ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-624 • Drum lid filter manufacture date: 12/02 • POC lid filter model: VT9400 • POC lid filter serial number: 025160 • POC lid filter manufacture date: Jan. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☑ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container Yes☑ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☑ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☑ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☑ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☑ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match Yes☑ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 039455 • Calibration due date of torque wrench 11-27-13
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039455 • Calibration due date of torque wrench 11-27-13

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-DSR-VE-013 Page 2 of 3

Container Identifier LA000000066719

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	SFC 11-1-652 Am241Be, Cs-137	OM	7200	NONE
2				
3				
4				
5				
6				
7	TPA 6/24/13	MA		
8				
9				
10				
11				
12				
13				
14				
15				
Total estimated weight (kg) for each WMP listed for above items.			7.2 kg	
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.			NA ☑ None ☐ kg	Description: WMP:
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).			219.2 kg	
Total estimated weight (kg) for loaded container.			226.4 kg	
Container percent full.			95 %	

If the list of items is continued on additional pages, attach and number added pages appropriately.* WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-0SR-VE-018 Page 3 of 3

Container Identifier LA0000066719

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☑	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☑	2. Non-radionuclide pyrophoric material.
☐	☑	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☑	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☑	5. Explosives.
☐	☑	6. Compressed gas or potentially pressurized containers.
☐	☑	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☑	8. Wastes exhibiting the characteristic of ignitability.
☐	☑	9. Wastes exhibiting the characteristic of reactivity.
☐	☑	10. Wastes exhibiting the characteristic of corrosivity.
☐	☑	11. Radioactive pyrophorics greater than or equal to 1% by weight of the container that have not been rendered nonreactive.
☐	☑	12. Inadequately blocked or braced sharp or heavy items.
☐	☑	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

NONE

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Rick Day — Printed Name VE Packager | Signature | 6-20-13 Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Michael Fanning — Printed Name VE Recorder | Signature | 6-20-2013 Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA13-DSR-VE-018 Page 1 of 3

Container Identifier	LA000000067500
Printed name of VE Packager	~~MICHAEL FANNING~~ 6-18-13 Rick Day
Printed name of VE Recorder	MICHAEL FANNING

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types. *(check one)*: ___ Standard Pipe Overpack (12" pipe component) ✓ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-551 • Drum lid filter manufacture date: 12-02 • POC lid filter model: UT9400 • POC lid filter serial number: 025839 • POC lid filter manufacture date: FEB. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☑ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container Yes☑ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☑ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☑ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☑ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☑ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match Yes☑ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: ~~S-S~~ 6/18/13 S5100
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 039455 • Calibration due date of torque wrench 11-27-13
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039455 • Calibration due date of torque wrench 11-27-13

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-018 Page 2 of 3

Container Identifier LA0000000675OO

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	AM241BE II-1-591SFC	OM	7200	NONE
2				
3				
4				
5				
6			N/A	
7				
8				
9				
10				
11				
12				
13				
14				
15				

Total estimated weight (kg) for each WMP listed for above items.	7.2 kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA ☑ None ☐ kg	Description	WMP
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2 kg		
Total estimated weight (kg) for loaded container.	226.4 kg		
Container percent full.	95 %		

6-18-2013

If the list of items is continued on additional pages, attach and number added pages appropriately.* WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LAB-OSR-VE-018 Page 3 of 3

Container Identifier LA 0000006 7500

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☑	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☑	2. Non-radionuclide pyrophoric material.
☐	☑	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☑	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☑	5. Explosives.
☐	☑	6. Compressed gas or potentially pressurized containers.
☐	☑	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☑	8. Wastes exhibiting the characteristic of ignitability.
☐	☑	9. Wastes exhibiting the characteristic of reactivity.
☐	☑	10. Wastes exhibiting the characteristic of corrosivity.
☐	☑	11. Radioactive pyrophorics greater than or equal to 1% by weight of the container that have not been rendered nonreactive.
☐	☑	12. Inadequately blocked or braced sharp or heavy items.
☐	☑	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

NONE

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Rick Day — Printed Name VE Packager | Rick Day — Signature | 6-18-13 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

MICHAEL FANNING — Printed Name VE Recorder | Michael Fanning — Signature | 6-18-13 — Date

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component	Estimated Component(s) Weight (kg)						
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Acceptable Knowledge Documentation

Acceptable Knowledge Documentation

Source Serial No.	LA00000066719	
0307NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 2-22-90 Comments: Gauge number: MD5030774	**Activity** Source Markings
0784NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 6-17-90 Comments: Gauge number: H30089805	**Activity** Source Markings
0853NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 7-1-90 Comments: Gauge number: MD0109883	**Activity** Source Markings
10389NE	**Isotope** Source Markings Markings: 50mCi Am241/Be 7-28-89 Comments: Gauge number: M19129261	**Activity** Source Markings
1215NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 12-11-90 Comments: Gauge number: M310600299	**Activity** Source Markings
1331NK	Source Certificate Comments: Gauge number: MD10700392 Record Numbers: 11202	
1465NK	**Isotope** Source Markings Markings: 4-18-91; 50mCi; Am241/Be Comments: Gauge number:M310800441	**Activity** Source Markings

1533NN

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 6-21-01
Comments: Gauge number: M330707097

Activity
Source Markings

1857NK

Isotope
Source Markings
Markings: 1857NK, AI, 50mCi; Am-241/Be
Comments: Amersham

Activity
Source Markings

1894NK

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 9-12-91
Comments: Gauge number: MD20400785

Activity
Source Markings

2268NK

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 7-9-92
Comments: Gauge number: MD21001143

Activity
Source Markings

3197NK

Source Certificate

Comments: Gauge number: MD40702127

Record Numbers: 25905

3201NK

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 5/14/94

Activity
Source Markings

3204NK

Isotope
Source Markings
Markings: 3204NK, Am241/Be, 50mCi, AI
Comments: Amersham

Activity
Source Markings

3324NK

Source Certificate

Comments: Gauge number: M341002267

Record Numbers: 25905

3687NK

Source Certificate

Comments: Gauge number: M34100267

Record Numbers: 25905

4468NE

Isotope **Activity**
Source Markings Source Markings
Markings: 4468NE; 6-3-80; 50mCi; Am241/Be
Comments: Gauge number: MM1033686

4691NK

Isotope **Activity**
Source Markings Source Markings
Markings: 50mCi; Am241/BE; 1-10-95
Comments: Gauge number:MD50602720

5110NK

Isotope **Activity**
Source Markings Source Markings
Markings: 50mCi; Am241/Be; 6-15-95
Comments: Gauge number: M351202969

6208NK

Isotope **Activity**
Source Markings Source Markings
Markings: 50mCi; Am241Be; 7-9-96
Comments: Gauge number: M370303606

6651NE

Isotope **Activity**
Source Markings Source Markings
Markings: 50mCi; Am241/Be; 2-11-85
Comments: Gauge number: H36046464

6690NK

Source Certificate

Comments: Gauge number: MD70903925

Record Numbers: 25905

6933NE

Isotope **Activity**
Source Markings Source Markings
Markings: 6933NE, Al, 50mCi, Am241/Be; 5/18/1985

6973NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 4-8-97 Comments: Gauge number: MD80204138	**Activity** Source Markings
7135NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 9-20-85 Comments: Gauge number: M35126494	**Activity** Source Markings
7203NK	Source Certificate Comments: Gauge number: MD80604302 Record Numbers: 25905	
7204NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 7-21-97 Comments: Gauge number: MD80604303	**Activity** Source Markings
7219NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 7-21-97 Comments: Gauge number: MD80604318	**Activity** Source Markings
7441NK	**Isotope** Source Markings Markings: 7441NK, AI, 50mCi, Am241/Be; 7/21/1997 Comments: Amersham	**Activity** Source Markings
7495NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 1/16/86 Comments: Gauge number: A-6717	**Activity** Source Markings
7562NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 8-8-97 Comments: Gauge number: MD80904545	**Activity** Source Markings

7867NE	**Isotope** Source Markings Markings: 7867NE, AI, 50mCi, Am241/Be Comments: Amersham	**Activity** Source Markings
7893NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 7-21-86 Comments: Gauge number: M36097120	**Activity** Source Markings
8062NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 12-25-97 Comments: Gauge number: MD90404955	**Activity** Source Markings
8102NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 12-30-70 Comments: Gauge number: MD90505000	**Activity** Source Markings
8257NE	**Isotope** Source Markings Markings: 50mCi; Am-241/Be; 9-29-86 Comments: Gauge number: M37047505	**Activity** Source Markings
8401NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 3-2-87 Comments: Gauge number: H37047543	**Activity** Source Markings
8410NE	**Isotope** Source Markings Markings: 50 mCi; Am241Be; 3-2-87 Comments: Gauge number: H37047544	**Activity** Source Markings
8469NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 5-27-98 Comments: Gauge number: MD90905316	**Activity** Source Markings

8473NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 5-27-98 Comments: Gauge number: M391005347	**Activity** Source Markings
8474NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 5-27-98 Comments: Gauge number:M391005348	**Activity** Source Markings
8728NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 9-18-98 Comments: Gauge number: MD00405555	**Activity** Source Markings
8729NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 9-18-98 Comments: Gauge number: MD00405556	**Activity** Source Markings
8731NK	**Isotope** Source Markings Markings: 8731NK, AI, 50mCi, Am241/Be; 9/18/1998 Comments: Amersham	**Activity** Source Markings
8736NK	**Isotope** Source Markings Markings: 50mCi Am241/Be; 9-18-98 Comments: Gauge number: MD00405553	**Activity** Source Markings
8737NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 9-18-98 Comments: Gauge number: MD00040554	**Activity** Source Markings
9004NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 11-26-87 Comments: Gauge number: ME38048181	**Activity** Source Markings

9005NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 11-26-87 Comments: Gauge number: M38048182	**Activity** Source Markings
9006NE	**Isotope** Source Markings Markings: 50 mCi; Am-241/Be; 11-26-87 Comments: Gauge number: M301005912	**Activity** Source Markings
9024NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 12-22-87 Comments: Gauge number: M38048220	**Activity** Source Markings
9030NE	**Isotope** Source Markings Markings: 9030NE, Al, 50mCi, Am241/Be Comments: Amersham	**Activity** Source Markings
9053NE	**Isotope** Source Markings Markings: Al, Am241/Be, 50mCi Comments: Amersham	**Activity** Source Markings
9218NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 12-17-99 Comments: Gauge number: M301205969	**Activity** Source Markings
9427NK	**Isotope** Source Markings Markings: 50mCi; Am-241Be; 5-30-00 Comments: Gauge number: M310406139	**Activity** Source Markings
9439NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 5-30-00 Comments: Gauge number: M310506151	**Activity** Source Markings

9445NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 8-12-88 Comments: Gauge number: H38098478	**Activity** Source Markings
9506NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 10-5-88 Comments: Gauge number: M38108535 (A-8535)	**Activity** Source Markings
9518NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 7-3-00 Comments: Gauge number: MD10706231	**Activity** Source Markings
9550NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 7-4-00 Comments: Gauge number: MD10706267	**Activity** Source Markings
9552NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 7-4-00 Comments: Gauge number: MD10706269	**Activity** Source Markings
9569NK	**Isotope** Source Markings Markings: Am241/Be, 50mCi; AI Comments: Amersham	**Activity** Source Markings
9610NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 2-8-00 Comments: Gauge number: MD10806290	**Activity** Source Markings
9675NE	**Isotope** Source Markings Markings: 9675NE, AI, 50 mCi; Am241/Be Comments: Amersham	**Activity** Source Markings

9855NK	**Isotope** Source Markings Markings: 50 mCi; Am241/Be; 11-14-00 Comments: Gauge number: M320506592	**Activity** Source Markings
9856NK	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 11-20-00 Comments: Gauge number: M320506593	**Activity** Source Markings
9876NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 3-1-89 Comments: Gauge number: M39058848	**Activity** Source Markings
9878NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 3/1/89 Comments: Gauge number: M39058850	**Activity** Source Markings
9925NE	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 3-30-89 Comments: Gauge number: M39058884	**Activity** Source Markings
AM12B	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 6-4-80 Comments: Gauge number: MD00605753	**Activity** Source Markings
AM134	**Isotope** Source Markings Markings: 50mCi; Am241/Be; 6-15-78 Comments: Gauge number: MD70403642	**Activity** Source Markings
AM17N	**Isotope** Source Markings Markings: 50 mCi, Am241/Be; 6/1/82 Comments: Gauge number: H32074498	**Activity** Source Markings

AM2

Isotope
Source Markings
Markings: 50 mCi; Am241/Be; 2-13-78
Comments: Gauge number: M28032226

Activity
Source Markings

AM20D

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 10-3-80
Comments: Gauge number: M350302489

Activity
Source Markings

AM22S

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 8-25-83
Comments: Gauge number: H38095072

Activity
Source Markings

AM27M

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 4-23-82
Comments: Gauge number: H32024286

Activity
Source Markings

AM2K

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 10-19-81
Comments: Gauge number: H31124162

Activity
Source Markings

AM319

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 10-27-78
Comments: Gauge number: M321206812

Activity
Source Markings

AM32E

Isotope
NRC Registry
Comments: Model MC-2; manufacture date in CPN log book, record number 00140

Record Numbers: 00628

Activity
NRC Registry

AM33F

Isotope
Source Markings
Markings: 50 mCi; Am241/Be; 4-20-81
Comments: Gauge number: M330707086

Activity
Source Markings

AM40D

Isotope | **Activity**
Source Markings | Source Markings
Markings: 50mCi; Am241/Be; 10-3-80
Comments: Gauge number: M380604347

AM415

Isotope | **Activity**
Source Markings | Source Markings
Markings: 50mCi, Am-241Be; 3-12-79
Comments: Gauge number: MM9032662

AM47Y

Isotope | **Activity**
Source Markings | Source Markings
Markings: 50mCi; Am241/Be; 6-12-84
Comments: Gauge number: M24095684

AM519

Isotope | **Activity**
Source Markings | Source Markings
Markings: 50 mCi; Am241/Be; 5/18/79

AM53X

Isotope | **Activity**
Source Markings | Source Markings
Markings: 50mCi; Am241/Be; 7-20-84
Comments: Gauge number: H34085584

AM55U

Isotope | **Activity**
Source Markings | Source Markings
Markings: 50mCi; Am241/Be; 2-21-84
Comments: Gauge number: MD50407845

AM58E

Isotope | **Activity**
Source Markings | Source Markings
Markings: 50mCi; Am241/Be; 11-26-80
Comments: Gauge number: MD60903393

AM657

Isotope | **Activity**
Source Markings | Source Markings
Markings: 50mCi; Am241/Be; 8-14-79
Comments: Gauge number: M321006764

AM65H

Isotope	Activity
Source Markings	Source Markings

Markings: 50mCi; Am241/Be; 8-6-81
Comments: Gauge number: MD00605754

AM739

Isotope	Activity
Source Markings	Source Markings

Markings: 50mCi; Am241/Be; 8-30-79
Comments: Gauge number: MD10806308

AM79D

Isotope	Activity
NRC Registry	NRC Registry

Comments: Model MC-3; manufacture date in CPN logbook, record number 03868

Record Numbers: 00628

AM81G

Isotope	Activity
Source Markings	Source Markings

Markings: 50mCi; Am241/Be; 5-26-81
Comments: Gauge number: MD81204725

AM82P

Isotope	Activity
NRC Registry	NRC Registry

Comments: Model MC-2, manufacture date in CPN logbook, record number 03800

Record Numbers: 00628

AM85E

Isotope	Activity
Source Markings	Source Markings

Markings: 50mCi; Am241/Be; 12-12-80
Comments: Gauge number: M330707085

AM871

Isotope	Activity
Source Markings	Source Markings

Markings: 50mCi; Am241/Be; 1-4-80
Comments: Gauge number: M310106027

AM895

Isotope	Activity
NRC Registry	NRC Registry

Comments: Model 503; manufacture date in CPN logbook, record number 00140

Record Numbers: 03770

AM89X

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 7-20-84
Comments: Gauge number: MD50407847

Activity
Source Markings

AM91H

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 8-19-81
Comments: Gauge number: MD70803862

Activity
Source Markings

AM92T

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 11-28-83
Comments: Gauge number: H34015245

Activity
Source Markings

AM99A

Isotope
Source Markings
Markings: AM99A, 50mCi, Am241/Be, 5/16/80

Activity
Source Markings

AMA23

Isotope
Source Markings
Markings: 50mCi, Am241/Be; 10-28-84
Comments: Gauge number: H34125882

Activity
Source Markings

AMD-33

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 10-24-85
Comments: Gauge number: M16036632

Activity
Source Markings

AME-30

Isotope
Source Markings
Markings: AME-30, 50mCi, Am-241/Be; 6-17-86

Activity
Source Markings

AME-96

Isotope
Source Markings
Markings: 50mCi, Am241/Be, 9-4-86

Activity
Source Markings

AMF-65

Isotope
Source Markings
Markings: Am241/Be, 50mCi; 4/8/87

Activity
Source Markings

AMF-66

Isotope
Source Markings
Markings: Am241/Be, 50mCi; 4/8/87

Activity
Source Markings

AMG-22

Isotope
Source Markings
Markings: Am241/Be, 50mCi
Comments: Manufacture date on MFG Certificate of Leak Check, record number 11201

Activity
Source Markings

CAA12178

Isotope
Source Markings
Markings: CAA12178,AI,Am241/Be,40mCi, 08/11/88

Activity
Source Markings

CAA13927

Isotope
Source Markings
Markings: AI, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

CAA14041

Isotope
Source Markings
Markings: AI, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

CAA16773

Isotope
Source Markings
Markings: AI, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

CAA17807

Isotope
Source Markings
Markings: AI, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

CAA18368

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

CAA18647

Isotope
Source Markings
Markings: CAA18647,Al,Am241/Be,40mCi, 06/29/88

Activity
Source Markings

CAA18942

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

CAA21678

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

CAA23091

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

CAA24998

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

CAA25284

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

CAA7117

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

MRC5836

Isotope
Source Markings
Markings: 50mCi; Am-241Be; 6-23-86
Comments: Gauge number: M36097107

Activity
Source Markings

NE36A

Isotope
Source Markings
Markings: 10mCi Cs137 / 50mCi Am241/Be; 2-9-82
Comments: Gauge number: D72024332

Activity
Source Markings

NE488

Isotope
Source Markings
Markings: 50mCi; Am241/Be; 1-11-77
Comments: Gauge number: M360203068

Activity
Source Markings

NE609

Isotope
Source Markings
Markings: 50mCi; Am241Be; 6-20-77
Comments: Gauge number: M370203580

Activity
Source Markings

NE825

Isotope
Source Markings
Markings: 50mCi; Am241Be; 12-14-77
Comments: Gauge number:H340802206

Activity
Source Markings

NJ0052

Isotope
Source Markings
Markings: AI, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0142

Isotope
Source Markings
Markings: AI, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0217

Isotope
Source Markings
Markings: AI, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0226	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0244	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0293	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0309	**Isotope** Source Markings Markings: Am241Be; 6-22-87; 40mCi	**Activity** Source Markings
NJ0396	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0404	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0420	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0426	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings

NJ0460

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0483

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0577

Isotope
Source Markings
Markings: NJ0577; Am241/Be; 40 mCi; 11/25/88

Activity
Source Markings

NJ0627

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0635

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0697

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0701

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0753

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0754	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0780	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0781	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0791	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0837	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0848	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0868	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ0869	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings

NJ0871

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0877

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ0995

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ1019

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ1022

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ1031

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ1047

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ1160

Isotope
Source Markings
Markings: Al, Am241/Be, 40 mCi
Comments: Amersham

Activity
Source Markings

NJ1201	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ1246	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ1250	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ1253	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ1264	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ1273	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ1309	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ1683	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings

NJ1750	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
NJ1985	**Isotope** Source Markings Markings: Al, Am241/Be, 40 mCi Comments: Amersham	**Activity** Source Markings
T1240	Source Certificate Record Numbers: 00777	
T1336	Source Certificate Record Numbers: 00777	
T1452	Source Certificate Markings: T1452 Record Numbers: 00777	
T2080	Source Certificate Record Numbers: 00777	

Source Serial No.	LA00000067500
2614NK	Source Certificate Record Numbers: 25905
2737NJ	Source Certificate Record Numbers: 01665
2741NK	Source Certificate

Record Numbers: 25905

2749NJ

Source Certificate

Record Numbers: 02947

2771NK

Source Certificate

Record Numbers: 25905

4862NK

Isotope
Source Markings
Markings: Am241/Be; 50 mCi; 3-16-95

Activity
Source Markings

6869NE

Source Certificate

Record Numbers: 25938

8009NE

Source Certificate

Record Numbers: 25938

9118NK

Source Certificate

Record Numbers: 25905

9589NE

Source Certificate

Record Numbers: 25938

9934NE

Source Certificate

Record Numbers: 25938

AM111

Isotope
Source Markings
Markings: Am241/Be; 50 mCi; 6-15-78

Activity
Source Markings

AM137P

Isotope
Source Markings
Markings: Am241/Be; 50 mCi; 2-3-83

Activity
Source Markings

AM697

Isotope
Source Markings
Markings: Am241/Be; 50 mCi; 8-30-79

Activity
Source Markings

AM6J

Isotope
Source Markings
Markings: Am241/Be; 50 mCi; 8-19-81

Activity
Source Markings

AM74R

Isotope
Source Markings
Markings: Am241/Be; 50 mCi; 7-27-83

Activity
Source Markings

AM75B

Isotope
Source Markings
Markings: Am241/Be; 50 mCi; 6-26-80

Activity
Source Markings

AMA39

Isotope
Source Markings
Markings: Am241/Be; 50 mCi; 11-2-84

Activity
Source Markings

AMA58

Isotope
Source Markings
Markings: Am241/Be; 50 mCi; 8-15-84

Activity
Source Markings

AMD-95

Isotope
Source Markings
Markings: Am241/Be; 50 mCi; 4-30-86

Activity
Source Markings

AMK-58

Isotope
Source Markings
Markings: Am241/Be; 50 mCi; 8-5-86

Activity
Source Markings

CAA-1301

Isotope
Source Markings

Activity
Source Markings

Markings: CAA-1301; Am241/Be; 40 mCi; 01/22/79

CAA-2250

Isotope
Source Markings

Activity
Source Markings

Markings: CAA-2250; Am241/Be; 40 mCi; 01/22/79

CAA-4076

Isotope
Source Markings

Activity
Source Markings

Markings: CAA-4076; Am241Be; 40 mCi; 6-12-80

CAA-775

Isotope
Source Markings

Activity
Source Markings

Markings: CAA-775; TRC; Am241/Be; 40mCi, 5/31/77

NE529

Isotope
Source Markings

Activity
Source Markings

Markings: Am241/Be; 50 mCi; 1-1-77

NJ4417

Source Certificate

Record Numbers: 02948

Sources in Special Form Capsules

Appendix B
Sources In Special Form Capsules

(Curies 1 in red if isotope is short-lived and no decayed activity is available)

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
LA00000066719					
II-1-652					
	CPN-Instrotek	0307NK	241Am/Be	0.01	0.05
	CPN-Instrotek	0784NK	241Am/Be	0.01	0.05
	CPN-Instrotek	0853NK	241Am/Be	0.01	0.05
	CPN-Instrotek	10389NE	241Am/Be	0.01	0.05
	CPN-Instrotek	1215NK	241Am/Be	0.01	0.05
	CPN-Instrotek	1331NK	241Am/Be	0.01	0.05
	CPN-Instrotek	1465NK	241Am/Be	0.01	0.05
	CPN-Instrotek	1533NN	241Am/Be	0.01	0.05
	CPN-Instrotek	1857NK	241Am/Be	0.01	0.05
	CPN-Instrotek	1894NK	241Am/Be	0.01	0.05
	CPN-Instrotek	2268NK	241Am/Be	0.01	0.05
	CPN-Instrotek	3197NK	241Am/Be	0.01	0.05
	CPN-Instrotek	3201NK	241Am/Be	0.01	0.05
	CPN-Instrotek	3204NK	241Am/Be	0.01	0.05
	CPN-Instrotek	3324NK	241Am/Be	0.01	0.05
	CPN-Instrotek	3687NK	241Am/Be	0.01	0.05
	CPN-Instrotek	4468NE	241Am/Be	0.01	0.05
	CPN-Instrotek	4691NK	241Am/Be	0.01	0.05
	CPN-Instrotek	5110NK	241Am/Be	0.01	0.05
	CPN-Instrotek	6208NK	241Am/Be	0.01	0.05
	CPN-Instrotek	6651NE	241Am/Be	0.01	0.05
	CPN-Instrotek	6690NK	241Am/Be	0.01	0.05
	CPN-Instrotek	6933NE	241Am/Be	0.01	0.05
	CPN-Instrotek	6973NK	241Am/Be	0.01	0.05
	CPN-Instrotek	7135NE	241Am/Be	0.01	0.05
	CPN-Instrotek	7203NK	241Am/Be	0.01	0.05
	CPN-Instrotek	7204NK	241Am/Be	0.01	0.05
	CPN-Instrotek	7219NK	241Am/Be	0.01	0.05
	CPN-Instrotek	7441NK	241Am/Be	0.01	0.05
	CPN-Instrotek	7495NE	241Am/Be	0.01	0.05
	CPN-Instrotek	7562NK	241Am/Be	0.01	0.05

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	CPN-Instrotek	7867NE	241Am/Be	0.01	0.05
	CPN-Instrotek	7893NE	241Am/Be	0.01	0.05
	CPN-Instrotek	8062NK	241Am/Be	0.01	0.05
	CPN-Instrotek	8102NK	241Am/Be	0.01	0.05
	CPN-Instrotek	8257NE	241Am/Be	0.01	0.05
	CPN-Instrotek	8401NE	241Am/Be	0.01	0.05
	CPN-Instrotek	8410NE	241Am/Be	0.01	0.05
	CPN-Instrotek	8469NK	241Am/Be	0.01	0.05
	CPN-Instrotek	8473NK	241Am/Be	0.01	0.05
	CPN-Instrotek	8474NK	241Am/Be	0.01	0.05
	CPN-Instrotek	8728NK	241Am/Be	0.01	0.05
	CPN-Instrotek	8729NK	241Am/Be	0.01	0.05
	CPN-Instrotek	8731NK	241Am/Be	0.01	0.05
	CPN-Instrotek	8736NK	241Am/Be	0.01	0.05
	CPN-Instrotek	8737NK	241Am/Be	0.01	0.05
	CPN-Instrotek	9004NE	241Am/Be	0.01	0.05
	CPN-Instrotek	9005NE	241Am/Be	0.01	0.05
	CPN-Instrotek	9006NE	241Am/Be	0.01	0.05
	CPN-Instrotek	9024NE	241Am/Be	0.01	0.05
	CPN-Instrotek	9030NE	241Am/Be	0.01	0.05
	Humboldt Scientific, Inc.	9053NE	241Am/Be	0.01	0.05
	CPN-Instrotek	9218NK	241Am/Be	0.01	0.05
	CPN-Instrotek	9427NK	241Am/Be	0.01	0.05
	CPN-Instrotek	9439NK	241Am/Be	0.01	0.05
	CPN-Instrotek	9445NE	241Am/Be	0.01	0.05
	CPN-Instrotek	9506NE	241Am/Be	0.01	0.05
	CPN-Instrotek	9518NK	241Am/Be	0.01	0.05
	CPN-Instrotek	9550NK	241Am/Be	0.01	0.05
	CPN-Instrotek	9552NK	241Am/Be	0.01	0.05
	Humboldt Scientific, Inc.	9569NK	241Am/Be	0.01	0.05
	CPN-Instrotek	9610NK	241Am/Be	0.01	0.05
	CPN-Instrotek	9675NE	241Am/Be	0.01	0.05
	CPN-Instrotek	9855NK	241Am/Be	0.01	0.05
	CPN-Instrotek	9856NK	241Am/Be	0.01	0.05
	CPN-Instrotek	9876NE	241Am/Be	0.01	0.05
	CPN-Instrotek	9878NE	241Am/Be	0.01	0.05
	CPN-Instrotek	9925NE	241Am/Be	0.01	0.05
	CPN-Instrotek	AM12B	241Am/Be	0.01	0.05
	CPN-Instrotek	AM134	241Am/Be	0.01	0.05

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	CPN-Instrotek	AM17N	241Am/Be	0.01	0.05
	CPN-Instrotek	AM2	241Am/Be	0.01	0.05
	CPN-Instrotek	AM20D	241Am/Be	0.01	0.05
	CPN-Instrotek	AM22S	241Am/Be	0.01	0.05
	CPN-Instrotek	AM27M	241Am/Be	0.01	0.05
	CPN-Instrotek	AM2K	241Am/Be	0.01	0.05
	CPN-Instrotek	AM319	241Am/Be	0.01	0.05
	CPN-Instrotek	AM32E	241Am/Be	0.01	0.05
	CPN-Instrotek	AM33F	241Am/Be	0.01	0.05
	CPN-Instrotek	AM40D	241Am/Be	0.01	0.05
	CPN-Instrotek	AM415	241Am/Be	0.01	0.05
	CPN-Instrotek	AM47Y	241Am/Be	0.01	0.05
	Humboldt Scientific, Inc.	AM519	241Am/Be	0.01	0.05
	CPN-Instrotek	AM53X	241Am/Be	0.01	0.05
	CPN-Instrotek	AM55U	241Am/Be	0.01	0.05
	CPN-Instrotek	AM58E	241Am/Be	0.01	0.05
	CPN-Instrotek	AM657	241Am/Be	0.01	0.05
	CPN-Instrotek	AM65H	241Am/Be	0.01	0.05
	CPN-Instrotek	AM739	241Am/Be	0.01	0.05
	CPN-Instrotek	AM79D	241Am/Be	0.01	0.05
	CPN-Instrotek	AM81G	241Am/Be	0.01	0.05
	Humboldt Scientific, Inc.	AM82P	241Am/Be	0.01	0.05
	CPN-Instrotek	AM85E	241Am/Be	0.01	0.05
	CPN-Instrotek	AM871	241Am/Be	0.01	0.05
	CPN-Instrotek	AM895	241Am/Be	0.01	0.05
	CPN-Instrotek	AM89X	241Am/Be	0.01	0.05
	CPN-Instrotek	AM91H	241Am/Be	0.01	0.05
	CPN-Instrotek	AM92T	241Am/Be	0.01	0.05
	Humboldt Scientific, Inc.	AM99A	241Am/Be	0.01	0.05
	CPN-Instrotek	AMA23	241Am/Be	0.01	0.05
	CPN-Instrotek	AMD-33	241Am/Be	0.01	0.05
	CPN-Instrotek	AME-30	241Am/Be	0.01	0.05
	CPN-Instrotek	AME-96	241Am/Be	0.01	0.05
	Humboldt Scientific, Inc.	AMF-65	241Am/Be	0.01	0.05
	Humboldt Scientific, Inc.	AMF-66	241Am/Be	0.01	0.05
	Humboldt Scientific, Inc.	AMG-22	241Am/Be	0.01	0.05
	CPN-Instrotek	CAA12178	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	CAA13927	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	CAA14041	241Am/Be	0.01	0.04

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	Humboldt Scientific, Inc.	CAA16773	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	CAA17807	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	CAA18368	241Am/Be	0.01	0.04
	CPN-Instrotek	CAA18647	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	CAA18942	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	CAA21678	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	CAA23091	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	CAA24998	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	CAA25284	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	CAA7117	241Am/Be	0.01	0.04
	CPN-Instrotek	MRC5836	241Am/Be	0.01	0.05
	CPN-Instrotek	NE36A	241Am/Be/137Cs	0.01	0.05
	CPN-Instrotek	NE488	241Am/Be	0.01	0.05
	CPN-Instrotek	NE609	241Am/Be	0.01	0.05
	CPN-Instrotek	NE825	241Am/Be	0.01	0.05
	Humboldt Scientific, Inc.	NJ0052	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0142	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0217	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0226	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0244	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0293	241Am/Be	0.01	0.04
	CPN-Instrotek	NJ0309	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0396	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0404	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0420	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0426	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0460	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0483	241Am/Be	0.01	0.04
	CPN-Instrotek	NJ0577	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0627	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0635	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0697	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0701	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0753	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0754	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0780	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0781	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0791	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0837	241Am/Be	0.01	0.04

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	Humboldt Scientific, Inc.	NJ0848	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0868	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0869	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0871	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0877	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ0995	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1019	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1022	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1031	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1047	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1160	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1201	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1246	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1250	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1253	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1264	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1273	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1309	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1683	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1750	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	NJ1985	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	T1240	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	T1336	241Am/Be	0.01	0.04
	CPN-Instrotek	T1452	241Am/Be	0.01	0.04
	Humboldt Scientific, Inc.	T2080	241Am/Be	0.01	0.04
Total Sources in SFCII-1-652 (173 sources)					
Sum				***2.31***	***8.03***
Total Sources in container LA00000066719 (173 sources)					
Sum				***2.31***	***8.03***

LA00000067500

II-1-591

InstroTek, Inc	2614NK	241Am/Be	0.01	0.05
InstroTek, Inc	2737NJ	241Am/Be	0.01	0.04
InstroTek, Inc	2741NK	241Am/Be	0.01	0.04
InstroTek, Inc	2749NJ	241Am/Be	0.01	0.04
InstroTek, Inc	2771NK	241Am/Be	0.01	0.05
InstroTek, Inc	4862NK	241Am/Be	0.01	0.05
InstroTek, Inc	6869NE	241Am/Be	0.01	0.05

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	InstroTek, Inc	8009NE	241Am/Be	0.01	0.05
	InstroTek, Inc	9118NK	241Am/Be	0.01	0.05
	InstroTek, Inc	9589NE	241Am/Be	0.01	0.05
	InstroTek, Inc	9934NE	241Am/Be	0.01	0.05
	InstroTek, Inc	AM111	241Am/Be	0.01	0.05
	InstroTek, Inc	AM137P	241Am/Be	0.01	0.05
	InstroTek, Inc	AM697	241Am/Be	0.01	0.05
	InstroTek, Inc	AM6J	241Am/Be	0.01	0.05
	InstroTek, Inc	AM74R	241Am/Be	0.01	0.05
	InstroTek, Inc	AM75B	241Am/Be	0.01	0.05
	InstroTek, Inc	AMA39	241Am/Be	0.01	0.05
	InstroTek, Inc	AMA58	241Am/Be	0.01	0.05
	InstroTek, Inc	AMD-95	241Am/Be	0.01	0.05
	InstroTek, Inc	AMK-58	241Am/Be	0.01	0.05
	InstroTek, Inc	CAA-1301	241Am/Be	0.01	0.04
	InstroTek, Inc	CAA-2250	241Am/Be	0.01	0.04
	InstroTek, Inc	CAA-4076	241Am/Be	0.01	0.04
	InstroTek, Inc	CAA-775	241Am/Be	0.01	0.04
	InstroTek, Inc	NE529	241Am/Be	0.01	0.05
	InstroTek, Inc	NJ4417	241Am/Be	0.01	0.04
Total Sources in SFCII-1-591 (27 sources)					
Sum				***0.37***	***1.27***
Total Sources in container LA00000067500 (27 sources)					
Sum				***0.37***	***1.27***
Grand Total				***2.68***	***9.30***

Radiological Contamination Surveys

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 6/18/2013-6/20/13 No. of Samples: 79

TA: _____ Rm: n/a

RCT: Billy Terrazas Z Number: 115030

RCT Signature: _____ MS: E541

Phone: 5-9238 Fax: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	11181	2/22/2014	0.3740	1	5.4	16.12
Beta S43-10-1	11181	2/22/2014	0.3510	1	242	90.20
Shp 270	12922	3/7/2014	n/a		0.2	~0.1mR/hr
SNRD	13589	10/12/2013	n/a		0.4	0.25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ SMEARS COUNTED IN FIELD

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☑ Non-Routine / Other: Humboldt , Raleigh ,N.C.

FIELD SMEAR COUNTER MDA (dpm)

alpha: 16.12

beta: 90.20

SAMPLE TRACKING NUMBER

29147030

RP-1 REVIEW BY

ADDITIONAL INFORMATION

RWP No.: n/a

Work Request No.: n/a Incident No.: n/a

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	pre-job work table behind shield	nda	nda	nda	nda	n/a						
2	pre-job work table behind shield	nda	nda	nda	nda	n/a						
3	pre-job floor	nda	nda	nda	nda	n/a						
4	pre-job SFC table	nda	nda	nda	nda	n/a						
5	pre-job floor	nda	nda	5.7	nda	n/a						
6	pre-job table	nda	nda	nda	nda	n/a						
7	pre-job floor	nda	nda	nda	nda	n/a						
8	pre-job floor	nda	nda	nda	nda	n/a						
9	pre-job count table	nda	nda	nda	nda	n/a						
10	pre-job floor	nda	nda	nda	nda	n/a						
11	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
12	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
13	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
14	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
15	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147030

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	leak test 241 Am Be sources	nda	nda		nda	n/a						
17	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
18	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
19	leak test 241 Am Be sources	nda	nda	7.4	nda	n/a						
20	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
21	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
22	leak test 241 Am Be sources	nda	nda	81.9	19.2	n/a						
23	leak test 241 Am Be sources	nda	nda	21.1	nda	n/a						
24	leak test 241 Am Be sources	nda	nda	17.7	nda	n/a						
25	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
26	leak test 241 Am Be sources	nda	nda	12.4	nda	n/a						
27	leak test 241 Am Be sources	nda	nda	13.2	16.3	n/a						
28	leak test 241 Am Be sources	nda	nda	18.2	nda	n/a						
29	leak test 241 Am Be sources	70	300	66	25	n/a						
30	leak test 241 Am Be sources	1500	499	nda	nda	n/a						
31	roller	1040	560	nda	nda	n/a						
32	roller reswipe	385	475	nda	nda	n/a						
33	roller reswipe	nda	nda	nda	nda	n/a						
34	leak test 241 Am Be sources	nda	nda	13.9	nda	n/a						
35	bt shoes	nda	nda	nda	nda	n/a						
36	mahir shoes	nda	nda	nda	nda	n/a						
37	r day shoes	nda	nda	nda	nda	n/a						
38	Fanning shoes	nda	nda	nda	nda	n/a						
39	leak test 241 Am Be sources	nda	nda	48.1	13.3	n/a						
40	post-job tools	nda	nda	26.1	nda	n/a						

*dpm/100 cm

RP-1 Survey Number: 29147030

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
41	post-job behind shield	nda	nda	nda	nda	n/a						
42	post-job roller	nda	nda	nda	nda	n/a						
43	post-job shield	nda	nda	nda	nda	n/a						
44	post-job floor	nda	nda	nda	nda	n/a						
45	post-job roller	nda	nda	nda	nda	n/a						
46	post-job behind shield	nda	nda	nda	nda	n/a						
→ 47	leak test 241 Am Be 137Cs rod tips sources	nda	nda	16.9	nda	n/a						
48	leak test 241 Am Be sources	nda	nda	52.7	nda	n/a						
→ 49	SFC II-1-652 w241AmBe 137Cs sources	nda	nda	nda	nda	n/a	74.0	250.0				
50	tweezers	nda	nda	14.3	nda	n/a						
51	table	nda	nda	nda	nda	n/a						
52	tweezers	nda	nda	8.6	nda	n/a						
53	Drum LA66719 w/sfcII-1-652 top	nda	nda	nda	nda	n/a						
54	Drum LA66719 w/sfcII-1-652 ring	nda	nda	nda	nda	n/a						
55	Drum LA66719 w/sfcII-1-652 side	nda	nda	nda	nda	n/a	15.0	14.2	4.4	7.7	1.1	2.7
56	Drum LA66719 w/sfcII-1-652 side	nda	nda	nda	nda	n/a						
57	Drum LA66719 w/sfcII-1-652 btm	nda	nda	nda	nda	n/a						
58	post-job tools	nda	nda	nda	nda	n/a						
59	post-job behind shield	nda	nda	nda	nda	n/a						
60	post-job camera	nda	nda	nda	nda	n/a						
61	post-job Al cans	nda	nda	17.1	15.9	n/a						
62	post-job sfc II-1-543 destroyed	nda	nda	nda	nda	n/a						
63	post-job sfc II-1-557 destroyed	582	nda	nda	nda	n/a						
64	SFc II-1-787w241AmBe137Cs sources	nda	nda	nda	nda	n/a	14.0	268.0				
65	Drum sn#00068 w/SFc II-1-787w241AmBe137Cs sources top	nda	nda	nda	nda	n/a						

*dpm/100 cm²

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 6/18/2013 thru 6/20/2013 No. of Samples: 30

TA: 0 0 Rm: n/a

RCT: Billy Terrazas Z Number: 115030

RCT Signature: MS: E541

Phone: 5-9238 Fax: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	11181	2/22/2014	0.3740	1	2.7	12.46
Beta S43-10-1	11181	2/22/2014	0.3510	1	323	103.60
Shp 270	12922	3/7/2014	n/a	n/a	0.2	~0.1mR/hr
SNRD	13589	10/12/2013	n/a	n/a	0	0.25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ SMEARS COUNTED IN FIELD

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☑ Non-Routine / Other: Instrotek , Raleigh ,N.C.

FIELD SMEAR COUNTER MDA (dpm)

alpha: 12.46

beta: 103.60

SAMPLE TRACKING NUMBER

29147029

RP-1 REVIEW BY

ADDITIONAL INFORMATION

RWP No.: n/a

Work Request No.: n/a Incident No.: n/a

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	pre-job count table	nda	nda	nda	nda	n/a						
2	pre-job poly block	nda	nda	nda	nda	n/a						
3	pre-job roller assembly	nda	nda	nda	nda	n/a						
4	pre-job computer	nda	nda	nda	nda	n/a						
5	pre-job shield block	nda	nda	nda	nda	n/a						
6	pre-job shield block	nda	nda	nda	nda	n/a						
7	pre-job work bench	nda	nda	nda	nda	n/a						
8	pre-job work bench	nda	nda	nda	nda	n/a						
9	pre-job floor	nda	nda	nda	nda	n/a						
10	pre-job floor	nda	nda	nda	nda	n/a						
11	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
12	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
13	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
14	leak test 241 Am Be sources	nda	nda	nda	nda	n/a						
15	post-job Fanning phone	nda	nda	nda	nda	n/a						

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147029

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	post-job computer	nda	nda	nda	nda	n/a						
17	post-job roller	nda	nda	nda	nda	n/a						
18	post-job tools	nda	nda	nda	nda	n/a						
19	post-job tools	nda	nda	nda	nda	n/a						
20	post-job work bench	nda	nda	nda	nda	n/a						
21	SFC II-1-591 w/241AmBe sources	nda	nda	nda	nda	n/a						
22	post-job tools	nda	nda	nda	nda	n/a						
23	post-job sfc kit	nda	nda	nda	nda	n/a						
24	Drum LA67500w/sfcII-1-591w/241AmBe sources top	nda	nda	nda	nda	n/a						
25	Drum LA67500w/sfcII-1-591w/241AmBe sources rng	nda	nda	nda		n/a						
26	Drum LA67500w/sfcII-1-591w/241AmBe sources side	nda	nda	nda	nda	n/a	2.3	2.8	0.8	2.1	0.2	1.4
27	Drum LA67500w/sfcII-1-591w/241AmBe sources side	nda	nda	nda	nda	n/a						
28	Drum LA67500w/sfcII-1-591w/241AmBe sources btm	nda	nda	nda	nda	n/a						
29	post-job count table	nda	nda	nda	nda	n/a						
30	post-job record table	nda	nda	nda	nda	n/a						
31	End of Survey											
32												
33												
34												
35												
36												
37												
38												
39												
40												

*dpm/100 cm

Other Information

Drum numbers LA00000066719, LA00000067500:

One may find serial numbers or identifying information that may not match exactly between documents (e.g. VE attachment 4, rad surveys, markings, source cert, regulatory docs, etc) . This is an artifact that source manufacturers, regulators and customers may use somewhat different nomenclature to identify the same source. Some examples include:

1) Alpha Numeric numbering where the suffix or prefix may be used interchangeably throughout the life of the source. Examples include: LP123 vs LP-123 or 123LP vs 123 LP, etc... 7-1-123G vs 71 1 123g, etc...
2) The addition of a secondary serial number or identification number to reflect the device in which it is used. The most common methods used to identify these are to put the secondary ID number in parenthesis or following a slash. Examples include: MRC-246(135NP), 123LV/269, etc... For other Monsanto sources manufactured for a specific user the use of MRC AmBe on the markings vs. T serial numbers in the shipping document is prevalent.
3) In addition to secondary numbering some regulators or users may add nomenclature to further identify the source. NMMSS is one of the more common. For example a source manufactured by MRC may be inscribed as MRC PU8PU123 or just PU8PU123, where as the NMMSS database added the manufacture designation to the front of the serial number; in this case the serial in NMMSS is listed as MRPU8BE123
4) Dashes or spacing is also interchangeable in that depending upon the author of the document (including regulators) the format could be determined by internal procedures, typeset, etc.... For example 7-1-123G vs 71 1 123 g found in the Texas State Health Department source list.
5) How the source ID or serial number translated during a recovery. Cylindrical sources with the inscription along the axis may lead to the alpha numeric order not being an exact match to the documentation, e.g. MRC 1234 vs 1234 MRC.

Although there may be instances where the source identification is not "exact" between differing documentation, the offsite source recovery project (OSRP) makes every effort though experience, documentation and research to ensure that the information is accurate, e.g. the identified source isotope is correct and the source activity is conservatively accurate.

Los Alamos
NATIONAL LABORATORY
EST. 1943

Memorandum

Nuclear Engineering & Nonproliferation Division
International Threat Reduction Group
Off-Site Source Recovery Project (OSRP)

Subject: ERID Numbers for Off-Site Source Recovery Project Acceptable Knowledge Documentation

The ERID numbers corresponding to the acceptable knowledge documentation for each drum in this Off-Site Source Recovery Project BDR package are listed below:

OSRP Drum Identifier	ERID Number
LA00000066719	ERID-249570
LA00000067500	ERID-249570

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	10/07/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA13-OSR-VE-016	SPM CHECKLIST	10/02/13	4
LA13-OSR-VE-016	BATCH DATA REPORT SP 10/17/13	6-6-13 ~~10/01/13~~	24
	N/A		

Comments

N/A

Records Accepted [✓] Sheila Pearcy — SHEILA PEARCY — 10/17/13
Signature — Printed Name — Date

Records Rejected [ ] _____ — _____ — _____
Signature — Printed Name — Date

Reason for Rejection:

Re-submittal: _____ — _____ — _____
Signature — Printed Name — Date

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	3279
DESTINATION TEL #	915056627800
DESTINATION ID	LANL
ST. TIME	10/17 09:30
TIME USE	00'15
PAGES SENT	1
RESULT	OK

Controlled Copy

CCP-QP-008, Rev. 21
CCP Records Management

Effective Date: 02/28/2013

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	505-662-1344
	N/A	Date Sent:	10/07/13
Telephone Number:	575-234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA13-OSR-VE-016	SPM CHECKLIST	10/02/13	4
LA13-OSR-VE-016	BATCH DATA REPORT 10/17/13	~~10/01/13~~ 10-2-13	24
	N/A		

Comments

N/A

Records Accepted ☑ Sheila Pearcy SHEILA PEARCY 10/17/13
Signature Printed Name Date

DIVIDER

PAGE

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: LA13-OSR-VE-023				**Examination Date(s): 12/04/13, 12/05/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**	X			
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**	X			
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**	X			
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers: LA00000067515, LA00000067517, LA00000067518, LA000000067519
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**	X			
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**	X			
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**			X	
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**	X			
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**	X			
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**	X			
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**	X			
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**	X			

NTPC RECORDS ORIGINAL
DATE REC'D 2/12/14

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-023				**Examination Date(s): 12/04/13, 12/05/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**			X	No liquid identified
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**			X	
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**	X			
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**			X	
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**	X			
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**	X			
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**	X			
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**	X			
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**	X			
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-023				**Examination Date(s): 12/04/13, 12/05/13**
Description of Criteria Reviewed	**Criteria Met?**			**Comments/Qualifiers**
	YES	**NO**	**NA**	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**	X			
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**	X			
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**	X			
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**	X			

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: LA13-OSR-VE-023 **Examination Date(s):** 12/04/13, 12/05/13

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**	X			
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**	X			
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**	X			

Comments: N/A

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

Terri-Anne Groover		2\12\14
SPM Printed Name	Signature	Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 5 – Visual Examination Batch Data Report Cover Page

VE BDR Number: LA13-OSR-VE-023	
Waste stream number: LA-OS-00-01.001	Container Type: Drum

Container Identifiers included in this VE BDR			
1	LA00000067515	11	NA
2	LA00000067517	12	NA
3	LA00000067518	13	NA
4	LA00000067519	14	NA
5	NA	15	NA
6	NA	16	NA
7	NA	17	NA
8	NA	18	NA
9	NA	19	NA
10	NA	20	NA

VE Independent Technical Reviewer

JUSTIN M. GRIFFIN (Printed Name) _____ (Signature) 2/5/14 (Date)

NTPC RECORDS ORIGINAL
DATE REC'D 2/6/14

Attachment 6 – Visual Examination Batch Data Report Table of Contents

VE BDR LA13-OSR-VE-023

Table of Contents		
Item	Description	Page No.
1	Visual Examination Batch Data Report Cover Page (Attachment 5)	1
2	Visual Examination Batch Data Report Table of Contents (Attachment 6)	2
3	Visual Examination Independent Technical Reviewer Review Checklist (Attachment 7)	3
4	Container Packaging and Visual Examination Data Record(s) (Attachment 4)	5
5	Weights for Standardized OSRP Packaging Configurations (Attachment 2)	18
6	List of Acceptable Knowledge Documentation Identifier	19
7	List of Sources in Special Form Capsules	27
8	Copy of Radiological Contamination Surveys	31
9	List of Special Form Documentation	39
10	Copy of NCRs, if applicable	NA
11	Other information (if any; otherwise enter NA for page number)	41

Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist

Page 1 of 1

VE BDR LA13-OSR-VE-023

This review verifies that all quality assurance and quality control requirements are met at the data generation level as stated in this procedure.

Criteria Met?	Required Criterion
☒Yes ☐No	1. The correct revision of CCP-TP-069 was used? Note revision number, R 6.
☐Yes ☐No ☒NA	2. Deviations, if any, have been documented. (Choose NA if there were no deviations.)
☒Yes ☐No	3. The weight data were reported in the correct units. (Note: Total weight must be reported in kilograms (Kg) and the weights of individual sealed sources are reported in grams.) Data are reported with the correct number of significant figures (one decimal place).
☒Yes ☐No	4. The WMPs identified during VE are consistent with those assigned to these materials based on AK.
☒Yes ☐No	5. The Waste Matrix Code is consistent with the AK.
☒Yes ☐No	6. Data generation and reduction were conducted in a technically correct manner in accordance with CCP-TP-069, as evidenced by checks of items 1-5.
☒Yes ☐No	7. Calibration data for torque wrenches are recorded and within the calibration period.
☒Yes ☐No	8. Calculations have been verified by 100% check of all hand calculations. • Sum or waste material parameter weights • Estimated POC or waste weight
☒Yes ☐No	9. The data were reviewed for transcription errors and the data recorded is legible, accurate, and include any identifier numbers.
☒Yes ☐No	10. The forms in the VE BDR are complete and match the Table of Contents (Attachment 6).
☐Yes ☐No ☒NA	11. All NCRs relevant to the packaging of the loaded sealed sources were initiated and entered on the VE BDR. (Choose NA if there were no NCRs.)
☒Yes ☐No	12. Precision: Precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases? (Enter Yes if there were no unresolved discrepancies.)
☒Yes ☐No	13. Accuracy and Comparability: Accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (e.g. operators on LOQI)?
☒Yes ☐No	14. Completeness: There is a completed VE data form for each waste container in the BDR?
Comments, if "No" is checked for any criterion above: None	

Independent Technical Review conducted by:

JUSTIN M. GRIFFIN
VE Independent Technical Reviewer
(Printed Name)

(Signature)

2/5/14
(Date)

The Following Documents used for this VE BDR are the Best Available Copies

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA13-OSR-VE-023 Page 1 of 4

Container Identifier	**LA00000067515**
Printed name of VE Packager	Michael Gurley
Printed name of VE Recorder	Ioana Witkowski

1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: _X__ Standard Pipe Overpack (12" pipe component) ___ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: NUCFIL 019 EPD • Drum lid filter serial number: BF-28 • Drum lid filter manufacture date: 2/05 • POC lid filter model: UT 9400 • POC lid filter serial number: 027288 • POC lid filter manufacture date: JUL. 2003
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☒ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container. Yes☒ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☒ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☒ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☒ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☒ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match. Yes☒ No☐ NA ☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100
5	POC Bolt Torque • POC bolts tightened to 65 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-023 Page 2 of 4

Container Identifier **LA00000067515**

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	II-1-612, Am241/Be, Cs-137	OM	8590	None
2	II-1-617, Am-241	OM	6500	None
3	III-1-182, Am-241	OM	3453	None
4	8894LQ, Am-241	OM	43	None
5	8895LQ, Am-241	OM	43	None
6	8893LQ, Am-241	OM	43	None
7	8896LQ, Am-241	OM	43	None
8	2361LV, Am-241	OM	43	None
9	A-240, Am-241	OM	43	None
10	3767LV, Am-241	OM	43	None
11	8398LV, Am-241	OM	43	None
12	LL-803, Am-241	OM	43	None
13	9123LV, Am-241	OM	43	None
14	8823LV, Am-241	OM	43	None
15	2277-1, Am-241	OM	43	None

Total estimated weight (kg) for each WMP listed for above items.	NAkg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☒ None☐ kg	Description: NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	NAkg		
Total estimated weight (kg) for loaded container.	NAkg		
Container percent full.	NA%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-023 Page 3 of 4

Container Identifier **LA00000067515**

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
16	71-1-995B, Am-241/Be	OM	140	None
17	N-1134, Am-241	OM	773	None
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA

Total estimated weight (kg) for each WMP listed for above items.	20.0kg	[redacted]	
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☐ None☐ 8kg	Description	WMP
		Cane Fiberboard	C
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	152.4kg	[redacted]	
Total estimated weight (kg) for loaded container.	180.4kg		
Container percent full.	95%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

7

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-023 Page 4 of 4

Container Identifier **LA00000067515**

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Michael Gurley
MICHAEL GURLEY — Printed Name VE Packager
Michael Gurley — Signature
12-4-13 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Ioana Witkowski — Printed Name VE Recorder
Ioana Witkowski — Signature
12/4/13 — Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA13-OSR-VE-023 EG 12/17/13

Page 1 of 3

	Container Identifier	**LA00000067517**
	Printed name of VE Packager	Michael Gurley
	Printed name of VE Recorder	Ioana Witkowski
[redacted]		
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X_ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)	
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-614 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT 9400 • POC lid filter serial number: 025149 • POC lid filter manufacture date: JAN. 2003	
3	Verify based on VE:	Verified
	• The item(s) meet a sealed source regulatory definition.	Yes☒ No☐
	• The outer casing is made of non-VOC bearing material, as the sources are placed in the container.	Yes☒ No☐
	• That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size.	Yes☒ No☐
	• That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK.	Yes☒ No☐
	• That there are no non-packaging items placed in the container other than the source(s).	Yes☒ No☐
	• Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources*	Yes☒ No☐
	• If POC lid and body have visible serial numbers, ensure the serial numbers match.	Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100	
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14	
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14	

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-025 12/17/13

Container Identifier **LA00000067517**

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	III-1-370, Pu-238	OM	4300	None
2	5-0045, Pu-238	OM	1700	None
3	304, Pu-238	OM	65	None
4	499, Pu-238	OM	87	None
5	MRC-Pu8Be-441, Pu-238Be	OM	157	None
6	NA	NA	NA	NA
7	NA	NA	NA	NA
8	NA	NA	NA	NA
9	NA	NA	NA	NA
10	NA	NA	NA	NA
11	NA	NA	NA	NA
12	NA	NA	NA	NA
13	NA	NA	NA	NA
14	NA	NA	NA	NA
15	NA	NA	NA	NA

Total estimated weight (kg) for each WMP listed for above items.	6.3kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☒ None☐ kg	Description: NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2kg		
Total estimated weight (kg) for loaded container.	225.5kg		
Container percent full.	95%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-023 EG 12/11/13 Page 3 of 3

Container Identifier **LA00000067517**

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Michael Gurley
MICHAEL GURLEY — Printed Name VE Packager
Michael Gurley — Signature
12-5-13 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Ioana Witkowski — Printed Name VE Recorder
Ioana Witkowski — Signature
12/5/13 — Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA13-05R-VE-~~013~~ 025 E6 12/17/13

	Container Identifier	**LA00000067518**
	Printed name of VE Packager	Michael Gurley
	Printed name of VE Recorder	Ioana Witkowski
[redacted]		
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X__ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)	
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: LC-904 • Drum lid filter manufacture date: 12/02 • POC lid filter model: UT 9400 • POC lid filter serial number: 026006 • POC lid filter manufacture date: FEB. 2003	
3	Verify based on VE:	Verified
	• The item(s) meet a sealed source regulatory definition.	Yes☒ No☐
	• The outer casing is made of non-VOC bearing material, as the sources are placed in the container.	Yes☒ No☐
	• That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size.	Yes☒ No☐
	• That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK.	Yes☒ No☐
	• That there are no non-packaging items placed in the container other than the source(s).	Yes☒ No☐
	• Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources*	Yes☒ No☐
	• If POC lid and body have visible serial numbers, ensure the serial numbers match.	Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100	
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14	
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14	

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-OSR-VE-023 Page 2 of 3

Container Identifier **LA00000067518**

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	II-1-524, Am-241/Be, Am-241	OM	7200	None
2	NA	NA	NA	NA
3	NA	NA	NA	NA
4	NA	NA	NA	NA
5	NA	NA	NA	NA
6	NA	NA	NA	NA
7	NA	NA	NA	NA
8	NA	NA	NA	NA
9	NA	NA	NA	NA
10	NA	NA	NA	NA
11	NA	NA	NA	NA
12	NA	NA	NA	NA
13	NA	NA	NA	NA
14	NA	NA	NA	NA
15	NA	NA	NA	NA

Total estimated weight (kg) for each WMP listed for above items.	7.2kg	[redacted]	
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☒ None☐ kg	Description: NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2kg	[redacted]	
Total estimated weight (kg) for loaded container.	226.4kg		
Container percent full.	95%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA 13-DSR-VE-023 Page 3 of 3

Container Identifier **LA00000067518**

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Michael Gurley
MICHAEL GURLEY — Printed Name VE Packager | Michael Gurley — Signature | 12-5-13 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Ioana Witkowski
Printed Name VE Recorder | Ioana Witkowski — Signature | 12/5/13 — Date

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR # LA13-0SR-VE-023 Page 1 of 3

Container Identifier		**LA00000067519**
Printed name of VE Packager		Michael Gurley
Printed name of VE Recorder		Ioana Witkowski
Step	[redacted]	
1	Indicate the container configuration used (refer to Attachment 2 for configuration types). *(check one)*: ___ Standard Pipe Overpack (12" pipe component) _X__ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)	
2	• Drum lid filter model: NUCFIL-013 • Drum lid filter serial number: C-678 • Drum lid filter manufacture date: 8/02 • POC lid filter model: UT 9400 • POC lid filter serial number: 024829 • POC lid filter manufacture date: AUG. 2002	
3	Verify based on VE:	Verified
	• The item(s) meet a sealed source regulatory definition.	Yes☒ No☐
	• The outer casing is made of non-VOC bearing material, as the sources are placed in the container.	Yes☒ No☐
	• That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size.	Yes☒ No☐
	• That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK.	Yes☒ No☐
	• That there are no non-packaging items placed in the container other than the source(s).	Yes☒ No☐
	• Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources*	Yes☒ No☐
	• If POC lid and body have visible serial numbers, ensure the serial numbers match.	Yes☒ No☐ NA☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: S5100	
5	POC Bolt Torque • POC bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14	
6	Closure Ring Torque • Drum ring bolts tightened to 40 ft-lbs • Torque Wrench ID # 039953 • Calibration due date of torque wrench 5/6/14	

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LAB-OSR-VE-023 Page 2 of 3

Container Identifier **LA00000067519**

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1	MRC PU8Li/CS-1 Pu-238,Cs-137	OM	591	NA
2	MRC PU8Li/CS-13 Pu-238,Cs-137	OM	591	NA
3	NA	NA	NA	NA
4	NA	NA	NA	NA
5	NA	NA	NA	NA
6	NA	NA	NA	NA
7	NA	NA	NA	NA
8	NA	NA	NA	NA
9	NA	NA	NA	NA
10	NA	NA	NA	NA
11	NA	NA	NA	NA
12	NA	NA	NA	NA
13	NA	NA	NA	NA
14	NA	NA	NA	NA
15	NA	NA	NA	NA

Total estimated weight (kg) for each WMP listed for above items.	1.2kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon drum, if any.	NA☒ None☐ kg	Description: NA	WMP: NA
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	219.2kg		
Total estimated weight (kg) for loaded container.	220.4kg		
Container percent full.	95%		

If the list of items is continued on additional pages, attach and number added pages appropriately. * WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR # LA13-DSR-VE-023 Page 3 of 3

Container Identifier **LA00000067519**

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☒	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☒	2. Non-radionuclide pyrophoric material.
☐	☒	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☒	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☒	5. Explosives.
☐	☒	6. Compressed gas or potentially pressurized containers.
☐	☒	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☒	8. Wastes exhibiting the characteristic of ignitability.
☐	☒	9. Wastes exhibiting the characteristic of reactivity.
☐	☒	10. Wastes exhibiting the characteristic of corrosivity.
☐	☒	11. Radioactive pyrophorics greater than or equal to 1percent by weight of the container that have not been rendered nonreactive.
☐	☒	12. Inadequately blocked or braced sharp or heavy items.
☐	☒	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

There were ZERO layers of confinement.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Michael Gurley
MICHAEL GURLEY — Printed Name VE Packager
Michael Gurley — Signature
12-5-13 — Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

Ioana Witkowski — Printed Name VE Recorder
Ioana Witkowski — Signature
12/5/13 — Date

Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component		Estimated Component(s) Weight (kg)						
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Acceptable Knowledge Documentation

Acceptable Knowledge Documentation

Source Serial No.	LA00000067515	
2277-1	Source Certificate	
	Record Numbers: 04203	
2361LV	Source Certificate	
	Record Numbers: 00883	
3232 (AMC.3232)	Source Certificate	
	Record Numbers: 04202	
3767LV	Source Certificate	
	Record Numbers: 00883	
71-1-995B	**Isotope**	**Activity**
	Other Doc	Other Doc
	Comments: Texas Dept Health database	
	Record Numbers: 01027	
8398LV	Source Certificate	
	Record Numbers: 04220	
8823LV	Source Certificate	
	Record Numbers: 04219	
8893LQ	Source Certificate	
	Comments: 3.7GBq= 0.1Ci	
	Record Numbers: 04201	

8894LQ

Source Certificate

Comments: 3.7GBq= 0.1Ci

Record Numbers: 04201

8895LQ

Source Certificate

Comments: 3.7GBq= 0.1Ci

Record Numbers: 04201

8896LQ

Source Certificate

Comments: 3.7GBq= 0.1Ci

Record Numbers: 04201

9123LV

Isotope
Source Markings
Activity
Source Markings

Markings: Am241, 12mCi, 444MBq, 9123LV, 9 Feb 89

A-240

Isotope
Source Markings
Activity
Source Markings

Markings: A-240; Am241; 100mCi; 7-74

D72024325

Isotope
Source Markings
Activity
Source Markings

Markings: D72024325, 2-9-1982, 50mCi Am241Be, 10mCi Cs137

LL-803

Isotope
Source Markings
Activity
Source Markings

Markings: IPL, Am-241 150mCi, 15 Apr 98, LL-803

N-1134

Source Certificate

Comments: Gammatron Source Certificate 5/13/2010; See email regarding US origin

Record Numbers: 04217

Rutger-1

Isotope
Source Markings
Activity
Source Markings

Markings: Am241; 30uCi; 1-25-75

Rutgers Foils (8 total)

Isotope
Source Markings

Activity
Source Markings

Markings: Am241; 1/20/66; 80uCi for each foil
Comments: Total activity 6.4X10-4 Curies

Source Serial No. **LA00000067517**

304

Isotope
Source Markings

Activity
Source Markings

Markings: 304; 4.3 Ci;Pu238;1977

499

Isotope
Source Markings

Activity
Source Markings

Markings: 499; 2.8 Ci; Pu238; 1977

MRC-Pu8Be-441

Isotope
Source Markings

Activity
Source Markings

Markings: MRC-Pu8Be-441;Pu238; 8 Ci;8/78; Model 24128

PU-8-12

Isotope
Source Markings

Activity
Source Markings

Markings: PU-238, PU-8-12, 500mCi, 6/80

S3158

Isotope
Source Markings

Activity
Source Markings

Markings: S3158 30mCi Pu238
Comments: 4/4/11 Recovery Date

Source Serial No. **LA00000067518**

004 98

Source Certificate

Markings: 004/98; BB AM1.P081; Am241
Record Numbers: 04218

0923 LA

Source Certificate

Record Numbers: 00883

121 (65655)	**Isotope** NRC Registry Comments: Amersham AMC.24, Anatomical Marker Record Numbers: 19979	**Activity** NRC Registry
2295	**Isotope** Source Markings Markings: 2295; 5.555GBq; Am241; Al Comments: 5.55GBq= 0.15 Ci	**Activity** Source Markings
4178NE	**Isotope** Other Doc Markings: 4178NE Comments: Amersham logbook Record Numbers: 04113	**Activity** Other Doc
623A	**Isotope** Source Markings Markings: Tag: Am241 9.5 uCi 6/13/02 623A Analytics	**Activity** Source Markings
6389LV	Source Certificate Record Numbers: 00883	
7887LQ	Source Certificate Markings: Am241, 100mCi, 7887LQ Record Numbers: 04218	
A2106	Source Certificate Markings: 11/82 10uCi Am241 Record Numbers: 04218	
A2107	Source Certificate Record Numbers: 04218	
A2117	Source Certificate Markings: Am241 10uCi Record Numbers: 04218	

AMMQ 1512	**Isotope** Other Doc Comments: University Maryland source Logbook Record Numbers: 02043	**Activity** Other Doc
C-705	**Isotope** Source Markings Markings: C-705; 300mCi; Am241; 8/1/83	**Activity** Source Markings
C-780	Source Certificate Markings: C-780; ANHP; 3Ci; Am241Be Record Numbers: 04221	
MRC AMBE 414	**Isotope** Other Doc Markings: MRC AMBE 414 Comments: Texas Dept Health source reports Record Numbers: 00935	**Activity** Other Doc
MRC-AmBe-2542	Fabrication Docs Record Numbers: 01970	
NMC051413-1	**Isotope** NRC Registry Comments: Amersham AMC.24, Anatomical Marker Record Numbers: 19979	**Activity** NRC Registry
NMC051413-2	**Isotope** NRC Registry Comments: Amersham AMC.24, Anatomical Marker Record Numbers: 19979	**Activity** NRC Registry
P-816	**Isotope** Source Markings Markings: P-816; 45mCi; Am241; IPL; Comments: manufacture date 7/3/91, see e-mail Record Numbers: 04393	**Activity** Source Markings
TT-176	**Isotope** Source Markings Markings: TT-176; 10mCi; Am241; IPL; 7/28/00	**Activity** Source Markings

TT-177

Isotope **Activity**
Source Markings Source Markings
Markings: TT-177; 10mCi; Am241; IPL; 7/28/00

TT-178

Isotope **Activity**
Source Markings Source Markings
Markings: TT-178; 5mCi; Am241; IPL; 7/28/00

TT-179

Isotope **Activity**
Source Markings Source Markings
Markings: TT-179; 5mCi; Am241; IPL; 7/28/00

Unknown

Isotope **Activity**
NRC Registry NRC Registry
Markings: Am241; 1.9 microCuries;Model SED 300
Comments: NRD Foil Model A001; Recovered 9/26/07
Record Numbers: 04389

Unknown1

Isotope **Activity**
NRC Registry NRC Registry
Markings: Am241; 1.9 microCuries;Model SED 300
Comments: NRD Foil Model A001; Recovered 9/26/07
Record Numbers: 04389

Unknown2

Isotope **Activity**
NRC Registry NRC Registry
Markings: Am241; 1.9 microCuries;Model SED 300
Comments: NRD Foil Model A001; Recovered 9/26/07
Record Numbers: 04389

Unknown3

Isotope **Activity**
NRC Registry NRC Registry
Markings: Am241; 1.9 microCuries;Model SED 300
Comments: NRD Foil Model A001; Recovered 9/26/07
Record Numbers: 04389

UU-639

Source Certificate

Markings: 30mCi Am241 IPL
Record Numbers: 04218

UU-640	Source Certificate Markings: 30mCi Am241 IPL Record Numbers: 04218
UU-641	Source Certificate Markings: 30mCi Am241 IPL Record Numbers: 04218
UU-643	Source Certificate Markings: 100mCi Am241 UU-643 IPL Record Numbers: 04218
UU-645	Source Certificate Markings: 100mCi Am241 Record Numbers: 04218
UU-646	Source Certificate Markings: IPL Am241, 100mCi Record Numbers: 04218
Z 2743	**Isotope** **Activity** Other Doc Other Doc Comments: NRC license; Amersham Model AMC.25 Record Numbers: 04108

Source Serial No. **LA00000067519**

MRC-Pu8Li/Cs-1	Shipping Record Comments: model NMG-1 Record Numbers: 25822
MRCPu8LiCs13	**Isotope** **Activity** Source Markings Source Markings Markings: MRCPu8LiCs13, Pu238Li, 12Ci Pu238, 20mCi Cs137 Comments: Monsanto Research

Sources in Special Form Capsules

Appendix B
Sources In Special Form Capsules

(Curies 1 in red if isotope is short-lived and no decayed activity is available)

SFC Serial Number	*Site*	*Source Serial Number*	*Isotope*	*Total Grams*	*Total Curies*
LA00000067515					
II-1-612					
	Troxler Electronics	D72024325	241Am/Be/137Cs	0.01	0.05
Total Sources in SFCII-1-612 (1 source)					
Sum				***0.01***	***0.05***
II-1-617					
	SWM International	3232 (AMC.3232)	241Am	0.03	0.10
Total Sources in SFCII-1-617 (1 source)					
Sum				***0.03***	***0.10***
III-1-182					
	Rutgers University	Rutger-1	241Am	0.00	0.00
	Rutgers University	Rutgers Foils (8 total)	241Am	0.00	0.00
Total Sources in SFCIII-1-182 (2 sources)					
Sum SFC in IW 1/29/14				***0.00***	***0.00***
Total Sources in container LA00000067515 (4 sources)					
Sum				***0.04***	***0.15***
LA00000067517					
5-0045					
	Utah Division of Radiation Control (H.R. Cooper)	S3158	238Pu	0.00	0.03
Total Sources in SFC5-0045 (1 source)					
Sum				***0.00***	***0.03***
III-1-370					
	Ampex Corporation	PU-8-12	238Pu	0.03	0.50
Total Sources in SFCIII-1-370 (1 source)					
Sum SFC in IW 1/29/14				***0.03***	***0.50***
Total Sources in container LA00000067517 (2 sources)					
Sum				***0.03***	***0.53***
LA00000067518					
II-1-524					
	Bruker AXS Handheld, Inc.	004 98	241Am	0.00	0.00

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
	St. Joseph's Health Center	0923 LA	241Am	0.00	0.01
	Northside Medical Center	121 (65655)	241Am	0.00	0.01
	Beta LaserMike, Inc.	2295	241Am	0.04	0.15
	Brookhaven National Laboratory	4178NE	241Am/Be	0.00	0.01
	Bruker AXS Handheld, Inc.	623A	241Am	0.00	0.00
	Sutter Medical Center (Sutter General Hospital)	6389LV	241Am	0.00	0.01
	Bruker AXS Handheld, Inc.	7887LQ	241Am	0.03	0.10
	Bruker AXS Handheld, Inc.	A2106	241Am	0.00	0.00
	Bruker AXS Handheld, Inc.	A2107	241Am	0.00	0.00
	Bruker AXS Handheld, Inc.	A2117	241Am	0.00	0.00
	University of Maryland	AMMQ 1512	241Am	0.00	0.00
	University of Houston	C-705	241Am	0.09	0.29
	Washington State University	C-780	241Am/Be	0.86	3.00
	Texas Department of Health	MRC AMBE 414	241Am		3.00
	Union Carbide Corporation - Seadrift Operations	MRC-AmBe-2542	241Am/Be	0.27	0.93
	Northside Medical Center	NMC051413-1	241Am	0.00	0.01
	Northside Medical Center	NMC051413-2	241Am	0.00	0.01
	Eckert & Ziegler Isotope Products	P-816	241Am	0.00	0.00
	Bruker AXS Handheld, Inc.	TT-176	241Am	0.00	0.01
	Bruker AXS Handheld, Inc.	TT-177	241Am	0.00	0.01
	Bruker AXS Handheld, Inc.	TT-178	241Am	0.00	0.01
	Bruker AXS Handheld, Inc.	TT-179	241Am	0.00	0.01
	Idaho National Laboratory	Unknown	241Am	0.00	0.00
	Idaho National Laboratory	Unknown1	241Am	0.00	0.00
	Idaho National Laboratory	Unknown2	241Am	0.00	0.00
	Idaho National Laboratory	Unknown3	241Am	0.00	0.00
	Bruker AXS Handheld, Inc.	UU-639	241Am	0.01	0.03
	Bruker AXS Handheld, Inc.	UU-640	241Am	0.01	0.03
	Bruker AXS Handheld, Inc.	UU-641	241Am	0.01	0.03
	Bruker AXS Handheld, Inc.	UU-643	241Am	0.03	0.10
	Bruker AXS Handheld, Inc.	UU-645	241Am	0.03	0.10
	Bruker AXS Handheld, Inc.	UU-646	241Am	0.03	0.10
	Rancho Los Amigos National Rehab Center	Z 2743	241Am	0.01	0.04
Total Sources in SFCII-1-524 (34 sources)					
Sum				***1.45***	***8.01***

SFC Serial Number	Site	Source Serial Number	Isotope	Total Grams	Total Curies
Total Sources in container LA00000067518 (34 sources)					
Sum	(SFC in IW 1/29/14)			*1.45*	*8.01*
Grand Total				*1.52*	*8.69*

Radiological Contamination Surveys

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 12/03/13 thru 12-06-2013 No. of Samples: 100

TA: 0 0 Rm: n/a

RCT: Billy Terrazas Z Number: 115030

RCT Signature: MS: E541

Phone: 5-9238 Fax: n/a

PURPOSE OF SURVEY

☑ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☐ Non-Routine / Other: NSSI, Houston ,Tx

ADDITIONAL INFORMATION

RWP No.: n/a

Work Request No.: n/a Incident No.: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	13653	4/30/2014	0.3916	1	21.7	47.96
Beta S43-10-1	13653	4/30/2014	0.3834	1	221	140.84
SHP 270	13692	7/11/2014	n/a	n/a		~0.1mR/hr
SNRD	13749	8/12/2014	n/a	n/a	<0.1	0.25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ MEARS COUNTED IN FIELD

FIELD SMEAR COUNTER MDA (dpm)

alpha: 47.96

beta: 140.84

RP-1 REVIEW BY

5/2/13

SAMPLE TRACKING NUMBER

29147061

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
1	Pre-job Pb shielding	nda	nda	nda	nda	n/a						
2	Pre-job count table	nda	nda	nda	nda	n/a						
3	Pre-job record table	nda	nda	nda	nda	n/a						
4	Pre-job record table	nda	nda	nda	nda	n/a						
5	Pre-job floor	nda	nda	nda	nda	n/a						
6	Pre-job floor	nda	nda	nda	nda	n/a						
7	Pre-job floor	nda	nda	8.7	nda	n/a						
8	Pre-job floor	nda	nda	nda	nda	n/a						
9	Pre-job floor	nda	nda	nda	nda	n/a						
10	Pre-job floor	nda	nda	nda	nda	n/a						
11	Pre-job floor	nda	nda	nda	nda	n/a						
12	Pre-job floor	nda	nda	nda	nda	n/a						
13	Pre-job Pb shielding	nda	nda	nda	nda	n/a						
14	Pre-job insp rm wk bench	nda	nda	nda	nda	n/a						
15	Pre-job insp rm wk bench	nda	nda	nda	nda	n/a						

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147061

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
16	Pre-job insp rm wk bench	nda	nda	nda	nda	n/a						
17	Pre-job insp rm wk bench	nda	nda	nda	nda	n/a						
18	Pre-job insp rm wk bench	nda	nda	nda	nda	n/a						
19	Pre-job insp rm wk bench	nda	nda	nda	nda	n/a						
20	Pre-job insp rm wk bench	nda	nda	nda	nda	n/a						
21	Pre-job insp rm wk bench	nda	nda	21.3	nda	n/a						
22	Pre-job insp rm pig	21	nda	36.5	nda	n/a						
23	Pre-job insp rm pig	nda	nda	nda	nda	n/a						
24	Pre-job insp rm pig	nda	nda	16.5	nda	n/a						
25	Pre-job insp rm pig poly	nda	nda	nda	nda	n/a						
26	Pre-job HC floor	nda	nda	nda	nda	n/a						
27	Pre-job HC floor	nda	nda	nda	nda	n/a						
28	Pre-job HC floor	nda	nda	27.4	nda	n/a						
29	Pre-job HC tbl	nda	nda	11.3	nda	n/a						
30	Pre-job HC tbl	nda	nda	nda	nda	n/a						
31	Pre-job HC floor	nda	nda	nda	nda	n/a						
32	leak test 241 Am sources	nda	nda	4.9	nda	n/a						
33	leak test 241 Am sources	nda	nda	nda	nda	n/a						
34	leak test 241 AmBe sources	nda	nda	nda	nda	n/a						
35	leak test 241 AmBe137Cs sources	nda	nda	nda	nda	n/a						
36	SFC II-1-612,II-1-617,III-1-182	nda	nda	nda	nda	n/a						
37	Drum LA67515, II-1-612,II-1-617,III-1-182 top	nda	nda	nda	nda	n/a						
38	Drum LA67515, II-1-612,II-1-617,III-1-182 ring	nda	nda	nda	nda	n/a						
39	Drum LA67515, II-1-612,II-1-617,III-1-182 side	nda	nda	nda	nda	n/a	2.3	10.7	1.6	5.6	0.5	2.6
40	Drum LA67515, II-1-612,II-1-617,III-1-182 side	nda	nda	nda	nda	n/a						

*dpm/100 cm²

RP-1 Survey Number: 29147061

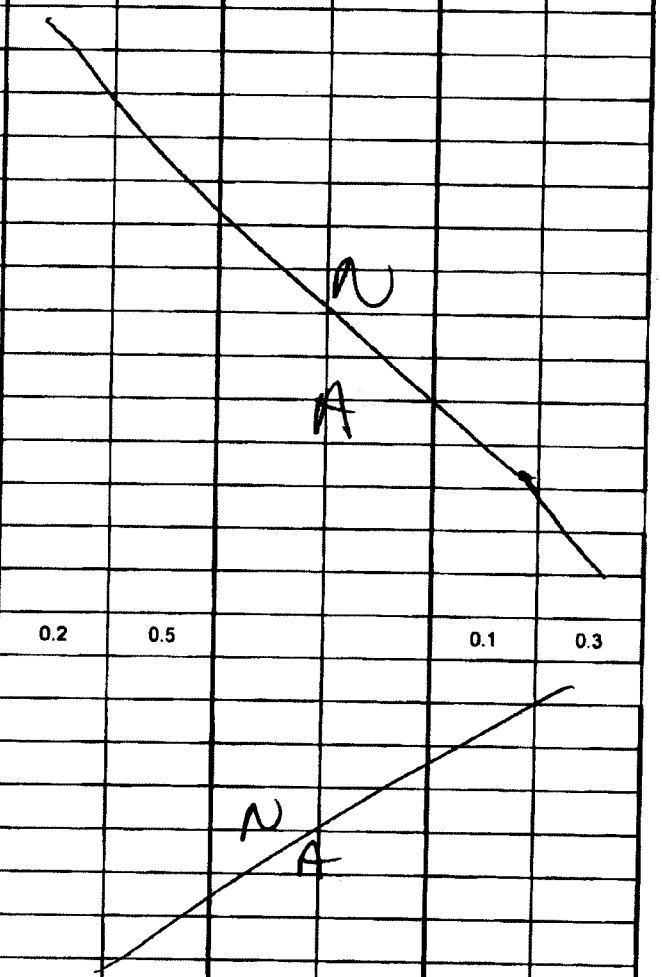
Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
41	Drum LA67515, II-1-612,II-1-617,III-1-182 btm	nda	nda	nda	nda	n/a						
42	leak test 241Am sources	180	nda	271.1	48.4	n/a						
43	leak test 241Am sources	nda	nda	73.6	13.7	n/a						
44	leak test 241AmBe sources	nda	nda	10	nda	n/a						
45	post job wk bench insp rm	nda	nda	nda	nda	n/a						
46	post job wk bench insp rm behind shield	nda	nda	nda	nda	n/a						
47	post job tools	nda	nda	nda	nda	n/a						
48	post job tools	nda	nda	nda	nda	n/a						
49	post job wk bench	nda	nda	nda	nda	n/a						
50	pre-job wk bench	nda	nda	nda	nda	n/a						
51	pre-job wk bench	nda	nda	9	nda	n/a						
52	pre-job wk bench	nda	nda	nda	nda	n/a						
53	pre-job holders	600	nda	nda	nda	n/a						
54	pre-job wk bench	nda	nda	nda	nda	n/a						
55	pre-job floor	nda	nda	nda	nda	n/a						
56	pre-job floor	nda	nda	nda	nda	n/a						
57	pre-job re smear of #53 post deconn	nda	nda	nda	nda	n/a						
58	pre-job behind shield	nda	nda	22.3	nda	n/a						
59	S100 drum EMPTY sn#01005 top	nda	nda	nda	nda	n/a						
60	S100 drum EMPTY sn#01005 ring	nda	nda	nda	nda	n/a						
61	S100 drum EMPTY sn#01005 side	nda	nda	nda	nda	n/a						
62	S100 drum EMPTY sn#01005 btm	nda	nda	nda	nda	n/a						
63	S100 drum EMPTY sn#01005 inside	nda	nda	nda	nda	n/a						
64	pre-job behind shield	nda	nda	8.7	nda	n/a						
65	pre-job tools	nda	nda	nda	nda	n/a						

*dpm/100 cm²

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147061

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
66	Drum D-13 w/ 241Am source ext	nda	nda	nda	nda	n/a						
67	Drum D-13 w/ 241Am source int	6000	nda	nda	nda	n/a						
68	post-job tools	nda	nda	8.5	nda	n/a						
69	post-job behind shield	nda	nda	54.6	nda	n/a						
70	post-job wk bench	nda	nda	6.7	nda	n/a						
71	post-job wk bench	nda	nda	24	nda	n/a						
72	post-job wk bench	nda	nda	nda	nda	n/a						
73	post-job floor	nda	nda	nda	nda	n/a						
74	post-job floor	nda	nda	nda	nda	n/a						
75	pre-job job wk bench	nda	nda	nda	nda	n/a						
76	pre-job wk bench	nda	nda	nda	nda	n/a						
77	leak 241Am sources	nda	nda	nda	nda	n/a						
78	SFC II-1-599 w/241Am sources	nda	nda	nda	nda	n/a						
79	Drum LA67516 w/ SFC II-1-599 top	nda	nda	nda	nda	n/a						
80	Drum LA67516 w/ SFC II-1-599 ring	nda	nda	nda	nda	n/a						
81	Drum LA67516 w/ SFC II-1-599 side	nda	nda	nda	nda	n/a	0.2	0.5			0.1	0.3
82	Drum LA67516 w/ SFC II-1-599 side	nda	nda	nda	nda	n/a						
83	Drum LA67516 w/ SFC II-1-599 btm	nda	nda	nda	nda	n/a						
84	leak test 241Am, 241AmBe sources	nda	nda	nda	nda	n/a						
85	cigar tube w/ 241Am source (leaking frm d-13)	nda	nda	nda	nda	n/a						
86	leak test cigar tube "bare" w/ 241Am source	nda	nda	nda	nda	n/a						
87	leak test 241Am sources	nda	nda	nda	nda	n/a						
88	leaking source in bag	nda	nda	nda	nda	n/a						
89	waste bag	nda	nda	nda	nda	n/a						
90	sources in 2nd bag	nda	nda	80.8	23.3	n/a						



RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147061

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
91	pass thru glove box	50	nda	55.5	250.6	n/a						
92	tweezers	nda	nda	10	nda	n/a			N			
93	leak test 241 Am,241AmBe sources	nda	nda	nda	nda	n/a						
94	SFC II-1-524 w/ 241Am,241AmBe sources	nda	nda	nda	nda	n/a			A			
95	Drum LA67518 w/SFC II-1-524 top	nda	nda	nda	nda	n/a						
96	Drum LA67518 w/SFC II-1-524 ring	nda	nda	nda	nda	n/a						
97	Drum LA67518 w/SFC II-1-524 side	nda	nda	nda	nda	n/a	10	12	3.8	7.5	1	2.8
98	Drum LA67518 w/SFC II-1-524 side	nda	nda	nda	nda	n/a						
99	Drum LA67518 w/SFC II-1-524 btm	nda	nda	nda	nda	n/a						
100	Empty Drum sn#00319 top	nda	nda	nda	nda	n/a						
101	End of Survey											
102												
103												
104				N								
105												
106					A							
107												
108												
109												
110												

*dpm/100 cm²

Remarks: BackGround recounted at #50 5.1 α - 417β mda 26.8α - 190.8β BackGround recounted at #75 17.9 α - 220β mda 44.9α - 140.5β BackGround recounted at #116 5.1 α -

RP-1 RADIOLOGICAL SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 12/03/13 -thru-12/06/13 No. of Samples: 46

TA: 3 30 Rm: n/a

RCT: Billy Terrazas Z Number: 115030

RCT Signature: MS: E541

Phone: 5-9238 Fax: n/a

INSTRUMENTATION

TYPE	HSE No.	CAL Due	% EFF	CF or Detector Size	BKG	MDA (dpm)
Alpha S43-10-1	13653	4/30/2014	0.3916	1	5.1	33.74
Beta S43-10-1	13653	4/30/2014	0.3843	1	288	159.39
Shp 270	13692	7/11/2014	n/a		0.2	~0.1mR/hr
SNRD	13749	8/12/2014	n/a		0	0.25 mR/hr

☑ SMEARS COUNTED AT HPAL, SEE HPAL RESULTS FOR MDAs ☐ MEARS COUNTED IN FIELD

PURPOSE OF SURVEY

☐ Routine ☐ Pre-Job ☐ Post-Job ☐ Hot-Job

☐ Item Release ☐ Offsite Shipment ☐ Onsite Shipment

☑ Non-Routine / Other: 12-03-2013 thru 12-06-2013 NSSI continuation

FIELD SMEAR COUNTER MDA (dpm)

alpha: 33.74

beta: 159.39

SAMPLE TRACKING NUMBER

29147056

RP-1 REVIEW BY

12-12-13

ADDITIONAL INFORMATION

RWP No.: n/a

Work Request No.: n/a Incident No.: n/a

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
101	Drum Empty Sn#00319 side	nda	nda	nda	nda	n/a						
102	Drum Empty Sn#00319 inside	nda	nda	nda	nda	n/a						
103	leak test 238PuLi137Cs sources	nda	nda	nda	nda	n/a						
104	Drum LA#67519 w/238PuLi137Cs top	nda	nda	nda	nda	n/a						
105	Drum LA#67519 w/238PuLi137Cs ring	nda	nda	nda	nda	n/a						
106	Drum LA#67519 w/238PuLi137Cs side	nda	nda	nda	nda	n/a	20.0	1.6			2.5	1.3
107	Drum LA#67519 w/238PuLi137Cs side	nda	nda	nda	nda	n/a						
108	Drum LA#67519 w/238PuLi137Cs btm	nda	nda	nda	nda	n/a						
109	Drum LA#67517 Empty top	nda	nda	nda	nda	n/a						
110	Drum LA#67517 Empty side	nda	nda	nda	nda	n/a						
111	Drum LA#67517 Empty inside	nda	nda	nda	nda	n/a						
112	Post-job behind shield	nda	nda	nda	nda	n/a						
113	Post-job wk bench	nda	nda	nda	nda	n/a						
114	Post-job wk bench	nda	nda	nda	nda	n/a						
115	Post-job tools	nda	nda	nda	nda	n/a						

RP-1 RADIOLOGICAL SURVEY FORM

RP-1 Survey Number: 29147056

Survey Point	Item / Area	Field Smear Results		HPAL Smear Results		Tritium	External Radiation Survey					
		Alpha	Beta/Gamma	Alpha	Beta/Gamma	Smear Results	at Contact		at 30 cm		at 1 Meter	
		dpm*	dpm*	dpm*	dpm*	dpm*	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)	gamma (mR/hr)	neutron (mrem/hr)
116	pre-job wk bench	nda	nda	nda	nda	n/a						
117	pre-job wk bench	nda	nda	nda	nda	n/a						
118	pre-job wk bench	nda	nda	nda	nda	n/a						
119	pre-job wk bench	nda	nda	nda	nda	n/a						
120	pre-job floor	nda	nda	nda	nda	n/a						
121	pre-job floor	nda	nda	nda	nda	n/a						
122	leak test 238Pu sources	nda	nda	nda	nda	n/a						
123	can exterior w/ 239Pu	nda	nda	nda	nda	n/a						
124	SFC III-1-370,5-0045 w/ 238Pu sources	nda	nda	nda	nda	n/a						
125	SFC kit	nda	nda	nda	nda	n/a						
126	leak test 238Pu,238PuBe sources	nda	nda	nda	nda	n/a						
127	Drum LA#67517 w/238Pu,238PuBe Sources top	nda	nda	nda	nda	n/a						
128	Drum LA#67517 w/238Pu,238PuBeSources ring	nda	nda	nda	nda	n/a						
129	Drum LA#67517 w/238Pu,238PuBe Sources side	nda	nda	nda	nda	n/a	10.4	7.5	7 3	2.8	2.7	1.0
130	Drum LA#67517 w/238Pu,238PuBe Sources side	nda	nda	nda	nda	n/a						
131	Drum LA#67517 w/238Pu,238PuBe Sources btm	nda	nda	nda	nda	n/a						
132	post-job wk bench behind shield	nda	nda	nda	nda	n/a						
133	post-job wk bench behind shield lt	nda	nda	nda	nda	n/a						
134	post-job wk bench behind shield ft	nda	nda	nda	nda	n/a						
135	post-job wk bench behind shield rt	nda	nda	nda	nda	n/a						
136	post-job wk bench behind shield lt	nda	nda	nda	nda	n/a						
137	post-job wk bench behind shield rt	nda	nda	nda	nda	n/a						
138	post-job wk bench behind shield bk	nda	nda	nda	nda	n/a						
139	post-job floor	nda	nda	nda	nda	n/a						
140	post-job floor	nda	nda	nda	nda	n/a						

*dpm/100 cm²

Special Form Documentation

Appendix D
Special Form Certificate Status

Serial No	Source Model	Certificate No	Revision	Expiration Date
LA00000067515 (14 Sources)				
2277-1	A001	USA-0036-S	10	3/31/2014
2361LV	AMC.24	USA-0715-S	1	6/30/2015
3767LV	X.93	USA-0678-S	1	6/30/2014
71-1-995B	71-1	USA-0114-S	8	1/31/2018
8398LV	X.93	USA-0678-S	1	6/30/2014
8823LV	AMC.24	USA-0715-S	1	6/30/2015
8893LQ	AMC.16 (X.91)	USA-0726-S	2	1/31/2016
8894LQ	AMC.16 (X.91)	USA-0726-S	2	1/31/2016
8895LQ	AMC.16 (X.91)	USA-0726-S	2	1/31/2016
8896LQ	AMC.16 (X.91)	USA-0726-S	2	1/31/2016
9123LV	AMC.24	USA-0715-S	1	6/30/2015
A-240	NER-476C	USA-0185-S	7	3/31/2017
LL-803	A3402	USA-0221-S	7	2/28/2015
N-1134	GT-GHP	USA-0366-S	7	8/31/2015
LA00000067517 (3 Sources)				
304	C-101	OSR-SF-003		
499	184-A	OSR-SF-003		
MRC-Pu8Be-441	24128	OSR-SF-008		
LA00000067519 (2 Sources)				
MRC-Pu8Li/Cs-1	NMG-1/2493	OSR-SF-016	0	6/1/2015
MRCPu8LiCs13	NMG-1/2493	OSR-SF-016	0	6/1/2015

Other Information

Drum number LA00000067515, LA00000067517, LA00000067518 and LA00000067519 of BDR LA13-OSR-VE-023 and LA13-OSR-CH-023: one may find serial numbers or identifying information that may not match exactly between documents (e.g. VE attachment 4, rad surveys, markings, source cert, regulatory docs, etc) . This is an artifact that source manufacturers, regulators and customers may use somewhat different nomenclature to identify the same source. Some examples include:

1) Alpha Numeric numbering where the suffix or prefix may be used interchangeably throughout the life of the source. Examples include: LP123 vs LP-123 or 123LP vs 123 LP, etc... 7-1-123G vs 71 1 123g, etc...
2) The addition of a secondary serial number or identification number to reflect the device in which it is used. The most common methods used to identify these are to put the secondary ID number in parenthesis or following a slash. Examples include: MRC-246(135NP), 123LV/269, etc...
3) In addition to secondary numbering some regulators or users may add nomenclature to further identify the source. NMMSS is one of the more common. For example a source manufactured by MRC may be inscribed as MRC PU8PU123 or just PU8PU123 where as the NMMSS database added the manufacture designation to the front of the serial number; in this case the serial in NMMSS is listed as MRPU8BE123
4) Dashes or spacing is also interchangeable in that depending upon the author of the document (including regulators) the format could be determined by internal procedures, typeset, etc.... For example 7-1-123G vs 71 1 123 g found in the Texas State Health Department source list.
5) How the source ID or serial number translated during a recovery. Cylindrical sources with the inscription along the axis may lead to the alpha numeric order not being an exact match to the documentation, e.g. MRC 1234 vs 1234 MRC.
6) The most conservative values is used when assigning activity values in cases where the supporting data differs, e.g. SSDR value vs site log entries.
7) One source marked on the certificate 002277 is comprised of 3 separate sources 2277-1, 2277-2, 2277-3. One source serial number 004 98 has an extra slash in the markings 004/98. Source MRC-AmBe-2542 serial number is the same as AmBe-2542. Source MRC-Pu8Li/Cs-1 has additional nomenclature in the serial number entered in the shipping record MRC-NG-SS-W-Pu8Li/Cs-1.

Although there may be instances where the source identification is not "exact" between differing documentation, the offsite source recovery project (OSRP) makes every effort though experience, documentation and research to ensure that the information is accurate, e.g. the identified source isotope is correct and the source activity is conservatively accurate.

Los Alamos
NATIONAL LABORATORY
EST.1943

Memorandum

Nuclear Engineering & Nonproliferation Division
International Threat Reduction Group
Off-Site Source Recovery Project (OSRP)

Subject: ERID Numbers for Off-Site Source Recovery Project Acceptable Knowledge Documentation

The ERID numbers corresponding to the acceptable knowledge documentation for each drum in this Off-Site Source Recovery Project BDR package are listed below:

OSRP Drum Identifier	ERID Number
LA00000067515	ERID-253001
LA00000067517	ERID-253001
LA00000067518	ERID-253001
LA00000067519	ERID-253001

DIVIDER PAGE ONLY

NOT PART OF PAGE COUNT

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Copy
[ ] Fax Record
[ ] Electronic Record

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	02/13/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA13-OSR-VE-023	SPM CHECKLIST	02/12/14	4
LA13-OSR-VE-023	OSR-VE BATCH DATA REPORT	12/04/13	43
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [X]	Signature	Leon Navarrete (Printed Name)	2/25/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

Re-submittal:

Signature	Printed Name	Date

****
*** Send Results ***
****

Sending is complete.

Job No.	1928
Address	915056291658
Name	LANL
Start Time	02/25 10:38 AM
Call Length	00'19
Sheets	1
Result	OK

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

[X] Original Record [ ] Fax Record [ ] Electronic Record [ ] Copy

Attn:	CCP RECORDS	From:	YOLANDA VALDEZ
Ship to:	4021 NATIONAL PARKS HWY	Site:	LANL
	CARLSBAD, NM 88220	Company:	SM STOLLER
	GSA-212	Telephone Number:	(505)412-4821
	N/A	Date Sent:	02/13/14
Telephone Number:	(575) 234-7523		

Document Number	Title / Description	Record Date	Total Pages
LA13-OSR-VE-023	SPM CHECKLIST	02/12/14	4
LA13-OSR-VE-023	OSR-VE BATCH DATA REPORT	12/04/13	43
	N/A		

Comments

N/A

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted [✓]	Signature	Leon Navarrete (Printed Name)	2/25/14 (Date)
Records Rejected [ ]	Signature	Printed Name	Date

Reason for Rejection:

COPY

VE2

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Jim Matzke

Education/Experience

Resume documenting education and experience on file with National TRU Program Certification (NTPC) Training.	Cheryl Arango 03-06-13 NTPC Training Date

Job Specific Training

☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
2. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
3. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
5. CCP-QP-002, *CCP Training and Qualification Plan*
6. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
9. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-QP-029, *CCP Corrective Action Management*
12. CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	NA Trainee Date

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Jim Matzke

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	NTPC Training	Date: 03-06-13
2. VE Comprehensive Exam *(Always Required)*	NTPC Training	Date: 03-06-13

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	NA
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	NA
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	NA
	4. Describe how nonconforming items are documented.	NA
	5. Describe how nonconforming items are controlled to prevent their use.	NA
	6. State who has the responsibility to validate the NCR once initiated.	NA
	7. Describe how to revise an NCR.	NA
	8. Describe how to void an NCR.	NA
CCP-QP-029	9. Describe the purpose of the corrective action report (CAR) process.	NA
	10. State the person responsible for originating a CAR.	NA
	11. Describe how corrective actions are documented.	NA
	12. State who has the responsibility to validate the CAR once initiated.	NA
	13. Describe actions personnel may take when conditions adverse to quality are discovered.	NA

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Jim Matzke

CCP-QP-008	14. List the responsibilities of record generators.	NA
	15. State the storage and control requirements for records.	NA
	16. Explain the process and proper method to make corrections or revisions to records.	NA
CCP-QP-010	17. State the importance of using approved documents.	NA
	18. State when to verify a document revision.	NA
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	NA
CCP-TP-069	20. Explain the purpose of Sealed Source VE and the roles and responsibilities of the VE Operator.	NA
	21. State the acceptable units of measurement for weight.	NA
	22. State the number of waste containers allowed per Batch Data Report (BDR).	NA
	23. Define "layers of confinement."	NA
	24. Define "sealed source."	NA
	25. Describe how to identify sources being collected	NA
	26. State the authorized method to close a liner bag.	NA
	27. Explain the actions taken if a hazardous condition is encountered while conducting work.	NA
	28. State the waste material parameters (WMP) and state the sealed source WMP.	NA
	29. Describe the information that should be recorded when describing waste items.	NA
	30. State the criteria for a rigid liner to be considered vented.	NA
	31. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	NA
	32. Explain why it is important to minimize any lateral movement of the lid across the mating flange face.	NA

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Jim Matzke

	33. Describe the closure method for pipe overpack containers.			N/A
	34. Describe the conditions that would require generation of a non-conformance report (NCR) during the VE process.			N/A
	35. Describe how to revise a BDR.			N/A
	36. Describe how to void a BDR.			N/A
Formal Training	**OJT Practical Requirements**[1] *(Always Required)* *(This section must be performed in the presence of a VEE)*			**VEE SME/OJT Signature/Date**
CCP-TP-069	1. Complete a container packaging and VE data record form.	P	(S)	26FEB13
	2. Perform the closure of a pipe overpack container.	P	(S)	26FEB13
	3. Determine layers of confinement.	P	(S)	26FEB13
	4. Verify the physical form of the waste matches the waste description.	P	(S)	26FEB13
	5. Determine the WMP(s).	P	(S)	26FEB13
	6. Estimate the weight of each WMP.	P	(S)	26 FEB13
	7. Obtain the output weight for the waste container.	P	(S)	26FEB13
	8. Prepare a BDR.	P	(S)	26FEB13
	9. Complete an ITR.	P	(S)	26 FEB 13

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed: for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Jim Matzke

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as an OSRP VE Operator/ITR.	Jim Matzke 26 Feb 2013 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of an OSRP VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	JUSTIN M. GRIFFIN 26FEB13 VEE SME/OJT Instructor *(printed name and signature)* Date NA VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of an OSRP VE Operator/ITR.	Richard Kantrowitz 3/7/13 SPM *(printed name and signature)* Date

Approved for Content & Format:	**James Matzke *(Approval on File)***	**02/22/2013**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**02/22/2013**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**02/22/2013**
	SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**02/22/2013**
	Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Justin Griffin

Education/Experience	
Resume documenting education and experience on file with National TRU Program Certification (NTPC) Training.	Cheryl Almaguer 03-06-13 NTPC Training Date

Job Specific Training

☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
2. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
3. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
5. CCP-QP-002, *CCP Training and Qualification Plan*
6. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
9. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-QP-029, *CCP Corrective Action Management*
12. CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	NA Trainee Date

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Justin Griffin

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	Cheryl Almanza NA CA 03-06-13 NTPC Training	03-06-13 Date
2. VE Comprehensive Exam *(Always Required)*	Cheryl Almanza NTPC Training	03-06-13 Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	NA
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	NA
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	NA
	4. Describe how nonconforming items are documented.	NA
	5. Describe how nonconforming items are controlled to prevent their use.	NA
	6. State who has the responsibility to validate the NCR once initiated.	NA
	7. Describe how to revise an NCR.	NA
	8. Describe how to void an NCR.	NA
CCP-QP-029	9. Describe the purpose of the corrective action report (CAR) process.	NA
	10. State the person responsible for originating a CAR.	NA
	11. Describe how corrective actions are documented.	NA
	12. State who has the responsibility to validate the CAR once initiated.	NA
	13. Describe actions personnel may take when conditions adverse to quality are discovered.	NA

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Justin Griffin

CCP-QP-008	14. List the responsibilities of record generators.	NA
	15. State the storage and control requirements for records.	NA
	16. Explain the process and proper method to make corrections or revisions to records.	NA
CCP-QP-010	17. State the importance of using approved documents.	NA
	18. State when to verify a document revision.	NA
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	NA
CCP-TP-069	20. Explain the purpose of Sealed Source VE and the roles and responsibilities of the VE Operator.	NA
	21. State the acceptable units of measurement for weight.	NA
	22. State the number of waste containers allowed per Batch Data Report (BDR).	NA
	23. Define "layers of confinement."	NA
	24. Define "sealed source."	NA
	25. Describe how to identify sources being collected	NA
	26. State the authorized method to close a liner bag.	NA
	27. Explain the actions taken if a hazardous condition is encountered while conducting work.	NA
	28. State the waste material parameters (WMP) and state the sealed source WMP.	NA
	29. Describe the information that should be recorded when describing waste items.	NA
	30. State the criteria for a rigid liner to be considered vented.	NA
	31. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	NA
	32. Explain why it is important to minimize any lateral movement of the lid across the mating flange face.	NA

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Justin Griffin

	33. Describe the closure method for pipe overpack containers.			N/A
	34. Describe the conditions that would require generation of a non-conformance report (NCR) during the VE process.			N/A
	35. Describe how to revise a BDR.			N/A
	36. Describe how to void a BDR.			N/A
Formal Training	**OJT Practical Requirements[1]** *(Always Required)* *(This section must be performed in the presence of a VEE)*			**VEE SME/OJT Signature/Date**
CCP-TP-069	1. Complete a container packaging and VE data record form.	P	(S)	2/26/13
	2. Perform the closure of a pipe overpack container.	P	(S)	2/26/13
	3. Determine layers of confinement.	P	(S)	2/26/13
	4. Verify the physical form of the waste matches the waste description.	P	(S)	2/26/13
	5. Determine the WMP(s).	P	(S)	2/26/13
	6. Estimate the weight of each WMP.	P	(S)	2/26/13
	7. Obtain the output weight for the waste container.	P	(S)	2/26/13
	8. Prepare a BDR.	P	(S)	2/26/13
	9. Complete an ITR.	P	(S)	2/26/13

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed: for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Justin Griffin

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as an OSRP VE Operator/ITR.	JUSTIN M. GRIFFIN 26FEB13 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of an OSRP VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	James Matzke 26 Feb 2013 VEE SME/OJT Instructor *(printed name and signature)* Date
	NA VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of an OSRP VE Operator/ITR.	Richard Kantrowitz 3/7/13 SPM *(printed name and signature)* Date

Approved for Content & Format:	**James Matzke *(Approval on File)***	**02/22/2013**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**02/22/2013**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**02/22/2013**
	SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**02/22/2013**
	Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Adam Martinez

Education/Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Cheryl Munoz 09-21-12 CCP Training Date

Job Specific Training

☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the CCP Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at initial qualification and full requalification)

Initial/Indoctrination Reading:

1. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
2. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
3. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
4. CCP-QP-002, *CCP Training and Qualification Plan*
5. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
6. CCP-QP-006, *CCP Corrective Action Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
9. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	NA NA Trainee Date

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Adam Martinez

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test. *(One-time requirement)*	Cheryl Almijo NA	09-21-12 NA CA 09-21-12
	CCP Training	Date
2. CCP VE Comprehensive Exam *(Always Required)*	Cheryl Almijo	09-21-12
	CCP Training	Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at initial qualification and full requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	NA
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	NA
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	NA
	4. Describe how nonconforming items are documented.	NA
	5. Describe how nonconforming items are controlled to prevent their use.	NA
	6. State who has the responsibility to validate the NCR once initiated.	NA
	7. Describe how to revise an NCR.	NA
	8. Describe how to void an NCR.	NA
CCP-QP-006	9. Describe the purpose of the corrective action report (CAR) process.	NA
	10. State the person responsible for originating a CAR.	NA
	11. Describe how corrective actions are documented.	NA
	12. State who has the responsibility to validate the CAR once initiated.	NA
	13. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	NA

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Adam Martinez

CCP-QP-008	14. List the responsibilities of record generators.	NA
	15. State the storage and control requirements for CCP records.	NA
	16. Explain the process and proper method to make corrections or revisions to CCP records.	NA
CCP-QP-010	17. State the importance of using approved documents.	NA
	18. State when to verify a document revision.	NA
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	NA
CCP-TP-069	20. Explain the purpose of Sealed Source VE and the roles and responsibilities of the VE Operator.	NA
	21. State the acceptable units of measurement for weight.	NA
	22. State the number of waste containers allowed per Batch Data Report (BDR).	NA
	23. Define "layers of confinement."	NA
	24. Define "sealed source."	NA
	25. Describe how to identify sources being collected	NA
	26. State the authorized method to close a liner bag.	NA
	27. Explain the actions taken if a hazardous condition is encountered while conducting work.	NA
	28. State the waste material parameters (WMP) and state the sealed source WMP.	NA
	29. Describe the information that should be recorded when describing waste items.	NA
	30. State the criteria for a rigid liner to be considered vented.	NA
	31. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	NA
	32. Explain why it is important to minimize any lateral movement of the lid across the mating flange face.	NA

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Adam Martinez

	33. Describe the closure method for pipe overpack containers.			NA
	34. Describe the conditions that would require generation of a non-conformance report (NCR) during the VE process.			NA
	35. Describe how to revise a BDR.			NA
	36. Describe how to void a BDR.			NA
Formal Training	**OJT Practical Requirements[1]** *(Always Required)* *(This section must be performed in the presence of a VEE)*			**VEE SME/OJT Signature/Date**
CCP-TP-069	1. Complete a container packaging and VE data record form.	P	(S)	9-18-12
	2. Perform the closure of a pipe overpack container.	P	(S)	9-18-12
	3. Determine layers of confinement.	P	(S)	9-18-12
	4. Verify the physical form of the waste matches the waste description.	P	(S)	9-18-12
	5. Determine the WMP(s).	P	(S)	9-18-12
	6. Estimate the weight of each WMP.	P	(S)	9-18-12
	7. Obtain the output weight for the waste container.	P	(S)	9-18-12
	8. Prepare a BDR.	P	(S)	9-18-12
	9. Complete an ITR.	P	(S)	9-18-12

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed; for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Adam Martinez

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as an OSRP VE Operator/ITR.	Adam Martinez — 9/20/12 Trainee *(printed name and signature)* — Date
I have monitored the training of this individual and believe they are ready to perform the duties of an OSRP VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	James Matzke — 9-20-12 VEE SME/OJT Instructor *(printed name and signature)* — Date NA — NA VEE SME/OJT Instructor *(printed name and signature)* — Date
I approve this employee to perform the duties of an OSRP VE Operator/ITR.	Veronica Waldram — 9/21/12 CCP SPM *(printed name and signature)* — Date

Approved for Content & Format: **James Matzke *(Approval on File)*** — **08/31/2012**
SME/OJT — Date

Approved for Applicability, Content & Format: **Andrew Stallings *(Approval on File)*** — **08/31/2012**
Cognizant Engineer — Date

Approved for Content: **Richard Kantrowitz *(Approval on File)*** — **08/31/2012**
CCP SPM — Date

Approved for Applicability, Content, Format, & Use: **A.J. Fisher *(Approval on File)*** — **08/31/2012**
CCP Manager Responsible for Training — Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Rick Day

Education/Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Cheryl Munger 01-08-13 CCP Training Date

Job Specific Training

☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the CCP Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at initial qualification and full requalification)

Initial/Indoctrination Reading:

1. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
2. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
3. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
4. CCP-QP-002, *CCP Training and Qualification Plan*
5. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
6. CCP-QP-006, *CCP Corrective Action Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
9. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	NA Trainee Date

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Rick Day

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test. *(One-time requirement)*	Cheryl Arrujo NA CA 01-08-13	01-08-13
	CCP Training	Date
2. CCP VE Comprehensive Exam *(Always Required)*	Cheryl Arrujo	01-08-13
	CCP Training	Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at initial qualification and full requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	NA
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	NA
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	NA
	4. Describe how nonconforming items are documented.	NA
	5. Describe how nonconforming items are controlled to prevent their use.	NA
	6. State who has the responsibility to validate the NCR once initiated.	NA
	7. Describe how to revise an NCR.	NA
	8. Describe how to void an NCR.	NA
CCP-QP-006	9. Describe the purpose of the corrective action report (CAR) process.	NA
	10. State the person responsible for originating a CAR.	NA
	11. Describe how corrective actions are documented.	NA
	12. State who has the responsibility to validate the CAR once initiated.	NA
	13. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	NA

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Rick Day

CCP-QP-008	14. List the responsibilities of record generators.	NA
	15. State the storage and control requirements for CCP records.	NA
	16. Explain the process and proper method to make corrections or revisions to CCP records.	NA
CCP-QP-010	17. State the importance of using approved documents.	NA
	18. State when to verify a document revision.	NA
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	NA
CCP-TP-069	20. Explain the purpose of Sealed Source VE and the roles and responsibilities of the VE Operator.	NA
	21. State the acceptable units of measurement for weight.	NA
	22. State the number of waste containers allowed per Batch Data Report (BDR).	NA
	23. Define "layers of confinement."	NA
	24. Define "sealed source."	NA
	25. Describe how to identify sources being collected	NA
	26. State the authorized method to close a liner bag.	NA
	27. Explain the actions taken if a hazardous condition is encountered while conducting work.	NA
	28. State the waste material parameters (WMP) and state the sealed source WMP.	NA
	29. Describe the information that should be recorded when describing waste items.	NA
	30. State the criteria for a rigid liner to be considered vented.	NA
	31. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	NA
	32. Explain why it is important to minimize any lateral movement of the lid across the mating flange face.	NA

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Rick Day

	33. Describe the closure method for pipe overpack containers.			NA
	34. Describe the conditions that would require generation of a non-conformance report (NCR) during the VE process.			NA
	35. Describe how to revise a BDR.			NA
	36. Describe how to void a BDR.			NA
Formal Training	**OJT Practical Requirements'** *(Always Required)* *(This section must be performed in the presence of a VEE)*			**VEE SME/OJT Signature/Date**
CCP-TP-069	1. Complete a container packaging and VE data record form.	P	(S)	07 Jan 2013
	2. Perform the closure of a pipe overpack container.	P	(S)	07 Jan 2013
	3. Determine layers of confinement.	P	(S)	07 Jan 2013
	4. Verify the physical form of the waste matches the waste description.	P	(S)	07 Jan 2013
	5. Determine the WMP(s).	P	(S)	07 Jan 2013
	6. Estimate the weight of each WMP.	P	(S)	07 Jan 2013
	7. Obtain the output weight for the waste container.	P	(S)	07 Jan 2013
	8. Prepare a BDR.	P	(S)	07 Jan 2013
	9. Complete an ITR.	P	(S)	07 Jan 2013

' For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed. For simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Rick Day

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as an OSRP VE Operator/ITR.	Rick Day 1-7-13 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of an OSRP VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	James Matzke 07 Jan 2013 VEE SME/OJT Instructor *(printed name and signature)* Date N/A VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of an OSRP VE Operator/ITR.	Veronica Waldram 8 Jan 13 CCP SPM *(printed name and signature)* Date

Approved for Content & Format:	**James Matzke *(Approval on File)***	**08/31/2012**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**08/31/2012**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**08/31/2012**
	CCP SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**08/31/2012**
	CCP Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Michael Fanning

Education/Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Cheryl Almaguer 09-21-12 CCP Training — Date

Job Specific Training

☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the CCP Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at initial qualification and full requalification)

Initial/Indoctrination Reading:

1. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
2. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
3. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
4. CCP-QP-002, *CCP Training and Qualification Plan*
5. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
6. CCP-QP-006, *CCP Corrective Action Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
9. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	NA — Trainee NA — Date

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Michael Fanning

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test. *(One-time requirement)*	Cheryl Almijo NA	09-21-12 NA CA 09-21-12
	CCP Training	Date
2. CCP VE Comprehensive Exam *(Always Required)*	Cheryl Almijo	09-21-12
	CCP Training	Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at initial qualification and full requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	NA
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	NA
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	NA
	4. Describe how nonconforming items are documented.	NA
	5. Describe how nonconforming items are controlled to prevent their use.	NA
	6. State who has the responsibility to validate the NCR once initiated.	NA
	7. Describe how to revise an NCR.	NA
	8. Describe how to void an NCR.	NA
CCP-QP-006	9. Describe the purpose of the corrective action report (CAR) process.	NA
	10. State the person responsible for originating a CAR.	NA
	11. Describe how corrective actions are documented.	NA
	12. State who has the responsibility to validate the CAR once initiated.	NA
	13. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	NA

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Michael Fanning

CCP-QP-008	14. List the responsibilities of record generators.	NA
	15. State the storage and control requirements for CCP records.	NA
	16. Explain the process and proper method to make corrections or revisions to CCP records.	NA
CCP-QP-010	17. State the importance of using approved documents.	NA
	18. State when to verify a document revision.	NA
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	NA
CCP-TP-069	20. Explain the purpose of Sealed Source VE and the roles and responsibilities of the VE Operator.	NA
	21. State the acceptable units of measurement for weight.	NA
	22. State the number of waste containers allowed per Batch Data Report (BDR).	NA
	23. Define "layers of confinement."	NA
	24. Define "sealed source."	NA
	25. Describe how to identify sources being collected	NA
	26. State the authorized method to close a liner bag.	NA
	27. Explain the actions taken if a hazardous condition is encountered while conducting work.	NA
	28. State the waste material parameters (WMP) and state the sealed source WMP.	NA
	29. Describe the information that should be recorded when describing waste items.	NA
	30. State the criteria for a rigid liner to be considered vented.	NA
	31. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	NA
	32. Explain why it is important to minimize any lateral movement of the lid across the mating flange face.	NA

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Michael Fanning

	33. Describe the closure method for pipe overpack containers.			NA
	34. Describe the conditions that would require generation of a non-conformance report (NCR) during the VE process.			NA
	35. Describe how to revise a BDR.			NA
	36. Describe how to void a BDR.			NA
Formal Training	**OJT Practical Requirements[1]** *(Always Required)* *(This section must be performed in the presence of a VEE)*			**VEE SME/OJT Signature/Date**
CCP-TP-069	1. Complete a container packaging and VE data record form.	P	(S)	9-18-12
	2. Perform the closure of a pipe overpack container.	P	(S)	9-18-12
	3. Determine layers of confinement.	P	(S)	9-18-12
	4. Verify the physical form of the waste matches the waste description.	P	(S)	9-18-12
	5. Determine the WMP(s).	P	(S)	9-18-12
	6. Estimate the weight of each WMP.	P	(S)	9-18-12
	7. Obtain the output weight for the waste container.	P	(S)	9-18-12
	8. Prepare a BDR.	P	(S)	9-18-12
	9. Complete an ITR.	P	(S)	9-18-12

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Michael Fanning

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as an OSRP VE Operator/ITR.	MICHAEL FANNING 9/20/2012 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of an OSRP VE Operator/ITR. *(Validation by the VEE SME OJT instructor(s) involved in the training of this individual)*	James Matzke 9-20-12 VEE SME/OJT Instructor *(printed name and signature)* Date
	N/A N/A VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of an OSRP VE Operator/ITR.	Veronica Waldram 9/21/12 CCP SPM *(printed name and signature)* Date

Approved for Content & Format:	**James Matzke *(Approval on File)***	**08/31/2012**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**08/31/2012**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**08/31/2012**
	CCP SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**08/31/2012**
	CCP Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: William Stewart

Education/Experience

Resume documenting education and experience on file with National TRU Program Certification (NTPC) Training.	Cheryl Stewart 09-19-13 NTPC Training — Date

Job Specific Training

☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
2. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
3. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
5. CCP-QP-002, *CCP Training and Qualification Plan*
6. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
9. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-QP-029, *CCP Corrective Action Management*
12. CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	NA Trainee — Date

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: William Stewart

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	Cheryl Stewart NTPC Training	09-19-13 Date
2. VE Comprehensive Exam *(Always Required)*	Cheryl Stewart NTPC Training	09-19-13 Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	
	4. Describe how nonconforming items are documented.	
	5. Describe how nonconforming items are controlled to prevent their use.	
	6. State who has the responsibility to validate the NCR once initiated.	
	7. Describe how to revise an NCR.	NA
	8. Describe how to void an NCR.	
CCP-QP-029	9. Describe the purpose of the corrective action report (CAR) process.	
	10. State the person responsible for originating a CAR.	
	11. Describe how corrective actions are documented.	
	12. State who has the responsibility to validate the CAR once initiated.	
	13. Describe actions personnel may take when conditions adverse to quality are discovered.	

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: William Stewart

CCP-QP-008	14. List the responsibilities of record generators.	
	15. State the storage and control requirements for records.	
	16. Explain the process and proper method to make corrections or revisions to records.	
CCP-QP-010	17. State the importance of using approved documents.	
	18. State when to verify a document revision.	
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	
CCP-TP-069	20. Explain the purpose of Sealed Source VE and the roles and responsibilities of the VE Operator.	
	21. State the acceptable units of measurement for weight.	
	22. State the number of waste containers allowed per Batch Data Report (BDR).	N/A
	23. Define "layers of confinement."	
	24. Define "sealed source."	
	25. Describe how to identify sources being collected	
	26. State the authorized method to close a liner bag.	
	27. Explain the actions taken if a hazardous condition is encountered while conducting work.	
	28. State the waste material parameters (WMP) and state the sealed source WMP.	
	29. Describe the information that should be recorded when describing waste items.	
	30. State the criteria for a rigid liner to be considered vented.	
	31. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	
	32. Explain why it is important to minimize any lateral movement of the lid across the mating flange face.	

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: William Stewart

	33. Describe the closure method for pipe overpack containers.			
	34. Describe the conditions that would require generation of a non-conformance report (NCR) during the VE process.			NA
	35. Describe how to revise a BDR.			
	36. Describe how to void a BDR.			
Formal Training	**OJT Practical Requirements[1]** *(Always Required)* *(This section must be performed in the presence of a VEE)*			**VEE SME/OJT Signature/Date**
CCP-TP-069	1. Complete a container packaging and VE data record form.	P	(S)	9/16/13
	2. Perform the closure of a pipe overpack container.	P	(S)	9/16/13
	3. Determine layers of confinement.	P	(S)	9/16/13
	4. Verify the physical form of the waste matches the waste description.	P	(S)	9/16/13
	5. Determine the WMP(s).	P	(S)	9/16/13
	6. Estimate the weight of each WMP.	P	(S)	9/16/13
	7. Obtain the output weight for the waste container.	P	(S)	9/16/13
	8. Prepare a BDR.	P	(S)	9/16/13
	9. Complete an ITR.	P	(S)	9/16/13

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed; for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: William Stewart

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as an OSRP VE Operator/ITR.	William C. Stewart 9/16/13 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of an OSRP VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	Justin M. Griffin 9/16/13 VEE SME/OJT Instructor *(printed name and signature)* Date
	N/A VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of an OSRP VE Operator/ITR.	Veronica Waldram 9/19/13 SPM *(printed name and signature)* Date

Approved for Content & Format:	**James Matzke *(Approval on File)***	**02/22/2013**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**02/22/2013**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**02/22/2013**
	SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**02/22/2013**
	Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Ioana Witkowski

Education/Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Cheryl Almajo 12-17-12 CCP Training Date

Job Specific Training

☑ **Initial Qualification** ☐ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the CCP Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at initial qualification and full requalification)

Initial/Indoctrination Reading:

1. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
2. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
3. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
4. CCP-QP-002, *CCP Training and Qualification Plan*
5. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
6. CCP-QP-006, *CCP Corrective Action Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
9. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	Ioana Witkowski 12/12/12 Trainee Date

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Ioana Witkowski

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test. *(One-time requirement)*	Cheryl Amujo CCP Training	12-17-12 Date
2. CCP VE Comprehensive Exam *(Always Required)*	Cheryl Amujo CCP Training	12-17-12 Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at initial qualification and full requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	12-12-12
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	12-12-12
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	12-12-12
	4. Describe how nonconforming items are documented.	12-12-12
	5. Describe how nonconforming items are controlled to prevent their use.	12-12-12
	6. State who has the responsibility to validate the NCR once initiated.	12-12-12
	7. Describe how to revise an NCR.	12-12-12
	8. Describe how to void an NCR.	12-12-12
CCP-QP-006	9. Describe the purpose of the corrective action report (CAR) process.	12-12-12
	10. State the person responsible for originating a CAR.	12-12-12
	11. Describe how corrective actions are documented.	12-12-12
	12. State who has the responsibility to validate the CAR once initiated.	12-12-12
	13. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	12-12-12

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Ioana Witkowski

CCP-QP-008	14. List the responsibilities of record generators.	12-12-12
	15. State the storage and control requirements for CCP records.	12-12-12
	16. Explain the process and proper method to make corrections or revisions to CCP records.	12-12-12
CCP-QP-010	17. State the importance of using approved documents.	12-12-12
	18. State when to verify a document revision.	12-12-12
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	12-12-12
CCP-TP-069	20. Explain the purpose of Sealed Source VE and the roles and responsibilities of the VE Operator.	12-12-12
	21. State the acceptable units of measurement for weight.	12-12-12
	22. State the number of waste containers allowed per Batch Data Report (BDR).	12-12-12
	23. Define "layers of confinement."	12-12-12
	24. Define "sealed source."	12-12-12
	25. Describe how to identify sources being collected	12-12-12
	26. State the authorized method to close a liner bag.	12-12-12
	27. Explain the actions taken if a hazardous condition is encountered while conducting work.	12-12-12
	28. State the waste material parameters (WMP) and state the sealed source WMP.	12-12-12
	29. Describe the information that should be recorded when describing waste items.	12-12-12
	30. State the criteria for a rigid liner to be considered vented.	12-12-12
	31. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	12-12-12
	32. Explain why it is important to minimize any lateral movement of the lid across the mating flange face.	12-12-12

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Ioana Witkowski

	33. Describe the closure method for pipe overpack containers.				12-12-12
	34. Describe the conditions that would require generation of a non-conformance report (NCR) during the VE process.				12-12-12
	35. Describe how to revise a BDR.				12-12-12
	36. Describe how to void a BDR.				12-12-12
Formal Training	**OJT Practical Requirements[1]** *(Always Required)* *(This section must be performed in the presence of a VEE)*				**VEE SME/OJT Signature/Date**
CCP-TP-069	1. Complete a container packaging and VE data record form.		P	(S)	12-12-12
	2. Perform the closure of a pipe overpack container.		P	(S)	12-12-12
	3. Determine layers of confinement.		P	(S)	12-12-12
	4. Verify the physical form of the waste matches the waste description.		P	(S)	12-12-12
	5. Determine the WMP(s).		P	(S)	12-12-12
	6. Estimate the weight of each WMP.		P	(S)	12-12-12
	7. Obtain the output weight for the waste container.		P	(S)	12-12-12
	8. Prepare a BDR.		P	(S)	12-12-12
	9. Complete an ITR.		P	(S)	12-13-12

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Ioana Witkowski

	Approvals
I have completed formal training and received OJT for this position. I fully understand my responsibilities as an OSRP VE Operator/ITR.	IOANA WITKOWSKI Ioana Witkowski 12/12/12 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of an OSRP VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	James Matzke 12-12-12 VEE SME/OJT Instructor *(printed name and signature)* Date NA VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of an OSRP VE Operator/ITR.	Veronica Waldram Veronica Waldram 12-17-12 CCP SPM *(printed name and signature)* Date

Approved for Content & Format:	**James Matzke *(Approval on File)***	**08/31/2012**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**08/31/2012**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**08/31/2012**
	CCP SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**08/31/2012**
	CCP Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Michael Gurley

Education/Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Cheryl Arrujo 12-17-12 CCP Training — Date

Job Specific Training

☑ **Initial Qualification** ☐ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the CCP Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at initial qualification and full requalification)

Initial/Indoctrination Reading:

1. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
2. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
3. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
4. CCP-QP-002, *CCP Training and Qualification Plan*
5. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
6. CCP-QP-006, *CCP Corrective Action Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
9. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	Michael C Gurley 12-12-12 Trainee — Date

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Michael Gurley

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test. *(One-time requirement)*	CCP Training	12-17-12 Date
2. CCP VE Comprehensive Exam *(Always Required)*	CCP Training	12-17-12 Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at initial qualification and full requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	12-12-12
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	12-12-12
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	12-12-12
	4. Describe how nonconforming items are documented.	12-12-12
	5. Describe how nonconforming items are controlled to prevent their use.	12-12-12
	6. State who has the responsibility to validate the NCR once initiated.	12-12-12
	7. Describe how to revise an NCR.	12-12-12
	8. Describe how to void an NCR.	12-12-12
CCP-QP-006	9. Describe the purpose of the corrective action report (CAR) process.	12-12-12
	10. State the person responsible for originating a CAR.	12-12-12
	11. Describe how corrective actions are documented.	12-12-12
	12. State who has the responsibility to validate the CAR once initiated.	12-12-12
	13. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	12-12-12

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Michael Gurley

CCP-QP-008	14. List the responsibilities of record generators.	12-12-12
	15. State the storage and control requirements for CCP records.	12-12-12
	16. Explain the process and proper method to make corrections or revisions to CCP records.	12-12-12
CCP-QP-010	17. State the importance of using approved documents.	12-12-12
	18. State when to verify a document revision.	12-12-12
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	12-12-12
CCP-TP-069	20. Explain the purpose of Sealed Source VE and the roles and responsibilities of the VE Operator.	12-12-12
	21. State the acceptable units of measurement for weight.	12-12-12
	22. State the number of waste containers allowed per Batch Data Report (BDR).	12-12-12
	23. Define "layers of confinement."	12-12-12
	24. Define "sealed source."	12-12-12
	25. Describe how to identify sources being collected	12-12-12
	26. State the authorized method to close a liner bag.	12-12-12
	27. Explain the actions taken if a hazardous condition is encountered while conducting work.	12-12-12
	28. State the waste material parameters (WMP) and state the sealed source WMP.	12-12-12
	29. Describe the information that should be recorded when describing waste items.	12-12-12
	30. State the criteria for a rigid liner to be considered vented.	12-12-12
	31. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	12-12-12
	32. Explain why it is important to minimize any lateral movement of the lid across the mating flange face.	12-12-12

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Michael Gurley

	33. Describe the closure method for pipe overpack containers.			12-12-12
	34. Describe the conditions that would require generation of a non-conformance report (NCR) during the VE process.			12-12-12
	35. Describe how to revise a BDR.			12-12-12
	36. Describe how to void a BDR.			12-12-12
Formal Training	**OJT Practical Requirements[1]** *(Always Required)* *(This section must be performed in the presence of a VEE)*			**VEE SME/OJT Signature/Date**
CCP-TP-069	1. Complete a container packaging and VE data record form.	P	(S)	12-12-12
	2. Perform the closure of a pipe overpack container.	P	(S)	12-12-12
	3. Determine layers of confinement.	P	(S)	12-12-12
	4. Verify the physical form of the waste matches the waste description.	P	(S)	12-12-12
	5. Determine the WMP(s).	P	(S)	12-12-12
	6. Estimate the weight of each WMP.	P	(S)	12-12-12
	7. Obtain the output weight for the waste container.	P	(S)	12-12-12
	8. Prepare a BDR.	P	(S)	12-12-12
	9. Complete an ITR.	P	(S)	12-12-12

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed; for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Michael Gurley

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as an OSRP VE Operator/ITR.	MICHAEL A GURLEY Michael A Gurley 12-12-12 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of an OSRP VE Operator/ITR. *(Validation by the VEE SME OJT instructor(s) involved in the training of this individual).*	James Matzke 12-12-12 VEE SME/OJT Instructor *(printed name and signature)* Date N/A VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of an OSRP VE Operator/ITR.	Veronica Waldram Veronica Waldram 12/17/12 CCP SPM *(printed name and signature)* Date

Approved for Content & Format:	**James Matzke *(Approval on File)***	**08/31/2012**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**08/31/2012**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**08/31/2012**
	CCP SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**08/31/2012**
	CCP Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Central Characterization Project	**VE-OSRP-01, Rev. 3**
Effective Date: 9/22/2011	**Page 1 of 6**

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Ellen Gammon	**Badge Number:** [redacted]
Email Address: [redacted]	

Education/Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	3/7/12 CCP Training — Date

Job Specific Training

☑ **Initial Qualification** ☐ **Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the CCP Lead Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at initial qualification, or in the event of requalification after disqualification only)

Initial/Indoctrination Reading:

1. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
2. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
3. CCP-PO-003, *CCP TRUPACT-II Authorized Methods for Payload Control (TRAMPAC)*
4. CCP-QP-002, *CCP Training and Qualification Plan*
5. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
6. CCP-QP-006, *CCP Corrective Action Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation Approval and Control*
9. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*

I have read the listed initial/indoctrination reading and understand my responsibilities as applicable to the procedures above.	Ellen Gammon — Trainee 2/28/12 — Date

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Ellen Gammon	**Badge Number:** [redacted]
Email Address: [redacted]	

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test. *(One-time requirement)*	CCP Training	3/7/12 Date
2. CCP VE Comprehensive Exam (score 80% or higher) administered by CCP Training. *(To be administered at initial and each requalification)*	CCP Training	3/7/12 Date

Formal Training	**On-the-Job Training (OJT) Knowledge Requirements** *(Required at initial qualification, or in the event of requalification after disqualification only)*	**Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date**
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	3/5/12
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	3/5/12
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	3/5/12
	4. Describe how nonconforming items are documented.	3/5/12
	5. Describe how nonconforming items are controlled to prevent their use.	3/5/12
	6. State who has the responsibility to validate the NCR once initiated.	3/5/12
	7. Describe how to revise an NCR.	3/5/12
	8. Describe how to void an NCR.	3/5/12
CCP-QP-006	9. Describe the purpose of the corrective action report (CAR) process.	3/5/12
	10. State the person responsible for originating a CAR.	3/5/12
	11. Describe how corrective actions are documented.	3/5/12
	12. State who has the responsibility to validate the CAR once initiated.	3/5/12
	13. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	3/5/12

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Ellen Gammon	**Badge Number:** [redacted]
Email Address: [redacted]	

CCP-QP-008	14. List the responsibilities of record generators.	3/5/12
	15. State the storage and control requirements for CCP records.	3/5/12
	16. Explain the process and proper method to make corrections or revisions to CCP records.	3/5/12
CCP-QP-010	17. State the importance of using approved documents.	3/5/12
	18. State when to verify a document revision.	3/5/12
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	3/5/12
CCP-TP-069	20. Explain the purpose of Sealed Source VE and the roles and responsibilities of the VE Operator.	3/5/12
	21. State the acceptable units of measurement for weight.	3/5/12
	22. State the number of waste containers allowed per Batch Data Report (BDR).	3/5/12
	23. Define "layers of confinement."	3/5/12
	24. Define "sealed source."	3/5/12
	25. Describe how to identify sources being collected	3/5/12
	26. State the authorized method to close a liner bag.	3/5/12
	27. Explain the actions taken if a hazardous condition is encountered while conducting work.	3/5/12
	28. State the waste material parameters (WMP) and state the sealed source WMP.	3/5/12
	29. Describe the information that should be recorded when describing waste items.	3/5/12
	30. State the criteria for a rigid liner to be considered vented.	3/5/12
	31. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	3/5/12
	32. Explain why it is important to minimize any lateral movement of the lid across the mating flange face.	3/5/12

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Ellen Gammon	**Badge Number:** [redacted]
Email Address: [redacted]	

	33. Describe the closure method for pipe overpack containers.			3/5/12
	34. Describe the conditions that would generate and non-conformance report (NCR) during the VE process.			3/5/12
	35. Describe how to revise a BDR.			3/5/12
	36. Describe how to void a BDR.			3/5/12
Formal Training	**OJT Practical Requirements**[1] *(Required at initial qualification and at requalification) (This section must be performed in the presence of a VEE for initial and requalification)*			**VEE SME/OJT Signature/Date**
CCP-TP-069	1. Complete a container packaging and VE data record form.	P	(S)	28 FEB 12
	2. Perform the closure of a pipe overpack container.	P	(S)	28 FEB 12
	3. Determine layers of confinement.	P	(S)	28 FEB 12
	4. Verify the physical form of the waste matches the waste description.	P	(S)	28 FEB 12
	5. Determine the WMP(s).	P	(S)	28 FEB 12
	6. Estimate the weight of each WMP.	P	(S)	28 FEB 12
	7. Obtain the output weight for the waste container.	P	(S)	28 FEB 12
	8. Prepare a BDR.	P	(S)	28 FEB 12
	9. Complete an ITR.	P	(S)	28 FEB 12

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed for simulations; representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Ellen Gammon	**Badge Number:** [redacted]
Email Address: [redacted]	

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as an OSRP VE Operator/ITR.	Ellen E Gammon 3/5/12 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of an OSRP VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	JUSTIN M GRIFFIN 28FEB12 VEE SME/OJT Instructor *(printed name and signature)* Date
	James Matzke 3/5/12 VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of an OSRP VE Operator/ITR.	Terri-Anne Groover 03/07/12 CCP Lead or Alternate SPM *(printed name and signature)* Date

Approved for Content & Format: **James Matzke (Approval on file)** **9/22/2011**
VEE SME/OJT Date

Approved for Content & Format: **Andrew Stallings (Approval on file)** **9/22/2011**
Cognizant Engineer Date

Approved for Content: **Sue Peterman (Approval on file)** **9/22/2011**
CCP Lead or Alternate SPM Date

Approved for Use: **AJ Fisher (Approval on file)** **9/22/2011**
CCP Manager Responsible for Training Date

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Ellen Gammon	**Badge Number:** [redacted]
Email Address: [redacted]	

Site:

List of Applicable Waste Streams ***(based on applicable Acceptable Knowledge Reports read)*:***	
LA-05-00-01.001	NA
LA-05-00-03	
LA-05-00-04	
NA	
3/5/12	3/5/12

**For use with Initial and Additional Sites (To be completed for each site the trainee is qualifying for)*

I have read the applicable Acceptable Knowledge Reports for this site. I understand my responsibilities regarding the waste streams listed above.

Ellen Gammon Ellen Gammon 3/5/12
Trainee *(Printed Name and Signature)* Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Leonard Manzanares

Education/Experience

Resume documenting education and experience on file with National TRU Program Certification (NTPC) Training.	Michele Billett 7-19-13 NTPC Training — Date

Job Specific Training

☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
2. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
3. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
5. CCP-QP-002, *CCP Training and Qualification Plan*
6. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
9. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-QP-029, *CCP Corrective Action Management*
12. CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	N/A Trainee — Date

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Leonard Manzanares

Additional Training Requirements	
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	Michele Billett 7-19-13 NTPC Training — Date
2. VE Comprehensive Exam *(Always Required)*	Cheryl Arroyo 07-26-13 NTPC Training — Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	
	4. Describe how nonconforming items are documented.	
	5. Describe how nonconforming items are controlled to prevent their use.	
	6. State who has the responsibility to validate the NCR once initiated.	
	7. Describe how to revise an NCR.	
	8. Describe how to void an NCR.	
CCP-QP-029	9. Describe the purpose of the corrective action report (CAR) process.	
	10. State the person responsible for originating a CAR.	
	11. Describe how corrective actions are documented.	
	12. State who has the responsibility to validate the CAR once initiated.	
	13. Describe actions personnel may take when conditions adverse to quality are discovered.	

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Leonard Manzanares

CCP-QP-008	14. List the responsibilities of record generators.	
	15. State the storage and control requirements for records.	
	16. Explain the process and proper method to make corrections or revisions to records.	
CCP-QP-010	17. State the importance of using approved documents.	
	18. State when to verify a document revision.	
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	
CCP-TP-069	20. Explain the purpose of Sealed Source VE and the roles and responsibilities of the VE Operator.	
	21. State the acceptable units of measurement for weight.	
	22. State the number of waste containers allowed per Batch Data Report (BDR).	
	23. Define "layers of confinement."	
	24. Define "sealed source."	
	25. Describe how to identify sources being collected	
	26. State the authorized method to close a liner bag.	
	27. Explain the actions taken if a hazardous condition is encountered while conducting work.	
	28. State the waste material parameters (WMP) and state the sealed source WMP.	
	29. Describe the information that should be recorded when describing waste items.	
	30. State the criteria for a rigid liner to be considered vented.	
	31. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	
	32. Explain why it is important to minimize any lateral movement of the lid across the mating flange face.	

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP)
Qualification Card

Name: Leonard Manzanares

	33. Describe the closure method for pipe overpack containers.			
	34. Describe the conditions that would require generation of a non-conformance report (NCR) during the VE process.			N/A
	35. Describe how to revise a BDR.			
	36. Describe how to void a BDR.			
Formal Training	**OJT Practical Requirements[1]** *(Always Required)* *(This section must be performed in the presence of a VEE)*			**VEE SME/OJT Signature/Date**
CCP-TP-069	1. Complete a container packaging and VE data record form.	P	(S)	7/17/13
	2. Perform the closure of a pipe overpack container.	P	(S)	7/17/13
	3. Determine layers of confinement.	P	(S)	7/17/13
	4. Verify the physical form of the waste matches the waste description.	P	(S)	7/17/13
	5. Determine the WMP(s).	P	(S)	7/17/13
	6. Estimate the weight of each WMP.	P	(S)	7/17/13
	7. Obtain the output weight for the waste container.	P	(S)	7/17/13
	8. Prepare a BDR.	P	(S)	7/17/13
	9. Complete an ITR.	P	(S)	7/17/13

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed; for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Los Alamos National Laboratory (LANL) - Off Site Source Recovery Program (OSRP) Qualification Card

Name: Leonard Manzanares

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as an OSRP VE Operator/ITR.	Leonard Manzanares 17-JUL-2013 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of an OSRP VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	James Matzke 7-17-13 VEE SME/OJT Instructor *(printed name and signature)* Date N/A VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of an OSRP VE Operator/ITR.	Veronica Valdram Veronica Valdram 7/26/13 SPM *(printed name and signature)* Date

Approved for Content & Format: **James Matzke *(Approval on File)*** **02/22/2013**
SME/OJT Date

Approved for Applicability, Content & Format: **Andrew Stallings *(Approval on File)*** **02/22/2013**
Cognizant Engineer Date

Approved for Content: **Richard Kantrowitz *(Approval on File)*** **02/22/2013**
SPM Date

Approved for Applicability, Content, Format, & Use: **A.J. Fisher *(Approval on File)*** **02/22/2013**
Manager Responsible for Training Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Peggy Ausmus

Education/Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Cheryl Munoz 10-24-12 CCP Training — Date

Job Specific Training

☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** **[This qualification card applies to all CH sites except for Idaho National Laboratory (INL) and Los Alamos National Laboratory (LANL) Off Site Source Recovery Program (OSRP). The qualification cards for these sites are VE-PIT-01 and VE-OSRP-01, respectively.]** If necessary, additional training may be required by the CCP Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
2. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
3. CCP-PO-003, *CCP TRUPACT-II Authorized Methods for Payload Control (TRAMPAC)*
4. CCP-QP-002, *CCP Training and Qualification Plan*
5. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
6. CCP-QP-006, *CCP Corrective Action Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation Approval and Control*
9. CCP-QP-016, *CCP Control of Measuring, Testing, and Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-TP-113 , *CCP Standard Contact-Handled Waste Visual Examination*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	Peggy Ausmus 9-24-12 Trainee — Date

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Peggy Ausmus

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	Cheryl Munjo CCP Training	10-24-12 Date
2. CCP-VE-101, *Visual Examination (VE) TRU Waste Characterization Briefing.* *(Always Required)*	Cheryl Munjo CCP Training	10-24-12 Date
3. CCP VE Comprehensive Exam *(Always Required)*	Cheryl Munjo CCP Training	10-24-12 Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	
	4. Describe how nonconforming items are documented.	
	5. Describe how nonconforming items are controlled to prevent their use.	
	6. State who has the responsibility to validate the NCR once initiated.	
	7. Describe how to revise an NCR.	
	8. Describe how to void an NCR.	
CCP-QP-006	9. Describe the purpose of the corrective action report (CAR) process.	
	10. State the person responsible for originating a CAR.	
	11. Describe how corrective actions are documented.	

N/A
09/21/12

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Peggy Ausmus

	12. State who has the responsibility to validate the CAR once initiated.	
	13. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	
CCP-QP-008	14. List the responsibilities of record generators.	
	15. State the storage and control requirements for CCP records.	
	16. Explain the process and proper method to make corrections or revisions to CCP records.	
CCP-QP-010	17. State the importance of using approved documents.	
	18. State when to verify a document revision.	QA 09/24/12 N/A
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	
CCP-TP-113/ CCP-VE-101 Briefing	20. Explain the purpose of VE.	
	21. What are the 2 methods used in the VE process?	
	22. Who makes the determination of the method used?	
	23. Describe the unit of measurement for weights to be recorded for VE.	
	24. Describe where to obtain the tare weight of a waste container.	
	25. Describe where to obtain the gross weight of a waste container.	
	26. State the number of waste containers allowed per Batch Data Report (BDR).	
	27. State how often a camera check is performed when using Method #1.	
	28. Define "layers of confinement."	
	29. Describe how to determine "maximum" layers of confinement.	

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Peggy Ausmus

	30. Describe authorized methods of closure of a liner bag.	
	31. Describe how to determine Volume Utilization Percentage (VUP).	
	32. Describe the actions taken if prohibited items are found.	
	33. Discuss the requirements for packaging of sharp or heavy objects.	
	34. State the waste material parameters (WMP).	
	35. State how often a scale operational check is performed.	
	36. Describe the information that should be recorded when describing waste items.	
	37. State the criteria for a rigid liner to be considered vented.	N/A JAB 09/24/12
	38. State three examples of potentially "unsafe" packages/items that may be found within a waste container.	
	39. State five examples of prohibited items.	
	40. Describe how a non-transparent container is handled when liquid is suspected.	
	41. State the acceptable liquid limits in a characterized container.	
	42. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	
	43. Describe the conditions that would generate an NCR during the VE process.	
	44. Define how often calibration due dates should be checked on certified equipment.	
	45. Define the increments in which the fill percent are recorded.	
	46. Explain who is allowed to make data changes on data sheets.	

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Peggy Ausmus

Formal Training	OJT Practical Requirements[1] *(This section must be performed in the presence of a VEE)* *(Always Required)*			VEE SME/OJT Signature/Date
CCP-TP-113	1. Perform audio/video equipment operational checks.	P	(S)	Joseph a Gs 09/25/12
	2. Perform pre-use scale calibration verification.	(P)	S	Joseph a Gs 09/25/12
	3. Determine layers of confinement.	(P)	S	Joseph a Gs 09/25/12
	4. Verify the physical form of the waste matches the waste description.	(P)	S	Joseph a Gs 09/25/12
	5. Determine the WMP(s).	(P)	S	Joseph a Gs 09/25/12
	6. Estimate the weight of each WMP.	(P)	S	Joseph a Gs 09/26/12
	7. Obtain weight of each WMP.	(P)	S	Joseph a Gs 09/26/12
	8. Determine the VUP.	(P)	S	Joseph a Gs 09/26/12
	9. Obtain the output weight for the waste container.	(P)	S	Joseph a Gs 09/26/12
	10. Prepare a BDR.	(P)	S	Joseph a Gs 09/27/12
	11. Demonstrate how to make changes/corrections to a BDR.	(P)	S	Joseph a Gs 09/27/12
	12. Complete an ITR.	(P)	S	Joseph a Gs 09/27/12

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed: for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Peggy Ausmus

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a CH VE Operator/ITR.	Peggy Ausmus Peggy Ausmus 9-27-12 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of a CH VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	Joseph A Garcia 09/27/12 VEE SME/OJT Instructor *(printed name and signature)* Date N/A VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of a CH VE Operator/ITR.	Veronica Waldram Veronica Waldram 10/24/12 CCP SPM *(printed name and signature)* Date

Approved for Content & Format:	**Tommy Mojica *(Approval on File)***	**09/06/2012**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**09/06/2012**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**09/06/2012**
	CCP SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**09/06/2012**
	CCP Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Joseph Stepzinski

Education/Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Cheryl Arnijo 02-12-13 CCP Training — Date

Job Specific Training

☑ **Initial Qualification** ☐ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** **[This qualification card applies to all CH sites except for Idaho National Laboratory (INL) and Los Alamos National Laboratory (LANL) Off Site Source Recovery Program (OSRP). The qualification cards for these sites are VE-PIT-01 and VE-OSRP-01, respectively.]** If necessary, additional training may be required by the CCP Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
2. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
3. CCP-PO-003, *CCP TRUPACT-II Authorized Methods for Payload Control (TRAMPAC)*
4. CCP-QP-002, *CCP Training and Qualification Plan*
5. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
6. CCP-QP-006, *CCP Corrective Action Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation Approval and Control*
9. CCP-QP-016, *CCP Control of Measuring, Testing, and Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-TP-113 , *CCP Standard Contact-Handled Waste Visual Examination*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	Joseph Stepzinski 10/30/12 Trainee — Date

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Joseph Stepzinski

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	Cheryl Arrujo CCP Training	02-12-13 Date
2. CCP-VE-101, *Visual Examination (VE) TRU Waste Characterization Briefing.* *(Always Required)*	Cheryl Arrujo CCP Training	02-12-13 Date
3. CCP VE Comprehensive Exam *(Always Required)*	Cheryl Arrujo CCP Training	02-12-13 Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	10-31-12
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	10-31-12
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	10-31-12
	4. Describe how nonconforming items are documented.	10-31-12
	5. Describe how nonconforming items are controlled to prevent their use.	10-31-12
	6. State who has the responsibility to validate the NCR once initiated.	10-31-12
	7. Describe how to revise an NCR.	10-31-12
	8. Describe how to void an NCR.	10-31-12
CCP-QP-006	9. Describe the purpose of the corrective action report (CAR) process.	10-31-12
	10. State the person responsible for originating a CAR.	10-31-12
	11. Describe how corrective actions are documented.	10-31-12

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Joseph Stepzinski

	12. State who has the responsibility to validate the CAR once initiated.	10-31-12
	13. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	10-31-12
CCP-QP-008	14. List the responsibilities of record generators.	10-31-12
	15. State the storage and control requirements for CCP records.	10-31-12
	16. Explain the process and proper method to make corrections or revisions to CCP records.	10-31-12
CCP-QP-010	17. State the importance of using approved documents.	10-31-12
	18. State when to verify a document revision.	10-31-12
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	10-31-12
CCP-TP-113/ CCP-VE-101 Briefing	20. Explain the purpose of VE.	10-31-12
	21. What are the 2 methods used in the VE process?	10-31-12
	22. Who makes the determination of the method used?	10-31-12
	23. Describe the unit of measurement for weights to be recorded for VE.	10-31-12
	24. Describe where to obtain the tare weight of a waste container.	10-31-12
	25. Describe where to obtain the gross weight of a waste container.	10-31-12
	26. State the number of waste containers allowed per Batch Data Report (BDR).	10-31-12
	27. State how often a camera check is performed when using Method #1.	10-31-12
	28. Define "layers of confinement."	10-31-12
	29. Describe how to determine "maximum" layers of confinement.	10-31-12

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Joseph Stepzinski

30.	Describe authorized methods of closure of a liner bag.	10-31-12
31.	Describe how to determine Volume Utilization Percentage (VUP).	10-31-12
32.	Describe the actions taken if prohibited items are found.	10-31-12
33.	Discuss the requirements for packaging of sharp or heavy objects.	10-31-12
34.	State the waste material parameters (WMP).	10-31-12
35.	State how often a scale operational check is performed.	10-31-12
36.	Describe the information that should be recorded when describing waste items.	10-31-12
37.	State the criteria for a rigid liner to be considered vented.	10-31-12
38.	State three examples of potentially "unsafe" packages/items that may be found within a waste container.	10-31-12
39.	State five examples of prohibited items.	10-31-12
40.	Describe how a non-transparent container is handled when liquid is suspected.	10-31-12
41.	State the acceptable liquid limits in a characterized container.	10-31-12
42.	Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	10-31-12
43.	Describe the conditions that would generate an NCR during the VE process.	10-31-12
44.	Define how often calibration due dates should be checked on certified equipment.	10-31-12
45.	Define the increments in which the fill percent are recorded.	10-31-12
46.	Explain who is allowed to make data changes on data sheets.	10-31-12

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Joseph Stepzinski

Formal Training	OJT Practical Requirements[1] *(This section must be performed in the presence of a VEE) (Always Required)*			VEE SME/OJT Signature/Date
CCP-TP-113	1. Perform audio/video equipment operational checks.	P	(S)	12-18-12
	2. Perform pre-use scale calibration verification.	(P)	S	1-30-13
	3. Determine layers of confinement.	(P)	S	12-18-12
	4. Verify the physical form of the waste matches the waste description.	(P)	S	12-18-12
	5. Determine the WMP(s).	(P)	S	12-18-12
	6. Estimate the weight of each WMP.	(P)	S	12-18-12
	7. Obtain weight of each WMP.	(P)	S	12-18-12
	8. Determine the VUP.	(P)	S	12-18-12
	9. Obtain the output weight for the waste container.	(P)	S	1-30-13
	10. Prepare a BDR.	(P)	S	2-4-13
	11. Demonstrate how to make changes/corrections to a BDR.	(P)	S	1-30-13
	12. Complete an ITR.	(P)	S	2-4-13 @ 2-4-13

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed; for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Joseph Stepzinski

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a CH VE Operator/ITR.	JOE STEPZINSKI Joseph R Stepzinski 2-5-13 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of a CH VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	James E. Thompson 2-5-13 VEE SME/OJT Instructor *(printed name and signature)* Date
	N/A VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of a CH VE Operator/ITR.	Richard Kantrowitz 2/12/13 CCP SPM *(printed name and signature)* Date

Approved for Content & Format:	**Tommy Mojica *(Approval on File)***	**09/06/2012**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**09/06/2012**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**09/06/2012**
	CCP SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**09/06/2012**
	CCP Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Luis Romero

Education/Experience	
Resume documenting education and experience on file with National TRU Program Certification (NTPC) Training.	Cheryl Almaguer 09-10-13 NTPC Training — Date

Job Specific Training

☑ **Initial Qualification** ☐ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification. This qualification card applies to all CH sites except for Idaho National Laboratory (INL) and Los Alamos National Laboratory (LANL) Off Site Source Recovery Program (OSRP). The qualification cards for these sites are VE-PIT-01 and VE-OSRP-01, respectively.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
2. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
3. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
5. CCP-PO-050, *CCP TRUPACT-III TRU Waste Authorized Methods for Payload Control (CCP TRUPACT-III TRAMPAC)*
6. CCP-QP-002, *CCP Training and Qualification Plan*
7. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
8. CCP-QP-008, *CCP Records Management*
9. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
10. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
11. CCP-QP-023, *CCP Handling, Storage, and Shipping*
12. CCP-QP-029, *CCP Corrective Action Management*
13. CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	Luis Romero 7-9-13 Trainee — Date

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Luis Romero

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	NTPC Training	09-10-13 Date
2. CCP-VE-101, *Visual Examination (VE) TRU Waste Characterization Briefing (Always Required)*	NTPC Training	09-10-13 Date
3. VE-TEST-01, *Visual Examination (VE) Operator/ITR Comprehensive Examination (Always Required)*	NTPC Training	09-10-13 Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	7-11-13
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	7-11-13
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	7-11-13
	4. Describe how nonconforming items are documented.	7-11-13
	5. Describe how nonconforming items are controlled to prevent their use.	7-11-13
	6. State who has the responsibility to validate the NCR once initiated.	7-11-13
	7. Describe how to revise an NCR.	7-11-13
	8. Describe how to void an NCR.	7-11-13
CCP-QP-029	9. Describe the purpose of the corrective action report (CAR) process.	7-11-13
	10. State the person responsible for originating a CAR.	7-11-13
	11. Describe how corrective actions are documented.	7-11-13

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Luis Romero

CCP-QP-008	12. State who has the responsibility to validate the CAR once initiated.	7-11-13
	13. Describe actions personnel may take when conditions adverse to quality are discovered.	7-11-13
	14. List the responsibilities of record generators.	7-11-13
	15. State the storage and control requirements for records.	7-11-13
	16. Explain the process and proper method to make corrections or revisions to records.	7-11-13
CCP-QP-010	17. State the importance of using approved documents.	7-11-13
	18. State when to verify a document revision.	7-11-13
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	7-11-13
CCP-TP-113/ CCP-VE-101 Briefing	20. Explain the purpose of VE.	7-11-13
	21. What are the 2 methods used in the VE process?	7-11-13
	22. Who makes the determination of the method used?	7-11-13
	23. Describe the unit of measurement for weights to be recorded for VE.	7-11-13
	24. Describe where to obtain the tare weight of a waste container.	7-11-13
	25. Describe where to obtain the gross weight of a waste container.	7-11-13
	26. State the number of waste containers allowed per Batch Data Report (BDR).	7-11-13
	27. State how often a camera check is performed when using Method #1.	7-11-13
	28. Define "layers of confinement."	7-11-13
	29. Describe how to determine "maximum" layers of confinement.	7-11-13

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Luis Romero

30.	Describe authorized methods of closure of a liner bag.	LR 7-11-13
31.	Describe how to determine Volume Utilization Percentage (VUP).	LR 7-11-13
32.	Describe the actions taken if prohibited items are found.	LR 7-11-13
33.	Discuss the requirements for packaging of sharp or heavy objects.	LR 7-11-13
34.	State the waste material parameters (WMP).	LR 7-11-13
35.	State how often a scale operational check is performed.	LR 7-11-13
36.	Describe the information that should be recorded when describing waste items.	LR 7-11-13
37.	State the criteria for a rigid liner to be considered vented.	LR 7-11-13
38.	State three examples of potentially "unsafe" packages/items that may be found within a waste container.	LR 7-11-13
39.	State five examples of prohibited items.	LR 7-11-13
40.	Describe how a non-transparent container is handled when liquid is suspected.	LR 7-11-13
41.	State the acceptable liquid limits in a characterized container.	LR 7-11-13
42.	Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	LR 7-11-13
43.	Describe the conditions that would generate an NCR during the VE process.	LR 7-11-13
44.	Define how often calibration due dates should be checked on certified equipment.	LR 7-11-13
45.	Define the increments in which the fill percent are recorded.	LR 7-11-13
46.	Explain who is allowed to make data changes on data sheets.	LR 7-11-13

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Luis Romero

Formal Training	OJT Practical Requirements[1] *(This section must be performed in the presence of a VEE) (Always Required)*			VEE SME/OJT Signature/Date
CCP-TP-113	1. Perform audio/video equipment operational checks.	P	(S)	8-27-13
	2. Perform pre-use scale calibration verification.	(P)	S	8-27-13
	3. Determine layers of confinement.	(P)	S	8-27-13
	4. Verify the physical form of the waste matches the waste description.	(P)	S	8-27-13
	5. Determine the WMP(s).	(P)	S	8-27-13
	6. Estimate the weight of each WMP.	(P)	S	8-27-13
	7. Obtain weight of each WMP.	(P)	S	8-27-13
	8. Determine the VUP.	(P)	S	8-27-13
	9. Obtain the output weight for the waste container.	(P)	S	8-27-13
	10. Prepare a BDR.	(P)	S	8-27-13
	11. Demonstrate how to make changes/corrections to a BDR.	(P)	S	8-27-13
	12. Complete an ITR.	(P)	S	8-27-13

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed: for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Luis Romero

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a CH VE Operator/ITR.	Luis Romero Luis Romero 9-5-13 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of a CH VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	James E. Thompson James E. 9-5-13 VEE SME/OJT Instructor *(printed name and signature)* Date N/A (JT) 9-5-13 VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of a CH VE Operator/ITR.	Richard Kantrowitz 9/10/13 SPM *(printed name and signature)* Date

Approved for Content & Format:	**Tommy Mojica** ***(Approval on File)***	**07/08/2013**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings** ***(Approval on File)***	**07/08/2013**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz** ***(Approval on File)***	**07/08/2013**
	SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher** ***(Approval on File)***	**07/08/2013**
	Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Kenneth T. Salazar

Education/Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Cheryl Almaje 07-02-13 CCP Training Date

Job Specific Training

☑ **Initial Qualification** ☐ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** **[This qualification card applies to all CH sites except for Idaho National Laboratory (INL) and Los Alamos National Laboratory (LANL) Off Site Source Recovery Program (OSRP). The qualification cards for these sites are VE-PIT-01 and VE-OSRP-01, respectively.]** If necessary, additional training may be required by the CCP Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
2. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
3. CCP-PO-003, *CCP TRUPACT-II Authorized Methods for Payload Control (TRAMPAC)*
4. CCP-QP-002, *CCP Training and Qualification Plan*
5. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
6. CCP-QP-006, *CCP Corrective Action Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation Approval and Control*
9. CCP-QP-016, *CCP Control of Measuring, Testing, and Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-TP-113 , *CCP Standard Contact-Handled Waste Visual Examination*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	[signature] 4/2/2013 Trainee Date

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Kenneth T. Salazar

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	Cheryl Almajo CCP Training	07-02-13 Date
2. CCP-VE-101, *Visual Examination (VE) TRU Waste Characterization Briefing.* *(Always Required)*	Cheryl Almajo CCP Training	07-02-13 Date
3. CCP VE Comprehensive Exam *(Always Required)*	Cheryl Almajo CCP Training	07-02-13 Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	4-8-13
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	4-8-13
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	4-8-13
	4. Describe how nonconforming items are documented.	4-8-13
	5. Describe how nonconforming items are controlled to prevent their use.	4-8-13
	6. State who has the responsibility to validate the NCR once initiated.	4-8-13
	7. Describe how to revise an NCR.	4-8-13
	8. Describe how to void an NCR.	4-8-13
CCP-QP-006	9. Describe the purpose of the corrective action report (CAR) process.	4-8-13
	10. State the person responsible for originating a CAR.	4-8-13
	11. Describe how corrective actions are documented.	4-8-13

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Kenneth T. Salazar

	12. State who has the responsibility to validate the CAR once initiated.	4-8-13
	13. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	4-8-13
CCP-QP-008	14. List the responsibilities of record generators.	4-8-13
	15. State the storage and control requirements for CCP records.	4-8-13
	16. Explain the process and proper method to make corrections or revisions to CCP records.	4-8-13
CCP-QP-010	17. State the importance of using approved documents.	4-8-13
	18. State when to verify a document revision.	4-8-13
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	4-8-13
CCP-TP-113/ CCP-VE-101 Briefing	20. Explain the purpose of VE.	4-8-13
	21. What are the 2 methods used in the VE process?	4-8-13
	22. Who makes the determination of the method used?	4-8-13
	23. Describe the unit of measurement for weights to be recorded for VE.	4-8-13
	24. Describe where to obtain the tare weight of a waste container.	4-8-13
	25. Describe where to obtain the gross weight of a waste container.	4-8-13
	26. State the number of waste containers allowed per Batch Data Report (BDR).	4-8-13
	27. State how often a camera check is performed when using Method #1.	4-8-13
	28. Define "layers of confinement."	4-8-13
	29. Describe how to determine "maximum" layers of confinement.	4-8-13

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Kenneth T. Salazar

	30. Describe authorized methods of closure of a liner bag.	4-8-13
	31. Describe how to determine Volume Utilization Percentage (VUP).	4-8-13
	32. Describe the actions taken if prohibited items are found.	4-8-13
	33. Discuss the requirements for packaging of sharp or heavy objects.	4-8-13
	34. State the waste material parameters (WMP).	4-8-13
	35. State how often a scale operational check is performed.	4-8-13
	36. Describe the information that should be recorded when describing waste items.	4-8-13
	37. State the criteria for a rigid liner to be considered vented.	4-8-13
	38. State three examples of potentially "unsafe" packages/items that may be found within a waste container.	4-8-13
	39. State five examples of prohibited items.	4-8-13
	40. Describe how a non-transparent container is handled when liquid is suspected.	4-8-13
	41. State the acceptable liquid limits in a characterized container.	4-8-13
	42. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	4-8-13
	43. Describe the conditions that would generate an NCR during the VE process.	4-8-13
	44. Define how often calibration due dates should be checked on certified equipment.	4-8-13
	45. Define the increments in which the fill percent are recorded.	4-8-13
	46. Explain who is allowed to make data changes on data sheets.	4-8-13

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Kenneth T. Salazar

Formal Training	OJT Practical Requirements[1] *(This section must be performed in the presence of a VEE) (Always Required)*			VEE SME/OJT Signature/Date
CCP-TP-113	1. Perform audio/video equipment operational checks.	P	(S)	6-20-13
	2. Perform pre-use scale calibration verification.	(P)	S	6-20-13
	3. Determine layers of confinement.	(P)	S	6-20-13
	4. Verify the physical form of the waste matches the waste description.	(P)	S	6-20-13
	5. Determine the WMP(s).	(P)	S	6-20-13
	6. Estimate the weight of each WMP.	(P)	S	6-20-13
	7. Obtain weight of each WMP.	(P)	S	6-20-13
	8. Determine the VUP.	(P)	S	6-20-13
	9. Obtain the output weight for the waste container.	(P)	S	6-20-13
	10. Prepare a BDR.	(P)	S	6-20-13
	11. Demonstrate how to make changes/corrections to a BDR.	(P)	S	6-20-13
	12. Complete an ITR.	(P)	S	6-20-13

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed: for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Kenneth T. Salazar

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a CH VE Operator/ITR.	Kenneth T. Salazar 6/27/13 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of a CH VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	James E. Thompson 6/27/13 VEE SME/OJT Instructor *(printed name and signature)* Date N/A 6/27/13 VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of a CH VE Operator/ITR.	Veronica Waldram Veronica Waldram 7/2/13 CCP SPM *(printed name and signature)* Date

Approved for Content & Format:	**Tommy Mojica *(Approval on File)***	**09/06/2012**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**09/06/2012**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**09/06/2012**
	CCP SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**09/06/2012**
	CCP Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Anthony Harley

Education/Experience

Resume documenting education and experience on file with National TRU Program Certification (NTPC) Training.	Cheryl Almaguer 09-04-13 NTPC Training — Date

Job Specific Training

☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification. This qualification card applies to all CH sites except for Idaho National Laboratory (INL) and Los Alamos National Laboratory (LANL) Off Site Source Recovery Program (OSRP). The qualification cards for these sites are VE-PIT-01 and VE-OSRP-01, respectively.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
2. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
3. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
5. CCP-PO-050, *CCP TRUPACT-III TRU Waste Authorized Methods for Payload Control (CCP TRUPACT-III TRAMPAC)*
6. CCP-QP-002, *CCP Training and Qualification Plan*
7. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
8. CCP-QP-008, *CCP Records Management*
9. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
10. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
11. CCP-QP-023, *CCP Handling, Storage, and Shipping*
12. CCP-QP-029, *CCP Corrective Action Management*
13. CCP-TP-113 , *CCP Standard Contact-Handled Waste Visual Examination*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	N/A (J) 9-3-13 Trainee — Date

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Anthony Harley

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	Cheryl Arroyo NTPC Training	09-04-13 Date
2. CCP-VE-101, *Visual Examination (VE) TRU Waste Characterization Briefing (Always Required)*	Cheryl Arroyo NTPC Training	09-04-13 Date
3. VE-TEST-01, *Visual Examination (VE) Operator/ITR Comprehensive Examination (Always Required)*	Cheryl Arroyo NTPC Training	09-04-13 Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	
	4. Describe how nonconforming items are documented.	N/A
	5. Describe how nonconforming items are controlled to prevent their use.	9-3-13
	6. State who has the responsibility to validate the NCR once initiated.	
	7. Describe how to revise an NCR.	
	8. Describe how to void an NCR.	
CCP-QP-029	9. Describe the purpose of the corrective action report (CAR) process.	
	10. State the person responsible for originating a CAR.	
	11. Describe how corrective actions are documented.	

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Anthony Harley

	12. State who has the responsibility to validate the CAR once initiated.	
	13. Describe actions personnel may take when conditions adverse to quality are discovered.	
CCP-QP-008	14. List the responsibilities of record generators.	
	15. State the storage and control requirements for records.	
	16. Explain the process and proper method to make corrections or revisions to records.	
CCP-QP-010	17. State the importance of using approved documents.	N/A
	18. State when to verify a document revision.	
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	9-3-13
CCP-TP-113/ CCP-VE-101 Briefing	20. Explain the purpose of VE.	
	21. What are the 2 methods used in the VE process?	
	22. Who makes the determination of the method used?	
	23. Describe the unit of measurement for weights to be recorded for VE.	
	24. Describe where to obtain the tare weight of a waste container.	
	25. Describe where to obtain the gross weight of a waste container.	
	26. State the number of waste containers allowed per Batch Data Report (BDR).	
	27. State how often a camera check is performed when using Method #1.	
	28. Define "layers of confinement."	
	29. Describe how to determine "maximum" layers of confinement.	

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Anthony Harley

	30. Describe authorized methods of closure of a liner bag.	
	31. Describe how to determine Volume Utilization Percentage (VUP).	
	32. Describe the actions taken if prohibited items are found.	
	33. Discuss the requirements for packaging of sharp or heavy objects.	
	34. State the waste material parameters (WMP).	
	35. State how often a scale operational check is performed.	N/A
	36. Describe the information that should be recorded when describing waste items.	
	37. State the criteria for a rigid liner to be considered vented.	9-3-13
	38. State three examples of potentially "unsafe" packages/items that may be found within a waste container.	
	39. State five examples of prohibited items.	
	40. Describe how a non-transparent container is handled when liquid is suspected.	
	41. State the acceptable liquid limits in a characterized container.	
	42. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	
	43. Describe the conditions that would generate an NCR during the VE process.	
	44. Define how often calibration due dates should be checked on certified equipment.	
	45. Define the increments in which the fill percent are recorded.	
	46. Explain who is allowed to make data changes on data sheets.	

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Anthony Harley

Formal Training	OJT Practical Requirements[1] *(This section must be performed in the presence of a VEE) (Always Required)*			VEE SME/OJT Signature/Date
CCP-TP-113	1. Perform audio/video equipment operational checks.	P	(S)	9-3-13
	2. Perform pre-use scale calibration verification.	(P)	S	9-3-13
	3. Determine layers of confinement.	(P)	S	9-3-13
	4. Verify the physical form of the waste matches the waste description.	(P)	S	9-3-13
	5. Determine the WMP(s).	(P)	S	9-3-13
	6. Estimate the weight of each WMP.	(P)	S	9-3-13
	7. Obtain weight of each WMP.	(P)	S	9-3-13
	8. Determine the VUP.	(P)	S	9-3-13
	9. Obtain the output weight for the waste container.	(P)	S	9-3-13
	10. Prepare a BDR.	(P)	S	9-3-13
	11. Demonstrate how to make changes/corrections to a BDR.	(P)	S	9-3-13
	12. Complete an ITR.	(P)	S	9-3-13

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed: for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Anthony Harley

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a CH VE Operator/ITR.	Anthony Harley 9-3-13 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of a CH VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	James E. Thompson 9-3-13 VEE SME/OJT Instructor *(printed name and signature)* Date N/A (S) 9-3-13 VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of a CH VE Operator/ITR.	Veronica Waldram Veronica Waldram 9/3/13 SPM *(printed name and signature)* Date

Approved for Content & Format:	**Tommy Mojica *(Approval on File)***	**07/08/2013**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**07/08/2013**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**07/08/2013**
	SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**07/08/2013**
	Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: James Thompson

Education/Experience	
Resume documenting education and experience on file with National TRU Program Certification (NTPC) Training.	NTPC Training 07-17-13 Date

Job Specific Training

☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification. This qualification card applies to all CH sites except for Idaho National Laboratory (INL) and Los Alamos National Laboratory (LANL) Off Site Source Recovery Program (OSRP). The qualification cards for these sites are VE-PIT-01 and VE-OSRP-01, respectively.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
2. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
3. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
5. CCP-PO-050, *CCP TRUPACT-III TRU Waste Authorized Methods for Payload Control (CCP TRUPACT-III TRAMPAC)*
6. CCP-QP-002, *CCP Training and Qualification Plan*
7. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
8. CCP-QP-008, *CCP Records Management*
9. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
10. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
11. CCP-QP-023, *CCP Handling, Storage, and Shipping*
12. CCP-QP-029, *CCP Corrective Action Management*
13. CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	N/A 07/16/13 Trainee Date

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: James Thompson

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	Cheryl Arrigo NTPC Training	07-17-13 Date
2. CCP-VE-101, *Visual Examination (VE) TRU Waste Characterization Briefing (Always Required)*	Cheryl Arrigo NTPC Training	07-17-13 Date
3. VE-TEST-01, *Visual Examination (VE) Operator/ITR Comprehensive Examination (Always Required)*	Cheryl Arrigo NTPC Training	07-17-13 Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	
	4. Describe how nonconforming items are documented.	N/A
	5. Describe how nonconforming items are controlled to prevent their use.	
	6. State who has the responsibility to validate the NCR once initiated.	07/16/13
	7. Describe how to revise an NCR.	
	8. Describe how to void an NCR.	
CCP-QP-029	9. Describe the purpose of the corrective action report (CAR) process.	
	10. State the person responsible for originating a CAR.	
	11. Describe how corrective actions are documented.	

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: James Thompson

	12. State who has the responsibility to validate the CAR once initiated.	
	13. Describe actions personnel may take when conditions adverse to quality are discovered.	
CCP-QP-008	14. List the responsibilities of record generators.	
	15. State the storage and control requirements for records.	
	16. Explain the process and proper method to make corrections or revisions to records.	
CCP-QP-010	17. State the importance of using approved documents.	N/A
	18. State when to verify a document revision.	
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	07/16/13
CCP-TP-113/ CCP-VE-101 Briefing	20. Explain the purpose of VE.	
	21. What are the 2 methods used in the VE process?	
	22. Who makes the determination of the method used?	
	23. Describe the unit of measurement for weights to be recorded for VE.	
	24. Describe where to obtain the tare weight of a waste container.	
	25. Describe where to obtain the gross weight of a waste container.	
	26. State the number of waste containers allowed per Batch Data Report (BDR).	
	27. State how often a camera check is performed when using Method #1.	
	28. Define "layers of confinement."	
	29. Describe how to determine "maximum" layers of confinement.	

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: James Thompson

	30. Describe authorized methods of closure of a liner bag.	
	31. Describe how to determine Volume Utilization Percentage (VUP).	
	32. Describe the actions taken if prohibited items are found.	
	33. Discuss the requirements for packaging of sharp or heavy objects.	
	34. State the waste material parameters (WMP).	
	35. State how often a scale operational check is performed.	N/A
	36. Describe the information that should be recorded when describing waste items.	
	37. State the criteria for a rigid liner to be considered vented.	07/16/13
	38. State three examples of potentially "unsafe" packages/items that may be found within a waste container.	
	39. State five examples of prohibited items.	
	40. Describe how a non-transparent container is handled when liquid is suspected.	
	41. State the acceptable liquid limits in a characterized container.	
	42. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	
	43. Describe the conditions that would generate an NCR during the VE process.	
	44. Define how often calibration due dates should be checked on certified equipment.	
	45. Define the increments in which the fill percent are recorded.	
	46. Explain who is allowed to make data changes on data sheets.	

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: James Thompson

Formal Training	OJT Practical Requirements[1] *(This section must be performed in the presence of a VEE)* *(Always Required)*			VEE SME/OJT Signature/Date
CCP-TP-113	1. Perform audio/video equipment operational checks.	P	(S)	DAVE FEMSING 07/16/13
	2. Perform pre-use scale calibration verification.	(P)	S	DAVE FEMSING 07/16/13
	3. Determine layers of confinement.	P	(S)	DAVE FEMSING 07/16/13
	4. Verify the physical form of the waste matches the waste description.	(P)	S	DAVE FEMSING 07/16/13
	5. Determine the WMP(s).	(P)	S	DAVE FEMSING 07/16/13
	6. Estimate the weight of each WMP.	(P)	S	DAVE FEMSING 07/16/13
	7. Obtain weight of each WMP.	P	(S)	DAVE FEMSING 07/16/13
	8. Determine the VUP.	P	(S)	DAVE FEMSING 07/16/13
	9. Obtain the output weight for the waste container.	P	(S)	DAVE FEMSING 07/16/13
	10. Prepare a BDR.	(P)	S	DAVE FEMSING 07/16/13
	11. Demonstrate how to make changes/corrections to a BDR.	(P)	S	DAVE FEMSING 07/16/13
	12. Complete an ITR.	(P)	S	DAVE FEMSING 07/16/13

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed: for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: James Thompson

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a CH VE Operator/ITR.	James E. Thompson 7-16-13 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of a CH VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	Dave Hensing David Hensing 07/16/13 VEE SME/OJT Instructor *(printed name and signature)* Date
	N/A 07/16/13 VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of a CH VE Operator/ITR.	Veronica Waldram Veronica Waldram 7/17/13 SPM *(printed name and signature)* Date

Approved for Content & Format: **Tommy Mojica** ***(Approval on File)*** **07/08/2013**
SME/OJT Date

Approved for Applicability, Content & Format: **Andrew Stallings** ***(Approval on File)*** **07/08/2013**
Cognizant Engineer Date

Approved for Content: **Richard Kantrowitz** ***(Approval on File)*** **07/08/2013**
SPM Date

Approved for Applicability, Content, Format, & Use: **A.J. Fisher** ***(Approval on File)*** **07/08/2013**
Manager Responsible for Training Date

DIVIDER

PAGE

COPY

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Jason Krylowicz

Education/Experience	
Resume documenting education and experience on file with Central Characterization Project (CCP) Training.	Michele Billett 1/22/13 CCP Training — Date

Job Specific Training

☐ Initial Qualification ☑ Requalification ☐ Full Requalification

Qualification Limit	**This qualification is valid for two (2) years.** **[This qualification card applies to all CH sites except for Idaho National Laboratory (INL) and Los Alamos National Laboratory (LANL) Off Site Source Recovery Program (OSRP). The qualification cards for these sites are VE-PIT-01 and VE-OSRP-01, respectively.]** If necessary, additional training may be required by the CCP Site Project Manager (SPM) or the CCP Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the CCP Manager Responsible for Training. The candidate must successfully complete the entire CCP qualification card to reestablish qualification.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination
(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
2. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
3. CCP-PO-003, *CCP TRUPACT-II Authorized Methods for Payload Control (TRAMPAC)*
4. CCP-QP-002, *CCP Training and Qualification Plan*
5. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
6. CCP-QP-006, *CCP Corrective Action Reporting and Control*
7. CCP-QP-008, *CCP Records Management*
8. CCP-QP-010, *CCP Document Preparation Approval and Control*
9. CCP-QP-016, *CCP Control of Measuring, Testing, and Equipment*
10. CCP-QP-023, *CCP Handling, Storage, and Shipping*
11. CCP-TP-113 , *CCP Standard Contact-Handled Waste Visual Examination*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	N/A (JK) 1-22-13 Trainee — Date

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Jason Krylowicz

Additional Training Requirements	
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	Michele Billett 1/22/13 CCP Training Date
2. CCP-VE-101, *Visual Examination (VE) TRU Waste Characterization Briefing.* *(Always Required)*	Michele Billett 1/22/13 CCP Training Date
3. CCP VE Comprehensive Exam *(Always Required)*	Michele Billett 1/22/13 CCP Training Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	
	4. Describe how nonconforming items are documented.	N/A
	5. Describe how nonconforming items are controlled to prevent their use.	—
	6. State who has the responsibility to validate the NCR once initiated.	2-22-13
	7. Describe how to revise an NCR.	
	8. Describe how to void an NCR.	
CCP-QP-006	9. Describe the purpose of the corrective action report (CAR) process.	
	10. State the person responsible for originating a CAR.	
	11. Describe how corrective actions are documented.	

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Jason Krylowicz

	12. State who has the responsibility to validate the CAR once initiated.	
	13. Describe actions CCP personnel may take when conditions adverse to quality are discovered.	
CCP-QP-008	14. List the responsibilities of record generators.	
	15. State the storage and control requirements for CCP records.	
	16. Explain the process and proper method to make corrections or revisions to CCP records.	
CCP-QP-010	17. State the importance of using approved documents.	
	18. State when to verify a document revision.	N/A
CCP-QP-016	19. List the Measuring & Testing Equipment (M&TE) items used during VE.	
CCP-TP-113/ CCP-VE-101 Briefing	20. Explain the purpose of VE.	
	21. What are the 2 methods used in the VE process?	
	22. Who makes the determination of the method used?	
	23. Describe the unit of measurement for weights to be recorded for VE.	
	24. Describe where to obtain the tare weight of a waste container.	
	25. Describe where to obtain the gross weight of a waste container.	
	26. State the number of waste containers allowed per Batch Data Report (BDR).	
	27. State how often a camera check is performed when using Method #1.	
	28. Define "layers of confinement."	
	29. Describe how to determine "maximum" layers of confinement.	

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Jason Krylowicz

	30. Describe authorized methods of closure of a liner bag.	
	31. Describe how to determine Volume Utilization Percentage (VUP).	
	32. Describe the actions taken if prohibited items are found.	
	33. Discuss the requirements for packaging of sharp or heavy objects.	
	34. State the waste material parameters (WMP).	
	35. State how often a scale operational check is performed.	N/A
	36. Describe the information that should be recorded when describing waste items.	
	37. State the criteria for a rigid liner to be considered vented.	
	38. State three examples of potentially "unsafe" packages/items that may be found within a waste container.	
	39. State five examples of prohibited items.	
	40. Describe how a non-transparent container is handled when liquid is suspected.	
	41. State the acceptable liquid limits in a characterized container.	
	42. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	
	43. Describe the conditions that would generate an NCR during the VE process.	
	44. Define how often calibration due dates should be checked on certified equipment.	
	45. Define the increments in which the fill percent are recorded.	
	46. Explain who is allowed to make data changes on data sheets.	

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for
Contact-Handled (CH) Waste
Qualification Card

Name: Jason Krylowicz

Formal Training	OJT Practical Requirements[1] *(This section must be performed in the presence of a VEE) (Always Required)*			VEE SME/OJT Signature/Date
CCP-TP-113	1. Perform audio/video equipment operational checks.	P	(S)	1-17-13
	2. Perform pre-use scale calibration verification.	(P)	S	1-17-13
	3. Determine layers of confinement.	(P)	S	1-17-13
	4. Verify the physical form of the waste matches the waste description.	(P)	S	1-17-13
	5. Determine the WMP(s).	(P)	S	1-17-13
	6. Estimate the weight of each WMP.	(P)	S	1-17-13
	7. Obtain weight of each WMP.	(P)	S	1-17-13
	8. Determine the VUP.	(P)	S	1-17-13
	9. Obtain the output weight for the waste container.	(P)	S	1-17-13
	10. Prepare a BDR.	(P)	S	1-17-13
	11. Demonstrate how to make changes/corrections to a BDR.	(P)	S	1-17-13
	12. Complete an ITR.	(P)	S	1-17-13

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific locations in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed; for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Jason Krylowicz

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a CH VE Operator/ITR.	Jason Krylowicz 1-17-13 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of a CH VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	James Thompson 1-17-13 VEE SME/OJT Instructor *(printed name and signature)* Date James Thompson 1-17-13 VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of a CH VE Operator/ITR.	Veronica Waldram Veronica Waldram 1/23/13 CCP SPM *(printed name and signature)* Date

Approved for Content & Format:	**Tommy Mojica *(Approval on File)***	**09/06/2012**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**09/06/2012**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz *(Approval on File)***	**09/06/2012**
	CCP SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**09/06/2012**
	CCP Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Robert Geyer

Education/Experience

Resume documenting education and experience on file with Central Characterization Program (CCP) Training.	Michele Billett 7/31/14 CCP Training Date

Job Specific Training

☐ **Initial Qualification** ☑ **Requalification** ☐ **Full Requalification**

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification. This qualification card applies to all CH sites except for Idaho National Laboratory (INL) and Los Alamos National Laboratory (LANL) Off Site Source Recovery Program (OSRP). The qualification cards for these sites are VE-PIT-01 and VE-OSRP-01, respectively.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination

(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading:

1. WP 15-GM1002, *Issues Management Processing of WIPP Forms*
2. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
3. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
4. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
5. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
6. CCP-PO-005, *CCP Conduct of Operations*
7. CCP-PO-050, *CCP TRUPACT-III TRU Waste Authorized Methods for Payload Control (CCP TRUPACT-III TRAMPAC)*
8. CCP-QP-002, *CCP Training and Qualification Plan*
9. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
10. CCP-QP-008, *CCP Records Management*
11. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
12. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
13. CCP-QP-023, *CCP Handling, Storage, and Shipping*
14. CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	N/A Trainee Date

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Robert Geyer

Additional Training Requirements		
1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	Cheryl Munger CCP Training	07-25-14 Date
2. CCP-VE-101, *Visual Examination (VE) TRU Waste Characterization Briefing (Always Required)*	Cheryl Munger CCP Training	07-25-14 Date
3. VE-TEST-01, *Visual Examination (VE) Operator/ITR Comprehensive Examination (Always Required)*	Cheryl Munger CCP Training	07-25-14 Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	
	2. List the VE DQO's	
CCP-QP-002	3. State the purpose of the List of Qualified Individuals (LOQI).	
CCP-QP-005	4. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	
	5. Describe how nonconforming items are documented.	N/A
	6. Describe how nonconforming items are controlled to prevent their use.	
	7. State who has the responsibility to validate the NCR once initiated.	
	8. Describe how to revise an NCR.	
	9. Describe how to void an NCR.	
WP 15-GM1002	10. Describe the purpose of the WIPP Form process.	
	11. State the person responsible for originating a WIPP Form.	

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Robert Geyer

	12. Describe how WIPP Forms are documented.	
	13. Describe who has responsibility for processing WIPP Forms, approving Corrective Action Plans, and approving closure of WIPP Forms.	
	14. Describe actions personnel may take when conditions adverse to quality are discovered.	
CCP-QP-008	15. List the responsibilities of record generators.	
	16. State the storage and control requirements for records.	
	17. Explain the process and proper method to make corrections or revisions to records.	
CCP-QP-010	18. State the importance of using approved documents.	
	19. State when to verify a document revision.	
CCP-QP-016	20. List the Measuring & Testing Equipment (M&TE) items used during VE.	N/A
CCP-TP-113/ CCP-VE-101 Briefing	21. Explain the purpose of VE.	
	22. What are the 2 methods used in the VE process?	
	23. Who makes the determination of the method used?	
	24. Describe the unit of measurement for weights to be recorded for VE.	
	25. Describe where to obtain the tare weight of a waste container.	
	26. Describe where to obtain the gross weight of a waste container.	
	27. State the number of waste containers allowed per Batch Data Report (BDR).	
	28. State how often a camera check is performed when using Method #1.	
	29. Define "layers of confinement."	

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Robert Geyer

	30. Describe how to determine "maximum" layers of confinement.	
	31. Describe authorized methods of closure of a liner bag.	
	32. Describe how to determine Volume Utilization Percentage (VUP).	
	33. Describe the actions taken if prohibited items are found.	
	34. Discuss the requirements for packaging of sharp or heavy objects.	
	35. State the waste material parameters (WMP).	
	36. State how often a scale operational check is performed.	
	37. Describe the information that should be recorded when describing waste items.	
	38. State the criteria for a rigid liner to be considered vented.	
	39. State three examples of potentially "unsafe" packages/items that may be found within a waste container.	
	40. State five examples of prohibited items.	
	41. Describe how a non-transparent container is handled when liquid is suspected.	
	42. State the acceptable liquid limits in a characterized container.	
	43. Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	
	44. Describe the conditions that would generate an NCR during the VE process.	
	45. Define how often calibration due dates should be checked on certified equipment.	
	46. Define the increments in which the fill percent are recorded.	
	47. Explain who is allowed to make data changes on data sheets.	

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Robert Geyer

Formal Training	OJT Practical Requirements[1] *(This section must be performed in the presence of a VEE) (Always Required)*			VEE SME/OJT Signature/Date
CCP-TP-113	1. Perform audio/video equipment operational checks.	P	(S)	7-21-14
	2. Perform pre-use scale calibration verification.	(P)	S	7-21-14
	3. Determine layers of confinement.	(P)	S	7-21-14
	4. Verify the physical form of the waste matches the waste description.	(P)	S	7-21-14
	5. Determine the Packaging Configuration	(P)	S	7-21-14
	6. Determine the WMP(s).	(P)	S	7-21-14
	7. Estimate the weight of each WMP.	(P)	S	7-21-14
	8. Obtain weight of each WMP.	(P)	S	7-21-14
	9. Determine the VUP.	(P)	S	7-21-14
	10. Obtain the output weight for the waste container.	(P)	S	7-21-14
	11. Prepare a BDR.	(P)	S	7-21-14
	12. Demonstrate how to make changes/corrections to a BDR.	(P)	S	7-21-14
	13. Complete an ITR.	(P)	S	7-21-14

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Robert Geyer

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a CH VE Operator/ITR.	Robert Geyer 7-21-14 Trainee *(printed name and signature)* Date
I have monitored the training of this individual and believe they are ready to perform the duties of a CH VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual)*	James E. Thompson 7-21-14 VEE SME/OJT Instructor *(printed name and signature)* Date N/A VEE SME/OJT Instructor *(printed name and signature)* Date
I approve this employee to perform the duties of a CH VE Operator/ITR.	Carlina Sotelo 7/31/14 SPM *(printed name and signature)* Date

Approved for Content & Format:	**Tommy Mojica *(Approval on File)***	**07/15/2014**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings *(Approval on File)***	**07/15/2014**
	Cognizant Engineer	Date
Approved for Content:	**Mike Ramirez *(Approval on File)***	**07/15/2014**
	SPM	Date
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher *(Approval on File)***	**07/15/2014**
	Manager Responsible for Training	Date

DIVIDER

PAGE

COPY

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Joseph Candelaria

Education/Experience

Resume documenting education and experience on file with National TRU Program Certification (NTPC) Training.	Michele Billett 11/20/13 NTPC Training — Date

Job Specific Training

☑ Initial Qualification ☐ Requalification ☐ Full Requalification

Qualification Limit	**This qualification is valid for two (2) years.** If necessary, additional training may be required by the Site Project Manager (SPM) or the Manager Responsible for Training. Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete the entire qualification card to reestablish qualification. This qualification card applies to all CH sites except for Idaho National Laboratory (INL) and Los Alamos National Laboratory (LANL) Off Site Source Recovery Program (OSRP). The qualification cards for these sites are VE-PIT-01 and VE-OSRP-01, respectively.
Requalification Requirements	Items required for requalification are identified by text.

Indoctrination

(Required at Initial Qualification and Full Requalification)

Initial/Indoctrination Reading: Completed

- ✓1. WP 15-GM1002, *Issues Management Processing of WIPP Forms*
- ✓2. CCP-HSP-014, *Health and Safety Program Implementation for CCP*
- ✓3. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- ✓4. CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- ✓5. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
- ✓6. CCP-PO-050, *CCP TRUPACT-III TRU Waste Authorized Methods for Payload Control (CCP TRUPACT-III TRAMPAC)*
- ✓7. CCP-QP-002, *CCP Training and Qualification Plan*
- ✓8. CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- ✓9. CCP-QP-008, *CCP Records Management*
- ✓10. CCP-QP-010, *CCP Document Preparation, Approval, and Control*
- ✓11. CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
- ✓12. CCP-QP-023, *CCP Handling, Storage, and Shipping*
- ✓13. CCP-TP-113 , *CCP Standard Contact-Handled Waste Visual Examination*

I have read the listed Initial/Indoctrination Reading and understand my responsibilities as applicable to the procedures above.	[signature] 11/4/13 Trainee — Date

Best Available Copy

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Joseph Candelaria

Additional Training Requirements

1. WAP/QAPjP Briefing and Test *(One-time Requirement)*	Michele Billett	11/20/13
	NTPC Training	Date
2. CCP-VE-101, *Visual Examination (VE) TRU Waste Characterization Briefing (Always Required)*	Michele Billett	11/20/13
	NTPC Training	Date
3. VE-TEST-01, *Visual Examination (VE) Operator/ITR Comprehensive Examination (Always Required)*	Cheryl Mangis	11-21-13
	NTPC Training	Date

Formal Training	On-the-Job Training (OJT) Knowledge Requirements *(Required at Initial Qualification and Full Requalification)*	Visual Examination Expert (VEE) Subject Matter Expert (SME)/OJT Signature/Date
CCP-PO-001	1. List the Quality Assurance objectives validated by VE.	11/19/13
CCP-QP-002	2. State the purpose of the List of Qualified Individuals (LOQI).	11/19/13
CCP-QP-005	3. State when a nonconformance report (NCR) should be prepared and who is responsible to initiate it.	11/19/13
	4. Describe how nonconforming items are documented.	11/19/13
	5. Describe how nonconforming items are controlled to prevent their use.	11/19/13
	6. State who has the responsibility to validate the NCR once initiated.	11/19/13
	7. Describe how to revise an NCR.	11/19/13
	8. Describe how to void an NCR.	11/19/13
WP 15-GM1002	9. Describe the purpose of the WIPP Form process.	11/19/13
	10. State the person responsible for originating a WIPP Form.	11/19/13
	11. Describe how WIPP Forms are documented.	11/19/13

Best Available Copy

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Joseph Candelaria

	12.	Describe who has responsibility for processing WIPP Forms, approving Corrective Action Plans, and approving closure of WIPP Forms.	11/19/13
	13.	Describe actions personnel may take when conditions adverse to quality are discovered.	11/19/13
CCP-QP-008	14.	List the responsibilities of record generators.	11/19/13
	15.	State the storage and control requirements for records.	11/19/13
	16.	Explain the process and proper method to make corrections or revisions to records.	11/19/13
CCP-QP-010	17.	State the importance of using approved documents.	11/19/13
	18.	State when to verify a document revision.	11/19/13
CCP-QP-016	19.	List the Measuring & Testing Equipment (M&TE) items used during VE.	11/19/13
CCP-TP-113/ CCP-VE-101 Briefing	20.	Explain the purpose of VE.	11/19/13
	21.	What are the 2 methods used in the VE process?	11/19/13
	22.	Who makes the determination of the method used?	11/19/13
	23.	Describe the unit of measurement for weights to be recorded for VE.	11/19/13
	24.	Describe where to obtain the tare weight of a waste container.	11/19/13
	25.	Describe where to obtain the gross weight of a waste container.	11/19/13
	26.	State the number of waste containers allowed per Batch Data Report (BDR).	11/19/13
	27.	State how often a camera check is performed when using Method #1.	11/19/13
	28.	Define "layers of confinement."	11/19/13
	29.	Describe how to determine "maximum" layers of confinement.	11/19/13

Best Available Copy

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact Handled (CH) Waste Qualification Card

Name: Joseph Candelaria

30.	Describe authorized methods of closure of a liner bag.	AVE	11/19/13
31.	Describe how to determine Volume Utilization Percentage (VUP).	AVE	11/19/13
32.	Describe the actions taken if prohibited items are found.	AVE	11/19/13
33.	Discuss the requirements for packaging of sharp or heavy objects.	AVE	11/19/13
34.	State the waste material parameters (WMP).	AVE	11/19/13
35.	State how often a scale operational check is performed.	AVE	11/19/13
36.	Describe the information that should be recorded when describing waste items.	AVE	11/19/13
37.	State the criteria for a rigid liner to be considered vented.	AVE	11/19/13
38.	State three examples of potentially "unsafe" packages/items that may be found within a waste container.	AVE	11/19/13
39.	State five examples of prohibited items.	AVE	11/19/13
40.	Describe how a non-transparent container is handled when liquid is suspected.	AVE	11/19/13
41.	State the acceptable liquid limits in a characterized container.	AVE	11/19/13
42.	Explain the responsibilities and functions of the Independent Technical Reviewer (ITR).	AVE	11/19/13
43.	Describe the conditions that would generate an NCR during the VE process.	AVE	11/19/13
44.	Define how often calibration due dates should be checked on certified equipment.	AVE	11/19/13
45.	Define the increments in which the fill percent are recorded.	AVE	11/19/13
46.	Explain who is allowed to make data changes on data sheets.	AVE	11/19/13

Best Available Copy

Visual Examination (VE)
Operator/Independent Technical Reviewer (ITR) for Contact Handled (CH) Waste
Qualification Card

Name: Joseph Candelaria

Formal Training	OJT Practical Requirements (This section must be performed in the presence of a VEE) (Always Required)			VEE SME/OJT Signature/Date
CCP-TP-113	1. Perform audio/video equipment operational checks.	P	(S)	1 AVE JENSING 11/19/13
	2. Perform pre-use scale calibration verification.	P	(S)	1 AVE JENSING 11/19/13
	3. Determine layers of confinement.	(P)	S	1 AVE JENSING 11/19/13 11/19/13 Rev 11/19/13
	4. Verify the physical form of the waste matches the waste description.	(P)	S	1 AVE JENSING 11/19/13
	5. Determine the WMP(s).	(P)	S	1 AVE JENSING 11/19/13
	6. Estimate the weight of each WMP.	(P)	S	1 AVE JENSING 11/19/13
	7. Obtain weight of each WMP.	(P)	S	1 AVE JENSING 11/19/13
	8. Determine the VUP.	(P)	S	1 AVE JENSING 11/19/13
	9. Obtain the output weight for the waste container.	P	(S)	1 AVE JENSING 11/19/13
	10. Prepare a BDR.	(P)	S	1 AVE JENSING 11/19/13
	11. Demonstrate how to make changes/corrections to a BDR.	(P)	S	1 AVE JENSING 11/19/13
	12. Complete an ITR.	(P)	S	1 AVE JENSING 11/19/13

[1] For simulated steps that involve the recording of information, the steps can be satisfied by the trainee's ability to identify the specific location in the correct record form where actual data would be entered, and explain where the information would be obtained. All required calculations will actually be performed; for simulations, representative data will be used in lieu of actual data. Circle "P" if actually performed or "S" if requirement was simulated.

Best Available Copy

Visual Examination (VE) Operator/Independent Technical Reviewer (ITR) for Contact-Handled (CH) Waste Qualification Card

Name: Joseph Candelaria

Approvals	
I have completed formal training and received OJT for this position. I fully understand my responsibilities as a CH VE Operator/ITR.	JOE CANDELARIA 11/19/13 Trainee *(printed name and signature)* — Date
I have monitored the training of this individual and believe they are ready to perform the duties of a CH VE Operator/ITR. *(Validation by the VEE SME/OJT instructor(s) involved in the training of this individual).*	[illegible] 11/19/13 VEE SME/OJT Instructor *(printed name and signature)* — Date N/A 11/19/13 VEE SME/OJT Instructor *(printed name and signature)* — Date
I approve this employee to perform the duties of a CH VE Operator/ITR.	Joshua Houghton 11-21-13 SPM *(printed name and signature)* — Date

Approved for Content & Format:	**Tommy Mojica** ***(Approval on File)***	**09/23/2013**
	SME/OJT	Date
Approved for Applicability, Content & Format:	**Andrew Stallings** ***(Approval on File)***	**09/23/2013**
	Cognizant Engineer	Date
Approved for Content:	**Richard Kantrowitz** ***(Approval on File)***	**09/23/2013**
	SPM	*Date*
Approved for Applicability, Content, Format, & Use:	**A.J. Fisher** ***(Approval on File)***	**09/23/2013**
	Manager Responsible for Training	Date

Best Available Copy

VE3

Schuetz, Jim - CTAC

From: Groover, Terri-Anne - LANL
Sent: Thursday, December 05, 2013 12:44 PM
To: Billett, Michele - TFE; Armijo, Cheryl - TFE
Subject: VEE Appointment letters

Ladies
David Hemsing and James Thompson are currently appointed as VEEs for CCP at LANL. I am amending the appointment letters to specify locations for VEEs at LANL. David and James are appointed VEE for WCRRF, TA-54 Permacon 231, TA-54 buildings 375 and 412, CMR, and TA-55 building PF4. Please let me know if you need anything else in order to make these qualification appointments official. Thanks! tg

Terri-Anne Groover
Site Project Manager, LANL
Central Characterization Program
Nuclear Waste Partnership LLC
Contractor for U.S. Department of Energy
office phone: 505-606-2344
cell phone: 208-569-9803
email: tgroover@lanl.gov

"Choose being kind over being right and you'll be right every time."
— Richard Carlson

DIVIDER

PAGE

Ackman, Tammy - CTAC

From: Simmons, Craig - LANL
Sent: Monday, July 25, 2011 5:21 PM
To: Billett, Michele - TFE; Martin, Ryan - NWP
Subject: VEE Appointment

Please appoint Justin Griffin as an VEE at Los Alamos for the OSR program. He has Bachelor of Science Degree in Chemical Engineering from the South Dakota School of Mines & Technology and Associate of Science Degree in Health Physics from Lakeshore Technical College. Additionally he has more than 10 years in the radiological control field with experience in the radioactive waste packaging.

If you need any further information please contact me.

Craig Simmons
505-665-1078
505-412-7177
575-302-5560

VEE Appointment
Email for Justin
Griffin for LANL
OSRP

A-14-19 LANL/CCP
Recertification Audit

Ackman, Tammy - CTAC

From: Simmons, Craig - LANL
Sent: Monday, July 25, 2011 5:21 PM
To: Billett, Michele - TFE; Martin, Ryan - NWP
Subject: VEE Appointment

Please appoint Justin Griffin as an VEE at Los Alamos for the OSR program. He has Bachelor of Science Degree in Chemical Engineering from the South Dakota School of Mines & Technology and Associate of Science Degree in Health Physics from Lakeshore Technical College. Additionally he has more than 10 years in the radiological control field with experience in the radioactive waste packaging.

If you need any further information please contact me.

Craig Simmons
505-665-1078
505-412-7177
575-302-5560

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	NM0890010515	1	(505)667-6211	010784270 JJK

GENERATOR

5. Generator's Name and Mailing Address
LOS ALAMOS NATIONAL SECURITY, LLC ON BEHALF OF U.S. DOE
TA-54 WEST, BLDG. 38
LOS ALAMOS NM 87545
Generator's Phone: **(505)665-6037**

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: LANS, LLC FOR DOE — U.S. EPA ID Number: NM0890010515

7. Transporter 2 Company Name: CAST SPECIALTY INC. — U.S. EPA ID Number: COR000206722

8. Designated Facility Name and Site Address
U.S. DEPT. OF ENERGY C/O NUCLEAR WASTE PARTNERSHIP, LLC
30 MILES EAST OF CARLSBAD ON JAL HWY
CARLSBAD NM 88221
Facility's Phone: (575)234-8457
U.S. EPA ID Number: NM4890139088

9a HM	9b U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
RQ	1. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu239 Pu240, 2.082 TBq Solid Elemental, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-127	1	CM	1072	K	F001 F002 F005 D004 D005 D006
RQ	2. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239 Pu240, 1.917 TBq Solid Elemental, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-197	1	CM	868	K	F001 F002 F005 D004 D005 D006
RQ	3. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239 Pu240, 1.671 TBq Solid Elemental, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-205	1	CM	798	K	F001 F002 F005 D004 D005 D006
	4.					

14. Special Handling Instructions and Additional Information

SHIPMENT # LA140019, LANL POC: ONESIMO A. MARTINEZ (505)-231-5153, ERG #165, TRACTOR # C-36, TRAILER # V-329
GROSS WEIGHT IN KILOGRAMS: TP#127 = 6775 KG, TP#197 = 6502 KG, TP#205 = 6517 KG
EMERGENCY RESPONSE INFORMATION PROVIDER: LOS ALAMOS NATIONAL LABORATORY

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: ONESIMO A. MARTINEZ — Signature: [signature] — Month: 01 Day: 30 Year: 14

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of Entry/Exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Greg Grimm — Signature: [signature] — Month: 01 Day: 31 Year: 14

Transporter 2 Printed/Typed Name: — Signature: — Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number:

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: — Signature: — Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Auditor B. J. VERRET / M. NOLAND

AUDIT A-14-19
OBJECTIVE EVIDENCE REVIEWED

Document No.	Title	Rev	Date
1 ~~SHIPPING PKG~~ SW 8/18/14	Shipping Package LW140001	—	4/1/14
2	SHIPPING PACKAGE LA140019	—	1/31/14
3	UHWM 010784276 JSK	-	4/1/14
4	UHWM 010784270 JSK		1/31/14
5	CONTAINER LIST W/CODES "INFO. ONLY"	—	
6	FLAM. GAS. BDR LA14FG12018	—	2/4/14
7	FLAM GAS BDR LA14G12014	—	1/30/14
8	FLAM. ICAL BDR LA13FG2075_ICAL	—	6/21/13
9	FLAM. ICAC BDR LA13FG12040_ICAL	—	3/23/13
10	FLAM. ICAL BDR LA14FG2054_ICAL	—	4/8/14
11	FLAM. GAS MAL BDR - LA10FG2096_MDL	—	7/8/10

Auditor B. J. VERRET / M. NOLAND

AUDIT A-14-19
OBJECTIVE EVIDENCE REVIEWED

Document No.	Title	Rev	Date
12	FLAM. GAS MDL BDR LA13FG12110_MDL	—	10/30/13
13	COA CCV-STANDARD ALM 8/21/14 8238 EXP. 12/20/15	—	12/20/12
14	COA ISTD, 13FB CC 309960 EXP. 11/16/14	-	11/20/13
15	COA ICAL ALM060090 EXP. 12/15/15	—	12/20/12
16	FLAM. GAS SURV. SUR-LANL-06-14 CCP	—	6/17/14
17	FLAM. GAS LOG BOOK, SPECIFIC, SELECTED PAGES 8/20/14, 8/18/14, 8/19/14, 4/16/14	—	—
18	TRACK ID #1839777 RANDOM, STAGED CONTAINERS STAGED IN RTR-2 TRACED THROUGH WCATS INVENTORY #'s LA000000 66851, 69526, 67612, 67607, 69563	—	
19	CCP NCR # LANL-0553-14, REV. 0 SENT THROUGH RIDS CCP RECORDS 6/30/14	0	3/19/14
20	MANAGEMENT ASSESSMENT REPORT MA-CCP-0008-14 "TRU WASTE 8/21/14 CHARACTERIZATION OPS AT LANL [ISMS & OPS]	—	3/11/14
21	CCP ATTACH. 2 "CONTAINER INSPECTION REPORT - 5/8/14	—	5/8/14
22	ATTACH. 3 - CCP SCALE OPERATIONAL ~~REPORT~~ 8/21/14 CHECK & CONTAINER WEIGHT INFORMATION.	—	5/8/14

Billett, Michele - Stoller

From: Billett, Bob
Sent: Wednesday, April 08, 2009 5:14 PM
To: Billett, Michele - Stoller
Subject: RE: Designation of Visual Examination Expert for OSRP

I concur with the designation.

Bob Billett
CCP Operations Manager
Office (575) 234-7682
Cell (865) 816-4202

From: Billett, Michele - Stoller
Sent: Wednesday, April 08, 2009 5:13 PM
To: Billett, Bob
Subject: FW: Designation of Visual Examination Expert for OSRP

Do you concur?

From: Quintana, Irene
Sent: Wednesday, April 08, 2009 3:59 PM
To: Atwood, Alyca - Stoller; Billett, Michele - Stoller
Cc: peterman@lanl.gov
Subject: Designation of Visual Examination Expert for OSRP

Alyca/Michele,

I would like to designate Alex Fledman and Jim Matzke as Visual Examination Experts for OSRP. This is based on their experience and performance within the CCP VE Program.

Please let me know if you need anything else.

Thanks, Sue (from Irene Quintana's computer).

DIVIDER

PAGE

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	NM0890010515	1	(505) 667-6211	010784276 JJK

GENERATOR

5. Generator's Name and Mailing Address
LOS ALAMOS NATIONAL SECURITY, LLC ON BEHALF OF U.S. DOE
TA-54 WEST, BLDG. 38
LOS ALAMOS NM 87545
Generator's Phone: (505)665-6037

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: LANS, LLC FOR DOE — U.S. EPA ID Number: NM0890010515

7. Transporter 2 Company Name: VISIONARY SOLUTIONS LLC — U.S. EPA ID Number: NMR000013086

8. Designated Facility Name and Site Address
WASTE CONTROL SPECIALISTS LLC, TSD FACILITY
9998 W. STATE HWY 176
ANDREWS TX 79714
Facility's Phone: (432)525-8500

U.S. EPA ID Number: TXD988088464

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
RQ	1. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239 Pu240, 0.09536 TBq Solid ~~Elemental~~, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-198	1	CM	1245	K	OUTS 319H F001 F002 F004 F005
RQ	2. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239 Pu240, 0.05701 TBq Solid ~~Elemental~~, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-171	1	CM	1202	K	OUTS 319H F001 F002 F004 F005
RQ	3. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239, 0.03623 TBq Solid ~~Elemental~~ Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-166	1	CM	987	K	OUTS 319H F001 F002 F004 F005
	X					

14. Special Handling Instructions and Additional Information
SHIPMENT #LW140001; LANL POC: LANCE LACKAS 505-699-7526; WP-019749; #ERG #165; TRACTOR #V-29; TRAILER #V-370; GROSS WEIGHT (KG): TP#198 = 7007 KG, LA00000068268 / LA00000068283; TP#171 = 7018 KG, LA00000068286 / LA00000068272; TP#166 = 6793 KG, LA00000068269 / LA00000068275; EMERGENCY RESPONSE INFORMATION PROVIDER: LOS ALAMOS NATIONAL LABORATORY

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
LANCE LACKAS		03	31	14

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
Tommy Cash		04	01	14
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name	Signature	Month	Day	Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Table 6.2-5 - Payload Assembly Transportation Certification Document (PATCD) [1]

Payload ID: LA3619

IDENTIFICATION PARAMETERS

Shipment # LW140001 **Packaging OCA Body/Lid #** 198/198

Payload Assembly Designated for Controlled Shipment? (Yes or No) [2] No

Shipping Category [3] 3003400187

Decay Heat Limit [3] .075880

Hydrogen/Flammable Gas Generation Rate Limit [3] 2.674E-08

Type of Payload SWBs

Transportation Packaging TRUPACT-II

Date ICV Closed 03/31/2014 **Time ICV Closed** [4] 13:45

BOTTOM PAYLOAD ASSEMBLY COMPOSITION

Container ID Number	Weight (lbs.)	Error (lbs.)	Decay Heat (watts)	Error (watts)	Fissile Mass (FGE)	2σ Error (FGE)	Hydrogen/Flammable Gas Generation Rate (mol/s)	Flammability Index [5]
LA00000068268	1545.70	35.94	0.009040	0.001930	2.6700	1.7460	3.186E-09	5948
Subtotal (A)	1545.71							
Subtotal RSS Error (C)		35.94						

TOP PAYLOAD ASSEMBLY COMPOSITION

Container ID Number	Weight (lbs.)	Error (lbs.)	Decay Heat (watts)	Error (watts)	Fissile Mass (FGE)	2σ Error (FGE)	Hydrogen/Flammable Gas Generation Rate (mol/s)	Flammability Index [5]
LA00000068283	1199.52	35.94	0.023700	0.002050	5.5400	1.4540	8.352E-09	15593
Subtotal (B)	1199:52							
Subtotal RSS Error (D)		35.94						

PAYLOAD TOTALS

Weight of Pallets, Reinforcing Plates, Slip Sheets, Guide Tubes, Adjustable Slings, etc. (E) 15.44 (lbs.)

Total (A+E +[B (TRUPACT-II only)] Weight 2760.66 (lbs.)

Total RSS Weight Error 50.83 (lbs.)

Total Decay Heat 0.032740 (watts)

Total RSS Decay Heat Error 0.002816 (watts)

Total Fissile Mass 8.2100 (FGE)

Total RSS Fissile Mass Error 2.2721 (FGE)

Bottom Assembly Weight plus Subtotal RSS Error (A+C) (TRUPACT-II Only) 1581.65 (lbs.)

Top Assembly Weight plus Subtotal RSS Error (B+D) (TRUPACT-II Only) 1235.46 (lbs.)

Total Weight plus Total RSS Error 2811.49 (lbs.)

Total Decay Heat plus Total RSS Error 0.035556 (watts)

Total Fissile Mass plus Total RSS Error 10.4821 (FGE)

Best Available Copy

Best Available Copy

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM0890010515
2. Page 1 of: 1
3. Emergency Response Phone: (505) 667-6211
4. Manifest Tracking Number: 010784276 JJK

5. Generator's Name and Mailing Address:
LOS ALAMOS NATIONAL SECURITY, LLC ON BEHALF OF U.S. DOE
TA-54 WEST, BLDG. 38
LOS ALAMOS NM 87545
Generator's Phone: (505)665-6037
Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: LANS, LLC FOR DOE — U.S. EPA ID Number: NM0890010515

7. Transporter 2 Company Name: VISIONARY SOLUTIONS LLC — U.S. EPA ID Number: NMR000013086

8. Designated Facility Name and Site Address:
WASTE CONTROL SPECIALISTS LLC, TSD FACILITY
9998 W. STATE HWY 176
ANDREWS TX 79714
Facility's Phone: (432)525-8500
U.S. EPA ID Number: TXD988088464

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
RQ	1. UN3328, Waste, Radioactive Material... Fissile, 7, Am241 Pu238 Pu239 ... Elemental, Radioactive Yellow-II ... RQDE-96, TP-198		...45	K	OUTS 319H F001 F002 F004 F005
RQ	2. UN3328, Waste, Radioactive Material... Fissile, 7, Am241 Pu238 Pu239 Pu... Elemental, Radioactive Yellow-II, ... RQDE-96, TP-171			K	OUTS 319H F001 F002 F004 F005
RQ	3. UN3328, Waste, Radioactive Material... Fissile, 7, Am241 Pu238 Pu239, 0.0... Radioactive Yellow-II, TI=0.4, CSI... TP-160			K	OUTS 319H F001 F002 F004 F005
	4.				

14. Special Handling Instructions and Additional Information
SHIPMENT #LW340001; LANL POC: ... TRACTOR #V-25; TRAILER #V-370;
GROSS WEIGHT (KG): TP9198 = 70... 18 KG, LA0000068286 /
LA0000068... TP9160 = 6793 ... EMERGENCY RESPONSE INFORMATION PROVIDER: LOS
ALAMOS NATIONAL LABORATORY.

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I ... by the proper shipping name, and are classified, packaged, ... national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment ... (generator) is true.

Generator's/Offeror's Printed/Typed Name: LANCE LACKAS — Month 03 Day 31 Year 14

16. International Shipments [ ] Import to U.S. ...
Transporter signature (for exports only):

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tommy Cash — Month 04 Day 01 Year 14
Transporter 2 Printed/Typed Name: — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space [ ] Quantity ... [ ] Partial Rejection [ ] Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name — Signature — Month Day Year

Transportation
Flam Gas
Container Mgmt.
Shipping

TR-1

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	NM0890010515	1	(505) 667-6211	010784276 JJK

GENERATOR

5. Generator's Name and Mailing Address
LOS ALAMOS NATIONAL SECURITY, LLC ON BEHALF OF U.S. DOE
TA-54 WEST, BLDG. 38
LOS ALAMOS NM 87545
Generator's Phone: (505)665-6037

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
LANS, LLC FOR DOE
U.S. EPA ID Number NM0890010515

7. Transporter 2 Company Name
VISIONARY SOLUTIONS LLC
U.S. EPA ID Number NMR000013086

8. Designated Facility Name and Site Address
WASTE CONTROL SPECIALISTS LLC, TSD FACILITY
9998 W. STATE HWY 176
ANDREWS TX 79714
Facility's Phone: (432)525-8500
U.S. EPA ID Number TXD988088464

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
RQ	1. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239 Pu240, 0.09536 TBq Solid ~~Elemental~~, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-198	1	CM	1245	K	D001 D002 D004 D005
RQ	2. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239 Pu240, 0.05701 TBq Solid ~~Elemental~~, Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-171	1	CM	1202	K	D001 D002 D004 D005
RQ	3. UN3328, Waste, Radioactive Material, Type B(U) Package, Fissile, 7, Am241 Pu238 Pu239, 0.03623 TBq Solid ~~Elemental~~ Oxide Radioactive Yellow-II, TI=0.4, CSI=0.0 USA/9218/ B(u)F-96, TP-166	1	CM	987	K	D001 D002 D004 D005
	X					

14. Special Handling Instructions and Additional Information
SHIPMENT #LW140001; LANL POC: LANCE LACKAS 505-699-7526; WP-01974; #ERG #165; TRACTOR #V-29; TRAILER #V-370; GROSS WEIGHT (KG): TP#198 = 7007 KG, LA00000068268 / LA00000068283; TP#171 = 7018 KG, LA00000068286 / LA00000068272; TP#166 = 6793 KG, LA00000068269 / LA00000068275; EMERGENCY RESPONSE INFORMATION PROVIDER: LOS ALAMOS NATIONAL LABORATORY

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: LANCE LACKAS
Signature
Month 03 Day 31 Year 14

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Tommy Cash
Signature
Month 04 Day 01 Year 14

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Table 6.2-5 - Payload Assembly Transportation Certification Document (PATCD) [1]

Payload ID: LA3619

IDENTIFICATION PARAMETERS

Shipment # LW140001 **Packaging OCA Body/Lid #** 198/196

Payload Assembly Designated for Controlled Shipment? (Yes or No) [2] No

Shipping Category [3] 3003400187

Decay Heat Limit [3] .075880

Hydrogen/Flammable Gas Generation Rate Limit [3] 2.674E-08

Type of Payload SWBs

Transportation Packaging TRUPACT-II

Date ICV Closed 03/31/2014 **Time ICV Closed** [4] 13:45

BOTTOM PAYLOAD ASSEMBLY COMPOSITION

Container ID Number	Weight (lbs.)	Error (lbs.)	Decay Heat (watts)	Error (watts)	Fissile Mass (FGE)	2x Error (FGE)	Hydrogen/ Flammable Gas Generation Rate (mol/s) [5]	Flammability Index [6]
LA00000068268	1545.70	35.94	0.009040	0.001930	2.6700	1.7460	3.186E-09	5948
Subtotal (A)	1545.71							
Subtotal RSS Error (C)		35.94						

TOP PAYLOAD ASSEMBLY COMPOSITION

Container ID Number	Weight (lbs.)	Error (lbs.)	Decay Heat (watts)	Error (watts)	Fissile Mass (FGE)	2x Error (FGE)	Hydrogen/ Flammable Gas Generation Rate (mol/s) [5]	Flammability Index [6]
LA00000068283	1199.52	35.94	0.023700	0.002050	5.5400	1.4540	8.352E-09	15593
Subtotal (B)	1199:52							
Subtotal RSS Error (D)		35.94						

PAYLOAD TOTALS

Weight of Pallets, Reinforcing Plates, Slip Sheets, Guide Tubes, Adjustable Slings, etc. (E) 15.44 (lbs.)

Total (A+E +[B (TRUPACT-II only)] Weight 2760.66 (lbs.)

Total RSS Weight Error 50.83 (lbs.)

Total Decay Heat 0.032740 (watts)

Total RSS Decay Heat Error 0.002816 (watts)

Total Fissile Mass 8.2100 (FGE)

Total RSS Fissile Mass Error 2.2721 (FGE)

Bottom Assembly Weight plus Subtotal RSS Error (A+C) (TRUPACT-II Only) 1581.65 (lbs.)

Top Assembly Weight plus Subtotal RSS Error (B+D) (TRUPACT-II Only) 1235.46 (lbs.)

Total Weight plus Total RSS Error 2811.49 (lbs.)

Total Decay Heat plus Total RSS Error 0.035556 (watts)

Total Fissile Mass plus Total RSS Error 10.4821 (FGE)

TABLE OF AUDITED DOCUMENTS

	Document No.	Rev.	Document Title
1.	CCP-PO-001	21	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	27	CCP Transuranic Waste Certification Plan
3.	CCP-PO-012	15	CCP/LANL Interface Document
4.	CCP-QP-002	38	CCP Training and Qualification Plan
5.	CCP-QP-005	24	CCP TRU Nonconforming Item Reporting and Control
6.	CCP-QP-008	22	CCP Records Management
7.	CCP-QP-021	10	CCP Surveillance Program
8.	CCP-QP-028	15	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
9.	CCP-TP-001	21	CCP Project Level Data Validation and Verification
10.	CCP-TP-002	26	CCP Reconciliation of DQOs and Reporting Characterization Data
11.	CCP-TP-005	26	CCP Acceptable Knowledge Documentation
12.	CCP-TP-028	9	CCP Radiographic Test Drum and Training Container Construction
13.	CCP-TP-030	33	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
14.	CCP-TP-053	14	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
15.	CCP-TP-069	6	CCP Sealed Source Visual Examination and Packaging
16.	CCP-TP-113	18	CCP Standard Contact-Handled Waste Visual Examination
17.	CCP-TP-120	16	CCP Container Management
18.	CCP-TP-122	5	CCP RTR #2 Operating Procedure
19.	CCP-TP-198	8	CCP HE-RTR Operating Procedure
20.	WP 13-QA.03	23	Quality Assurance Independent Assessment Program

Effective Date: 05/19/14

WP 13-QA.03
Revision 23

Quality Assurance Independent Assessment Program

Cognizant Department: Quality Assurance

Approved by: Val Cannon

Nuclear Waste Partnership LLC

A URS-led partnership with B&W and AREVA

TABLE OF CONTENTS

CHANGE HISTORY SUMMARY 3

ABBREVIATIONS and ACRONYMS 6

1.0 INTRODUCTION[1] 7

2.0 RESPONSIBILITIES 8

3.0 DEFINITIONS 9

4.0 PREPARATION FOR ASSESSMENTS 9
- 4.1 QA Independent Assessment Identification 9
- 4.2 QA Independent Assessment Scheduling 11
- 4.3 QA Independent Assessment Planning 12

5.0 ASSESSMENT PERFORMANCE 15

6.0 ASSESSMENT REPORTING 17

7.0 ASSESSMENT RESPONSE 19

8.0 ASSESSMENT FOLLOW-UP 20

9.0 ASSESSMENT CLOSURE AND FILING 20

REFERENCES 21

Attachment 1 – NWP QA Internal Assessment Priority Determination Tables 22

Attachment 2 – Example of NWP QA Internal Assessment Subject Master Table 24

Attachment 3 – Audit Plan Guidance 25

Attachment 4 – Example of NWP Quality Assurance Assessment Checklist 26

Attachment 5 – Audit Report Guidance 27

Attachment 6 – Example of Independent Assessment Record File Completion Checklist 30

Attachment 7 – Example of Surveillance Report 31

Attachment 8 – Example of NWP QA Independent Assessment Log 32

Attachment 9 – Technical Specialist/Auditor Participation Indoctrination for Quality Assurance Audits Example 33

CHANGE HISTORY SUMMARY

REVISION NUMBER	DATE ISSUED	DESCRIPTION OF CHANGES
18	06/20/11	Added allowance for the Assurance Programs manager to extend the time limit for issuance of an audit report. (6.0)
19	02/28/12	Added discussion of effectiveness reviews (Introduction). Added clarification for developing criteria for (4.3) and performing (5.0) effectiveness reviews. Deleted reference to EFCOG Contractor Guide For Performance of Effectiveness Reviews (4.3, 5.0).
20	01/25/13	• Deleted requirements to enter external assessment findings in CTS throughout the document. • Updated organization names in accordance with MD 1.1.
21	03/04/13	• Removed from section 2.0 last bullet of lead assessor responsibilities and last bullet of surveillor responsibilities. • Added to sections 5.0 and 6.0 provisions to document findings corrected during assessment on the WIPP Form in accordance with • WP 04-IM1000 (Corrective action for CBFO CAR 12-020). • Deleted attachment 9, and added reference to WP 09-CN3025 in section 4.3. • Deleted Attachment 10, Concerns Form and its mention from section 5.0.

22	05/22/13	• Added statement to Introduction that commercial grade surveys are performed in accordance with this procedure and WP 09-CN3040, *Commercial Grade Item Dedication*. • Added bullets in section 2.0 to delegate the responsibility for identifying the need for technical assistance when performing assessments to the lead assessor and surveillor. • Reworded lead auditor/surveillor actions to be consistent with QAPD language in section 4.3. • Added additional methods for performing effectiveness reviews in section 5.0. • Deleted requirement in section 5.0 to notify CBFO of deficiencies in DOE requirements (Original requirement was deleted in DOE O 226.1B). • Deleted note in section 6.0 about issuing WIPP Forms for assessment findings (this information is discussed elsewhere). • Changed P-A Coordinator to Compliance Coordinator throughout. • Added discussion item “Potential hazards” to attachment 10.
23	05/19/14	• Changed “04-IM1000” to “15-GM1002” throughout. • Updated references table. • Revised Introduction section 1.0 concerning Record Inventory and Disposition Schedules. • Deleted in section 2.0, third bullet, approval of the assessment schedules. • Revised bullet in subsection 4.1 to be consistent with the scope and frequency of audits performed in accordance with the contractor assurance system. • Modified in subsection 4.1the last bullet. • Deleted in subsection 4.2, bullets three, five and seven. • Modified subsection 4.3 for clarity. • Added in section 6.0, “internal” in bullet four for clarity. • Added in section 8.0 “will be tracked in commitment tracking system (CTS).”

23 (cont.)		• Removed Attachment 3, Example of QA Fiscal Year External and Internal Audit Schedules. • Added in attachment 5, bullet “Initiate WIPP Form for CDA.” • Removed in attachment 7, “CTS Coordinator.”

ABBREVIATIONS and ACRONYMS

ALARA	as low as reasonably achievable
CAM	continuous air monitor
CAQ	condition adverse to quality
CBFO	Carlsbad Field Office
CDA	corrected during assessment
CFR	Code of Federal Regulations
CH	contact-handled
CMS	Central Monitoring System
CTS	commitment tracking system
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
HEPA	high-efficiency particulate air (filter)
HVAC	Heating, Ventilation, and Air Conditioning
ISM	Integrated Safety Management
NRC	U.S. Nuclear Regulatory Commission
NWP	Nuclear Waste Partnership LLC
P-A	Price-Anderson
PPE	personal protective equipment
QA	Quality Assurance
QAPD	Quality Assurance Program Description
QSL	Qualified Suppliers List
RH	remote-handled
SDD	System Design Description
VSS	Vital Safety System
WHB	Waste Handling Building
WIPP	Waste Isolation Pilot Plant

1.0 INTRODUCTION[1]

The purpose of this document is to define and prescribe quality assurance (QA) methods and techniques used to identify, schedule, plan, perform, report, and close independent assessments, and to identify the resulting records.

This document applies to Nuclear Waste Partnership LLC (NWP) QA personnel qualified to lead and/or perform independent assessments. It also applies to cognizant managers of organizations being assessed.

Independent assessments may be performed as audits or surveillances. Audits are generally larger, more formal assessments of quality program elements or supplier programs. Surveillances are generally smaller assessments of specific activities, but may also be expanded and performed on quality program elements. Where the term "assessment" is used in this document, it applies to both audits and surveillances. Where actions apply only to an audit or surveillance, it will be so stated.

Commercial grade surveys are performed in accordance with this procedure and WP 09-CN3040, *Commercial Grade Item Dedication*.

Effectiveness reviews are conducted as surveillances to verify the effectiveness of corrective actions implemented to prevent the recurrence of significant issues, problems, or events.

Assessments may contain elements of inspections, testing, monitoring work in progress, and checking to support the reviews that comprise assessment activities.

Assessments evaluate the adequacy of program documents and implementation, including effectiveness of established programs, and processes for compliance with WP 13-1, *Nuclear Waste Partnership LLC Quality Assurance Program Description* (NWP QAPD), other QA program documents, and purchase order requirements, as applicable. Assessments focus on improving items, services, and processes by emphasizing the achievement of quality by line organizations. Regularly scheduled program assessments may be supplemented by or integrated with additional technical assessments (e.g., surveillances and limited scope audits).

Assessments are performed using reviews, interviews, observation and monitoring, and checks. Actual and/or potential deficiencies are noted. Supplier assessments verify conformance to applicable purchase orders and the QA requirements imposed by contract, or evaluate potential for providing products or services in compliance with NWP QA requirements. Scheduling is based on frequency required by regulation, ongoing project activities (e.g., previous audit results, adverse trends, or requests from other line organizations), and capabilities. Internal assessment findings and associated corrective actions are entered and tracked in the Issues Management (WIPP Form) System in accordance with WP 15-GM1002, *Issues Management Processing of WIPP Forms*.

Implementation of the program generates the following record(s), as applicable. Any records generated are handled in accordance with departmental Records Inventory and Disposition Schedules.

- NWP QA Independent Assessment Subject Master Table
- Audit Plan
- Assessment Checklist
- Audit Report
- Audit follow-up documentation
- Surveillance Report
- Surveillance follow-up documentation
- Independent Assessment Record File Completion Checklist
- Technical Specialist/Auditor Participation Indoctrination for Quality Assurance Audits
- Independent Assessment Log (Attachment 8)

2.0 RESPONSIBILITIES

The Assurance Programs manager is responsible for:

- Implementation of this document.
- Ensuring that assessment personnel have sufficient authority and organizational freedom to carry out their assigned responsibilities.
- Qualification of lead auditors and QA Surveillors (surveillors) in accordance with WP 13-QA.04, *Quality Assurance Department Administrative Program*.
- Assignment of assessment team leaders.
- Concurrence with assessment team selection.
- Assignment of surveillors.

The lead assessor is responsible for:

- Selecting the assessment team.
- Identifying the need for technical assistance when performing assessments.
- Approving assessment checklists.
- Organizing and directing the assessment.
- Reporting the assessment results.

The surveillor is responsible for:

- Performing surveillances.
- Identifying the need for technical assistance when performing assessments.

- Organizing and directing the surveillance.
- Reporting the surveillance results.

3.0 DEFINITIONS

Corrected During the Assessment (CDA) – An isolated condition adverse to quality (CAQ) requiring only remedial action to correct and for which resolution can be verified through review of objective evidence prior to the exit meeting.

Finding – A condition, applicable to the program or process being audited, that deviates from specified requirements defined by codes, standards, or other established specifications (a clear violation of a clear requirement).

Observation – A condition that, if left unattended, could become a deviation from established acceptance criteria; or a suggestion that, if enacted, could strengthen the existing program.

4.0 PREPARATION FOR ASSESSMENTS

4.1 QA Independent Assessment Identification

Waste Isolation Pilot Plant (WIPP) program elements or activities requiring independent assessment are found in:

- WP 13-1, Nuclear Waste Partnership LLC Quality Assurance Program Description
- DOE/CBFO 94-1012, U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document
- Hazardous Waste Facility Permit NM4890139088-TSDF

Additional programs, processes, or activities important to compliance application, nuclear safety, waste characterization, or the isolation of waste within the disposal system require independent assessments to verify adequate and effective performance. These programs are found in:

- Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2000-2, Configuration Management Vital Safety Systems
- DOE/WIPP-04-3310, WIPP Environmental Policy Statement
- DOE/WIPP-07-3372, Waste Isolation Pilot Plant Documented Safety Analysis
- DOE/WIPP-07-3373, Waste Isolation Pilot Plant Technical Safety Requirements
- EFCOG Contractor Guide For Performance of Effectiveness Reviews
- NWP procedures that prescribe assessments

Activities which affect the following require independent assessments, in accordance with the contractor assurance system established by U.S. Department of Energy (DOE) Order 226.1B, Implementation of Department of Energy Oversight Policy:

- Environment, safety, and health (e.g., protection of the environment, workers, and the public from damage or injury)
- Safeguards and security
- Emergency management
- Cyber security

Independent assessments performed in accordance with the contractor assurance system include evaluations of compliance with the following, as applicable:

- Laws
- Regulations
- National standards
- DOE directives
- DOE-approved plans and program documents (e.g., authorization basis documents and QA program)
- Site-specific procedures/manuals
- Criteria review and approach documents
- Contractual performance objectives, and other contractually mandated requirements

The scope and frequency of audits performed in accordance with the contractor assurance system must ensure that:

- Assessments required by applicable DOE directives, including environment, safety, and health, safeguards and security, emergency management, and cyber security, are being performed;
- The effectiveness of safety management programs, including programs that are credited in the safety basis, is being assessed adequately;
- Deficiencies are being self-identified; and
- Effective, corrective actions are being taken.

Supplier audits are based on requests for new suppliers to be added to the NWP Qualified Suppliers List (QSL); those suppliers currently on the QSL which are due for reevaluation, or have their authorized scope changed; and suppliers providing products or services under Title 10 *Code of Federal Regulations* (CFR) Part 71, that require a facility audit every three years. These requests and reevaluations are processed in accordance with WP 13-QA3012, *Supplier Evaluation/Qualification*.

The Assurance Programs manager or assigned cognizant individual will:

- Review WIPP requirements documents and identify needs for independent assessments based on both written requirements for independent assessments and other programs or processes that affect safety, storage of waste, or the environment, the importance of which necessitates assurance of compliance.

- Upon notification from a QA procurement reviewer or a NWP Contracting Officer that a project is scheduled to begin or is ongoing, evaluate the need for initial and follow-on independent assessments based on this section 4.0.

- Review the potential assessment to be added using the criteria in the Assessment Priority Determination Tables (provided in attachment 1). Document a decision for either an audit or a surveillance on the NWP QA Independent Assessment Subject Master Table (example provided in attachment 2).

- Determine a frequency at which the assessment should be performed. If established by the requirement, that frequency is to be used. If not established by requirement, determine an adequate frequency based on relative risk, hazards, and complexity of the processes and activities to be evaluated. Also consider the scope and coverage of previous oversight activities, and historical performance. Document the frequency on the NWP QA Independent Assessment Subject Master Table.

4.2 QA Independent Assessment Scheduling

Assessments will be scheduled to begin as early in the life of a project or activity as practicable, and will continue at intervals consistent with the schedule for accomplishing the work.

The Assurance Programs manager or assigned cognizant individual will:

- Evaluate the timing of the first, or next, occurrence for the assessment to be scheduled against all current or planned assessments. Consider resources, date required, time available, known regulatory oversight preparedness needs, associated historical issues, and client expectations, then schedule the assessment to best accommodate the need.

- Document internal and external (supplier) audits on the NWP QA Fiscal Year Electronic Audit Schedule. Suppliers of parts and materials, and services regulated by 10 CFR 71, Subpart H, will require the performance of a site audit on a triennial basis. (Reg. Guide 7.10, section 18.2)

- Develop additional informal schedule tools to track assessments, as necessary.

- Revise or update QA assessment schedules, as applicable, to reflect current needs.

- Make schedule(s) available to CBFO via the NWP QA webpage link.

4.3 QA Independent Assessment Planning

Assessments include audits and surveillances. Direction regarding assessments applies to both audits and surveillances. The term "assessor" denotes the person performing either the audit or surveillance, as appropriate. Any direction specific to either audits or surveillances is indicated where applicable.

The Assurance Programs manager or delegate will:

- Maintain the Independent Assessment Log. The log (see example in attachment 9) will be used to issue assessment numbers, and collect certain information regarding the assessments.

- Assign a qualified lead auditor to lead/perform audits. Determine if an audit team is necessary due to size or complexity of the scope.

- Assign a qualified surveillor or qualified lead auditor to perform surveillances.

The lead auditor/surveillor will:

- Obtain from the assessment coordinator an audit or surveillance number that denotes the type of assessment ("I" or "E" for internal or external audit, or "S" for surveillance, the fiscal year, and a sequential number beginning with 01 (e.g., I06-01, E06-01, S06-01).

- Contact the cognizant individual for internal audits/surveillances or the supplier for external audits/surveillances to determine any safety/security issues and precautions of which the team should be aware. This includes Personal Protective Equipment (PPE), badging, logistics information, etc. Document the safety/security issues and precautions in the audit plan.

- Select an assessment team, if a team is needed, based on the scope, complexity, or special nature of the work being assessed, technical qualifications, knowledge of the items and activities being assessed, availability, experience, and the prospective assessor's ability to provide an objective contribution.

- Ensure the following, as applicable:

  — Personnel having direct responsibility for performing the activities being assessed shall not be involved in the selection of the team. Team members shall have the authority to carry out their assigned responsibilities and be independent from the items and/or processes being assessed. Assessors shall be authorized in accordance with WP 13-QA.04, and/or perform under the supervision of a lead auditor.

  — During assessments, Technical Specialists may be used when evaluating the adequacy of technical processes. The lead assessor will

determine when technical specialist support is needed and will document the determination in the body of the report. Technical Specialists will be indoctrinated by the lead assessor commensurate with the scope, complexity, or special nature of the work being assessed, and of the assessments process associated with their duties. The indoctrination will be documented using a format similar to that defined in attachment 9. Attachment 9 may also be used to indoctrinate other assessors from the assessment group, at the discretion of the lead assessor.

— External peers or subject matter experts may be used as necessary to support assessment activities.

- Ensure that the team members collectively have appropriate training and experience commensurate with the scope of the assessment.

- Indoctrinate the audit team to the audit process, as needed, and their associated tasks before the audit. Include a review of potential hazards and plan accordingly for proper PPE (personal protective equipment), ALARA (as low as reasonably achievable), and additional controls deemed necessary. Document the indoctrination using a format similar to that defined in attachment 9.

- Prepare the audit plan, for both internal audits and external supplier audits, using guidance in attachment 4, and obtain QA management approval. The audit plan will include purpose, scope (including the work to be assessed and related corrective actions since previous assessments), requirements, audit personnel, organizations to be notified, applicable documents, written procedures to be used, schedule, safety/security issues and precautions, and background. Background should include previous findings, Corrective Action Requests, and weaknesses noted within the intended scope. For external supplier assessments, obtain supplier history from the QSL file or Coordinator.

- Review, with team members, any plan generated, pertinent background information that includes previous audit or oversight results, applicable procedures, and applicable technical documents so that team members are familiar with the work being assessed.

- If the assessment is external, notify the affected organization or company management by correspondence of the scheduled assessment, identifying the scope of the assessment. The notification need not include the audit checklist.

- Determine, with QA management, when internal surveillances are to be formally announced prior to performance. In such cases, notify the organization to be surveilled by correspondence of the surveillance, its scope, and schedule.

Assessor(s) will:

- Refer to the NWP QA Independent Assessment Subject Master Table for identification of requirements documents from which assessment criteria should be developed.

- Develop the criteria to be used during the assessment based on approved requirements; will also consider the following when developing criteria:

- For internal assessments, include criteria, as applicable, to assess application of Integrated Safety Management (ISM) in accordance with Management Policy MP 1.28, *Integrated Safety Management*, and WP 15-GM.03, *Integrated Safety Management System Description*. The Safety Management Responsibilities section of the latter document provides a source from which criteria can be generated. For internal assessments, the intention is to review the ISM controls in evidence or exhibited in the activity being assessed. For external assessments, ISM controls may be considered regarding the hazards that the assessor could encounter (e.g., anticipated hazards mitigated by adequate PPE).

- Although Graded Approach is assessed separately, consider possible criteria in accordance with WP 09-CN3005, *Graded Approach to Application of QA Controls*.

- Consider Conduct of Operations criteria applicable to the activity being assessed.

- Consider environmental controls or environmental response to unusual occurrences applicable to the activity being assessed.

- Consider software controls applicable to the activity being assessed.

- When assessing a WIPP Vital Safety System (VSS), develop criteria from the following:

  - Applicable portion of WP 09-CN3025, Annual System Health/Walkdown/Requalification, Attachment 1, Assessment Boundary for Vital Safety System Definitions

  - General for VSS assessments - Timely closure of modifications, Cognizant Engineer walkdowns, periodic maintenance performed as required in System Design Descriptions (SDDs), maintenance performed in accordance with manufacturer recommendations, combustible materials in the disposal circuit in the underground, software QA

- For an audit, develop the audit checklist(s) under the direction of the lead auditor using the guidance in attachment 5. Checklist line items are generally written as directions to verify conformance of the activity being evaluated with established requirements, or as questions whether or not the activity being evaluated conforms with the requirement.

- For a surveillance, the criteria may be identified briefly on the Surveillance Report or on a detailed checklist to be filed with the assessment. Examples of brief criteria include, "observe actions based on steps XX through and including YY," or "observe waste hoist lifting activity for adherence to Procedure XXX, Revision Y, Section ZZ," or "review 15 WIPP Forms for adequacy, completeness, and implementation of corrective actions," etc. Criteria typically are found in QA manuals and program plans, procedures, previous assessments and corrective action documents, and contract requirements.

- For Effectiveness Reviews of completed corrective actions for 'significant' WIPP Forms, P-A externally-reportable issues, etc., develop criteria considering the following:

  — Effectiveness reviews are performed to verify the effectiveness of corrective actions that have been implemented to prevent the recurrence of significant issues.

  — Effectiveness is measured by a significant change in one or more of these four measures:

    1. The probability of the original event recurring

    2. The frequency of the problem recurring

    3. Reduction in the magnitude or severity of the problem

    4. Elimination of the original problem

5.0 ASSESSMENT PERFORMANCE

The lead auditor/surveillor will:

- For audits and external surveillances (optional for internal surveillances), conduct an entrance meeting with the assessment team and appropriate personnel representing the assessed organization(s). The entrance meeting is intended to introduce the assessors, explain the purpose, scope, and schedule for the assessment, and establish interfaces and contacts with the organization being assessed.

- For Effectiveness Reviews of completed corrective actions for 'significant' WIPP Forms, Price-Anderson (P-A) externally reportable issues, etc., perform the assessment using one or more of the following methods. The method selected should be appropriate for the specific corrective/preventive actions. The direct observation method is the method of preference, but other methods should also be applied, as necessary.

  — Observe the work or performance of an evolution.

  — Conduct facility inspections or activity monitoring.

  — Utilize past performance indicators to track any ongoing recurrences.

  — Review databases or similar problems.

  — Run a test to challenge the system or process (if applicable).

  — Run a mock item through the process, or complete a performance test (if applicable).

  — Perform a walkthrough of the work, process, or evolution.

— Interview impacted managers and workers on their understanding of, and involvement with, the implemented corrective actions.

— Review a documented, previously completed equivalent evaluation of the original problem prior to initiating the effectiveness review.

The assessment team will:

- Evaluate the applicable quality program element(s) by examining objective evidence, observing activities in progress, examining items (including components, specimens, and machinery, etc.), and/or interviewing personnel responsible for the activity. Include technical evaluations of the applicable procedures, instructions, activities, and items, as appropriate. Objective evidence related to the planning and technical aspects of the work performance is to be examined to the depth necessary to determine if these elements are being implemented effectively.

- Review previous corrective actions, as applicable, to evaluate implementation and effectiveness when recurring problems are found.

- Observe, to the extent possible, actual operations to verify conformance to requirements.

- Record the results of the evaluations performed on the assessment checklist or surveillance report, as applicable.

- Record, on the assessment checklist or surveillance report, as applicable, objective evidence examined, including all documents reviewed, with sufficient detail so that any conditions or practices may be noted in the report with adequate detail. Include, as applicable, document number, title, and revision.

- Record, on the assessment checklist or surveillance report, as applicable, the results of observations of processes or items, including the quantity of items examined to indicate the size or breadth of the examination. Identify the items, where possible.

- Record, on the assessment checklist or surveillance report, as applicable, the names of personnel interviewed.

- Inform the lead auditor/surveillor of progress and/or problems with assigned tasks periodically during the assessment.

- Notify immediately the lead auditor/surveillor if conditions are identified during an internal audit or surveillance that qualify as an event or potentially reportable occurrence under the requirements of 10 CFR Part 21, 10 CFR Part 71, WP 12-ES3918, Reporting Occurrences in Accordance with DOE Order 232.2, etc.

- Notify immediately the lead auditor/surveillor if conditions are identified that are believed to be unsafe. If an internal assessment condition requires immediate work stoppage, proceed as directed in MP 1.2, *Stop-Work Policy*. During external assessments, notify the supplier management, or their designated point-of-contact.

- Acknowledge and track any CDAs. Verify that the actions completed correct the condition. Document CDAs on a WIPP Form, in accordance with WP 15-GM1002, for trending.

The lead auditor/surveillor will:

- Notify QA management and the management of the assessed organization as soon as practicable if conditions are discovered that could have a significant adverse impact on prior work or affect work in progress, or if conditions require prompt attention. If conditions require immediate attention as defined in WP 12-ES3918 or MP 1.2, perform action as directed by the appropriate document.

- Notify the management of the assessed organization as soon as practicable of any issues identified, to assure accuracy, and allow opportunity for resolution during the assessment.

- Notify Packaging Manager of issues that affect nuclear packaging (TRUPACTs, HalfPACTs, etc.) or are otherwise potentially reportable to the U.S. Nuclear Regulatory Commission (NRC), to allow them to screen for reportability under 10 CFR Part 21 or 10 CFR Part 71, etc.

- For audits and external surveillances, conduct an exit meeting with appropriate personnel representing the assessed organization(s). The exit meeting is intended to provide a general overview of the evaluation of the program element and any issues requiring attention.

6.0 ASSESSMENT REPORTING

The reporting of the assessment, if performed as an audit or external surveillance, will follow the guidance provided in attachment 6; and, if performed as an internal surveillance, will use the example provided in attachment 8.

Assessments that involve sensitive (e.g., permit- or personnel-related) information are to be coordinated through the NWP Legal Counsel. The lead auditor/surveillor and QA management will determine the necessary reviewers (i.e., NWP Legal Counsel, etc.) for proper processing of such assessment information.

The lead auditor/surveillor/manager will:

- Prepare the assessment report with the assistance, as necessary, of the assessment team, and sign the report.

- Ensure that the assessment report includes the following, as appropriate:

  — Assessment purpose and scope (surveillances to include criteria used)

  — Identification of assessors

  — Identification of personnel contacted

  — Identification of documents reviewed, including revision indicator

- Summary statement(s) indicating program (or program element) adequacy, implementation, effectiveness (applicable to scope), and a brief statement of ISM evaluations performed

- Commendable practices or situations (if any are identified)

- Findings (conditions adverse to quality, if any are identified) – Enter internal (NWP) conditions adverse to quality into the Issues Management System using the WIPP form in accordance with WP 15-GM1002. Identify findings in the report as directed in attachments 6 and 8. Concisely describe in the report (and on the WIPP Form for internal findings) the specific condition that deviates from the requirements, with sufficient detail to enable remedial actions to be taken by the audited organization, and subsequent closure by QA. Clearly quote or state the requirement from which the deviation was noted. Group findings of a common nature together whenever possible so that systematic breakdowns can be identified. Evaluate findings based on the relative importance to indicate the degree of impact on compliance application, waste characterization, repository performance assessment, waste isolation, waste transportation, nuclear safety, environmental protection, or management and operation of the WIPP facility.

- Observations (if any are identified) - Concisely state either the condition observed that, if left unaddressed, could deteriorate into a finding, or the suggestion that could strengthen the existing program or process.

- Corrected During Assessment (CDA) - Concisely describe the CAQ found, the requirement from which the condition deviated, and the action(s) taken to resolve the condition. Document CDAs on a WIPP Form, in accordance with WP 15-GM1002, for trending.

- Include the following statement in external supplier audit reports:

  (Name of Company) will be (select "retained on," "added to," "added to pending successful resolution of finding," or "removed from") the NWP QSL for (state the scope or limitations of products or services authorized).

- Include the following statement in audit reports for suppliers currently on the NWP QSL:

  If the agreements and commitments contained herein are deemed by the supplier to involve a change in the order concerning work scope, price, or schedule, it is agreed that such work will not commence or continue until authorized by a written change notice. It is understood that if the supplier commences such work without a written change notice, it is at the supplier's risk.

- Using cover correspondence, issue the assessment report to all affected entities within 45 calendar days of conclusion of the audit. The 45 calendar day time limit may be extended at the discretion of the Assurance Programs manager.

  — Cognizant department manager (all reports)

  — Compliance Coordinator (all reports)

  — CTS Coordinator (external reports containing findings)

  — Facility point-of-contact (external reports)

  — QSL Coordinator (external qualification or requalification audits)

  — Packaging Manager (reports affecting packaging)

  — Assessment Coordinator (all reports)

  — Lessons Learned Coordinator (reports containing findings determined by the lead auditor/surveillor/management to be potential Lessons Learned issues)

  — QA assessment file for this assessment

  — Others as designated by QA management

Because internal findings are transferred to WIPP Forms, internal reports are considered closed at the time of issue. For external audit reports, include direction to the supplier for responding to any findings.

- Document internal CDAs on a WIPP Form, in accordance with WP 15-GM1002, for trending.

- For external supplier qualification audits, complete the Supplier Evaluation/QSL Update Request Form in accordance with WP 13-QA3012, and forward to the QSL Coordinator.

It is recommended to electronically file a copy of the completed checklist and the report in the applicable assessment folder within "Assessment Reports" in the shared folder WQNRA on the Torreon server.

7.0 ASSESSMENT RESPONSE

The cognizant manager of the assessed WIPP organization will review the assessment (audit or surveillance) results assigned to their organization on the WIPP Form, and respond using the Issues Management (WIPP Form) process in accordance with WP 15-GM1002.

The facility contact (for external assessments) is expected to respond as directed in the issuing cover letter and report. Any request for extension of corrective action due date shall be reviewed by the Assurance Programs Manager or designee.

8.0 ASSESSMENT FOLLOW-UP

In accordance with WP 15-GM1002, the WIPP Form screening committee will assign the lead auditor/surveillor/manager as a technical reviewer of actions/corrective action plans developed in response to a WIPP Form issued as the result of an internal audit/surveillance finding. As a technical reviewer, the lead auditor/surveillor/manager will be responsible for determining the long-term effectiveness of the corrective actions, and will be expected to sign the Corrective Action Plan, so indicating, in accordance with WP 15-GM1002. Issues that cannot be resolved will be referred to management.

For external supplier audit or surveillance findings and the resulting supplier's committed actions will be tracked in commitment tracking system (CTS); the lead auditor/surveillor/manager will review the supplier's actions, and report completion based on the supplier's approved commitment(s).

9.0 ASSESSMENT CLOSURE AND FILING

The lead auditor/surveillor/manager will:

- For external supplier audits or surveillances with findings, verify that the corrective actions were completed as committed, issue a closure letter to the supplier and any other affected organizations, and ensure that copies are distributed to the QSL Coordinator (if applicable) and the Compliance Coordinator.

- Review, using the file checklist (attachment 7), the assessment file for completeness: purge working documents, sign the checklist, notify the assessment coordinator, and forward the complete file to the QA file. The assessment file is to include:

  — Audit Plan (for audits)

  — Completed Assessment Checklist (required for audits, or when used for surveillances)

  — Completed Assessment Report (including identification of documents reviewed and personnel contacted)

  — Assessment response (for external assessments)

  — Corrective Action completion, follow-up, and verification (for external assessments)

  — Other documentation determined to be necessary to support the assessment (closure correspondence, etc.)

REFERENCES	
DOCUMENT NUMBER AND TITLE	KEY STEP
10 CFR Part 21, "Reporting of Defects and Noncompliance"	
10 CFR Part 71, "Packaging and Transportation of Radioactive Material"	
Reg. Guide 7.10, *Establishing Quality Assurance Programs for Packaging Used in Transport of Radioactive Material (NRC)*	
DNFSB Recommendation 2000-2, *Configuration Management Vital Safety Systems*	
DOE O 226.1B, *Implementation of Department of Energy Oversight Policy*	
Hazardous Waste Facility Permit, Waste Isolation Pilot Plant, Permit #NM4890139088 TSDF, Issued by New Mexico Environment Department	
DOE/CBFO 94-1012, *Carlsbad Field Office Quality Assurance Program Document*	
DOE/WIPP 04-3310, *WIPP Environmental Policy Statement*	
DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis*	
DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*	
EFCOG Contractor Guide for Performance of Effectiveness Reviews	
MP 1.2, *Stop-Work Policy*	
MP 1.28, *Integrated Safety Management*	
WP 09-CN3005, *Graded Approach to Application of QA Controls*	
WP 09-CN3025, *Annual System Health/Walkdown/Requalification*	
WP 09-CN3040, *Commercial Grade Item Dedication*	
WP 12-ES3918, *Reporting Occurrences in Accordance with DOE Order 232.2*	
WP 13-1, *Nuclear Waste Partnership LLC Quality Assurance Program Description*	**1**
WP 13-QA.04, *Quality Assurance Department Administrative Program*	
WP 13-QA3012, *Supplier Evaluation/Qualification*	
WP 15-GM.03, *Integrated Safety Management System Description*	
WP 15-GM1002, *Issues Management Processing of WIPP Forms*	

Attachment 1 – NWP QA Internal Assessment Priority Determination Tables

Determine whether the assessment will be performed as an audit or surveillance using the tables below:

- Review the assessment to be performed against the criteria in the Risk and Hazard Table to determine a numeric value.
- Review the assessment also against the criteria in the Importance and Complexity Table to determine a numeric value.
- Multiply the two numeric values.
- Use the Assessment Priority Table and the number derived from the previous bullet to determine the priority of the assessment to be performed and schedule the type of assessment indicated.

Risk and Hazard Table	
Description	Probability and Consequence Level
If not performed, improbable undetected impact on environment safety, health, safeguards and security, emergency management, cyber security, or QA	1
If not performed, possible minor undetected impact on environment, safety, health, safeguards, and security, emergency management, cyber security, or QA	2
If not performed, possible major undetected impact on environment, safety, health, safeguards, and security, emergency management, cyber security, or unknown status of QA program, or possible continuation of negative trend or repetitive nonconformance	3

Importance and Complexity Table	
Description	Importance and Complexity Level
Necessary to verify actions in document other than a requirement-source or implementing procedure	1
Necessary to verify an action required by an implementing procedure	2
Necessary to complete an assessment required by an implementing procedure	3
Necessary to complete an assessment required by an implementing procedure, and complex in nature	4
Necessary to complete a specific program assessment requirement, or commitment (both non-complex and complex in nature)	4

Attachment 1 – NWP QA Internal Assessment Priority Determination Tables

Assessment Priority Table		
Derived Numeric Value	Priority	Action
1-4	Low	Schedule Surveillance
5-8	Medium	Schedule Surveillance or Audit
9-12	High	Schedule Audit

Attachment 2 –Example of NWP QA Internal Assessment Subject Master Table

NWP QA INDEPENDENT ASSESSMENT SUBJECT MASTER TABLE							
Area of Interest	**Source/Reference**	**Risk/Hazard**	**Complexity**	**Priority**	**Audit**	**Surv**	**Frequency**
Management System NWP Organization Facility Ops Chain of Command QA Organization	Source WP 13-1, R.27, §1.1 Reference DSA/TSR 10 CFR 71 Subpart H	3	4	12	**X**		Biennial (frequency not specified in 830.122, NQA-1, WP 13-1, R.27, or WP 13-QA.03)
Personnel Qualification and Training **Facility Staff Qualifications Training** **Qualified Operators**	Source WP 13-1, R.27, §1.2 Reference DSA/TSR 10 CFR 71 Subpart H DSA/TSR	3	4	12	**X**		Biennial

Attachment 3 – Audit Plan Guidance

NUCLEAR WASTE PARTNERSHIP LLC
QUALITY ASSURANCE AUDIT PLAN
Title of audit (subject)

Audit number

Audited organization(s) (and location if supplier audit)

1. Purpose and Scope of the audit

2. Applicable Requirements Documents
   WP 13-1, *NWP Quality Assurance Program Description*
   (Any others, including regulatory documents containing requirements)

3. Procedure(s) to be used to perform the audit
   WP 13-QA.03, *Quality Assurance Independent Assessment Program*

4. Hazards, Safety/security issues
   Precautions
   Badging, logistics information
   PPE (if any)

5. Audit Team
   Lead Auditor
   Team Auditors (if any)
   Technical Expertise (if any)
   Anticipated Observers (if any)

6. Schedule
   Pre-Audit Meeting
   Audit Activities
   Post-Audit Meeting

7. Background
   Previously reported findings (if any)
   Previous corrective action issues (if any)
   Previously reported weaknesses (if any)

8. Signatures:

Prepared by: _____ Approved by: _____
(Printed Name) (Printed Name)
Lead Auditor Manager, Assurance Programs

Attachment 4 – Example of NWP Quality Assurance Assessment Checklist

(The following table is shown on first page only, followed by the second table as space allows.)

NWP Quality Assurance Assessment Checklist	
Organization Assessed: _____	Assessment Number: _____
Requirements Documents: _____	Dates of Assessment: _____
Assessor(s): _____	**Key: S=Satis., U=Unsat., N=N/A**

(The top row of the following table is a header to be shown on each page to which this table expands with usage.)

Item	[Type in Assessment # here] Assessment Item	Reference Document(s)	**Key**	Assessor Comments
	(Add rows as needed)			

(The following signature line is shown on the last page only, following the end of the above table.)

Approved by: _____ _____
Lead Auditor/Surveillor (print name and sign) Date:

Notes: Refer to the NWP QA Independent Assessment Subject Master Table for identification of requirements documents from which assessment criteria should be developed.
Review any corrective actions committed as a result of the previous assessment; develop criteria to evaluate their effectiveness.
Develop criteria that evaluate a broad range of the requirements with enough detail to be meaningful in verifying compliance and effectiveness.
Develop criteria to evaluate effectiveness of Graded Approach and the ISM system.

Attachment 5 – Audit Report Guidance

Nuclear Waste Partnership LLC
Quality Assurance (select either **Internal** or **External**) **Audit Report**
[Descriptive, yet concise **title** - if external, provide company and address]
[**Audit Number**]

I. Executive Summary: Concise summary (generally one page or less), written in paragraph format including brief mention of organization audited (include location for external supplier) and audit date, abbreviated purpose and scope, results in general terms, conclusion of program adequacy (including ISM), any commendable situations noted, and any major issues requiring further action.

II. Audit Details

Purpose and Scope (more detailed than the Executive Summary)
Criteria used (identify or make reference to checklist, and specifically address ISM)
Audit Team
Inclusive dates of audit
Location(s) of audit
Conclusion(s) regarding compliance, effectiveness, and ISM evaluations performed.
Include a statement addressing the number of findings, observations, and/or "CDAs."
An acceptable method would be, "The assessment resulted in 2 Findings, 0 Observations, and 3 issues closed during the assessment."
Commendable practices or activities (if applicable)

[Include the following statement, as applicable, in assessment reports containing findings.]

Response to Findings (external supplier audits only) - When responding to audit findings, the following elements are required to be addressed:

- Cause of nonconformance
- Interim actions planned to correct the nonconformance
- Evaluation of the extent of the condition beyond that cited in the report
- Actions planned to prevent recurrence
- Schedule of implementation/completion

Findings (are to be numbered as [audit no.]-F-[sequential number beginning with 01], and internal findings are to also cross-reference to the WIPP Form Number. Example – "S04-027-F-01 issued as WF04-120")

- Condition noted
- Requirement not met

Observations (numbered as [assessment no.]-O-[sequential number beginning with 01])

- Condition (noted, or considered to be an improvement)

Attachment 5 – Audit Report Guidance

Conditions corrected during the assessment (numbered as [assessment no.]-CDA-[sequential number beginning with 01])

- Condition noted
- Requirement from which condition deviated
- Action taken, and verification of completion
- Initiate WIPP Form for CDA

[Include the following statements in external supplier audit reports]

[Name of company] will be [select "retained on," "added to," "added to, pending successful resolution of findings," or "removed from"] the NWP Qualified Suppliers List for [state the scope or limitations of products or services authorized].

If the agreements and commitments contained herein are deemed by the supplier to involve a change in the order concerning work scope, price, or schedule, it is agreed that such work will not commence until authorized by a written change notice. It is understood that if the supplier commences such work without a written change notice, it is at the supplier's expense.

III. Attachments:

1. Table of Personnel Contacted
2. Table of Documents Reviewed
3. (Any other information deemed appropriate for attachment)

IV. Signatures:

Prepared by: _____ _____
(Printed Name) Date

Approved by: _____ _____
(Printed Name) Date
Manager, Assurance Programs

Attachment 5 – Audit Report Guidance

Attachment 1 Table of Personnel Contacted

[A] Attended Audit Entrance Meeting
[B] Contacted During the Audit
[C] Attended Audit Exit Meeting

Personnel Contacted	A	B	C
(Added rows as needed)			

Attachment 2 Table of Documents Reviewed

Document Identification	Document Title or Description
(Add rows as needed)	

Attachment 6 – Example of Independent Assessment Record File Completion Checklist

INDEPENDENT ASSESSMENT RECORD FILE COMPLETION CHECKLIST	
Assessment No. _____	
	Complete
Audit Team/Technical Specialist Indoctrination	☐
Assessment Plan (required for audit, optional for surveillance)	☐
Assessment report	☐
Assessment response (if external assessment contained findings)	☐
Assessment Checklist (required for audit)	☐
Closure letter (if external assessment contained findings)	☐
Other	
_____	☐
_____	☐
_____	☐
_____	☐
I have reviewed the above listed records and verified their completeness and legibility.	
_____	
Lead Auditor/Surveillor Signature Date	

Attachment 7 – Example of Surveillance Report

Nuclear Waste Partnership LLC Quality Assurance **(make this a header row)** **Surveillance Report Number:** **Date:**	
Subject	Organization(s) Surveilled
Scope Surveillor(s)	
Requirement References (include revision no.)	
Surveillance Criteria [ ] Checklist on file in QA	
Personnel Contacted (* indicates persons to whom a copy of this report is to be distributed)	
Documents reviewed [ ] See attachment	
Details/Results/Conclusions [ ] WIPP Form(s) identified in Findings	
[Print and Sign] Date Lead Auditor/Surveillor	[Print and Sign] Date Manager, Assurance Programs
cc: Manager of assessed organization, WIPP Form Coordinator (if containing findings), Compliance Coordinator, Assessment Coordinator, Packaging Manager (if containing packaging issues) Page 1 of (total)	

Make the top row a header to appear on every page.
Insert pagination (page X of Y) at the bottom center

Attachment 8 – Example of NWP QA Independent Assessment Log

NWP QUALITY ASSURANCE
INDEPENDENT ASSESSMENT LOG

Assessment Number	Subject/Manufacturer	Location	Date Performed	Lead Auditor/ Surveillor	Assessment Team	Results Findings/CDAs/ Observations	Status of External Findings
E05-06	Supplier X	Wichita, KS	5/10/2005	(Name)	(Names)	8 Findings 1 CDA 2 Obs.	All findings closed 5/10/05, QA:05-00287

Attachment 9 – Technical Specialist/Auditor Participation Indoctrination for Quality Assurance Audits Example

Technical Specialist/Auditor Participation Indoctrination
for Quality Assurance Audits
Audit XXX0XX
(Audit Title)

In preparation for participation as a Technical specialist/Auditor, this documentation serves as a record that the below listed individual has been indoctrinated per the requirements of the NWP QAPD, and procedure WP 13-QA.03.

Items discussed:

- Applicable portion of the NWP QAPD
- Applicable section of WP 13-QA.03, which includes audit checklist preparation and completion, documentation required during the audit process, and the audit report format.
- Applicable requirements documentation associated with this audit.
- Expectations of an Auditor.
- Potential hazards. Plan accordingly for proper PPE, ALARA, and additional controls deemed necessary, i.e., badging, logistics, etc.

Experience Background:

(Enter short biography for each specialist [auditor as desired] detailing previous experience and qualifications.)

Technical Specialist/Auditor:

Print Name	Signature

Lead Auditor:

Print Name	Signature

Controlled
Copy

Effective Date: MAY 3 1 2013

CCP-PO-001
Revision 21

CCP Transuranic Waste Characterization Quality Assurance Project Plan

Approved by: _____ Date: 4-16-13
CCP Site Project Manager
Mike Ramirez

Approved by: _____ Date: 4-16-13
Quality Assurance
Val Cannon

Approved by: _____ Date: 4-16-13
NTPC Manager
Ed Gulbransen

Approved by: _____ Date: 4-17-13
DOE-CBFO Quality Assurance Acting Director
Martin Navarrete

Approved by: _____ Date: 4-17-13
DOE-CBFO
Office of National TRU Program Director
for J.R. Stroble

Nuclear Waste Partnership
Carlsbad, NM

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
3	01/14/2002	Added Tables B-9, B-10, and B-11; Revised the CCP Organization Chart, Figure A-1; and made numerous editorial corrections.
4	05/31/2002	Revised the CCP Organization Chart, Figure A-1 and added 3 new positions in the responsibilities Section A-4; corrected an error in Table B3-1; revised Section B4-2; revised Sections B3-10, B3-12,B-4, and subsections, and revised Tables B3-11, B3-12, and B3-13 to reflect the current WAP.
5	02/05/2003	Revised the CCP Organization Chart, Figure A-1 and section A-4c to update to the Vice President of National TRU Program Division title. Changes made to implement the Drum Age Criteria (DAC) permit Modification.
6	06/11/2003	Updated to Revision 5 of the QAPD.
7	01/08/2004	Added procedures to Table B-9 and Table B-11.
8	03/15/2004	Added procedures to Table B-9, Table B-10 and Table B-11. Modified Site Project Quality Assurance Officer description and CCP Organization chart. Updated Table B1-2, Table B3-3, Section B3-5 to reflect the WAP. Updated Table B3-6, Table B4, Table B1-4, Section B-3a(2), B-3d(1)(a), Table B-1, and Table B-8 to delete PCBs. Section B-1c, 6th bullet revised to reflect the language of the WAP.
9	01/14/05	Revised to add procedures to Table B-9, Table B-10, and Table B-11. Incorporated CBFO DRR comments.
10	02/24/05	Revised to add procedure to table B-11, to incorporate LANL Off-Site Recovery Program Project Scope.
11	03/10/2005	Revised to add procedures to Section B1-2a and Table B-11. Added new table, Table B-9A, Solids Sampling Procedures Used by CCP.
12	03/22/2006	Revised procedures tables, Added new Table B-9, Listing of Permitted hazardous waste numbers and updated responsibilities.

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
13	11/16/2006	Revised to implement changes to the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/RH PMR.
14	03/28/2007	Revised procedure tables to add references to sections implemented by the procedure, and to align the wording of Section B7-2 with the wording in the permit.
15	08/10/2007	Revised to remove Visual Examination (VE) Expert decisions and signature and date from Table B3-11, Testing Batch Data Report Contents. Added the Idaho National Laboratory (INL) procedures to Attachment 1, Implementing Procedures.
16	10/31/2007	Revised to incorporate statistical terminology and text changes included in September 2007 Class 1 Permit Notifications and update Attachment 1, Implementing Procedures.
17	06/23/2009	Updated to agree with the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit Class 1 Modification dated July 2008.
18	06/30/2010	Revised to incorporate modifications to the Hazardous Waste Facility Permit. To make editorial changes that are needed and to change the Waste Isolation Pilot Plant (WIPP), Waste Information System (WWIS) to WWIS/Waste Data System (WDS).
19	12/29/2010	Revised to include changes from Permit Renewal.
20	06/16/2011	Revised to incorporate Class 2 Permit Modification (Transuranic Package Transporter Model III and Standard Large Box 2).
21	05/31/2013	Revised to clarify hierarchy of documents, adding Nuclear Waste Partnership (NWP) LLC, 13-1, *Quality Assurance Program Description*, also revised due to the Class 2 permit modification request (PMR) to the Waste Isolation Pilot Plant (WIPP) Permit, and made other administrative changes as needed.

TABLE OF CONTENTS

A INTRODUCTION 8
A-1 Background 8
A-2 Scope 9

B PROJECT DESCRIPTION 9
B-1 Central Characterization Program Organization and Responsibilities 10
B-2 Central Characterization Program (CCP) Manager 10
B-3 Site Project Manager 10

C WASTE ANALYSIS PLAN 13
C-0 Introduction and Attachment Highlights 13
C-0a Waste Characterization 14
C-0b AK Sufficiency Determination 17
C-0c Waste Stream Profile Form Completion 20
C-0d Waste Confirmation 20
C-1 Identification of TRU Waste to be Managed at the WIPP Facility 21
C-1a Waste Stream Identification 21
C-1b Waste Summary Category Groups and Hazardous Waste Accepted at the WIPP Facility 21
C-1c Waste Prohibited at the WIPP Facility 21
C-1d Control of Waste Acceptance 23
C-1e Waste Generating Processes at the WIPP Facility 23
C-2 Waste Characterization Program Requirements and Waste Characterization Parameters 23
C-3 Generator Waste Characterization Methods 25
C-3a Acceptable Knowledge 25
C-3b Radiography and Visual Examination 25
C-4 Data Verification and Quality Assurance 26
C-4a Data Generation and Project Level Verification Requirements 27
C-4a(1) Data Quality Objectives 27
C-4a(2) Quality Assurance Objectives 28
C-4a(3) Data Generation 28
C-4a(4) Data Verification 28
C-4a(5) Data Transmittal 29
C-4a(6) Records Management 29
C-5 Permittee Level Waste Screening and Verification of TRU Mixed Waste 30
C-5a Phase I Waste Stream Screening and Verification 30
C-5a(1) WWIS/WDS Description 32
C-5a(2) Examination of the Waste Stream Profile Form and Container Data Checks 32
C-5a(3) Audit and Surveillance Program 33
C-5b Phase II Waste Shipment Screening and Verification 33

C-5b(1) Examination of the EPA Uniform Hazardous Waste Manifest and Associated Waste Tracking Information .. 34
C-5b(2) Examination of the Land Disposal Restriction Notice ... 34
C-5b(3) Verification ... 35
C-6 Permittees' Waste Shipment Screening QA/QC ... 35
C-7 Records Management and Reporting ... 35
C-7a General Requirements ... 36
C-7b Records Storage ... 36
C-8 Reporting ... 36

C1 WASTE CHARACTERIZATION TESTING METHODS ... 47
C1-1 Radiography ... 47
C1-2 Visual Examination ... 49

C2 RESERVED ... 52

C3 QUALITY ASSURANCE OBJECTIVES AND DATA VALIDATION TECHNIQUES FOR WASTE CHARACTERIZATION METHODS ... 53
C3-1 Validation Methods ... 53
C3-2 Nondestructive Examination Methods ... 54
C3-2a Radiography (T53, T508) ... 54
C3-2b Visual Examination (T6, T113, T163, T500) ... 55
C3-3 Acceptable Knowledge (T5) ... 55
C3-4 Data Review, Validation, and Verification Requirements ... 56
C3-4a Data Generation Level (T6, T32, T53, T106, T113, T143, T188, T500, T508) ... 57
C3-4a(1) Independent Technical Review (T6, T32, T53, T106, T113, T143, T188, T500, T508) ... 58
C3-4b Project Level ... 59
C3-4b(1) Site Project Manager Review ... 59
C3-4b(2) Preparing SPM Summary and Data Validation Summary ... 60
C3-4b(3) Preparing Waste Stream Characterization Packages ... 60
C3-4c Permittee Level ... 60
C3-5 Reconciliation with Data Quality Objectives ... 60
C3-5a Reconciliation at the Project Level ... 61
C3-5b Reconciliation at the Permittee Level ... 61
C3-6 Data Reporting Requirements ... 62
C3-6a Data Generation Level ... 62
C3-6b Project Level ... 62
C3-6b(1) Waste Stream Profile Form (T2) ... 63
C3-6b(2) Characterization Information Summary (T2) ... 63
C3-6b(3) Waste Stream Characterization Package (T2) ... 64
C3-6b(4) WIPP Waste Information System Data Reporting (T30) ... 65

C3-7 Nonconformances (Q5) 65
C3-8 Special Training Requirements and Certifications (Q2) 67
C3-9 Changes to WAP Related Plans or Procedures 68

C4 ACCEPTABLE KNOWLEDGE 73
C4-1 Introduction 73
C4-2 Acceptable Knowledge Documentation 74
C4-2a Required TRU Waste Management Program Information 74
C4-2b Required TRU Waste Stream Information 75
C4-2c Additional Acceptable Knowledge Information 76
C4-3 Acceptable Knowledge Training, Procedures, and Other Requirements 78
C4-3a Qualifications and Training Requirements (Q2) 78
C4-3b Acceptable Knowledge Assembly and Compilation 78
C4-3c Criteria for Assembling an Acceptable Knowledge Record and Delineating the Waste Stream 80
C4-3d AK Sufficiency Determination Request Contents (T5) 81
C4-3e Requirements for Re-evaluating Acceptable Knowledge Information (T5) 82
C4-3f Acceptable Knowledge Data Quality Requirements (T5) 83
C4-3g Audits of Acceptable Knowledge 84

C5 QUALITY ASSURANCE PROJECT PLAN REQUIREMENTS 85
C5-1 Quality Assurance Project Plans 85
C5-2 Document Review, Approval, and Control (Q10) 85

C6 AUDIT AND SURVEILLANCE PROGRAM 89
C6-1 Introduction 89
C6-2 Audit Procedures 89
C6-3 Audit Position Functions 89
C6-4 Audit Conduct 89

C7 TRU WASTE CONFIRMATION 90
C7-1 Permittee Confirmation of TRU Mixed Waste 90
C7-1a Permittee Confirmation of a Representative Subpopulation of the Waste 90
C7-1b Radiography Methods Requirements 90
C7-1c Visual Examination Methods Requirements 91
C7-2 Noncompliant Waste Identified During Waste Confirmation 92

C8 REFERENCES 94

LIST OF TABLES

Table C-1. Summary of Parameters, Characterization Methods, and Rationale for Transuranic Mixed Waste 37
Table C-2. Required Program Records Maintained in Generator/Storage Site Project Files..... 38
Table C-3. WIPP Waste Information System Data Fields[a] 39
Table C-4. Waste Tanks Subject to Exclusion 40
Table C-5. Listing of Permitted Hazardous Waste Numbers 41
Table C3-1. Waste Material Parameters and Descriptions..... 69
Table C3-2. Minimum Training and Qualification Requirements 70
Table C3-3. Testing Batch Data Report Contents 71

LIST OF FIGURES

Figure B-1. CCP Organization..... 12
Figure C-1. Waste Stream Profile Form (Example Only)..... 42
Figure C-2. Waste Characterization Process 44
Figure C-3. TRU Mixed Waste Screening and Verification Flow Diagram..... 45

LIST OF ATTACHMENTS

Attachment 1 – Implementing Procedures 98

A INTRODUCTION

The Central Characterization Program (CCP) is tasked with characterizing and certifying transuranic (TRU) waste for disposal at the Waste Isolation Pilot Plant (WIPP). Characterization consists of acceptable knowledge (AK), radiography and visual examination (VE). This work is conducted in accordance with the Nuclear Waste Partnership, LLC (NWP), *Quality Assurance Program Description* (QAPD) and this Quality Assurance Project Plan (QAPjP).

This QAPjP describes how waste characterization and certification by the CCP comply with NM 4890139088-TSDF, *Waste Isolation Pilot Plant Hazardous Waste Facility Permit* (HWFP), Attachment C - C6, *Waste Analysis Plan* (WAP) (New Mexico Environment Department [NMED]) and WP 13-1, the NWP QAPD. The format of this QAPjP parallels that of the WAP.

NOTE

Throughout this document, there are references to procedures that implement the requirements. These references appear as a letter and one to three digits in parenthesis where the requirement is stated. Document users should then be able to refer to Attachment 1, Implementing Procedures, where these references list the procedure number and title.

A-1 Background

The WAP is organized such that it specifies that the generator/storage sites (hereinafter referred to as “sites”) conduct their own TRU waste characterization and certification, including their own data generation level and project level data validation and verification. However, some sites (typically small quantity sites) do not have the resources necessary to characterize and certify their TRU waste. Additionally, other sites have expressed interest in using subcontractors to augment their existing capabilities. The CCP was established to assist these sites as well as to provide cost-effective TRU waste characterization, confirmation, and certification, including data generation level and project level data validation and verification.

The CCP may provide its services to a site by contracting directly with that site. If this is the case, the scope of services provided by CCP are specified in a Statement of Work (SOW) issued by the site. The SOW also specifies health and safety requirements, quality requirements, and other requirements specific to that site. A site-specific interface document may also be prepared which provides more detail on the site-CCP interface.

The site has general management oversight responsibility for work performed by the CCP at the site. The site is responsible for ensuring that CCP conducts its activities in compliance with site requirements.

A-2 Scope

This QAPjP specifies quality requirements, management activities, and procedures necessary to meet the specific data quality objectives (DQOs) for TRU waste characterization as defined in the WAP and QAPD. Only TRU waste that has been characterized and certified in accordance with the WAP is shipped to the WIPP facility. TRU waste characterization and certification activities conducted by the CCP are performed in accordance with the requirements and implementing procedures identified in this QAPjP. In some cases, some characterization or certification activities are shared between the CCP and the Host site. The applicable implementing site documentation is specified in a SOW and supplemented by a site interface document, if required.

This QAPjP meets WAP characterization and certification requirements for contact-handled (CH) and remote-handled (RH) TRU waste. As used in this document, the term TRU waste includes TRU and TRU-mixed wastes. The term “characterization” is used where applicable to indicate the entire characterization process. Additionally, the WAP allows waste streams to be divided into waste stream lots. Therefore, the term waste stream may be used to indicate waste stream lots.

B PROJECT DESCRIPTION

Consistent with requirements in the WAP, CCP uses AK to initially characterize TRU waste. Section C4 of this QAPjP outlines the process used to characterize TRU waste using AK. AK documentation provides the basis for identifying the TRU waste eligible for WIPP disposal. The characterization process is based on the following:

- Waste considered for characterization is defense-related and has a TRU alpha activity greater than 100 nanocuries (nCi) per gram (g)
- Resource Conservation and Recovery Act (RCRA) hazardous waste determinations are made initially using AK for TRU waste streams

AK information for each waste stream is compiled in AK reports and supporting documentation. Based on AK, waste streams are delineated according to Summary Category Group, and waste matrix codes are assigned to each waste stream.

The CCP evaluates the characterization necessary to certify a particular waste stream. If additional characterization is needed to supplement site capabilities, the CCP uses mobile characterization facilities to perform characterization activities. Mobile characterization support is provided in accordance with this QAPjP. The CCP has the option to use data or transportation services from established TRU waste characterization activities at a U.S. Department of Energy (DOE)-Carlsbad Field Office (CBFO)-certified site.

B-1 Central Characterization Program Organization and Responsibilities

The CCP organization is shown in Figure B-1, CCP Organization, and responsibilities are described in the following sections. Figure B-1 includes generic CCP positions. More specific positions are described in the SOW or site interface plan.

B-2 Central Characterization Program (CCP) Manager

The CCP Manager is responsible for the day-to-day management and direction of CCP activities related to the characterization, certification, transportation, and disposal of TRU waste for DOE-CBFO. The CCP Manager is responsible for the following:

- Ensuring successful CCP/site interface
- Ensuring CCP plans and operations are coordinated, integrated, and consistent with DOE-CBFO programs, policies, and guidance
- Coordinating CCP activities and functioning as principal point of contact with DOE-CBFO and other regulating agencies
- Reviewing and approving this QAPjP

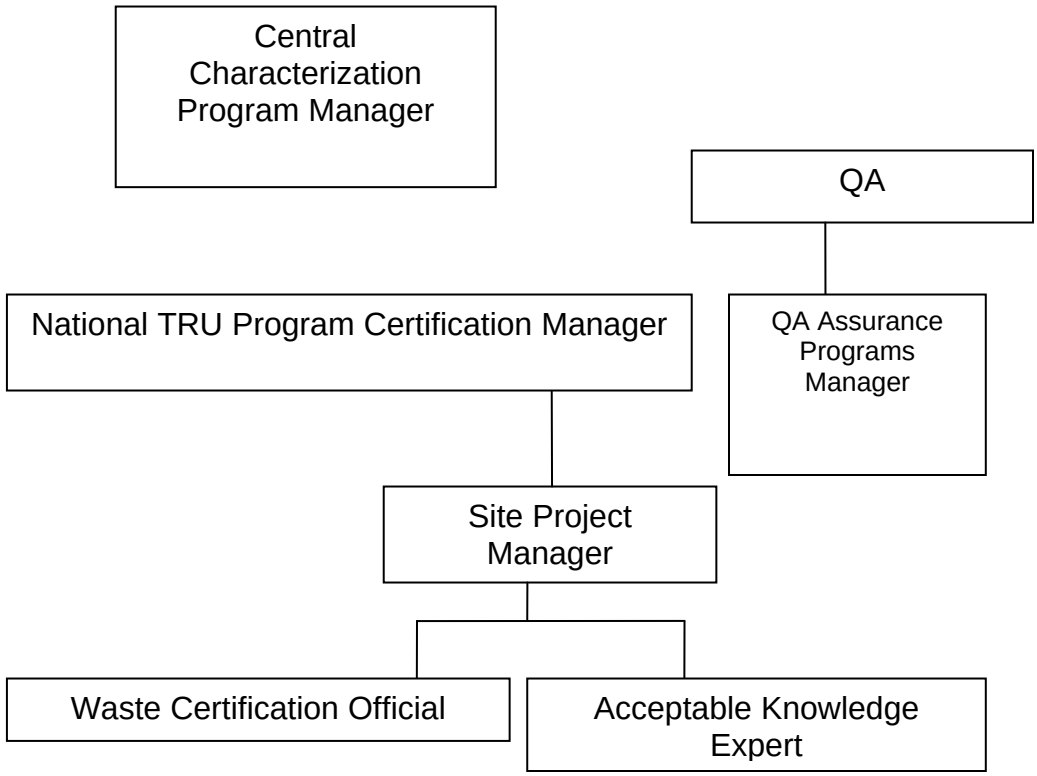
B-3 Site Project Manager

The Site Project Manager (SPM) oversees TRU waste characterization and certification activities and is responsible for the following:

- Developing, maintaining, reviewing, approving, and implementing CCP procedures and plans
- Scheduling revisions and distribution of CCP procedures and plans and forwarding these documents (if significantly revised) to DOE-CBFO for review and approval before implementation
- Reviewing and approving site interface documents (if used)
- Participating in internal audits and assessments
- Assisting Quality Assurance (QA) in developing project assessment criteria and responses to deficiency reports
- Halting characterization or certification activities if problems affecting the quality of the certification or work processes exist

- Ensuring CCP personnel receive appropriate training and orientation and maintain proficiency in work assignments
- Evaluating AK reports
- Reconciling AK information with characterization data
- Reconciling verified data with DQOs
- Ensuring that conditions adverse to quality are resolved and that corrective actions are implemented in a timely manner
- Preparing and submitting SPM Data Validation Summaries, Waste Stream Profile Forms (WSPFs), Characterization Information Summaries, and Waste Stream Characterization Packages (if requested by DOE-CBFO)
- Reviewing semi-annual QA/Quality Control (QC) summary reports and forwarding them and comments to the DOE-CBFO

Figure B-1. CCP Organization



C WASTE ANALYSIS PLAN

C-0 Introduction and Attachment Highlights

This QAPjP has been prepared for waste characterization activities to be conducted to meet requirements set forth in 20.4.1.500 New Mexico Administrative Code (NMAC) (incorporating 40 Code of Federal Regulation [CFR] §264.13) for waste disposal at the WIPP. This QAPjP includes test methods for complying with the general waste analysis requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.13), and a description of the QA/QC program. Before the CCP offers waste for shipment to the WIPP, the CCP implements the applicable requirements of this QAPjP.

TRU waste contains TRU radioactive components and may contain hazardous components, as defined in the New Mexico Hazardous Waste Act (HWA) and 20.4.1.200 NMAC (incorporating 40 CFR, §268.35. TRU waste is designated and separately packaged as either CH or RH, based on the radiological dose rate at the surface of the waste container.

The hazardous components of the TRU waste to be managed at the WIPP facility are designated in Table C-5, Listing of Permitted Hazardous Waste Numbers. Some of the waste is also identified by unique state hazardous waste numbers and is certified by the CCP if it meets the conditions of the WIPP Hazardous Waste Permit, Part 2, Table 2.3.4. This document describes the measures that will be taken to ensure that the TRU mixed wastes received at the WIPP facility are within the scope of Table C-5 as established by 20.4.1.500 NMAC (incorporating 40 CFR §264), and that they comply with unit-specific requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.600), Miscellaneous Units.

The CCP has developed this QAPjP to comply with the requirements of the WAP for characterizing CH TRU wastes. The hazardous components of the TRU waste disposed at the WIPP facility are described on a WSPF for each waste stream (T2). TRU waste that may be certified by the CCP are generated at DOE facilities by defense activities, including the following:

- Production of nuclear products
- Plutonium recovery
- Research and development
- Decontamination and decommissioning

Some TRU waste is retrievably stored at the DOE sites. Additional TRU waste is generated and packaged into containers at these sites. Retrievably stored waste is defined as TRU waste generated after 1970 and before NMED notifies the Permittees, by approval of the final audit report, that the characterization requirements of the WAP

at a site have been implemented. Newly-generated waste is defined as TRU waste generated after NMED approves the final audit report for a site. Waste characterization of retrievably stored TRU waste is performed on an ongoing basis, as the waste is retrieved. AK information is assembled for both the retrievably stored and newly generated waste. Waste characterization of newly generated TRU waste is performed as it is generated, although some characterization occurs post-generation.

Waste characterization is defined in Part 1 as the activities performed by the waste generator to satisfy the general waste analysis requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.13[a]) before waste containers have been certified for disposal at WIPP. The characterization process for WIPP waste is presented in Figure C-2, Waste Characterization Process. CCP waste characterization programs are first audited by DOE, with the NMED approving the final audit report. After this, CCP determines whether AK alone is sufficient for characterization, or whether a radiography or VE in conjunction with AK is necessary to adequately characterize wastes. If an AK Sufficiency Determination is sought, information is provided to the Permittees for their review and DOE's provisional approval; NMED determination of adequacy of the AK information is required before final approval by DOE. If the radiography or VE route is chosen, sites proceed to perform radiography or VE in conjunction with AK and in accordance with this QAPjP. Once an AK Sufficiency Determination is obtained, or when required radiography or VE data are obtained, sites would then prepare and submit the WSPF for DOE's approval. Once the WSPF is approved, CCP may ship waste to WIPP. The Permittees will perform waste confirmation prior to shipment of the waste from the generator/storage site to WIPP pursuant to Section C7, performing radiography or VE of a representative subpopulation of certified waste containers, to ensure that the wastes meet the applicable requirements of the *Treatment, Storage, and Disposal Facility Waste Acceptance Criteria* (TSDF-WAC).

C-0a Waste Characterization

Characterization requirements for individual containers of TRU waste are specified on a waste stream basis. The WAP defines a waste stream as waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity. Waste streams are grouped by waste matrix code groups related to the physical and chemical properties of the waste (DOE 1995b). The CCP uses the characterization techniques described in this QAPjP to assign the appropriate waste matrix code groups to waste streams for WIPP disposal. The waste matrix code groups are solidified inorganics, solidified organics, salt waste, soils, lead/cadmium metal, inorganic nonmetal waste, combustible waste, graphite, filters, heterogeneous debris waste, and uncategorized metal. Waste matrix code groups are grouped into three Summary Category Groups: Homogeneous Solids (Summary Category Group S3000), Soil/Gravel (Summary Category Group S4000), and Debris Waste (Summary Category Group S5000).

TRU wastes are initially categorized into the three broad Summary Category Groups that are related to the final physical form of the wastes. This categorization is based on the Summary Category Group constituting the greatest volume of waste for a waste stream. Waste characterization requirements for these groups are specified in Section C-2. Each of the three groups is described below.

S3000 - Homogeneous Solids

Homogeneous solids, are defined as solid materials, excluding soil, that do not meet the NMED criteria for classification as debris (20.4.1.800 NMAC [incorporating 40 CFR §268.2(g) and (h)]). Included in the series of homogeneous solids are inorganic process residues, inorganic sludges, salt waste, and pyrochemical salt waste. Other waste streams are included in this Summary Category Group based on the specific waste stream types and final waste form. This Summary Category Group is expected to contain toxic metals and spent solvents. This category includes wastes that are at least 50 percent by volume homogeneous solids.

S4000 - Soils/Gravel

This Summary Category Group includes S4000 waste streams that are at least 50 percent by volume soil/gravel. This Summary Category Group is expected to contain toxic metals.

S5000 - Debris Wastes

This Summary Category Group includes heterogenous waste that is at least 50 percent by volume materials that meet the criteria specified in 20.4.1.800 NMAC (incorporating 40 CFR §268.2 [g]). Debris means solid material exceeding a 2.36 inch (in.) (60 millimeter [mm]) particle size that is intended for disposal and that is:

1. a manufactured object, or

2. plant or animal matter, or

3. natural geologic material.

Particles smaller than 2.36 inches in size may be considered debris if the debris is a manufactured object and if it is not a particle of S3000 or S4000 material.

The most common hazardous constituents in the TRU waste to be managed in the WIPP facility consist of the following:

Metals

Some of the TRU waste to be emplaced in the WIPP facility contains metals for which 20.4.1.200 NMAC (incorporating 40 CFR §261.24), toxicity characteristics were established (EPA Hazardous Waste Numbers D004 through D011). Cadmium, chromium, lead, mercury, selenium, and silver are present in discarded tools and equipment, solidified sludges, cemented laboratory liquids, and waste from decontamination and decommissioning activities. A large percentage of the waste consists of lead-lined gloveboxes, leaded rubber gloves and aprons, lead bricks and piping, lead tape, and other lead items. Lead, because of its radiation-shielding applications, is the most prevalent toxicity-characteristic metal present.

Halogenated Volatile Organic Compounds

Some of the TRU waste to be emplaced in the WIPP facility contains spent halogenated volatile organic compound (VOC) solvents identified in 20.4.1.200 NMAC (incorporating 40 CFR §261.31) (EPA Hazardous Waste Numbers F001 through F005). Tetrachloroethylene; trichloroethylene; methylene chloride; carbon tetrachloride; 1,1,1-trichloroethane; and 1,2-trichloro-1,2,2,-trifluoroethane (EPA Hazardous Waste Numbers F001 and F002) are the most prevalent halogenated organic compounds identified in TRU waste that may be managed at the WIPP facility during the Disposal Phase. These compounds are commonly used to clean metal surfaces prior to plating, polishing, or fabrication; to dissolve other compounds; or as coolants. Because they are highly volatile, only small amounts typically remain on equipment after cleaning or, in the case of treated waste waters, in the sludges after clarification and flocculation. Radiolysis may also generate halogenated volatile organic compounds.

Nonhalogenated Volatile Organic Compounds

Xylene, methanol, and n-butanol are the most prevalent nonhalogenated VOCs in TRU waste that may be managed at the WIPP facility during the Disposal Phase. Like the halogenated VOCs, they are used as degreasers and solvents and are similarly volatile. The same analytical methods that are used for halogenated VOCs are used to detect the presence of nonhalogenated VOCs. Radiolysis may also generate non-halogenated volatile organic compounds.

The CCP will characterize waste in accordance with this QAPjP, and ensure that waste proposed for storage and disposal at WIPP meets the applicable requirements of the

TSDF-WAC in Part 2. The CCP will assemble the AK information in an auditable record[1] for the waste stream as described in Section C4. For those waste streams with an approved AK Sufficiency Determination (see below), radiography or VE per the methods described in Section C1 are not required.

All waste characterization activities specified in this QAPjP and associated attachments shall be carried out at generator/storage sites and DOE approved laboratories in accordance with this QAPjP. The DOE will audit the CCP waste characterization programs and activities as described in Section C-3. Waste characterization activities at the generator/storage sites include the following, although not all these techniques will be used on each container, as discussed in Section C-3:

- Radiography, an x-ray technique used to determine the physical contents of containers.
- VE of the contents of opened containers as an alternative way to determine their physical contents.
- Compilation of AK documentation into an auditable record.

C-0b AK Sufficiency Determination

CCP may submit a request to the Permittees for an AK Sufficiency Determination (Determination Request) to be exempt from the requirement to perform radiography or VE based on AK(T5). The contents of the Determination Request are specified in Section C4-3d.

The Permittees shall evaluate the Determination Request for completeness and technical adequacy. This evaluation shall include, but not be limited to whether the Determination Request is technically sufficient for the following:

[1]"Auditable records" means those records which allow the Permittees to conduct a systematic assessment, analysis, and evaluation of the Permittees' compliance with the WAP and the Permit.

- The Determination Request must include all information specified in Section C4-3d.
- The AK Summary must identify relevant hazardous constituents, and must correctly identify all toxicity characteristic and listed hazardous waste numbers.
- All hazardous waste number assignments must be substantiated by supporting data and, if not, whether this lack of substantiation comprises the interpretation.
- Resolution of data discrepancies between different AK sources must be technically correct and documented.
- The AK Summary must include all the identification of waste material parameter weights by percentage of the material in the waste stream, and determinations must be technically correct and substantiated by supporting information.
- All prohibited items specified in the TSDF-WAC should be addressed and conclusions drawn and must be substantiated by supporting information.
- If the AK record includes process control information specified in Section C4-3b, the information should include procedures, waste manifests, or other documentation demonstrating that the controls were adequate and sufficient.
- The site must provide the supporting information necessary to substantiate technical conclusions with the Determination Request, and this information must be correctly interpreted.

The Permittees will review the Determination Request for technical adequacy and compliance with the requirements of the Permit, using trained and qualified individuals in accordance with standard operating procedures that shall, at a minimum, address all of the technical and procedural requirements listed above. The Permittees shall resolve comments with the CCP.

If DOE determines that the AK is sufficient, it shall inform the public of the Determination Request, the Permittees' evaluation of it, and the date and time of a public meeting to provide information to and solicit comments from interested members of the public regarding the Determination Request. Notice of the meeting and comment period shall be provided by the following methods:

1. Written notice to all individuals on the facility mailing list;
2. Public notice in area newspapers, including the Carlsbad Current-Argus, Albuquerque Journal, and Santa Fe New Mexican;

3. Notice on the WIPP Home Page;

4. E-mail notification as specified In Permit Section 1.11.

DOE shall take written comment on the Determination Request for at least 30 days following the public meeting. DOE shall compile all such comments, including any disagreement between the DOE and commenters.

If DOE provisionally approves the Determination Request, it may forward it along with all relevant information submitted with the Determination Request to NMED for an evaluation that the provisional approval made by the DOE is adequate. DOE shall also provide to NMED, as a separate appendix to the Determination Request, the compilation of all comments and DOE's response to each comment. After submitting a Determination Request to NMED, the Permittees will post a link to the transmittal letter to NMED on the WIPP Home Page and inform those on the e-mail notification list as specified in Permit Section 1.11. Based on the results of NMED's evaluation, the Permittees will notify the CCP whether the AK information is sufficient and the Determination Request is approved. The DOE will not approve a Determination Request that NMED has determined to be inadequate unless the CCP resolves the inadequacies and provides the resolution to NMED for evaluation of adequacy. Should the inadequacies not be resolved to NMED's satisfaction, the DOE shall not submit a Determination Request for the same waste stream at a later date. DOE shall not submit a Determination Request, if a previous Determination Request is pending evaluation by NMED.

In the event the DOE disagrees, in whole or in part, with an evaluation performed by NMED resulting in a determination by NMED that the DOE's provisional approval for a particular waste stream is inadequate, the DOE may seek dispute resolution. The dispute resolution process is specified in Part 1. The Secretary's final decision under Permit Section 1.16.4 shall constitute a final agency action.

By July 1 of each year, the Permittees shall submit to NMED a list of waste streams the Permittees may submit for an AK Sufficiency Determination during the upcoming federal fiscal year. The Permittees will post a link to the transmittal letter to NMED and announce a public meeting to discuss the list with interested members of the public on the WIPP Home Page and inform those on the e-mail notification list as specified in Permit Section 1.11.

If the CCP does not submit a Determination Request, or if the DOE does not approve a Determination Request, or if NMED finds that the DOE's provisional approval of a Determination Request is inadequate, the CCP shall perform radiography or VE on 100 percent of the containers in a waste stream.

If the CCP submits a Determination Request, the DOE provisionally approves the Determination Request and NMED finds that the DOE's provisional approval is adequate, neither radiography nor VE of the waste stream is required.

C-0c Waste Stream Profile Form Completion

After a complete AK record has been compiled and either a Determination Request has been approved by the DOE or the CCP has completed the applicable representative testing requirements specified in Section C1, the CCP will complete a WSPF and Characterization Information Summary (CIS) (T2). The requirements for the completion of a WSPF and a CIS are specified in Sections C3-6b(1) and C3-6b(2) respectively.

The WSPF and the CIS for the waste stream resulting from waste characterization activities are transmitted to the Permittees, who shall review them for completeness, and screen them for acceptance before the CCP proceeds with payload assembly of TRU waste into the CH or RH Packaging. The review and approval process will ensure that the submitted waste analysis information is sufficient to meet the DQOs for AK in Section C-4a(1) and allow the Permittees to demonstrate compliance with the requirements of the WIPP-WAP. Only TRU waste that meets the characterization requirements of the WAP is certified by the CCP. Only waste certified to meet the TSDF-WAC, specified in the WAP, is accepted at the WIPP facility for disposal in the permitted Underground Hazardous Waste Disposal Unit (HWDU). DOE will approve and provide NMED with copies of the approved WSPF and accompanying CIS prior to waste stream shipment. Upon notification of DOE's approval of the WSPF, the CCP may be authorized to ship waste to WIPP.

In the event that the Permittees request detailed information on a waste stream, the CCP provides a Waste Stream Characterization Package, as described in Section C3-6b(3). For each waste stream, this package will include the WSPF, the CIS, and the AK summary. The Waste Stream Characterization Package will also include specific Batch Data Reports (BDRs), and raw data associated with waste container characterization as requested by the Permittees.

C-0d Waste Confirmation

The Permittees will perform waste confirmation on a representative subpopulation of each waste stream shipment after certification and prior to shipment pursuant to Section C7. The Permittees will use radiography, review of radiography audio/video recordings, VE, or review of VE records (e.g., VE data sheets or packaging logs) to examine at least 7 percent of each waste stream shipment to confirm that the waste does not contain ignitable, corrosive, or reactive waste. Waste confirmation will be performed by the Permittees prior to shipment of the waste from the generator/storage site to WIPP.

C-1 Identification of TRU Waste to be Managed at the WIPP Facility

C-1a Waste Stream Identification

TRU waste destined for disposal at WIPP is characterized on a waste stream basis. The waste streams are delineated using AK. Required AK is specified in Section C-3a and Section C-4 of this QAPjP.

C-1b Waste Summary Category Groups and Hazardous Waste Accepted at the WIPP Facility

Once a waste stream is delineated, a waste matrix code is assigned to the waste stream based on its physical form. Waste streams are then assigned to one of the Summary Category Groups; S3000-Homogeneous Solids, S4000-Soils/Gravel, and S5000-Debris Wastes. These Summary Category Groups are then used to determine further characterization requirements.

The CCP considers only those TRU waste streams that are assigned EPA hazardous waste numbers listed in Table C-5. Waste identified by unique state hazardous waste numbers is acceptable at WIPP provided they meet the requirements of the TSDF-WAC. The CCP performs characterization of all waste streams as required by the WAP. If during the characterization process, new hazardous waste numbers are identified, those wastes are prohibited for disposal at the WIPP facility until a permit modification has been submitted and approved by NMED.

C-1c Waste Prohibited at the WIPP Facility

The following TRU wastes are prohibited for disposal at the WIPP facility:

- Liquid waste is not acceptable at WIPP. Liquid in the quantities delineated below is acceptable.
  - Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination
  - Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited
  - Containers with hazardous waste number U134 assigned shall have no observable liquid
  - Overpacking the outermost container that was examined during radiography or VE or redistributing untreated liquid within the container shall not be used to meet the volume limits

- Non-radionuclide pyrophoric materials, such as elemental potassium.
- Hazardous wastes not occurring as co-contaminants with TRU waste (non-mixed hazardous waste).
- Wastes incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
- Wastes containing explosives or compressed gases.
- Wastes with polychlorinated biphenyls (PCBs) not authorized under an EPA PCB waste disposal authorization.
- Wastes exhibiting the characteristic of ignitability, corrosivity, or reactivity (Hazardous Waste Numbers D001, D002, or D003).
- Any waste container from a waste stream (or waste stream lot) that has not undergone either radiographic or VE of a statistically representative subpopulation of the waste stream in each shipment, pursuant to Section C7.
- Any waste container from a waste stream which has not been preceded by an appropriate, certified WSPF (see Section C-1d).
- Waste that has ever been managed as high-level waste and waste from tanks specified in Table C-4, Waste Tanks Subject to Exclusion, unless specifically approved through a Class 3 permit modification.

Before accepting a container holding TRU waste, the Permittees will perform waste confirmation activities pursuant to Section C7 on each waste stream shipped to confirm that the waste does not contain ignitable, corrosive, or reactive waste and the assigned EPA hazardous waste numbers are allowed for storage and disposal by this QAPjP. Waste confirmation activities will be performed on at least 7 percent of each waste stream shipment. If a waste stream shipment contains fewer than 14 containers, one container will be examined to satisfy waste confirmation requirements. Section C-4 and Section C7 include descriptions of the waste confirmation processes that the Permittees will conduct prior to receiving a shipment at the WIPP facility.

Containers are vented through filters allowing any gases that are generated by radiolytic and microbial processes within a waste container to escape, thereby preventing over pressurization or development of conditions within the container that would lead to the formation of ignitable, corrosive, reactive, or other characteristic wastes. To ensure the integrity of the WIPP facility, waste streams identified to contain incompatible materials or materials incompatible with waste containers are not shipped to WIPP unless they are treated to remove the incompatibility. The CCP does not certify waste streams

identified to contain incompatible materials or materials incompatible with waste containers or backfill.

C-1d Control of Waste Acceptance

The CCP will provide a WSPF and CIS to the Permittee for each waste stream prior to shipment of the waste (T2). The WSPF and CIS elements are found in Section C3-6b(1) and Section C3-6b(2). The CCP will provide the WSPF to the Permittees for each waste stream prior to its acceptance for disposal at WIPP. The WSPF and the CIS will be transmitted to the Permittees for each waste stream. After WSPF submittal, if continued waste characterization activities reveal discrepancies that identify different hazardous waste numbers or indicate that the waste belongs to a different waste stream, the waste is redefined to a separate waste stream and a new WSPF is submitted.

The Permittees are responsible for the review of the WSPF and CISs to verify compliance with the restrictions on TRU wastes for WIPP disposal. Waste characterization data ensures the absence of prohibited items specified in Section C-1c. CCP determines by procedure the specific circumstances under which a WSPF is to be revised versus when a new WSPF is required.

The CCP provides a Waste Stream Characterization Package (as described in Section C3-6b(3)) to the Permittees upon request. The option for the Permittees to request additional information ensures that the waste being offered for disposal is adequately characterized and accurately described on the WSPF.

C-1e Waste Generating Processes at the WIPP Facility

Not applicable. This section applies to the Permittee.

C-2 Waste Characterization Program Requirements and Waste Characterization Parameters

The CCP has developed the procedures which specify the programmatic waste characterization requirements (Q10). DOE will evaluate the procedures during audits and as part of the review and approve of the WSPF.

CCP must notify the Permittees and obtain DOE approval prior to making data-affecting modifications to procedures (Q10). Program procedures shall address the following minimum elements:

- Waste characterization and certification procedures for retrievably stored and newly generated wastes to be sent to the WIPP facility.

- Methods used to ensure prohibited items are documented and managed. These will include procedures for performing radiography, VE, or treatment, if these methods are used to ensure prohibited items are not present in the waste prior to shipment of the waste to WIPP.

- Identify the organization(s) responsible for compliance with waste characterization and certification procedures.

- Identify the oversight procedures and frequency of actions to verify compliance with waste characterization and certification procedures.

- Develop training specific to waste characterization and certification procedures.

- Ensure that personnel may stop work if noncompliance with waste characterization or certification procedures is identified.

- Develop a nonconformance process that complies with the requirements in Section C3 to document and establish corrective actions.

- As part of the corrective action process, assess the potential time frame of the noncompliance, the potentially affected waste population(s), and the reassessment and recertification of those wastes.

- A listing of all approved hazardous waste numbers which are acceptable at WIPP are included in Table C-5.

For those waste streams or containers that are not amenable to radiography (e.g., RH TRU waste, direct loaded ten-drum overpacks [TDOPs]) for waste confirmation by the Permittees pursuant to Section C7, CCP VE data may be used for waste acceptance. In those cases, the Permittees will review the CCP VE procedures to ensure that data sufficient for the Permittees' waste acceptance activities pursuant to Section C7 will be obtained and the procedures meet the minimum requirements for VE specified in Section C1-1.

The following waste characterization parameters are obtained from the CCP prior to waste certification:

- Determination whether TRU waste streams comply with the applicable provisions of the TSDF-WAC.

- Determination whether TRU mixed wastes exhibit a hazardous characteristic (20.4.1.200 NMAC, incorporating 40 CFR §261 Subpart C).

- Determination whether TRU mixed wastes are listed (20.4.1.200 NMAC, incorporating 40 CFR §261 Subpart D).

- Estimation of waste material parameter weights.

Table C-1, Summary of Parameters, Characteristic Methods, and Rationale for Transuranic Mixed Waste, provides the parameters of interest for the constituent groupings and testing methodologies.

C-3 Generator Waste Characterization Methods

The characterization techniques used by the CCP include AK and may also include, as necessary, VE, and radiography. Characterization activities are performed in accordance with this QAPjP. Table C-1, Summary of Parameters, Characterization Methods, and Rationale for Transuranic Mixed Waste, provides a summary of the characterization requirements for TRU waste.

C-3a Acceptable Knowledge

AK is used in TRU waste characterization activities in five ways:

- To delineate TRU waste streams

- To assess whether TRU mixed wastes comply with the TSDF-WAC

- To assess whether TRU wastes exhibit a hazardous characteristic (New Mexico Hazardous Waste Management Regulations in 20.4.1.200 NMAC incorporating 40 CFR §261 Subpart C)

- To assess whether TRU wastes are listed (20.4.1.200 NMAC, incorporating 40 CFR §261 Subpart D)

- To estimate waste material parameter weights

AK is discussed in detail in Section C4, which outlines the minimum set of requirements and DQOs met by the CCP in order to use AK.

C-3b Radiography and Visual Examination

Radiography and VE are nondestructive qualitative and quantitative techniques used to identify and verify waste container contents as specified in Section C1. The CCP performs radiography or VE of 100 percent of CH-TRU waste containers in waste streams except for those waste streams for which the DOE approves a Determination Request. No RH-TRU waste will be shipped to WIPP for storage or disposal without

documentation of radiography or VE of 100 percent of the containers as specified in Section C1. VE consists of either observing the filling of waste containers or opening full containers and physically examining their contents. Radiography and/or VE are used, when necessary, to examine a waste container to verify the physical form of the waste matches its waste stream description as determined by AK. These techniques detect observable liquid in excess of TSDF-WAC limits and containerized gases which are prohibited for WIPP disposal. The prohibition of liquid in excess of TSDF-WAC limits and containerized gases prevents the shipment of corrosive, ignitable, or reactive wastes. Radiography and/or VE are also able to verify the physical form of the waste matches its waste stream description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals]).

If the physical form does not match the waste stream description, the waste is designated as another waste stream and assigned the preliminary hazardous waste numbers associated with that new waste stream assignment. That is, if radiography and/or VE indicate that the waste does not match the waste stream description produced by AK characterization, a nonconformance report (NCR) is completed and the inconsistency resolved as specified in Section C4 (Q5), and the NCR will be dispositioned as specified in Section C3-7. The proper waste stream assignment is determined (including preparation of a new WSPF), the correct hazardous waste numbers are assigned, and the resolution is documented. The AK verification process is discussed in Section C4.

If CCP uses VE, the detection of any liquid in non-transparent internal containers, detected from shaking the internal container, is handled by assuming that the internal container is filled with liquid and adding this volume to the total liquid in the container being characterized using VE. The container being characterized using VE is then repackaged or rejected to exclude the internal container if it does not meet the requirements of the TSDF-WAC. When radiography is used or VE of transparent containers is performed, if any liquid in internal containers is detected, the volume of liquid is added to the total for the container being characterized using radiography or VE. Radiography, or the equivalent, is used as necessary on the existing or stored waste containers to verify the physical characteristics of the TRU waste corresponding with its waste stream identification and waste matrix code and to identify prohibited items. Radiographic examination protocols and QA/QC methods are provided in Section C1. Radiography and VE shall be subject to the Audit and Surveillance Program.

C-4 Data Verification and Quality Assurance

The CCP ensures that its applicable waste characterization process performance for generator/storage sites sending TRU waste to the WIPP for disposal meets WAP requirements through data validation, verification, usability and reporting controls. Verification occurs at three levels: 1) the CCP data generation level, 2) the CCP project

level, which consists of verification and validation by the CCP to ensure that applicable WAP requirements are met and; 3) the Permittee level. The validation and verification process and requirements at each level are described in Section C3-4. The validation verification process at the Permittee Level is also described in C-5.

C-4a Data Generation and Project Level Verification Requirements

C-4a(1) Data Quality Objectives

The waste characterization data obtained through implementation of this QAPjP are used by the Permittees to ensure that the regulatory requirements of the WAP are met with regard to compliance and to ensure that TRU wastes are properly managed during the disposal phase.

To satisfy the RCRA regulatory compliance requirements, the following are DQOs established by the WAP and flowed down to this QAPjP (T2):

Acceptable Knowledge

- To delineate TRU waste streams.
- To assess whether TRU mixed wastes comply with the applicable requirements of the TSDF-WAC.
- To assess whether TRU mixed wastes exhibit a hazardous characteristic (20.4.1.200 NMAC, incorporating 40 CFR §261, Subpart C).
- To assess whether TRU mixed wastes are listed (20.4.1.200 NMAC, incorporating 40 CFR §261, Subpart D).
- To estimate waste material parameter weights.

Radiography and VE

- Verify the TRU mixed waste streams contain no prohibited items and to verify the physical form of the waste matches the waste stream description as to be determined by AK.

Reconciliation of these DQOs by the SPM as applicable, is addressed in Section C3-11. Reconciliation requires determining whether sufficient types, quality, and quantity of data have been collected to ensure that the DQOs cited above can be achieved.

C-4a(2) Quality Assurance Objectives

The CCP shall demonstrate compliance with each Quality Assurance Objective (QAO) associated with the characterization methods in Section C3. The SPM performs reconciliation of the data with the DQOs established in this QAPjP. The SPM concludes that all of the DQOs have been met for the characterization of the waste stream prior to submitting a WSPF to the DOE for approval (T2).

The following QAO elements are considered for each technique, as a minimum:

- Precision - a measure of the mutual agreement among multiple measurements
- Accuracy - the degree of agreement between a measurement result and the true or known value
- Completeness - a measure of the amount of valid data obtained from a method compared to the total amount of data obtained (expressed as a percentage)
- Comparability - the degree to which one data set can be compared to another
- Representativeness - the degree to which sample data represent characteristics of a population

A more detailed discussion of the QAOs can be found in Section C3, which describes the QAOs associated with each test method.

C-4a(3) Data Generation

BDRs, in a format approved by the DOE, are used by CCP for reporting waste characterization data. The CCP formats for reporting waste characterization data in BDRs are specified in several procedures. These procedures comply with the waste characterization data reporting requirements described in Section C3.

C-4a(4) Data Verification

BDRs document the testing, and on-line results from required characterization activities, and required QA/QC activities. Data validation, review, and verification are performed at the data generation level and the CCP project level before the required data are transmitted to the Permittees (T1). Section C3 discusses the data validation process in greater detail. NMED may request, through the Permittees, copies of any BDR and/or the raw data validated by the CCP to check the DOE's audit of the validation and verification process.

C-4a(5) Data Transmittal

As part of the waste characterization data submittal, the CCP transmits the data electronically to the Permittees via the WIPP Waste Information System (WWIS)/Waste Data System (WDS) (T30, T530). Data will be entered into the WWIS/WDS in the exact format required by the data base as specified in Section C-5a(1) for WWIS/WDS reporting requirements and the *Waste Data System User's Manual* (DOE 2009) for the WWIS/WDS data fields and format requirements. BDRs include the information required by Section C3-4 and are transmitted by hard copy or electronically (provided a hard copy is available on demand) from the data generation level to the CCP project level.

Once a waste stream is fully characterized the SPM submits a WSPF, accompanied by a CIS for that waste stream to the Permittees, which includes a record of reconciliation with DQOs as described in Sections C3-6b(1) and C3-6b(2).

The WSPF, the CIS, and information from the WWIS/WDS is used as the basis for acceptance of waste characterization information on TRU wastes to be disposed of at WIPP.

C-4a(6) Records Management

Records related to waste characterization activities performed by the generator/storage sites will be maintained in the testing facility files or generator/storage site project files or at the WIPP Records Archive facility. Raw data obtained by testing TRU mixed waste in support of the WAP will be identifiable, legible, and provide documentary evidence of quality. TRU mixed waste characterization records submitted to the Permittees shall be maintained in the WIPP facility operating record and be available for inspection by NMED. A detailed description of CCP site-specific records management activities is provided in Section C7.

Records inventory and disposition schedule (RIDS) or an equivalent system shall be prepared and approved by CCP. All records relevant to an enforcement action under this Permit, regardless of disposition, shall be maintained in CCP Records at the generator/storage site or at the WIPP Records Archive facility until NMED determines they are no longer needed for enforcement action, and then dispositioned as specified in the approved RIDS. All waste characterization data and related QA/QC records for TRU mixed waste to be shipped to the WIPP facility are designated as either Lifetime Records or Non-Permanent Records. Records that are designated as Lifetime Records shall be maintained for the life of the waste characterization program by CCP Records or generator/storage sites plus six years or transferred for permanent archival storage to the WIPP Records Archive facility.

Waste characterization records include characterization records (i.e., headspace gas sampling and homogeneous solids and soil/gravel sampling/analysis) generated through implementation of previous requirements in this WAP. Those waste characterization records designated as Non-Permanent Records shall be maintained for 10 years from the date of (record) generation by CCP Records or at the participating generator/storage site or at the WIPP Records Archive facility and then dispositioned according to their approved RIDS. If a generator/storage site ceases to operate, all records shall be transferred before closeout to the Permittees for management at the WIPP Records Archive facility. Table C-2, Required Program Records, is a listing of records designated as Lifetime Records and Non-Permanent Records.

Classified information will not be transferred to WIPP. Notations will be provided to the Permittees indicating the absence of classified information. The approved CCP RIDS will identify the appropriate disposition of classified information. Nothing in the WIPP Permit is intended to, nor should it be interpreted to, require disclosure of any DOE classified information to persons without appropriate clearance to view such information.

C-5 Permittee Level Waste Screening and Verification of TRU Mixed Waste

This section is not applicable to CCP. This section applies to the Permittees.

C-5a Phase I Waste Stream Screening and Verification

The first phase of the waste screening and verification process occurs before TRU waste is shipped to the WIPP facility. Before the Permittees begin the process of accepting TRU waste from the CCP, an initial audit is conducted as part of the Audit and Surveillance Program. The audit of CCP provides verification of characterization procedures; BDR preparation; and recordkeeping that ensures that all applicable provisions of the WAP requirements are met. Another portion of the Phase I verification is the WSPF approval process. At the WIPP facility, this process includes verification that all of the required elements of a WSPF and CIS are present and that the summarized waste characterization information meets acceptance criteria required for compliance with the WAP (Section C3-6b(1)).

The CCP has prepared this QAPjP, which includes applicable WAP requirements. This document is submitted to DOE for review and approval. The CCP implements the specific parameters of this QAPjP after Permittee approval. An initial audit is performed after QAPjP implementation and prior to the CCP being certified for shipment of waste to WIPP. Additional audits, focusing on the results of waste characterization, are performed at least annually. The DOE has the right to conduct unannounced audits and to examine any records that are related to the scope of the audit. See Section C-5a(3) for further information regarding audits.

When the required waste stream characterization data have been collected by the CCP and the initial audit is successfully completed, the SPM will verify that the waste stream characterization meets the applicable WAP requirements as part of the project level verification (T2). If the waste characterization does not meet the applicable requirements of the WAP, the waste stream cannot be managed, stored, or disposed of at the WIPP until those requirements are met. The SPM will then complete the WSPF and submit it to the Permittees, along with the accompanying CIS for that waste stream. All data necessary to check the accuracy of the WSPF is transmitted to the Permittees. This provides notification that the CCP considers that the waste stream (identified by the waste stream identification number) has been adequately characterized for disposal prior to shipment to WIPP. The Permittees then compare radiography and VE data obtained subsequent to submittal and approval of the WSPF (and prior to submittal) with characterization information presented on this form. If the Permittees determine (through the data comparison) that the characterization information is adequate, DOE will approve the WSPF. Prior to the first shipment of containers from the approved waste stream, the approved WSPF and accompanying CIS is provided to NMED. If the data comparison indicates that analyzed containers have hazardous wastes not present on the WSPF, or a different waste matrix code applies, the WSPF is in error and is resubmitted. Ongoing WSPF examination is discussed in detail in Section C-5a(2).

Audits of CCP will be conducted as part of the Audit and Surveillance Program. The RCRA portion of the CCP audit program will provide on-site verification of waste characterization procedures; BDR preparation; and record keeping to ensure that all applicable provisions of the WAP requirements are met. As part of the waste characterization data submittal, the CCP also transmits the data on a container basis via the WWIS/WDS prior to shipment of that container. This data submittal occurs at any time as the data are being collected, but is complete for each container prior to shipment of that container. The WWIS/WDS conducts internal edit/limit checks based on the approved WSPF. The Permittees compare ongoing characterization data obtained and submitted via the WWIS/WDS to the approved WSPF. If this comparison shows that containers have hazardous wastes not reported on the WSPF, or a different waste matrix code applies, the data are rejected and the waste containers are not accepted for shipment until a new or revised WSPF is submitted to Permittees' and approved by the DOE.

If discrepancies regarding hazardous waste number assignment or Waste Matrix Code designation arise as a result of the Phase I review, the CCP is contacted by the Permittees and provides the necessary additional information to resolve the discrepancy before that waste stream is approved for disposal at the WIPP facility. If the discrepancy is not resolved, the waste stream is not approved for shipment.

C-5a(1) WWIS/WDS Description

The CCP supplies the required data to the Permittees via the WWIS/WDS (T30, T530). The WWIS/WDS Data Dictionary includes all of the data fields, the field format and the limits associated with the data as established by the WIPP WAP. These data will be subjected to edit and limit checks that are performed automatically by the database, as defined in the *Waste Data System User's Manual* DOE/WIPP-09-3427(DOE, 2009). The Permittees will coordinate the data transmission with CCP. Actual data transmission will use appropriate technology to ensure the integrity of the data transmissions. The Permittees will require sites with large waste inventories and large databases to populate a data structure provided by the Permittees that contains the required data dictionary fields that are appropriate for the waste stream (or waste streams) at the site. The Permittees will access these data via the Internet to ensure an efficient transfer of this data. Small quantity sites will be given a similar data structure by the Permittees that is tailored to their types of waste. Sites with very small quantities of waste will be provided with the ability to assemble the data interactively to this data structure on the WWIS/WDS.

The Permittees will use the WWIS/WDS to verify that all of the supplied data meet the applicable edit and limit checks prior to the shipment of any TRU waste to WIPP. The WWIS/WDS automatically notifies the CCP if any of the supplied data fails to meet the requirements of the edit and limit checks via an appropriate error message. The CCP corrects the discrepancy with the waste or the waste data and re-transmits the corrected data prior to acceptance of the data by the WWIS/WDS. The Permittees review data reported for each container of each shipment prior to providing notification to the CCP that the shipment is acceptable.

Access to the WWIS/WDS is controlled by the Permittees' Data Administrator (DA) who controls the WWIS/WDS users based on approval from management personnel.

The CCP only has access to CCP data supplied to WWIS/WDS, and only until the data have been formally accepted by the Permittees. After the data have been accepted, the data are protected from indiscriminate change and only changed by an authorized DA.

C-5a(2) Examination of the Waste Stream Profile Form and Container Data Checks

The Permittees verify the completeness and accuracy of the WSPF (Section C3-6b(1)). The assignment of the waste stream description, waste matrix code group, and Summary Category Groups; the AK summary documentation; the methods used for characterization; the DOE certification, and appropriate designation of hazardous waste number(s) are examined by the Permittees. If the WSPF is inaccurate, efforts are made to resolve discrepancies by contacting the CCP in order for the waste stream to be eligible for shipment to the WIPP facility. If discrepancies in the

waste stream are detected, the CCP implements a non-conformance action to identify, document, and report discrepancies.

The WSPF shall pass all verification checks by the Permittees in order for the waste stream to be approved by DOE for shipment to the WIPP facility. The WSPF check against waste container data will occur during the initial WSPF process (Section C-5a). Waste data transferred via the WWIS/WDS after WSPF approval is compared with the approved WSPF. Any container from an approved hazardous waste stream with a description different from its WSPF is not shipped to the WIPP for disposal.
The CCP verifies that the three different types of data specified below are available for every container holding TRU waste before that waste is managed, stored, or disposed at WIPP: 1) an assignment of the waste stream's waste description (by waste matrix codes) and waste matrix code group; 2) a determination of ignitability, reactivity, and corrosivity; and 3) a determination of compatibility. The CIS indicates if the waste was checked for the characteristics of ignitability, corrosivity, and reactivity.

Any container with unresolved discrepancies associated with hazardous waste characterization will not be managed, stored, or disposed at the WIPP facility until the discrepancies are resolved. If discrepancies cannot be resolved, the DOE will revoke the approval status of the waste stream and CCP will suspend shipments of the waste stream. Waste stream approval will not be reinstated until the CCP demonstrates all corrective actions have been implemented and the CCP waste characterization program is reassessed by the DOE.

C-5a(3) Audit and Surveillance Program

This section is not applicable to the CCP. It applies to the Permittees.

C-5b Phase II Waste Shipment Screening and Verification

For each container shipped, the CCP provides the following information (T86):

Hazardous Waste Manifest Information:

- Generator/storage site name and EPA Identification Number
- CCP contact name and phone number
- Quantity of waste
- List of up to six state and/or federal hazardous waste numbers in each line item

- Listing of all shipping container identification numbers (IDs) (Shipping Package serial number)

- Signature of authorized generator representative

Specific Waste Container information:

- Waste Stream Identification Number
- List of hazardous Waste Numbers per Container
- Certification Data
- Shipping Data (assembly numbers, ship date, shipping category, etc.)

This information is also supplied electronically to the WWIS/WDS. The container-specific information will be supplied electronically as described in Section C-5a(1), and is supplied prior to shipment.

C-5b(1) Examination of the EPA Uniform Hazardous Waste Manifest and Associated Waste Tracking Information

Manifest discrepancies will be identified during manifest examination and container bar-code WWIS/WDS data comparison. A manifest discrepancy is a difference between the quantity or type of hazardous waste designated on the manifest and the quantity or type of hazardous waste the WIPP facility actually receives. The CCP technical contact (as listed on the manifest) is contacted to resolve the discrepancy. Errors on the manifest are corrected by the WIPP facility with a verbal (followed by a mandatory written) concurrence by the CCP technical contact. If the manifest discrepancies are not resolved in thirty (30) days of waste receipt, the shipment is returned to the facility where the CCP performed the characterization.

C-5b(2) Examination of the Land Disposal Restriction Notice

TRU waste designated by the Secretary of Energy for disposal at WIPP is exempt from the Land Disposal Restrictions (LDRs) by the WIPP Land Withdrawal Act Amendment (Public Law 104-201). This amendment states that WIPP “Waste is exempted from treatment standards promulgated pursuant to section 3004(m) of the Solid Waste Disposal Act (42 U.S.C. 6924[m]) and shall not be subjected to the Land Disposal prohibitions in section 3004(d), (e), (f), and (g) of the Solid Waste Disposal Act.”

Therefore, with the initial shipment of a TRU waste stream, the CCP provides the Permittees with a onetime written notice. The notice includes the information listed below:

Land Disposal Restriction Notice Information:

- EPA hazardous waste numbers and Manifest Numbers of first shipment of a mixed waste stream
- Statement: this waste is not prohibited from land disposal
- Date the waste is subject to prohibition

This information is the applicable information taken from column "268.7(a)(4)" of the "Generator Paperwork Requirements Table" in 20.4.1.800 NMAC (incorporating 40 CFR §268.7(a)(4)). Note that item "5" from the "Generator Paperwork Requirements Table" is not applicable since waste analysis data are provided electronically via the WWIS/WDS and item "7" is not applicable since waste designated by the Secretary of Energy for disposal at WIPP is exempted from the treatment standards.

The Permittees review the LDR notice for accuracy and completeness. The CCP prepares this notice in accordance with the applicable requirements of 20.4.1.800N MAC (incorporating 40 CFR §268.7(a)(4)).

C-5b(3) Verification

This section is not applicable to CCP. This section applies to the Permittees.

C-6 Permittees' Waste Shipment Screening QA/QC

This section is not applicable to CCP. This section applies to the Permittees.

C-7 Records Management and Reporting

All waste characterization data for each TRU waste container transmitted to WIPP shall be maintained by the Permittees for the active life of the WIPP facility plus two years (Q8). The active life of the WIPP facility is defined as the period from the initial receipt of TRU waste at the facility until NMED receives certification of final closure of the facility. After their active life, the records shall be retired to the WIPP Records Archive facility and maintained for 30 years. These records will then be offered to the National Archives. However, this disposition requirement does not preclude the inclusion of these records in the permanent marker system or other requirements for institutional control.

Waste characterization and waste confirmation data and documents related to waste characterization that are part of the WIPP facility operating record are managed in accordance with the following guidelines:

C-7a General Requirements

- Records shall be legible
- Corrections shall be made with a single line through the incorrect information, and the date and initial of the person making the correction shall be added
- Black ink is encouraged, unless a copy test has been conducted to ensure the other color ink will copy
- Use of highlighters on records is discouraged
- Records shall be reviewed for completeness
- Records shall be validated by the cognizant manager or designee

C-7b Records Storage

- Active records shall be stored when not in use
- Quality records shall be kept in a one-hour (certified) fire-rated container or a copy of a record shall be stored separately (sufficiently remote from the original) in order to prevent destruction of both copies as a result of a single event such as fire or natural disaster
- Unauthorized access to the records is controlled by locking the storage container or controlling personnel access to the storage area

C-8 Reporting

This section is not applicable to CCP. This section applies to the Permittees.

Table C-1. Summary of Parameters, Characterization Methods, and Rationale for Transuranic Mixed Waste

Waste Matrix Code Summary Categories	Waste Matrix Code Groups	Characterization Parameter	Method	Rationale
S3000-Homogeneous Solids	• Solidified inorganics • Salt waste • Solidified organics	Physical waste form	Acceptable knowledge, radiography and/or visual examination	• Determine waste matrix • Demonstrate compliance with waste acceptance criteria (e.g., no liquid in excess of TSDF-WAC limits, no incompatible wastes, no compressed gases)
S4000-Soil/Gravel	• Contaminated soil/debris			
S5000-Debris Waste	• Uncategorized metal (metal waste other than lead/cadmium) • Lead/cadmium waste • Inorganic nonmetal waste • Combustible waste • Graphite waste • Heterogeneous debris waste • Composite filter waste	Hazardous constituents • Listed • Characteristic	Acceptable knowledge	• Determine assignment of EPA hazardous waste numbers

Table C-2. Required Program Records Maintained in Generator/Storage Site Project Files

Lifetime Records
• Field sampling data forms • Field and laboratory chain-of-custody forms • Test facility and laboratory batch data reports • Waste Stream Characterization Packages • Sampling plans • Data reduction, validation, and reporting documentation • AK documentation • WSPFs and CIS
Non-Permanent Records
• Nonconformance documentation • Variance documentation • Assessment documentation • Gas canister tags • Methods performance documentation • PDP documentation • Sampling equipment certifications • Calculations and related software documentation • Training/qualification records • QAPjPs documentation (all revisions) • Calibration documentation • Analytical raw data • Procurement records • QA and technical procedures (all revisions) • Audio/video recordings (radiography, VE)

Table C-3. WIPP Waste Information System Data Fields[a]

Characterization Module Data Fields [b]	
Container ID [c] Generator EPA ID Generator Address Generator Name Generator Contact Hazardous Code Layers of Packaging Liner Exists Liner Hole Size Filter Model Number of Filters Installed Item Description Code Haz. Manifest Number NDE Complete [e]	Transporter EPA ID Transporter Name Visual Exam Container [e] Waste Material Parameter [d] Waste Material Weight [d] Waste Matrix Code Waste Matrix Code Group Waste Stream Profile Number
Certification Module Data Fields	
Container ID [c] Container type Container Weight Contact Dose Rate Container Certification date Container Closure Date Handling Code	
Transportation Data Module	
Contact Handled Package Number Assembly Number[f] Container IDs [c,d] ICV Closure Date Ship Date Receive Date	
Disposal Module Data	
Container ID [c] Disposal Date Disposal Location	

[a] This is not a complete list of the WWIS/WDS data fields.
[b] Some of the fields required for characterization are also required for certification and/or transportation.
[c] Container ID is the main relational field in the WWIS/WDS Database.
[d] This is a multiple occurring field for each waste material parameter, nuclide, etc.
[e] These are logical fields requiring only a yes/no.
[f] Required for 7-Packs of 55-gallon drums, 4-packs of 85-gallon drums, or 3-packs of 100-gallon drums to tie all of the drums in that assembly together. This facilitates the identification of waste containers in a shipment without need to breakup the assembly.

Table C-4. Waste Tanks Subject to Exclusion

Hanford Site - 177 Tanks	
A-101 through A-106	C-201 through C-204
AN-101 through AN-107	S-101 through S-112
AP-101 through AP-108	SX-101 through SX-115
AW-101 through AW-106	SY-101 through SY-103
AX-101 through AX-104	T-101 through T-112
AY-101 through AY-102	T-201 through T-204
B-101 through B-112	TX-101 through TX-118
B-201 through B-204	TY-101 through TY-106
BX-101 through BX-112	U-101 through U-112
BY-101 through BY-112	U-201 through U-204
C-101 through C-112	
SRS - 51 Tanks	
Tank 1 through 51	
Idaho National Laboratory - 15 Tanks	
WM-103 through WM-106	WM-180 through 190

Table C-5. Listing of Permitted Hazardous Waste Numbers

EPA Hazardous Waste Numbers			
F001	D019	D043	U079
F002	D021	P015	U103
F003	D022	P030	U105
F004	D026	P098	U108
F005	D027	P099	U122
F006	D028	P106	U133*
F007	D029	P120	U134*
F009	D030	U002*	U151
D004	D032	U003*	U154*
D005	D033	U019*	U159*
D006	D034	U037	U196
D007	D035	U043	U209
D008	D036	U044	U210
D009	D037	U052	U220
D010	D038	U070	U226
D011	D039	U072	U228
D018	D040	U078	U239*

* Acceptance of U-numbered wastes listed for reactivity, ignitability, or corrosivity characteristics is contingent upon a demonstration that the wastes no longer exhibit the characteristic of reactivity, ignitability, or corrosivity.

Figure C-1. Waste Stream Profile Form (Example Only)

(1) Waste Stream Profile Number:								
(2) Generator site name:							(3) Generator site EPA ID:	
(4) Technical contact:							(5) Technical contact phone number:	
(6) Date of audit report approval by New Mexico Environment Department (NMED):								
(7) Title, version number, and date of documents used for WIPP-WAP Certification:								
(8) Did your facility generate this waste?	YES		NO					
(9) If no, provide the name and EPA ID of the original generator:								
Waste Stream Information[1]								
(10) WIPP ID:							(11) Summary Category Group:	
(12) Waste Matrix Code Group:							(13) Waste Stream Name:	
(14) Description from the ATWIR:								
(15) Defense TRU Waste:	YES		NO					
(16) Check One:	CH		RH					
(17) Number of SWBs (17a) Number of SLB2		(18) Number of Drums					(19) Number of Canisters	
(20) Batch Data Report numbers supporting this waste stream characterization:								
(21) List applicable EPA Hazardous Waste Numbers:[2]								
(22) Applicable TRUCON Content Numbers:								
(23)**Acceptable Knowledge Information[1]**								
(For the following, enter the supporting documentation used [i.e., references and dates])								
Required Program Information								
(23A) Map of site:								
(23B) Facility mission description:								
(23C) Description of operations that generate waste:								
(23D) Waste identification/categorization schemes:								
(23E) Types and quantities of waste generated:								
(23F) Correlation of waste streams generated from the same building and process, as applicable:								
(24) Waste certification procedures:								
(25)Required Waste Stream Information								
(25A) Area(s) and building(s) from which the waste stream was generated:								
(25B) Waste stream volume and time period of generation:								
(25C) Waste generating process description for each building:								
(25D) Waste Process flow diagrams:								
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form:								
(25F) Waste Material Parameter Weight Estimates per unit of waste								
(26) Which Defense Activity generated the waste:								
	Weapons activities including defense inertial confinement fusion							Naval Reactors development
	Verification and control technology							Defense research and development
	Defense nuclear waste and material by products management							Defense nuclear material production
	Defense nuclear waste and materials security and safeguards and security investigations							

Figure C-1. Waste Stream Profile Form (Example Only) (continued)

(27)Supplemental Documentation:	
(27A) Process design documents:	
(27B) Standard operating procedures:	
(27C) Safety Analysis Reports:	
(27D) Waste packaging logs:	
(27E) Test plans/research project reports:	
(27F) Site databases:	
(27G) Information from site personnel:	
(27H) Standard industry documents:	
(27I) Previous analytical data:	
(27J) Material safety data sheets:	
(27K) Sampling and analysis data from comparable/surrogate Waste:	
(27L) Laboratory notebooks:	
Confirmation Information2	
For the following, when applicable, enter procedure title(s), number(s) and date(s)	
(28)	Radiography:
	Visual Examination:
(29) Comments: For a list of the waste characterization procedures used and date of respective procedures see the list of procedures on the attached CIS.	

Reviewed by AK Expert: **YES** ☐ **Date:** _____

Reviewed by STR (if necessary): **YES** ☐ **N/A** ☐ **Date:** _____

Waste Stream Profile Form Certification:

I hereby certify that I have reviewed the information in this Waste Stream Profile Form, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature of Site Project Manager	Printed Name	Date

Controlled
Copy

Figure C-2. Waste Characterization Process (Reprinted from the WAP, Figure C-2)

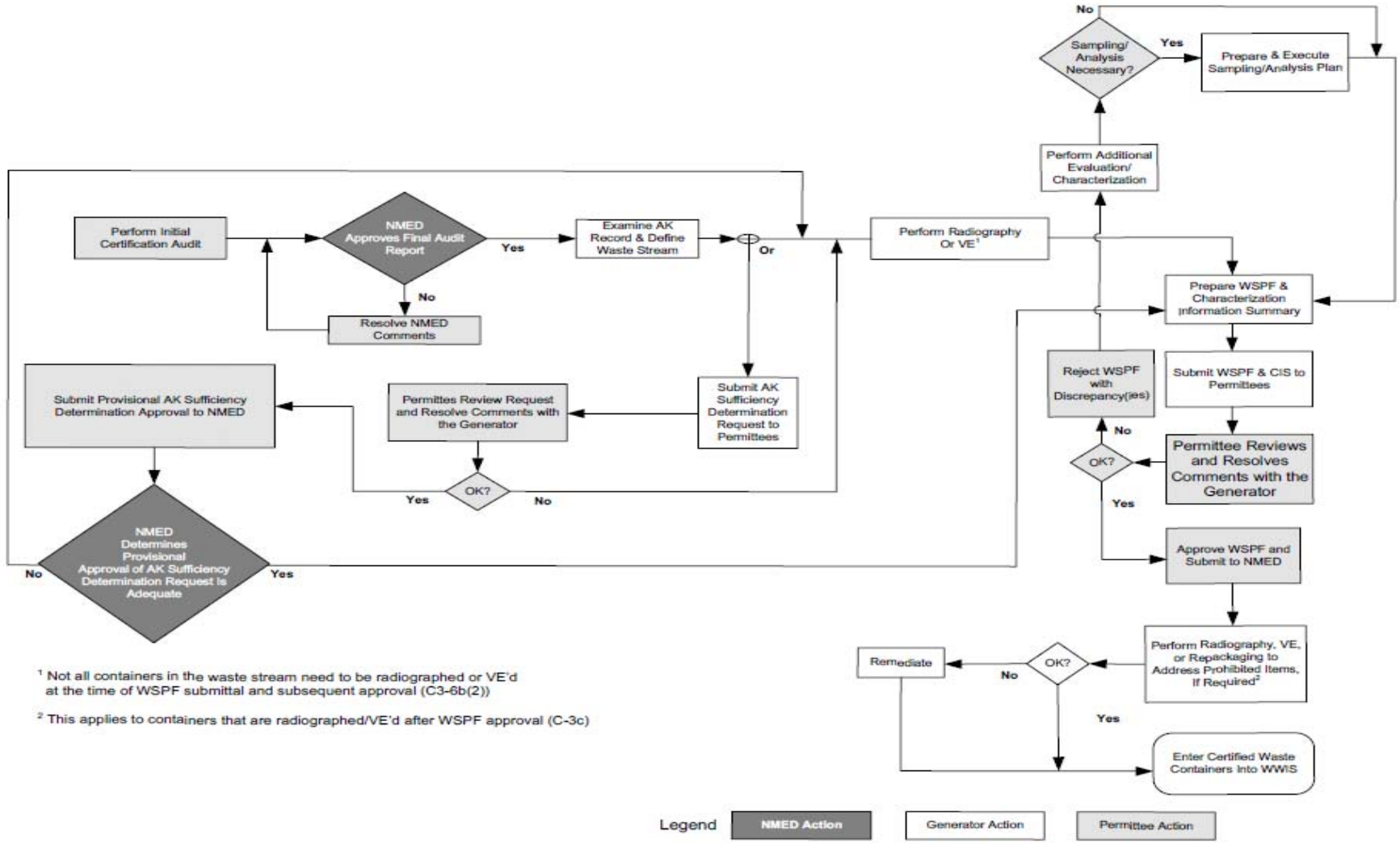


Figure C-3. TRU Mixed Waste Screening and Verification Flow Diagram

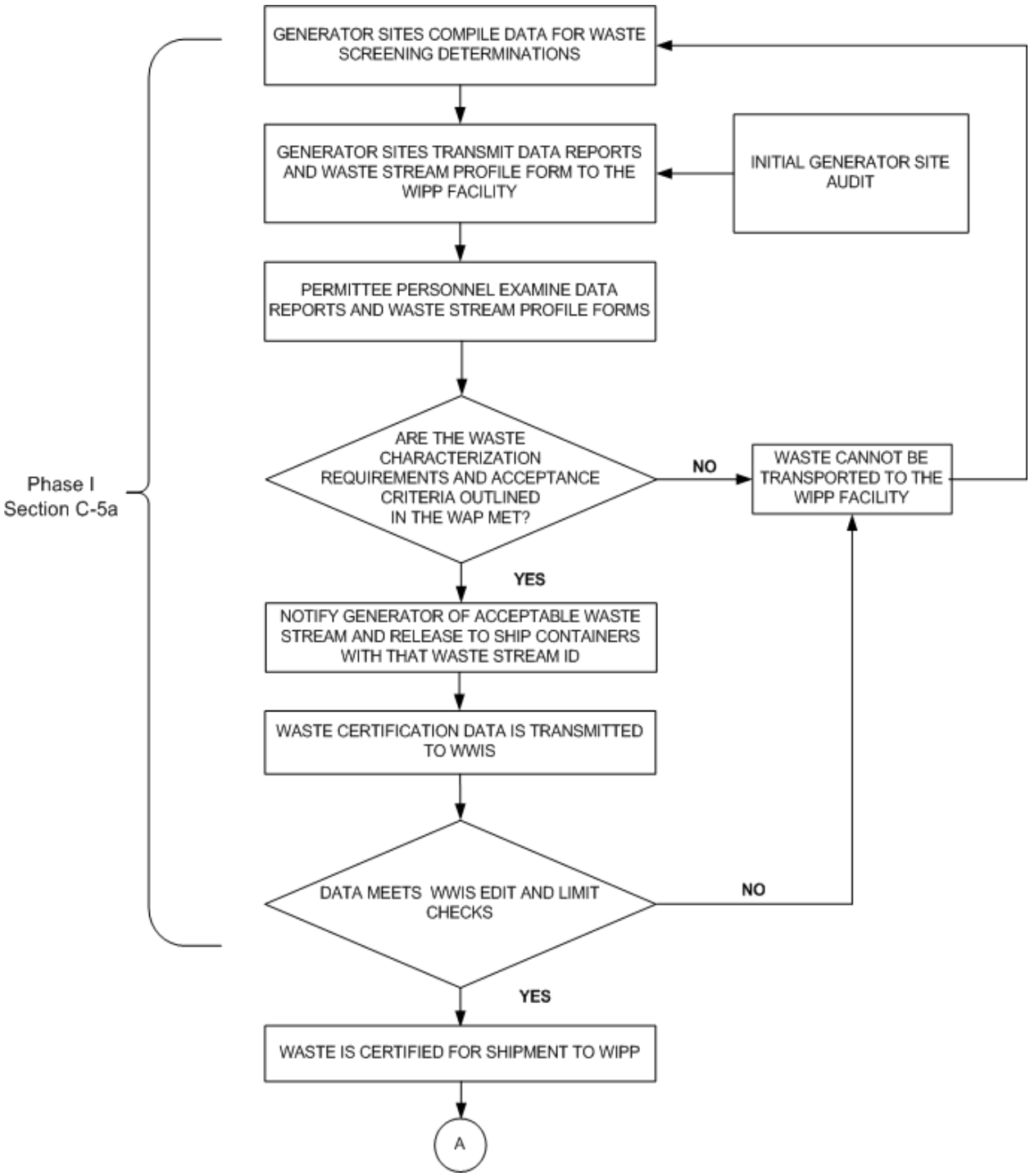
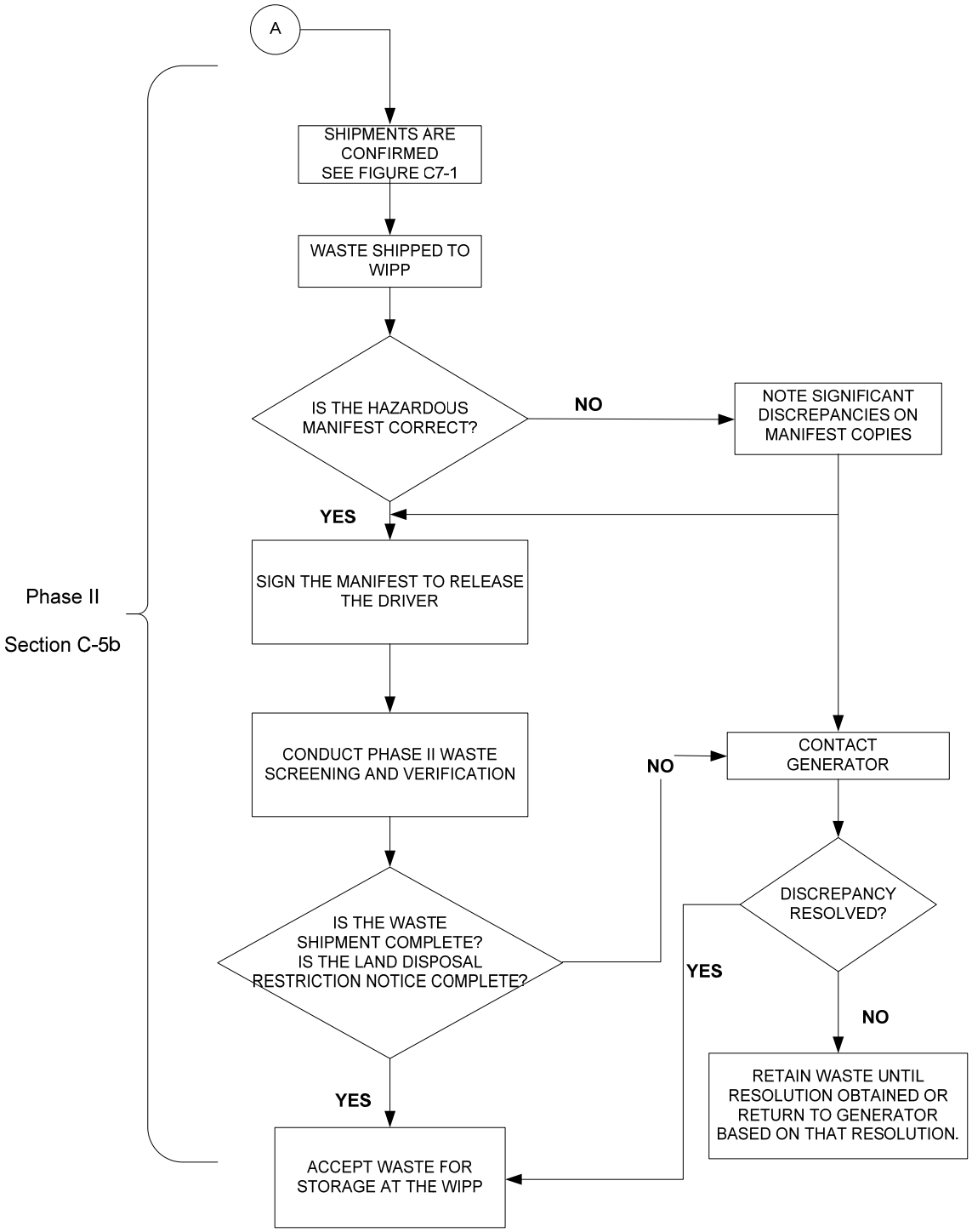


Figure C-3. TRU Mixed Waste Screening and Verification Flow Diagram (continued)



C1 WASTE CHARACTERIZATION TESTING METHODS

CCP characterizes TRU waste for shipment to WIPP by using the following methods, if applicable, for characterization of TRU waste. These methods include requirements for radiography or VE. This section describes these methods, QC requirements.

C1-1 Radiography

Radiography aids in the examination and identification of containerized waste. There is no equivalent EPA method. Personnel perform radiography in accordance with the procedures to meet the WAP requirements described in the following sections (T53, T508). Additionally, these procedures include instructions specific to the radiography method used. For example, details about moving the drum in a specific way in order to detect liquids are included in the radiography procedures. QAOs for radiography are contained in Section C3-2a.

All activities required to achieve the radiography objectives are described in the QAPjP and radiography-related Standard Operating Procedures (SOPs). A radiography system (e.g., real time radiography, digital radiography/computed tomography) normally consists of the following components: x-ray-producing device; imaging system; an enclosure for radiation protection; a waste container handling system; an audio/visual recording system; and an operator control and data acquisition station. The radiography equipment has controls (or an equivalent process) that allow the operator to control image quality for materials of varying density. On some radiography systems, it should be possible to vary the voltage, typically between 150-400 kilovolts (kV), to provide an optimum degree of penetration through the waste. For example, high-density material is examined with the x-ray device set on the maximum voltage. This ensures maximum penetration through the waste container. Low-density material is examined at lower voltage settings to improve contrast and image definition. The imaging system utilizes a fluorescent screen, a low-light television camera, or x-ray detectors to generate the image.

To perform radiography, the waste container is scanned while the operator views the television screen. A video and audio recording is made of the waste container scan and is maintained as a Non-Permanent Record. A radiography data form is also used to document the waste matrix code, to ensure that the waste container contains no ignitable, corrosive, or reactive waste by documenting the absence of liquids in excess of TSDF-WAC limits or compressed gases, and verify that the physical form of the waste is consistent with the waste stream description documented in the AK Summary Report. Containers whose contents prevent full examination of the remaining contents are subject to VE unless the CCP certifies that VE would provide no additional relevant information for that container based on the acceptable knowledge information for the waste stream. Such certification shall be documented in CCP records.

For containers which contain classified shapes and undergo radiography, the radiography video and audio recording will be considered classified. The radiography data forms will not contain classified information.

The radiography system involves qualitative and semi-quantitative evaluations of visual displays. Operator training and experience are the most important considerations for ensuring QC in regard to the operation of the radiography system and for interpretation and disposition of radiography results. Only trained personnel are allowed to operate radiography equipment.

Standardized training requirements for radiographic operators are based on existing industry standard training requirements.

Formal and on-the-job training (OJT) elements are listed below. In addition, radiography personnel are instructed in the specific waste generating practices, typical packaging configurations, and associated waste material parameters expected to be found in the waste matrix code. OJT and apprenticeship of radiography personnel are conducted by experienced, qualified radiography operators prior to qualification of training candidates. Training describes the site equipment, waste configurations, and the level of waste characterization efforts for the CCP. In addition, radiography operators are trained on the types of waste, physical forms, packaging configurations, and QC requirements for site waste characterized by the CCP.

All of the radiography QC requirements specified in the QAPjP shall be incorporated into the CCP training programs and radiography operations, so that data quality and comparability will not be affected (T28, T510). The radiography training program is subject to the audit and surveillance program. The training program includes items required by CCP-QP-002, *CCP Training and Qualification Plan,* and the required elements listed below.

One or more training containers with items (including prohibited items) common to the waste streams to be characterized and internal containers of various sizes is scanned semi-annually by each operator. The audio and video media are then reviewed by a supervisor to ensure that operators' interpretations remain consistent and accurate. Imaging system characteristics are verified on a routine basis.

Independent replicate scans and replicate observations of the video output of the radiography process are performed under uniform conditions and procedures. Independent replicate scans are performed on one waste container per day or once per testing batch, whichever is less frequent by a qualified radiography operator that was not involved in the original scan of the waste container. Independent observations of one scan (not the replicate scan) are made once per day or once per testing batch, whichever is less frequent, by a qualified radiography operator that was not involved in the original scan of the waste container. A testing batch is a suite of waste containers

undergoing radiography using the same testing equipment. A testing batch can be up to 20 waste containers without regard to waste matrix.

Oversight functions include periodic audio/video media reviews of accepted waste containers and are performed by qualified radiography operators that were not involved in the original scans of the waste containers. The results of this independent verification are available to the radiography operators who performed the original scans. The SPM is responsible for monitoring the quality of the radiography data and calling for corrective action, when necessary.

C1-2 Visual Examination

The CCP may use VE to verify container's contents. VE is performed by physically examining the contents of waste containers to verify the Waste Matrix Code and to verify that the container is properly included in the appropriate waste stream (T6, T113, T163, T500).

VE is conducted on a waste container to identify and describe all waste items, packaging materials, and waste material parameters in the waste containers. VE activities are documented on video/audio media or by using a second operator to provide additional verification by reviewing the contents of the waste container to ensure correct reporting. When VE is performed using a second operator, each operator performing the VE will observe for themselves the waste being placed in the waste container or the contents within the examined waste container when waste is not removed. The results of all VE are documented on VE data forms, which are used to document the Waste Matrix Code, ensure that the waste container contains no ignitable, corrosive, or reactive waste by documenting the absence of liquids in excess of TSDF-WAC limits or compressed gases, and verify that the physical form of the waste is consistent with the waste stream description documented in the AK Summary.

VE recorded on video/audio media shall meet the following minimum requirements:

- The video/audio media shall record the waste packaging event for the container such that all waste items placed into the container are recorded in sufficient detail and shall contain an inventory of waste items in sufficient detail that another trained VE operator can identify the associated waste material parameters.

- The video/audio media shall capture the waste container identification number.

- The personnel loading the waste container shall be identified on the video/audio media or on packaging records traceable to the loading of the waste container.

- The date of loading of the waste container will be recorded on the video/audio media or on packaging records traceable to the loading of the waste container.

VE performed using two generator site personnel shall meet the following minimum requirements:

- At least two generator site personnel who witnessed the packaging of the waste shall approve the data forms or packaging records attesting to the contents of the waste container.

- The data forms or packaging records shall contain an inventory of waste items in sufficient detail that another trained VE operator can identify the associated waste material parameters.

- The waste container identification number shall be recorded on the data forms or packaging records.

VE video/audio media of containers which contain classified shapes, shall be considered classified information. VE data forms or packaging records will not contain classified information.

Waste container packaging records may be used to meet the VE DQOs, Sections C-4a(1). These records must meet the minimum requirements listed above for either VE recorded on video/audio media or VE performed by two generator site personnel, and shall be reviewed by operators trained and qualified to the requirements listed below. The operators will prepare data forms based on the VE records. VE BDRs will be prepared, reviewed, and approved as described in Section C-4 and Section C3.

There will be standardized training for VE. VE operators are instructed in the specific waste-generating processes, typical packaging configurations, and waste material parameters expected to be found in each waste matrix code at the site. The training covers the various waste configurations generated/stored at the site. The particular physical forms and packaging configurations will vary at each site, so operators will be trained to examine the types of waste that are generated, stored and/or characterized at that site. Training will include the following regardless of Summary Category Group:

- Identifying and describing the contents of a waste container by examining all items in waste containers of previously packaged waste

- Identifying when VE cannot be used to meet the DQOs

VE personnel are requalified once every two years.

The SPM designates VE experts. Designated VE experts are familiar with the waste-generating processes that have taken place at the site and waste types for wastes being characterized at a particular site. VE experts are responsible for the overall direction and implementation of VE activities for the CCP at that site. VE experts meet the qualification and training requirements specified in CCP-QP-002 and make decisions based on training, previous experience, and knowledge of the waste stream.

C2 RESERVED

C3 QUALITY ASSURANCE OBJECTIVES AND DATA VALIDATION TECHNIQUES FOR WASTE CHARACTERIZATION METHODS

C3-1 Validation Methods

The CCP performs validation of qualitative and quantitative data so that characterization data are of known and acceptable quality.

The qualitative data or descriptive information generated by radiography and VE are not amenable to statistical data quality analysis. However, radiography and VE are complementary techniques yielding similar data for determining the waste matrix code. The waste matrix code is determined to ensure that the container is properly included in the appropriate waste stream.

Data validation is used to assess the quality of waste characterization data collected based on project precision, accuracy, completeness, comparability, and representativeness objectives. These objectives are described below:

Precision

Precision is a measure of the mutual agreement among multiple measurements.

Accuracy

Accuracy is the degree of agreement between a measured result and the true or known value.

Completeness

Completeness is a measure of the amount of valid data obtained from a method compared to the total amount of data collected.

Comparability

Comparability is the degree to which one data set can be compared to another.

Representativeness

Representativeness is the degree to which sample data represent a characteristic of a population.

C3-2 Nondestructive Examination Methods

Quality Assurance Objectives

The QAOs for nondestructive examination (NDE) are detailed in this section. NDE can be either radiography or VE. If the QAOs in this section are not met, then corrective actions are taken. NDE is a primary qualitative determination. The objective of NDE for the program is to verify that the physical form of waste matches the waste stream description as determined by AK and the absence of prohibited items. CCP describes all of the activities required to achieve these objectives in this QAPjP and the operating procedures listed in Section C1.

C3-2a Radiography (T53, T508)

Data to meet the QAOs for radiography are obtained from a video and audio recorded scan provided by trained radiography operators at the Host site. Results are also recorded on a radiography data form. The precision, accuracy, completeness, and comparability objectives for radiography data follow.

Precision

Precision is maintained by reconciling any discrepancies between two radiography operators with regard to identification of the waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases through independent replicate scans and independent observations. The precision of radiography is also verified prior to use by tuning precisely enough to demonstrate compliance with QAOs listed in Section C-4a through viewing an image test pattern.

Accuracy

Accuracy is obtained by using a target to tune the image for maximum sharpness and by requiring operators to successfully identify 100 percent of the items required to meet the DQOs for radiography specified in Section C. Section C-4a(1) in a training container during their initial qualification and subsequent requalification.

Completeness

To ensure completeness, video and audio media recording of the radiography of the radiography examination and a validated radiography data form are obtained for 100 percent of retrievably stored waste containers that are examined by radiography. All video and audio media recordings and radiography data forms are subject to validation as indicated in Section C3-7.

Comparability

The comparability of radiography data from different operators is enhanced by using standardized radiography procedures and operator qualifications.

C3-2b Visual Examination (T6, T113, T163, T500)

Results must be recorded on a VE data form. The precision, accuracy, completeness, and comparability objectives for VE data are presented below.

Precision

Precision is maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases.

Accuracy

Accuracy is maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification. VE operators shall be requalified every two years.

Completeness

A validated VE data form will be obtained for 100 percent of the waste containers subject to VE.

Comparability

The comparability of VE data from different operators shall be enhanced by using standardized VE procedures and operator qualifications.

C3-3 Acceptable Knowledge (T5)

AK documentation provides qualitative information that cannot be assessed according to specific data quality goals that may be used for quantitative techniques. To ensure that the AK process is consistently applied, the CCP complies with the following data quality requirements for AK documentation.

- Precision - The qualitative determinations, such as compiling and assessing AK documentation, do not lend themselves to statistical evaluations of precision. However, the AK information is assessed by independent review during internal and external audits.

- Accuracy - The percentage of waste containers which require reassignment to a new waste matrix code and/or designation of a different hazardous waste number, based on testing data and discrepancies identified during waste confirmation is reported as a measure of AK accuracy. The CCP calculates the AK accuracy in accordance with CCP-TP-005, *CCP Acceptable Knowledge Documentation*.

- Completeness - The AK record contains 100 percent of the required information (Section C4-3). The usability of the AK information is assessed for completeness during audits.

- Comparability - The CCP ensures comparability by meeting the training requirements and complying with the minimum standards outlined for procedures that are used to implement the AK process. The CCP assign hazardous waste numbers in accordance with Section C4-3b and will provide the information regarding the waste being characterized to other sites that store or generate a similar waste stream.

- Representativeness - Representativeness is a qualitative parameter that is satisfied by ensuring that the process of obtaining, evaluating, and documenting AK information is performed in accordance with the minimum standards established in Section C4. The CCP assesses and documents the limitations of the AK information used to assign hazardous waste numbers (e.g., purpose and scope of information, date of publication, type and extent to which waste parameters are addressed).

The CCP complies with the nonconformance notification and reporting requirements of Section C3-7of this QAPjP if the results of testing specified in this QAPjP are inconsistent with AK documentation.

In addition, performance with regard to the use of AK information is tracked by assessing the frequency of inconsistencies among information, and documenting AK inconsistencies identified through radiography and VE. The AK process and waste stream documentation are evaluated through internal assessments by QA and assessments by auditors external to the organization (i.e. the Permittees).

C3-4 Data Review, Validation, and Verification Requirements

Data review, validation, and verification are performed at the CCP data generation level in accordance with CCP data generation level characterization procedures. Data validation and verification are performed at the project level by the CCP project staff.

Data review determines whether raw data was properly collected and ensures that it was properly reduced. Data validation verifies that the reported data satisfy the

WAP requirements and are accompanied by signature release. Data verification authenticates that the data are presented accurately, represent the testing activities performed, and have been subject to the appropriate level of review. By meeting the requirements in this section, the CCP ensures that records furnish documentary evidence of quality.

The following types of BDRs (as applicable to the characterization process in use) are required for data validation and verification, and quality assurance activities:

- The Testing BDR or equivalent includes all data pertaining to radiography or VE for up to 20 waste containers without regard to waste matrix. Table C3-3, Testing Batch Data Report Contents lists the information required in Testing BDRs (identified with an "X") and other information necessary for data validation but optional for inclusion in the Testing BDR (identified with an "O")

C3-4a Data Generation Level (T6, T32, T53, T106, T113, T143, T188, T500, T508)

The minimum requirements for raw data collection and management include the following:

- All data are signed and dated in reproducible ink by the individual generating the data, or by use of unalterable electronic signature.
- All data are recorded clearly, legibly, and accurately in field records.
- All changes to original data are lined out, initialed, and dated by the individual making the change. A justification for changing the original data may also be included. Original data are not obliterated or otherwise disfigured so as to be unreadable. Data changes are made only by the individual who originally collected the data, or by an individual authorized to change the data.
- All data are transferred and reduced from field records completely and accurately.
- All field records are maintained as specified in Table C-2.
- All data are organized in standard formats (i.e., BDRs) specified in procedures.

- All electronic and video data are stored appropriately to ensure that waste containerand associated QC data are readily retrievable. In the case of classified information, additional security provisions may apply that could restrict retrievability. The additional security provisions will be documented in CCP procedures when required.

Data review, validation, and verification at this level involves scrutiny and signature release from qualified independent technical reviewers not involved in the generation or recording of the data under review as specified below. Individuals conducting the data review, validation, and verification use checklists that address the items in this section. Checklists are forwarded with BDRs to the CCP Project Office.

C3-4a(1) Independent Technical Review (T6, T32, T53, T106, T113, T143, T188, T500, T508)

The independent technical reviewer ensures by review of raw data that data generation and reduction are technically correct, calculations are verified correct, deviations are documented, and QA/QC results are complete, documented correctly, and compared against the criteria specified in this QAPjP. This review is to validate and verify all of the work done by the originator.

One hundred percent of the BDRs must receive an independent technical review. This review is performed by an individual by a trained and qualified individual who was not involved in the generation or recording of the data under review. The independent technical review is performed as soon as practicably possible in order to determine and correct negative quality trends in the testing, process. However at a minimum, the independent technical review must be performed before any waste associated with the data reviewed is managed, stored, or disposed at WIPP. The reviewer(s) must release the data as evidenced by signature, and as a consequence ensure the following:

- Data generation and reduction were conducted in a technically correct manner in accordance with the methods used (procedure revision) and data were reported in the proper units and correct number of significant figures.

- Calculations were verified by a valid calculation program, a spot check of verified calculation programs, and/or 100 percent check of all hand calculations. Values that are not verifiable to within rounding or significant difference discrepancies are rectified prior to completion of independent technical review.

- The data were reviewed for transcription errors.

- The testing, data QA documentation for BDRs is complete and includes, as applicable, raw data, calculation records, calibration records, (or reference to an available calibration package), and Corrective action is taken to ensure that all BDRs are complete and include all necessary raw data prior to completion of the independent technical review.

- Radiography tapes were reviewed (independent observation) on a waste container basis at a minimum of once per testing batch or once per day of operation, whichever is less frequent (Section C1-3). The radiography tape was reviewed against the data reported on the radiography form to ensure that the data are correct and complete.

- QAOs have been met according to the methods outlined in Sections C3-2 and C3-3.

C3-4b Project Level

Data validation and verification at this level involves scrutiny and signature release from the SPM (T1, T500, T508). Any nonconformance identified during this process is documented on an NCR (Section C3-7).

The SPM ensures that a repeat of the data generation level review, verification and validation is performed on the data for a minimum of one randomly chosen waste container quarterly (every three months). This exercise documents that the data generation level review, verification, and validation are being performed in accordance with implementing procedures.

C3-4b(1) Site Project Manager Review

The SPM review is the final validation that all of the data contained in BDRs from the data generation level are complete and are properly reviewed, as evidenced by signature release and completed checklists.

One hundred percent of the BDRs have SPM signature release. At a minimum, the SPM signature release is performed before any waste associated with data reviewed is shipped to the WIPP. This signature release ensures the following (T1, T500, T508):

- Data generation level independent technical review, validation, and verification are performed as evidenced by completed review checklists and by the appropriate signature releases.

- Independent technical reviewers were not involved in the generation or recording of the data under review.

- Batch data review checklists are complete.
- BDRs are complete and data are properly reported (i.e., data are reported in the correct units, with the correct significant figures.
- Data are within established data assessment criteria and meet all applicable QAOs as described in Sections C3-2 through C3-3.
- Testing batch QC checks (e.g., replicate scans, measurement system checks) were properly performed. Radiography data are complete and acceptable based on evidence of videotape review of one waste container per day or once per testing batch, whichever is less frequent, as specified in C1-1.

C3-4b(2) Preparing SPM Summary and Data Validation Summary

To document the project level validation and verification described above, the SPM (or designee) prepares an SPM Summary, and Data Validation Summary (T1). These reports may be combined to eliminate redundancy. The SPM Summary includes a validation checklist for each BDR. Checklists for the SPM Summary are of sufficient detail to validate all aspects of a BDR that affect data quality.

The SPM Data Validation Summary provides verification that, on a per waste container as evidenced by BDR reviews, all data have been validated in accordance with this QAPjP. The SPM Data Validation Summary identifies each BDR data report reviewed (including all waste container numbers), describes how the validation was performed and whether or not problems were detected (e.g., nonconformance reports), and includes a statement indicating that data are acceptable. Summaries must include release signatures.

C3-4b(3) Preparing Waste Stream Characterization Packages

If requested by the Permittee, the SPM provides a Waste Stream Characterization Package. The SPM must ensure that the Waste Stream Characterization Package (described in Section C3-6b(3)) supports the waste characterization determinations.

C3-4c Permittee Level

Not applicable to CCP. This is a Permittee function.

C3-5 Reconciliation with Data Quality Objectives

Reconciling the results of waste testing with DQOs ensures that data are of adequate quality to support regulatory compliance programs. When waste is characterized by

CCP, reconciliation with the DQOs is the responsibility of the SPM and occurs prior to waste shipment (T2).

C3-5a Reconciliation at the Project Level

The SPM ensures that all data generated and used in decision making meet the DQOs providing in Section C-4a(1). DQO reconciliation is the responsibility of the SPM, who assesses whether data of sufficient type, quality, and quantity to meet the DQOs (Section C-4a(1)) have been collected and determines whether the variability of the data set is small enough to provide the required confidence in the results.

The SPM determines for each waste stream characterized, whether sufficient data have been collected to determine the following required waste parameters (T2):

- Waste matrix code.
- Waste material parameter weights.
- That each container of waste is transuranic radioactive waste.
- Whether the waste stream exhibits a toxic characteristic or is listed under 40 CFR §261, Subpart C.
- Whether the waste stream contains listed waste found in 20.1.4.200 NMAC incorporating 40 CFR §261, Subpart D.
- Whether the waste stream can be classified as hazardous or nonhazardous
- Whether the overall completeness, comparability, and representativeness QAOs were met for the testing procedures specified in Sections C3-2 and C3-3 prior to submittal of a WSPF for a waste stream or waste stream lot.

If the SPM determines that insufficient data have been collected to make the determinations listed above, additional data collection efforts are undertaken. The reconciliation of a waste stream is performed, as described in Section C4, prior to submittal of the WSPF and CIS to the Permittees for that waste stream. The CCP does not ship TRU waste stream to the WIPP unless the SPM determines that the WAP-required waste parameters listed above are met for that waste stream.

C3-5b Reconciliation at the Permittee Level

Not applicable to the CCP. This is a Permittee function.

C3-6 Data Reporting Requirements

Data reporting requirements define the type of information and the method of transmittal for data transfer from the data generation level to the CCP Project Office and from the CCP Project Office to the Permittee.

C3-6a Data Generation Level

Data are transmitted by hard copy or electronically (with hard copies available on demand) from the data generation level to the CCP Project Office. Transmitted data include all BDRs, and data review checklists. The BDR forms and checklists must contain all the information required by the testing techniques described in Sections C1 through C6, as well as the signature releases to document the review, validation, and verification as described in Section C3-4. BDRs and checklists are on approved forms as provided in procedures.

BDRs are forwarded to the SPM. All BDRs are assigned serial numbers, and each page is numbered. The serial number is the same as the batch number. QA documentation, including raw data, is maintained in either testing facility files, or the CCP files in accordance with CCP-QP-008.

C3-6b Project Level

The CCP Project Office prepares a WSPF for each waste stream certified for shipment to the WIPP based on information obtained from AK and BDRs, if applicable (T2). The CCP Project Office ensures that the CIS and Waste Stream Characterization Package (when requested by the Permittee) are prepared as appropriate. The SPM verifies these reports are consistent with information found in BDRs. Summarized testing are included in the CIS. The contents of the WSPF, the CIS, and the Waste Stream Characterization Package are discussed in the following sections.

A Waste Stream Characterization Package is submitted only when requested by the Permittee. These reports are reviewed, validated, and verified by the SPM (T2).

After approval of a WSPF and the associated CIS by the DOE, CCP will maintain a cross reference of container identification number to each BDR.

A Waste Stream Characterization Package will be transmitted by hard copy or electronically from the SPM to the Permittees when requested.

C3-6b(1) Waste Stream Profile Form (T2)

The WSPF shall include the following information:

- Site name
- Site EPA ID
- Date of audit report approval by NMED (if obtained)
- Original generator of waste stream
- Whether waste is CH or RH
- The Waste Stream WIPP Identification Number
- Summary category group
- Waste matrix code group
- Waste Material Parameter Weight Estimates per unit of waste
- Waste stream name
- A description of the waste stream
- Applicable U.S. EPA Hazardous Waste Numbers
- Applicable TRUPACT Content (TRUCON) codes
- A listing of AK documentation used to identify the waste stream
- The waste characterization procedures used and the reference and date of the procedure
- Certification signature of SPM, name, title, and date signed

C3-6b(2) Characterization Information Summary (T2)

The CIS shall include the following elements, if applicable:

- Data reconciliation with DQOs.

- Radiography and VE summary to document that prohibited items are not present, and to verify that the physical form of the waste matches the waste stream description as determined by AK.

- A justification for the selection of radiography and/or VE as an appropriate method for characterization of the waste.

- A complete listing of all container identification numbers used to generate the WSPF, cross-referenced to each BDR.

- Complete AK summary, including waste stream name and number, the point of generation, waste stream volume (current or projected), generation dates, TRUCON codes, Summary Category Group, Waste Matrix Code(s) and Waste Matrix Code Group, other TRU Waste Baseline Inventory Report (TWBIR) information, waste stream description, areas of operation, generation processes, RCRA determinations, radionuclide information, all references used to generate the AK summary, and any other information required by Section C4-2b.

- Method for determining Waste Material Parameter Weights per unit of waste.

- List of any AK Sufficiency Determinations requested for the waste stream.

- Certification through acceptable knowledge or testing that any waste assigned the Hazardous Waste Number of U134 (hydrofluoric acid) no longer exhibits the characteristic of corrosivity. This is verified by ensuring that no liquid is present in U134 waste.

C3-6b(3) Waste Stream Characterization Package (T2)

The waste stream characterization package is submitted when requested by the Permittee and includes the following information:

- WSPF (Section C3-6b(1))

- Applicable CIS (Section C3-6b(2))

- Complete AK summary (Section C3-6b(2))

- BDRs supporting the characterization of the waste stream and any others requested by the Permittee

- Raw testing data requested by the Permittee

C3-6b(4) WIPP Waste Information System Data Reporting (T30)

The WWIS/WDS data dictionary includes the data, field formats, and limits associated with waste characterization data established by the WAP. These data are subject to edit and limit checks that are performed automatically by the database, as defined in the "Waste Data System User's Manual" (DOE 2009).

C3-7 Nonconformances (Q5)

The status of CCP activities are monitored and controlled by the SPM in accordance with the nonconformance and procurement procedures identified below. This includes nonconformance identification, documentation, and reporting.

Nonconformances

Nonconformances are uncontrolled and unapproved deviations from an approved plan or procedure (e.g., this QAPjP). In the context of this QAPjP, deficiencies and nonconformances are synonymous. Nonconforming items and activities are those that do not meet the CCP requirements, procurement document criteria, or approved work procedures. The CCP personnel are responsible for promptly reporting any nonconformance to management. The CCP reconciles and corrects nonconformance items, as appropriate, in accordance with the DOE-CBFO QAPD. The disposition of nonconforming items is identified and documented and nonconforming items are identified by marking, tagging, or segregating and appropriate notifications are made to the site. When a nonconformance related to the CCP is observed or detected, the QA is notified, and affected management reviews the content of the NCRs and assists the QA in processing the NCR. For each container selected for confirmation pursuant to Section C7, the Permittees will examine the respective NCR documentation to verify NCRs have been dispositioned for the selected container.

The CCP identifies and documents nonconformances as follows:

- The NCR procedure establishes the method for CCP personnel to identify, document, control, and disposition nonconforming activities, processes, items, and materials. NCRs are initiated by any individual identifying a nonconformance during performance of work tasks, random observations, inspections, or any other review of CCP procedures, operations, and activities. The CCP personnel identify deficient items by marking, tagging, or segregating them. This procedure implements the requirements of Section 1.3.2 (Nonconformances) of the DOE-CBFO QAPD.

- Corrective Action Reporting and Control procedures establishes the method for personnel to identify and correct potential problems and conditions adverse to quality, in addition to precluding their recurrence, and if necessary,

stopping associated work activities (Q8). Any person may temporarily stop work prior to evaluation of the condition by the responsible CCP supervisor. The CCP supervisor then evaluates and reports the condition, as necessary, in accordance with CCP-QP-029, *CCP Corrective Action Management.* This procedure implements the requirements of Section 1.3.3 (Corrective Action) of the DOE-CBFO QAPD.

Management at all levels fosters a "no-fault" attitude to encourage the identification of nonconforming items and processes within the CCP. Nonconformances may be detected and identified by anyone performing activities in support of this QAPjP, including:

- The CCP project staff - during field operations, supervision of subcontractors, data validation and verification, and self-assessment
- Testing Facility staff - during the preparation for and performance of testing; calibration of equipment; QC activities; data review, validation, and verification; and self-assessment.
- QA personnel - during oversight activities or audits

An NCR is prepared for each nonconformance identified. Each NCR is initiated by the individual(s) identifying the nonconformance. The NCR is then processed by knowledgeable and appropriate personnel. The NCR includes or references results of, QC tests, audit reports, internal memoranda, or letters, as appropriate. The NCR provides the following information:

- Identification of the individual(s) identifying or originating the nonconformance
- Description of the nonconformance
- Method(s) or suggestions for correcting the nonconformance (corrective action)
- Schedule for completing the corrective action
- An indication of the potential ramifications and overall usability of the data, if applicable
- Any approval signatures specified in the nonconformance procedures.

The SPM oversees the NCR process for the CCP, identifies and tracks the status of deficiencies, reports this information to the Permittees, and is responsible for verifying the close-out of the NCRs.

Nonconformances are tracked and trended in accordance with procedures (Q5, Q14) that establish the method for evaluating trends in nonconformances and identifying appropriate corrective actions.

The SPM ensures that relevant project personnel are notified of nonconformances and verifying completion of corrective action for nonconformances.

Nonconformance to DQOs

For any non-administrative nonconformance related to applicable requirements specified in this QAPjP which are first identified at the SPM signature release level (i.e., a failure to meet a DQO), the SPM will provide a written notification to the Permittees within seven (7) calendar days of identification and shall also provide a nonconformance report within 30 calendar days of identification of the incident. The CCP implements a corrective action process and resolves identified nonconformances prior to shipment of any affected waste to the WIPP.

DOE Corrective Action Process

This section is not applicable to the CCP.

C3-8 Special Training Requirements and Certifications (Q2)

The SPM is responsible for ensuring that all personnel maintain proficiency in the work performed and identifies additional training if required. The training and qualification process for CCP personnel and subcontracted personnel who perform work to support the CCP is documented and controlled. In accordance with these plans, only personnel trained to applicable CCP-related plans and procedures perform CCP activities. Before performing CCP-related activities, assigned staff receive indoctrination into the scope, purpose, and objectives of the WAP and the specific QAOs of assigned tasks. Personnel assigned to perform activities under this QAPjP have the education, experience, and training applicable to the functions associated with the work.

Evidence of personnel proficiency and demonstration of competence in the task(s) assigned are demonstrated and documented. All personnel designated to work on specific aspects of the WAP maintain qualification (i.e., training and certification) throughout the duration of the work as specified in this QAPjP and applicable procedures. Job performance is evaluated and documented at periodic intervals, as specified in the appropriate implementing procedures.

CCP personnel involved in WAP activities (as flowed down in this QAPjP) receive continuing training to ensure that job proficiency is maintained and documented. The due date for required continuing training courses and requalification shall be the end of the month of the anniversary date when the training was previously completed. Training

includes both education in principles and enhancement of skills. Job performance is evaluated and documented at periodic intervals, as specified in the implementing procedures or in CCP-QP-002. Documentation of training, consisting of training records that specify the scope of training, dates of completion, and job proficiency are maintained by the CCP Project Office and/or the site records system as QA records.

The minimum qualifications for certain specified positions for the WAP are summarized in Table C3-2. This QAPjP specify the titles and minimum training and qualification requirements for personnel performing QAPjP activities.

Evaluation of CCP personnel qualifications includes a comparison of the job description to the skills, training, and experience included in the individual's resume, training records, and other documented bases for job assignment. This evaluation is also performed for personnel who change positions because of a transfer or promotion as well as personnel assigned to short-term or temporary work assignments that may affect the quality of CCP activities. Procedures identify the responsible persons for ensuring all personnel maintain proficiency in the work performed and identify any additional training that may be required.

C3-9 Changes to WAP Related Plans or Procedures

Controlled changes to WAP-related CCP plans or procedures are managed through the document control process (Q10). The SPM reviews all nonadministrative changes and evaluates whether those changes could impact DQOs specified in the WAP. Any changes to the WAP-related plans or procedures that could impact DQOs (i.e., those changes that require prior approval of the DOE as defined in Section C5-2) are reported to the DOE within five days of identification by the project level review.

Table C3-1. Waste Material Parameters and Descriptions

Waste Material Parameter	Description
Iron-Based Metals/Alloys	Iron and steel alloys in the waste excluding the waste container materials.
Aluminum-Based Metals/Alloys	Aluminum or aluminum-based alloys in the waste materials.
Other Metals	All other metals found in the waste materials (e.g., copper, lead, zirconium, tantalum, etc.).
Other Inorganic Materials	Non-metallic inorganic waste, including concrete, glass, firebrick, ceramics, sand, and inorganic sorbents.
Cellulosics	Materials generally derived from high polymer plant carbohydrates (e.g., paper, cardboard, wood, cloth).
Rubber	Natural or man-made elastic latex materials (e.g., surgeon's gloves, leaded rubber gloves).
Plastics (Waste Materials)	Generally man-made materials, often derived from petroleum feedstock (e.g., polyethylene and polyvinylchloride).
Organic Matrix	Cemented organic resins, solidified organic liquids and sludges.
Inorganic Matrix	Any homogeneous materials consisting of sludge or aqueous-based liquids that are solidified with cement, calcium silicate, or other solidification agents; (e.g., waste water treatment sludge, cemented aqueous liquids, and inorganic particulates).
Soils/Gravel	Generally consists of naturally-occurring soils that have been contaminated with inorganic waste materials.
Steel (Packaging Materials)	208-liter (55-gallon) drums.
Plastics (Packaging Materials)	90-mil polyethylene drum liner and plastic bags.

Table C3-2. Minimum Training and Qualification Requirements

Personnel	Requirements
Radiography Operators[a]	Site-specific training based on waste matrix codes and waste material parameters as described in Section C3-4; requalification every 2 years

[a] Operators are responsible for the actual operation of testing equipment.

Table C3-3. Testing Batch Data Report Contents

Required Information	Radiography	VE	Comment
Batch Data Report Date	X	X	
Batch number	X	X	
Waste container number	X	X	
Waste stream name and/or number	O	O	
Waste matrix code	X	X	Summary Category Group included in waste matrix code.
Implementing procedure (specific version used)	X	X	If procedure cited contains more than one method, the method used must also be cited. Can use revision number, date, or other means to track specific version used.
Container type	O	O	Drums, Pipe Overpack, SWB, TDOP, etc.
Video media reference	X	X	Reference to video media applicable to each container. For VE for newly generated waste, video media is not required if two trained operators review the contents of the waste container to ensure correct reporting.
Imaging check	O	N/A	
Camera check	N/A	O	
Audio check	O	O	
QC documentation	X	X	

Table C3-3. Testing Batch Data Report Contents (continued)

Required Information	Radiography	VE	Comment
Verification that the physical form matches the waste stream description and waste matrix code	X	X	Summary Category Group included in waste matrix code.
Comments	X	X	
Reference to or copy of associated NCRs, if any	X	X	Copies of associated NCRs must be available.
Verify absence of prohibited items	X	X	
Operator signature and date of test	X	X	Signatures of both operators required for visual verification of AK.
Data review checklists	X	X	All data review checklists will be identified.

LEGEND:
X = Required in Batch Data Report
O = Information must be documented and traceable; inclusion in Batch Data Report is optional.

C4 ACCEPTABLE KNOWLEDGE

C4-1 Introduction

The RCRA regulations codified in 40 CFR and the New Mexico Hazardous Waste Management Regulations in 20.4.1 NMAC, Subparts 100 through 600, Subpart 800, and Subpart 900, authorize the use of AK in appropriate circumstances by waste generators or treatment, storage, or disposal facilities to characterize hazardous waste. AK is described in *Waste Analysis at Facilities that Generate, Treat, Store and Dispose of Hazardous Waste: A Guidance Manual* (EPA 1994a). AK, as an alternative to waste sampling and analysis, is used to meet all or part of RCRA waste characterization requirements (EPA 1994a).

EPA's 1994 Waste Analysis Guidance Manual broadly defines the term "acceptable knowledge" to include process knowledge, whereby detailed information on the wastes is obtained from existing published or documented waste analysis data or studies conducted on hazardous waste generated by processes similar to that which generated the waste; facility records of analysis performed before the effective date of RCRA; and sampling and waste analysis data obtained from generators of similar wastes that send their wastes off-site for treatment, storage, or disposal (EPA 1994a). If it is determined that AK alone is insufficient to accurately characterize a waste, radiography and/or VE, may be used to complete the waste characterization process and satisfy the requirements of the WAP. AK is used in TRU waste characterization activities in five ways:

- To delineate TRU waste streams
- To assess whether TRU mixed wastes comply with the applicable requirements of the Treatment, Storage, and Disposal Facility Waste Acceptance Criteria (TSDF-WAC)
- To assess whether TRU mixed wastes exhibit hazardous characteristic (20 NMAC 4.1.200, incorporating 40 CFR § 261 Subpart C)
- To assess whether TRU mixed wastes are listed wastes (20 NMAC 4.1.200, incorporating 40 CFR § 261 Subpart D)
- To estimate waste material parameter weights

Radiography and/or VE may be performed to augment the characterization of wastes based on AK when an AK Sufficiency Determination has not been requested by the generator/storage site or, if requested, has not been granted by the DOE (see Section C4-3d). TRU waste streams undergo applicable provisions of the AK process prior to shipment of the waste to WIPP.

C4-2 Acceptable Knowledge Documentation

The CCP collects and compiles, in a logical sequence, AK information that progresses from general facility information (TRU waste management program information) to more detailed waste-specific information (TRU waste stream information).

The CCP implements the AK process as specified in the WAP to characterize TRU waste (T5). The AK information is then compiled into the AK report (and supporting documentation), as shown in Figure C4-1, Compilation of Acceptable Knowledge Documentation, in Attachment C-4 of the WAP.

The following sections include the information the Permittee will require for the CCP to characterize TRU waste using AK. Because waste generating processes are site-specific, CCP will, as necessary, augment the required AK records with additional supporting information as discussed in Section C4-2c. If the required information is not available for a particular waste stream, the waste stream is not eligible for an AK Sufficiency Determination as specified in Section C4-3d.

C4-2a Required TRU Waste Management Program Information

TRU waste management program information clearly defines waste categorization schemes and terminology, provides a breakdown of the types and quantities of TRU waste that are generated and stored by the site (and processed by the CCP), and describes how waste is tracked and managed, including historical and current operations. Information related to TRU waste certification procedures and the types of documentation (e.g., WSPFs) used to summarize AK are also provided.

The following information is included as part of the AK written record:

- A map of the site with the areas and facilities involved in TRU waste generation, treatment, and storage identified
- Facility mission description as related to TRU waste generation and management
- Description of the operations that generate TRU waste at the site
- Description of waste identification and characterization schemes used at the site or facility (e.g., content codes, item description codes)
- Types and quantities of TRU waste generated, including historical generation through future projections. Includes time and facility/site of generation
- Description of correlation of waste streams generated from the same building and process (e.g., sludge, combustibles, metals, and glass)

- Waste certification procedures for TRU wastes to be shipped to the WIPP

C4-2b Required TRU Waste Stream Information

The CCP uses AK to delineate site-specific waste streams for shipment to the WIPP. The available process information and data that supports the AK used to characterize waste streams are compiled in AK summary reports and supporting documentation in accordance with CCP-TP-005. The type and quantity of supporting documentation may vary by waste stream, depending on the waste generating process and site specific requirements imposed by the Permittee. At a minimum, the waste process information on each waste stream includes the following written information:

- Areas and buildings from which the waste stream was or is generated
- The waste stream volume and time period of waste generation
- Waste generating process described for each building (e.g., batch waste stream generated during decommissioning operations of glove boxes), including processes associated with U134 waste generation, if applicable
- Documentation regarding how the site has historically managed the waste, including the historical regulatory status of the waste (i.e., TRU mixed versus TRU non-mixed waste)
- Process flow diagrams. In the event that a process flow diagram cannot be created, a description of the waste generating process, rather than a formal process flow diagram, is used to satisfy this requirement. The use of the waste generating process description is justified, and the justification is placed in the AK record
- Material inputs or other information that identify the chemical content of the waste stream and physical waste form (e.g., glove box materials and chemicals handled during glove box operations; events or processes that may have modified the chemical or physical properties of the waste stream after generation; data obtained through VE of newly generated waste that later undergoes radiography; information demonstrating neutralization of U134 [hydrofluoric acid] and waste compatibility)

The AK written record includes a summary that identifies all sources of waste characterization information used to delineate the waste stream. The basis and rationale for delineating each waste stream, based on the parameters of interest, is clearly summarized and traceable to referenced documents. Assumptions made in delineating each waste stream also are identified and justified. If discrepancies exist between required information, then the CCP may consider applying all hazardous waste numbers indicated by the information to the subject waste stream but must assess and

evaluate the information to determine the appropriate hazardous waste numbers consistent with RCRA requirements.

Implementing procedures address the following AK processes:

- Identifying and assigning the physical waste form of the waste
- Delineating waste streams and assigning Summary Category Groups and waste matrix codes
- Resolving inconsistencies in AK documentation
- Radiography and VE, if applicable
- For newly generated waste, procedures describing process controls used to ensure prohibited items (specified in Section C) are documented and managed
- Procedures to ensure that radiography and VE include a list of prohibited items that the operator verifies are not present in each container (e.g., liquid exceeding TSDF-WAC limits, corrosives, ignitables, reactives, and incompatible wastes)
- Procedures for documenting how changes to waste matrix code, waste stream assignment, and associated hazardous waste numbers based on material composition are documented for any waste
- Procedures that ensure the assignment of EPA hazardous waste numbers is appropriate, consistent with RCRA requirements, and considers site historical waste management
- Procedures for estimating waste material parameter weights

C4-2c Additional Acceptable Knowledge Information

CCP shall obtain additional acceptable knowledge information. CCP shall collect information as appropriate to augment required information and provide any other information obtained to further delineate waste stream. Adequacy of this information shall be assessed by DOE during audits. CCP will use this information to compile the acceptable knowledge written record.

All additional specific, relevant acceptable knowledge documentation assembled and used in the acceptable knowledge process, whether it supports or contradicts any required acceptable knowledge documentation, shall be identified and an explanation provided for its use (e.g., identification of a toxicity characteristic). Additional

documentation may be used to further document the rationale for the hazardous characterization results. The collection and use of additional information shall be assessed by DOE during site audits to ensure that hazardous waste characterization is supported, as necessary, by such information. Similar to required information, if discrepancies exist between additional information and the required information, then CCP may consider applying all hazardous waste numbers indicated by the additional information to the subject waste stream, but must assess and evaluate the information to determine the appropriate hazardous waste numbers consistent with RCRA requirements. All information considered must be documented and placed in the auditable record, including applicable discrepancy resolution documentation.

Additional AK documentation includes, but is not limited to, the following information:

- Process design documents (e.g., Title II Design)
- Standard operating procedures that may include a list of raw materials or reagents, a description of the process or experiment generating the waste, and a description of wastes generated and how the wastes are managed at the point of generation.
- Preliminary and final safety analysis reports and technical safety requirements
- Waste packaging records
- Test plans or research project reports that describe reagents and other raw materials used in experiments
- Site databases (e.g., chemical inventory database for Superfund Amendments and Reauthorization Act Title III requirements)
- Information from site personnel (e.g., documented interviews)
- Standard industry documents (e.g., vendor information)
- Analytical data relevant to the waste stream, including results from fingerprint analyses, spot checks, routine verification sampling or other processes that collected information pertinent to the waste stream. This may also include new information which augments required information (e.g., VE not performed in compliance with the WAP, radiography screening for prohibited items)
- Material Safety Data Sheet, product labels, or other product package information

- Sampling and analysis data from comparable or surrogate waste streams (e.g., residues, equivalent nonradioactive materials)

- Laboratory notebooks that detail the research processes and raw materials used in an experiment

C4-3 Acceptable Knowledge Training, Procedures, and Other Requirements

The CCP uses the following to characterize TRU waste by means of AK information:

1) compiling the required and supporting additional AK documentation in an auditable record;

2) auditing AK records, and

3) WSPF approval and waste confirmation.

C4-3a Qualifications and Training Requirements (Q2)

The CCP and site personnel responsible for compiling AK, assessing AK, and resolving discrepancies associated with AK are qualified and trained in the following areas, at a minimum:

- WAP and TSDF-WAC requirements;

- State and Federal RCRA regulations associated with solid and hazardous waste characterization;

- Discrepancy resolution and reporting; and

- CCP and site-specific procedures associated with waste characterization using AK.

Position-specific qualification and training requirements such as those listed above for functional positions within the CCP are established by the SPM and documented (Q2). The SPM ensures that personnel conducting AK activities are qualified and trained as specified.

C4-3b Acceptable Knowledge Assembly and Compilation

The CCP process allows for the consistent application of the AK process and requirements, and addresses the following requirements (T5):

- Written procedures outlining the specific methodology used to assemble AK records, including the origin of the documentation, how it is used, and any

limitations associated with the information (e.g., identify the purpose and scope of a study that included limited sampling and analysis data).

- Written procedures to compile the required AK record.
- Written procedures ensuring that unacceptable wastes (e.g., reactive, ignitable, corrosive) are identified and segregated from TRU waste populations sent to the WIPP.
- Procedures to evaluate AK and resolve discrepancies. For example, if different sources of information indicate hazardous wastes are present in a waste stream, the CCP includes all sources of information in its records and may choose to either conservatively assign hazardous waste numbers or assign only those numbers deemed appropriate and consistent with RCRA requirements. All information used to justify assignment of hazardous waste numbers must be placed in the auditable record. Further the assignment of hazardous waste numbers is traceable in the AK record to required documentation.
- Procedures to identify hazardous wastes and assign the appropriate hazardous waste numbers to each waste stream in accordance with the following minimum baseline requirements:
  - Compiling all of the required information in an auditable AK record.
  - Reviewing the compiled information and delineating waste streams. Delineation of waste streams must comply with the definition in C-0a and justify combining waste historically managed separately as TRU mixed and TRU non-mixed waste streams into a single waste stream.
  - Reviewing the compiled information to determine if the waste stream is compliant with the TSDF-WAC.
  - Reviewing the required information to determine whether the waste is listed under 20.4.1.200 NMAC (incorporating 40 CFR §261), Subpart D. Assigning all the hazardous waste numbers unless the CCP chooses to justify an alternative assignment and documents the justification in an auditable record.
  - Reviewing the required information to determine if the waste exhibits a hazardous characteristic or contains toxicity characteristic hazardous constituents specified in 20.4.1.200 NMAC (incorporating 40 CFR §261), Subpart C. If a toxicity characteristic contaminant is identified and is not included as a listed waste, sites may evaluate available data and assign the toxicity characteristic hazardous waste number consistent with RCRA

requirements. All data examined to reach the hazardous waste number determination must be placed in the auditable record and must present a clear justification for the hazardous waste number analyses.

- Reviewing the compiled information to provide an estimate of material parameter weights for each container to be stored or disposed of at WIPP.

- For newly generated wastes, procedures are developed and implemented to characterize hazardous waste using AK prior to packaging the waste.

- The CCP ensures that results of other audits of the CCP TRU waste characterization activities are available in the CCP files.

- The CCP identifies all process controls (implemented to ensure that the waste contains no prohibited items and to control hazardous waste content and/or physical form) that may have been applied to retrievably stored waste and/or may presently be applied to newly generated waste. Process controls are applied at the time of waste generation/packaging to control waste content, whereas any activities performed after waste generation/packaging to identify prohibited items, hazardous waste content, or physical form are waste characterization activities not process controls. The AK record must contain specific process controls and supporting documentation identifying when these process controls are used to control waste content. See Section C-2 for programmatic requirements related to process controls.

C4-3c Criteria for Assembling an Acceptable Knowledge Record and Delineating the Waste Stream

CCP-TP-005 describes the process for assembling AK documentation into an auditable record. The first step is to assemble the required AK information and any additional information regarding the materials and processes that generate a specific waste stream. AK records are generated in compliance with the following criteria (T5):

- AK information is compiled in an auditable record, including a road map for applicable information.

- The overview of the facility and TRU waste management operations in the context of the facility's mission is correlated to specific waste stream information.

- Correlations between waste streams, with regard to time of generation, waste generating processes, and site-facilities are described in the AK summary report (Section C4-2b). For newly generated wastes, the rate (or schedule) and quantity of waste to be generated are also maintained in the AK process descriptions compiled in the AK summary report.

- A reference list provided in Section C4-3b that identifies documents, databases, QA protocols, and other sources of information that support AK information.

Container inventories are delineated into waste streams by correlating the container identifications to all of the required AK information and additional information (T5). The CCP assigns a waste matrix code and waste stream description to each container of waste using AK.

C4-3d AK Sufficiency Determination Request Contents (T5)

The CCP may submit an AK Sufficiency Determination Request (Determination Request). The Determination Request shall include, at a minimum.

- A complete AK Summary that addresses the following technical requirements:

  - Executive Summary

  - Waste Stream Identification Summary including a demonstration that the waste stream has been properly delineated and meets the Permit definition of waste stream (Attachment C, Introduction);

  - Mandatory Program Information (including, but not limited to, facility location and description, mission, defense waste assessment, spent nuclear fuel and high-level waste assessment, description of waste generating processes, research/development [as necessary], facility support operations [as applicable], types and quantities of TRU waste generated, correlation of waste streams to buildings/processes, waste identification and categorization, physical form identifiers);

  - Mandatory Waste Stream Information (including, but not limited to, Area and Building of Generation, waste stream volume/period of generation) (including, for newly generated waste, the rate and quantity of waste to be generation), waste generating activities, types of waste generated, material input related to physical form and identification of percentage of each waste material parameter in the waste stream, chemical content information including hazardous constituents and hazardous waste identification, prohibited item content (including documented evidence that the waste meets the TSDF-WAC Permit Sections 2.3.3.1 through 2.3.3.10), waste packaging, presence of filter vents, number of layers of confinement;

  - Types of supporting information gathered;

  - Container specific data (if available and relevant); and

- A complete reference list including all mandatory and additional information.

- An AK roadmap (defined as a cross reference between mandatory programmatic and mandatory waste stream information, with references supporting these requirements).

- A complete reference list including all mandatory and additional documentation.

- Additional relevant information for the required programmatic and waste stream data addressed in the AK Summary, examples of which are presented in Section C4-2c.

- Identification of any mandatory requirements supported only by upper tier documents (i.e., there is insufficient supporting data).

- Description or other means of demonstrating that the AK process described in the Permit was followed (for example, AK personnel were appropriately trained; discrepancies were documented, etc.).

- Information showing that CCP has developed a written procedure for compiling the AK information and assigning hazardous waste numbers as required in Section C4-3b.

- Information showing that CCP has assessed the AK process (e.g., internal audits, Section C4-3b).

C4-3e Requirements for Re-evaluating Acceptable Knowledge Information (T5)

AK includes information on the waste physical form, base materials composing the waste, and the waste generating process. Waste testing (i.e., radiography/VE) may be used to augment AK information prior to waste shipment. If retrievably stored waste must be repackaged, either VE prior to or during waste packaging or radiography after waste packaging, shall be used to confirm acceptable knowledge information.

The WSPF and CIS (including the AK summary) will be reviewed by the Permittees for each waste stream prior to DOE approval of the WSPF. The Permittees review will ensure that the submitted AK information was collected under procedures that ensure implementation of the WAP, provides data sufficient to meet the DQOs in Section C-4a(1), and allow the Permittees to demonstrate compliance with the waste analysis requirements of the Permit. A detailed discussion of the Permittees' waste stream review and DOE's WSPF approval process is provided in Section C-1d.

Re-Evaluation Based on Visual Examination and Radiography

The CCP has established procedures for re-evaluating AK if the results of waste confirmation indicate that the waste to be shipped does not match the approved waste stream, or if data obtained from VE or radiography for waste streams without an AK Sufficiency Determination exhibit this discrepancy. The CCP procedures describe how waste AK is re-evaluated, the waste is reassigned, and appropriate hazardous waste numbers assigned. If the re-evaluation requires that the waste matrix code be changed for the waste stream or the waste does not match the approved waste stream, the following minimum steps are taken to re-evaluate AK:

- Existing information is reviewed based on the container identification number and all differences in hazardous waste number assignments are documented
- If differences exist between the hazardous waste numbers that were assigned, the information is re-assessed, and required AK information associated with the new designation is documented
- Reassess and document all testing data associated with the waste
- The reassignment of the waste matrix code is documented and verified (e.g., verification that the waste was generated within the specified time period, area, and building and waste generating process, and that the process material inputs are consistent with the waste material parameters of waste identified during VE or radiography)
- Changes to AK records are recorded
- If discrepancies exist in the AK information for the revised waste matrix code, the discrepancies are documented in an NCR in accordance with CCP-QP-005. The NCR documents the segregation of the affected portion of the waste stream, and defines the corrective actions necessary to fully characterize the waste.

C4-3f Acceptable Knowledge Data Quality Requirements (T5)

DQOs for testing techniques are described in Section C3. Testing results are used to augment the characterization of wastes based on AK. To ensure the process is consistently applied and ensure that AK information is accurate, complete, and is representative of the waste stream being evaluated, the CCP complies with data quality requirements for AK documentation in Section C3.

The CCP addresses quality control by tracking its performance with regard to the use of AK by:

- Assessing the frequency of inconsistencies among information

- Documenting the results of waste discrepancies identified by CCP during waste confirmation using radiography, review of radiography audio/video recordings, VE, or review of VE records

In addition, the AK process and waste stream documentation is evaluated through internal assessments by QA organizations and assessment by auditors or observers external to the CCP (i.e., DOE-CBFO, NMED, EPA).

C4-3g Audits of Acceptable Knowledge

The DOE conducts an initial audit of the CCP prior to certifying the CCP for shipment of waste to the WIPP. This audit establishes an approved baseline that is reassessed annually by the DOE. The CCP does not certify waste for disposal until all corrective actions have been completed.

C5 QUALITY ASSURANCE PROJECT PLAN REQUIREMENTS

C5-1 Quality Assurance Project Plans

The CCP has developed and implemented this QAPjP to address the applicable waste characterization requirements specified in the WAP (P1). This QAPjP includes the qualitative or quantitative criteria to ensure that waste characterization activities are being performed satisfactorily. The organization(s) and position(s) responsible for implementation of this QAPjP are identified in Section B. Throughout this QAPjP, CCP documents are referenced that detail how each of the required elements of the characterization project are performed.

This QAPjP follows the format of the WAP and is implemented by the CCP through procedures that address TRU waste characterization activities. Compliance with CCP documents ensures that tasks are performed in a consistent manner that results in achieving the quality required under the QA program. The organization, format, content, and designation of the CCP procedures is described in the CCP-QP-010, *CCP Document Preparation, Approval, and Control*.

C5-2 Document Review, Approval, and Control (Q10)

Prior to the implementation of characterization activities, the SPM ensures that written procedures have been developed for implementing the requirements of this QAPjP. Procedures ensure that tasks are performed in a consistent manner and achieve the quality required for the quality assurance program. The SPM is responsible for ensuring that the procedures meet the organization, format, content, and designation of standard operating procedures. CCP procedures are written so that they may be implemented at several sites simultaneously. Site-specific issues such as safety policies, technical specification requirements, or organizational necessities, may require the CCP to prepare site-specific procedures to supplement the procedures used to ensure WAP compliance. These procedures are identified in the SOW or site interface document. These procedures are prepared and controlled as are the other existing CCP operating procedures and are subject to site specific review requirements. As a minimum, the following requirements are addressed in CCP procedures:

- Responsibilities of the organizations affected by the document,
- Technical, regulatory, quality assurance, or other program requirements.
- Sequential description of work to be performed,
- Quantitative or qualitative acceptance criteria sufficient for determining that activities were satisfactorily accomplished.

- Prerequisites, limits, precautions, process parameters, and environmental conditions,
- Special qualifications and training requirements,
- Verification points and hold points,
- Methods for demonstrating that the work was performed as required (such as provisions for recording inspection and test results, checklists, or sign-off blocks), and
- Identification and classification of QA records to be generated by the implementing procedure.

Procedures also include examples of data (e.g., reports, forms, and data validation checklists), as appropriate. Internal review and approval requirements are specified. In addition, CCP procedures are formatted, as follows:

- Purpose
- Scope
- Requirements
- Responsibilities
- Procedures
- Records

CCP procedures are reviewed for consistency with the QAPjP in accordance with the above listed requirements. The SPM is responsible for ensuring that the most current version of all procedures is readily available for use as needed by project personnel after procedures have been reviewed and approved for use.

The SPM ensures that the preparation, issuance, and change to documents that specify quality requirements or prescribe activities affecting quality for the CCP program be controlled to assure that correct and current documents are used and referenced. The CCP uses a document control format consisting of a unique document identification number, current revision number, data, and page number, which will be placed in the header on the individual pages of the document. CCP documents are delineated into five areas: quality procedures, denoted by CCP-QP-XXX; technical procedures, denoted by CCP-TP-XXX; health and safety plans denoted by CCP-HSP-XXX; configuration management denoted by CCP-CM-XXX; and CCP Project Office documents (i.e., this QAPjP), denoted by CCP-PO-XXX. “XXX” denotes a sequential number.

Qualified and independent personnel review all CCP documents (including this QAPjP) prior to approval and issuance. Reviews consider the technical adequacy, completeness, and correctness of CCP documents and the inclusion of and compliance

with the requirements established by the WAP. Approval is indicated by a signature and date page included in the front of the document. The SPM ensures that:

- Revisions to site implementing documents are denoted by including the current revision number and date on the document title page and each page of the document.
- Revised pages are marked in redline/strikeout for expeditious review of the entire document.
- A vertical bar, indicating the change to the text, is included along the left-hand margin of the page, except in the case of full document revisions.
- Revised document submittals identify the changes, the reason for the changes, and the justification for concluding that the revised contents continue to satisfy the requirements of the QA program.
- Revisions that affect performance criteria or data quality (e.g., sampling or analytical methods, QAO, calibration requirements), other than editorial or minor changes, undergo the same level of review and approval as the baseline version of each document. These documents are reviewed and approved by the same functional organizations that performed the original review/approval, unless other organizations are specifically designated in accordance with approved procedures. Editorial or minor changes may be made without the same level of review and approval as the original or otherwise changed documents. The following items are considered editorial or minor changes:
  - Correcting grammar or spelling (provided the meaning has not changed),
  - Renumbering sections or attachments,
  - Updating organizational titles (*A change in an organizational title accompanied by a change in responsibilities is not considered an editorial change*),
  - Changes to non-quality-affecting schedules,
  - Revised or reformatted forms, providing the original intent is not altered, and
  - Attachments marked “Example” or exhibits clearly intended to be representative only

- CCP personnel are responsible for reporting any obsolete or superseded information to the SPM

- All CCP changes are evaluated and approved by the SPM, the appropriate personnel are notified before implementation, and the affected documents are revised as necessary

- Changes that affect performance criteria or data quality, and would take the activity out of compliance because they alter a requirement are not made without prior approval by DOE.

In addition, the SPM is responsible for ensuring that non-administrative changes, non-editorial changes, or changes that could affect performance criteria or data quality, such as sample handling and custody requirements, sampling and analytical testing procedures, quality assurance objectives, calibration requirements, or QC sample acceptance criteria (i.e., those changes that require prior approval of DOE as defined in Section C5-2) shall be reported to DOE within five days of identification by the project level review. The SPM ensures that the document control system is implemented to control the process for initiating, revising, modifying, reviewing, and distributing project documents and changes to project documents. As potential changes to project information are identified by the SPM, documents are revised as necessary and distributed to affected organizations in accordance with this procedure.

C6 AUDIT AND SURVEILLANCE PROGRAM

C6-1 Introduction

The WIPP audit and surveillance program ensures that the CCP conducts testing of wastes in accordance with the current WAP and that waste certification information is being managed properly. The CCP addresses deficiencies identified during the audits. A deficiency is any failure to comply with an applicable requirement of the WAP.

C6-2 Audit Procedures

This section does not apply to the CCP.

C6-3 Audit Position Functions

This section does not apply to the CCP.

C6-4 Audit Conduct

During audit interviews or audit meetings, CCP may be advised of deficiencies identified within their areas of responsibility to establish a clear understanding of the identified condition.

The personnel will be given the opportunity to correct any deficiency that can be corrected during the audit period.

When a deficiency is identified by the DOE audit team, a Corrective Action Report (CAR) is issued to the CCP. The CCP reviews the CAR which is used to evaluate the extent and cause of the deficiency, and submits an approved response to the Permittees indicating remedial actions and actions taken to preclude recurrence. If these responses to the CAR are acceptable, DOE communicates the acceptance to the CCP.

The CCP completes the remedial actions and actions to preclude recurrence and requests DOE to close the CAR. Following the completion of corrective actions, the Permittees may schedule and perform a verification visit to assure that corrective actions have been completed and are effective.

The corrective action response includes a discussion of the investigation performed to determine the extent and impact of the deficiency, a description of the remedial actions taken, determination of root cause, and action taken to preclude recurrence.

The CCP responds to any deficiencies and observations within thirty (30) days of receipt of any CARs and indicates the corrective action taken or to be taken. If the corrective action has not been completed, the response indicates the expected date the action will be completed. CARs applicable to WAP requirements are resolved prior to waste shipment.

C7 TRU WASTE CONFIRMATION

Introduction

This section of the QAPjP describes the actions that the Permittees will take to approve and accept waste for and disposal at the WIPP, including waste confirmation activities. Discussion of the Permittees' actions that are relevant to CCP will be included here. The Permittees demonstrate compliance with the WIPP-WAP by ensuring that the waste characterization processes performed by CCP produce data compliant with the WIPP-WAP and through the waste screening and verification processes. Verification occurs at three levels: 1) the data generation level, 2) the project level, and 3) the Permittee level. The Permittees also examine a representative subpopulation of waste prior to shipment to confirm that the waste contains no ignitable, corrosive, or reactive waste; and that assigned EPA Hazardous Waste Numbers are allowed by the WIPP RCRA Permit. The waste confirmation activities described herein occur prior to shipment of the waste from the CCP to WIPP.

C7-1 Permittee Confirmation of TRU Mixed Waste

This section does not apply to CCP.

C7-1a Permittee Confirmation of a Representative Subpopulation of the Waste

The Permittees will confirm that the waste contains no ignitable, corrosive, or reactive waste through radiography or the use of VE of a statistically representative subpopulation of the waste. Prior to shipment to WIPP, waste confirmation will be performed on randomly selected containers from each CH- and RH-TRU waste stream shipment.

C7-1b Radiography Methods Requirements

This section describes the portion of the Permittees' confirmation program that applies to CCP.

For containers that have been characterized using radiography by CCP in accordance with the method in Section C1-1, the Permittees may perform confirmation by review of CCP's radiography audio/video recordings.

When confirmation is performed by review of audio/video recorded scans produced by CCP as specified in Section C1-1, independent observations will be performed on two waste containers per shipment or two containers per day, whichever is less frequent.

C7-1c Visual Examination Methods Requirements

This section describes the portion of the Permittees' confirmation program that applies to CCP.

VE may also be used as a waste confirmation method by the Permittees. VE shall be conducted by the Permittees in accordance with written standard operating procedures to describe the contents of a waste container. VE shall be conducted to identify and describe all waste items, packaging materials, and waste material parameters. VE may be used by the Permittees to examine a statistically representative subpopulation of the waste certified for shipment to WIPP to confirm that the waste contains no ignitable, corrosive, or reactive waste. This is achieved by confirming that the waste contains no liquid in excess of TSDF-WAC limits or compressed gases, and that the physical form of the waste matches the waste stream description documented on the WSPF. During packaging, the waste container contents are directly examined by trained personnel. This form of waste confirmation may be performed by the Permittees at the waste generator/storage site. VE may be documented on video and audio media, or by using a second operator to provide additional verification by reviewing the contents of the waste container to ensure correct reporting. When VE is performed using a second operator, each operator performing the VE shall observe for themselves the waste being placed in the waste container or the contents within the examined waste container when waste is not removed. The results of all VE shall be documented on data forms.

In order to keep radiation doses as low as reasonably achievable, the Permittees may use their own trained VE operators to perform VE for waste confirmation by reviewing CCP VE data, which includes VE data forms, waste packaging records, and may also include audit/video media. If the Permittees perform waste confirmation by review of video media, the video record of the VE must be sufficiently complete for the Permittees to confirm the Waste Matrix Code and waste stream description, and verify the waste contains no liquid in excess of TSDF-WAC limits or compressed gases. CCP VE video/audio media subject to review by the Permittees shall meet the following minimum requirements:

- The video/audio media shall record the waste packaging event for the container such that all waste items placed into the container are recorded in sufficient detail and shall contain an inventory of waste items in sufficient detail that a trained Permittee VE operator can identify the associated waste material parameters.

- The video/audio media shall capture the waste container identification number.

- The personnel loading the waste container shall be identified on the video/audio media or on packaging records traceable to the loading of the waste container.

- The date of loading of the waste container will be recorded on the video/audio media or on packaging records traceable to the loading of the waste container.

The Permittees may also use their own trained VE operators to perform VE for waste confirmation by reviewing VE data forms or packaging logs prepared by the generator during their packaging of the waste. To be acceptable, the CCP VE data must be signed by two CCP personnel who witnessed the packaging of the waste and must provide sufficient information for the Permittees to determine that the waste container contents match the waste stream description on the WSPF and the waste contains no liquid in excess of TSDF-WAC limits or compressed gases. The Permittees will document their review of CCP VE data on Permittee VE data forms. CCP VE forms or packaging records subject to review by the Permittees shall meet the following minimum requirements:

- At least two generator site personnel shall approve the data forms or packaging records attesting to the contents of the waste container.

- The data forms or packaging records shall contain an inventory of waste items in sufficient detail that a trained Permittee VE operator can identify the associated waste material parameters.

- The waste container identification number shall be recorded on the data forms or packaging records.

VE video media of containers which contain classified shapes shall be considered classified information. VE data forms will not contain classified information.

C7-2 Noncompliant Waste Identified During Waste Confirmation

This section describes the portion of the Permittees' confirmation program that applies to CCP.

If the Permittee identifies noncompliant waste during waste confirmation at a CCP site, (i.e., the waste does not match the waste stream description documented in the WSPF or there is liquid in excess of TSDF-WAC limits or compressed gases) the waste will not be shipped.

The DOE will suspend further shipments of the affected waste stream and issue a CAR to CCP. Shipments of affected waste streams will not resume until the CAR has been closed.

As part of the corrective action plan in response to the CAR, CCP will evaluate whether the waste characterization information documented in the CIS or WSPF for the waste stream must be updated because the results of waste confirmation for the waste stream indicated that the TRU waste being examined did not match the waste stream description. CCP will thoroughly evaluate the potential impacts on waste that has been shipped to WIPP. The DOE will evaluate the potential that prohibited items were shipped to WIPP and what remedial actions should occur, if any. The results of these evaluations will be provided to NMED before shipments of affected waste stream resume. If the CIS and/or WSPF requires revision, shipments of the affected waste stream shall not resume until the revised waste stream waste characterization information has been reviewed and approved by the DOE. If CCP certifies noncompliant waste at a site more than once during a running 90-day period, the DOE will suspend acceptance of CCP's waste from that CCP site until the DOE finds that all corrective actions have been implemented and the site complies with all applicable requirements of the WIPP-WAP.

C8 REFERENCES

1. Hatayama, H.K., Chen, J.J., de Vera, E.R., Stephens, R.D., and Storm, D.L. 1980. "A Method for Determining the Compatibility of Hazardous Wastes," EPA-600/2-80-076. U.S. Environmental Protection Agency, Ohio

2. Lockheed Idaho Technologies Company. 1995. "Position for Determining Gas Phase Volatile Organic Compound Concentrations in Transuranic Waste Containers," Idaho National Environmental Lab Report, INEL-95/0109/Revision 1. Lockheed Idaho Technologies Company, Idaho

3. New Mexico Environment Department (NMED). 1999. *Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit*, #NM4890139088. New Mexico Environment Department, New Mexico

4. National Archives and Records Administration. Title 40, Code of Federal Regulations, *Protection of Environment*. Washington, D.C.

5. General Services Purchasing Division. Title 20 New Mexico Administrative Code, Environmental Protection. Santa Fe, New Mexico

6. U.S. Department of Energy (DOE). 1999a. *Quality Assurance Program Document*, DOE/CBFO-94-1012. Carlsbad Field Office, U.S. Department of Energy, Carlsbad, New Mexico

7. U.S. Department of Energy (DOE). DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*

8. U.S. Department of Energy (DOE). 1999d. *Safety Analysis Report for the TRUPACT-II Shipping Package,* NRC Docket Number 71-9218. Carlsbad Field Office, U.S. Department of Energy, Carlsbad, New Mexico

9. U.S. Department of Energy (DOE). 2009. *Waste Data System User's Manual,* DOE/WIPP-09-3427. Carlsbad Field Office, U.S. Department of Energy, Carlsbad, New Mexico

10. U.S. Department of Energy 2010. Carlsbad Field Office, Office of the National TRU Program, *Performance Demonstration Program Plan for Analysis of Simulated Headspace Gases,* DOE/CBFO-95-1076. Carlsbad Field Office, U.S. Department of Energy, Carlsbad, New Mexico

11. U.S. Department of Energy 2010. Carlsbad Field Office, Office of the National TRU Program, *Performance Demonstration Program Plan for RCRA Constituent Analysis of Solidified Wastes*, DOE/CBFO-95-1077. Carlsbad Field Office, U.S. Department of Energy, Carlsbad, New Mexico

12. U.S. Department of Energy (DOE). 1997b. *WIPP RCRA Part B Permit Application*, Revision 6, DOE/WIPP-91-005. Waste Isolation Pilot Plant, U.S. Department of Energy, Carlsbad, New Mexico

13. U.S. Department of Energy (DOE). 1995. *Transuranic Waste Baseline Inventory Report*, DOE-CAO-95-1121. Carlsbad Field Office, U.S. Department of Energy, Carlsbad, New Mexico

14. U.S. Environmental Protection Agency (EPA). *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air* (EPA/625/R-96/010B, January 1999)

15. U.S. Environmental Protection Agency (EPA), 1996 or latest update. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA SW-846, 3rd ed., U.S. EPA, Office of Solid Waste and Emergency Response, Washington, D.C. United States Environmental Protection Agency

16. U.S. Environmental Protection Agency (EPA). 1994a. *Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes, A Guidance Manual*, #05-520. Office of Solid Waste and Emergency Response, United States Environmental Protection Agency

17. U.S. Environmental Protection Agency (EPA). 1994b. *Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*, EPA/540/R/94/082. United States Environmental Protection Agency

18. U.S. Environmental Protection Agency (EPA). 1994c. *Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses*, EPA/540/R/94/083. United States Environmental Protection Agency

19. Westinghouse Savannah River Company (WSRC). 2000 or latest update. *Statement of Work IE8863 for Clarification of SRS TRU Waste.* Westinghouse Savannah River Company

20. U.S. EPA, 2002. *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites*. OSWER 9285.6-10, Office of Emergency and Remedial Response, Washington, D.C.

ACRONYMS AND ABBREVIATIONS

AK	acceptable knowledge
BDR	Batch Data Report
CAR	Corrective Action Report
CBFO	Carlsbad Field Office
CCP	Central Characterization Program
CFR	Code of Federal Regulations
CH	contact-handled
CIS	Characterization and Information Summary
DA	data administrator
DOE	U.S. Department of Energy
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
HWA	New Mexico Hazardous Waste Act
HWDU	Hazardous Waste Disposal Unit
HWFP	Hazardous Waste Facility Permit
ID	identification number
INL	Idaho National Laboratory
kV	kilovolts
LDR	Land Disposal Restrictions
nCi	nanocuries
NCR	nonconformance report
NDE	nondestructive examination
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NWP	Nuclear Waste Partnership
OJT	on-the-job training
PCB	polychlorinated biphenyls
PDP	Performance Demonstration Program
QA	quality assurance
QAO	quality assurance objective
QAPD	Quality Assurance Program Document
QAPjP	quality assurance project plan
QC	quality control
RCRA	Resource Conservation and Recovery Act
RH	remote-handled
RIDS	records inventory and disposition schedule
SLB2	standard large box 2
SOP	standard operating procedure
SOW	Statement of Work
SPM	site project manager
SRS	Savannah River Site
SWB	standard waste box
TDOP	ten-drum overpack
TRU	transuranic

ACRONYMS AND ABBREVIATIONS (Continued)

TRUCON	*TRUPACT Content (Code)*
TSDF-WAC	*Treatment, Storage, and Disposal Facility Waste Acceptance Criteria*
TWBIR	*Transuranic Waste Baseline Inventory Report*
VE	visual examination
VOC	volatile organic compound
WAP	Waste Analysis Plan
WDS	Waste Data System
WIPP	Waste Isolation Pilot Plant
WSPF	Waste Stream Profile Form
WWIS	WIPP Waste Information System

Attachment 1 – Implementing Procedures

Reference Number	Procedure Number	Procedure Title
Q1	CCP-QP-001	CCP Graded Approach
Q2	CCP-QP-002	CCP Training and Qualification Plan
Q5	CCP-QP-005	CCP TRU Nonconforming Item Reporting and Control
Q8	CCP-QP-008	CCP Records Management
Q10	CCP-QP-010	CCP Document Preparation, Approval, and Control
Q14	CCP-QP-014	CCP Quality Assurance Trend Analysis and Reporting
Q15	CCP-QP-015	CCP Procurement
Q16	CCP-QP-016	CCP Control of Measuring and Testing Equipment
Q17	CCP-QP-017	CCP Identification and Control of Items
Q18	CCP-QP-018	CCP Management Assessment
Q19	CCP-QP-019	CCP Quality Assurance Reporting to Management
Q21	CCP-QP-021	CCP Surveillance Program
Q22	CCP-QP-022	CCP Software Quality Assurance Plan
Q23	CCP-QP-023	CCP Handling, Storage and Shipping
Q26	CCP-QP-026	CCP Inspection Control
Q27	CCP-QP-027	CCP Test Control
Q28	CCP-QP-028	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
Q29	CCP-QP-029	CCP Corrective Action Management
Q30	CCP-QP-030	CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel
Q40	CCP-QP-040	Support Training
T1	CCP-TP-001	CCP Project Level Data Validation and Verification

Attachment 1 – Implementing Procedures (Continued)

Reference Number	Procedure Number	Procedure Title
T2	CCP-TP-002	CCP Reconciliation of DQOs and Reporting Characterization Data
T5	CCP-TP-005	CCP Acceptable Knowledge Documentation
T6	CCP-TP-006	CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste
T28	CCP-TP-028	CCP Radiographic Test Drum and Training Container Construction
T30	CCP-TP-030	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
T53	CCP-TP-053	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
T86	CCP-TP-086	CCP CH Packaging Payload Assembly
T113	CCP-TP-113	CCP Standard Contact-Handled Waste Visual Examination
T163	CCP-TP-163	CCP Evaluation of Waste Packaging Records for Visual Examination of Records
T500	CCP-TP-500	CCP Remote-Handled Waste Visual Examination
T508	CCP-TP-508	CCP RH Standard Real-Time Radiography Inspection Procedure
T512	CCP-TP-512	CCP Remote-Handled Waste Sampling
T530	CCP-TP-530	CCP RH TRU Waste Certification and WWIS/WDS Data Entry

Controlled
Copy

Effective Date: MAY 3 1 2013

CCP-PO-002
Revision 27

CCP
Transuranic
Waste Certification Plan

Approved by: _____ Date: 5-30-13
CCP Site Project Manager
Mike Ramirez

Approved by: _____ Date: 5-30-13
NWP Quality Assurance
Val Cannon

Approved by: _____ Date: 5/30/13
NTPC Manager
Ed Gulbransen

Approved by: _____ Date: 5-30-13
DOE-CBFO
Office of Quality Assurance Acting Director
Dennis Miehls

Approved by: _____ Date: 5-30-13
DOE-CBFO
Office of National TRU Program Director
J.R. Stroble

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
4	05/17/2002	Revised to reflect requirements of new Department of Energy (DOE)/WIPP 02-3122, *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (CH-WAC) (WIPP).
5	02/12/2003	Added CCP-TP-046, CCP-TP-047 AND CCP-TP-048 to Attachment 1, Table A.3-3, NDA Procedures.
6	06/11/2003	Updated to Revision 5 of the Quality Assurance Program Description (QAPD).
7	11/20/2003	Supplemented the description of the CCP organization in Section 4.1.1; added work planning criteria to Section 4.1.2[B]; revised Sections 4.10 and 4.10.2 to better describe how independent assessments are scheduled and conducted; updated procedure references.
8	01/08/2004	Added Procedures into Tables A-3.3, B-1, B-3, and B-4. Removed cancelled procedure (CCP-TP-080) from Table B-4.
9	03/15/2004	Incorporate changes to Revision 1 of DOE/WIPP-02-3122, Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant and other editorial changes. Changed references to match WAC.
10	11/15/2004	Revised to add procedures into Tables B-1, B-2, B-3 and B-4 in Attachment 4: Procedure Tables. Editorial changes throughout document. Incorporated Revision 20 of the Transuranic Package Transporter Modell II (TRUPACT-II) Safety Analysis Report (SAR), Revision 3 of the HalfPACT SAR, Revision 2 of the WIPP Waste Acceptance Criteria. Incorporated Carlsbad Field Office (CBFO) Document Release Record (DRR) comments.
11	02/24/2005	Revised to incorporate LANL Off-Site Source Recovery (OSR) Project. The Facility Quality Assurance Officer (FQAO) responsibilities were removed from this document to address Environmental Protection Agency (EPA) concerns regarding document consistency.
12	03/10/2005	Added procedures to Table A-3.3, Table B-1, and Table B-3. Added new Table B-3A, Solids Sampling Procedures.
13	05/09/2005	Incorporated changes to Revision 3 of DOE/WIPP-02-3122, CH-WAC for the WIPP. Updated 2.0 in Attachment 8. Updated web links in Section 5.
14	12/29/2005	Incorporated changes to Table 3.3.22, ^{239}Pu FGE Limits for Packages and Rev. 2 of the CH-TRAMPAC and editorial changes.

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
15	03/22/2006	Revised to add procedures to Attachment 1, Radioassay Requirements for Contact-Handled Transuranic Waste, Table A-3.3, NDA Procedures and Attachment 4, Procedure Tables, and editorial corrections throughout. Updated Figure 2-1, Central Characterization Project (CCP) Organization. Changed all references to DOE O 414.1A to DOE O 414.1. Updated step 3.2.2(B) (B.1) and step 3.2.6(B)(B.2) to address Carlsbad Field Office (CBFO) Document Review Record (DRR) comments.
16	11/16/2006	Revised to incorporate Revision 5 of DOE/WIPP 02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant.*
17	11/16/2006	Revised in response to concerns raised during the Idaho National Laboratory (INL) Remote-Handled (RH) Audit A-06-21. Corrected Section 4.4.1[B] and Attachment 11.
18	11/16/2006	Revised to incorporate Revision 6.0 of DOE/WIPP 02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant.*
19	05/22/2007	Revised to change the references for quality planning, list CCP special processes, and add a new Section 5.7 addressing configuration management of CCP equipment.
20	11/02/2007	Revised for the addition of Remote Handled Waste shipments.
21	01/26/2009	Revised procedure lists to include new and modified procedures/titles. Also, revised to incorporate Revision 6.2 of DOE/WIPP 02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*.
22	01/12/2010	Revised to incorporate Revision 6.4 of DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*.
23	04/07/2010	Revised to add Hanford Non-Destructive Assay (NDA) equipment.
24	06/30/2010	Revised to incorporate Revision 6.5 of DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*.
25	12/29/2010	Revised to incorporate Revision 7.0 of DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* and minor editorial changes.
26	07/14/2011	Revised to incorporate revision 7.1 and 7.2 of DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, minor editorial changes, and delete Appendix 11.

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
27	05/31/2013	Revised to incorporate Revision 7.3 and Revision 7.4 of DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, which incorporates the changes resulting for the Class 2 Permit modification entitled “Revised Waste Analysis Plan Waste Characterization Methods” which was approved by New Mexico Environment Department (NMED) on March 13, 2013, incorporate organizational changes to reflect the transition to Nuclear Waste Partnership (NWP), to clarify the hierarchy of quality assurance (QA) program documents, and minor editorial changes.

Controlled
Copy

TABLE OF CONTENTS

1.0 INTRODUCTION 9
1.1 CBFO Organization and Responsibilities 10
1.1.1 DOE-CBFO Office Director, Office of (Quality Assurance Manager) .. 10
1.1.2 DOE-CBFO Office Director, Office of National TRU Program 10

2.0 ORGANIZATION OF THE CCP 12
2.1 Organization and Responsibilities 12
2.1.1 CCP Management 12
2.1.2 NTPC Certification Manager 13
2.1.3 CCP Certification Manager 13
2.1.4 CCP Transportation Certification Official (TCO) 15
2.1.5 NWP Quality Assurance (QA) Manager 16
2.1.6 Quality Assurance (QA) 16
2.1.7 CCP Waste Certification Official (WCO) 18

3.0 COMPLIANCE PLAN FOR CH-WAC 20
3.1 Organization of Requirements 20
3.1.1 DOE Operations and Safety Requirements for WIPP 21
3.1.2 NRC Transportation Safety Requirements for Type B Packages 21
3.1.3 NMED Hazardous Waste Facility Permit Requirements 21
3.1.4 EPA Compliance Recertification Decision Requirements 21
3.1.5 EPA Approval for PCB Disposal 22
3.1.6 Land Withdrawal Act Requirements (Public Law 102-579) 22
3.2 Container Properties Criteria and Requirements 23
3.2.1 Payload Container Description 23
3.2.2 Container Weight and Center-of-Gravity 26
3.2.3 Assembly Configurations 26
3.2.4 Removable Surface Contamination (Payload Containers) 26
3.2.5 Container Identification/Labeling 27
3.2.6 Dunnage 29
3.2.7 Filter Vents 30
3.3 Radiological Properties 31
3.3.1 Radionuclide Composition 31
3.3.2 Fissile Material Quantity (^{239}Pu FGEs) 33
3.3.3 TRU Alpha Activity Concentration 37
3.3.4 ^{239}Pu Equivalent Activity 38
3.3.5 Radiation Dose Equivalent Rate 40
3.3.6 Decay Heat 41
3.4 Physical Properties 41
3.4.1 Observable Liquid 41
3.4.2 Sealed Containers 42
3.5 Chemical Properties 43
3.5.1 Pyrophoric Materials 43
3.5.2 Hazardous Waste 44
3.5.3 Chemical Compatibility 45
3.5.4 Explosives, Corrosives, and Compressed Gases 46
3.5.5 HSG VOC Concentrations 47
3.5.6 Polychlorinated Biphenyl (PCB) Concentration 47

Controlled
Copy

3.6 Data Package Contents 48
3.6.1 Characterization and Certification Data 48
3.6.2 Shipping Data 49

4.0 WASTE ACCEPTANCE REQUIREMENTS AND CRITERIA FOR RH WASTE 51
4.1 Organization of Requirements 51
4.2 DOE Operations and Safety Requirements for WIPP 52
4.3 NRC Transportation Safety Requirements 52
4.4 NMED Hazardous Waste Facility Permit Requirements 53
4.5 EPA Compliance Recertification Decision Requirements 53
4.6 WIPP Land Withdrawal Act Requirements (Public Law 102-579) 54
4.7 Container Properties 55
4.7.1 Description 55
4.7.2 Weight Limits 56
4.7.3 Assembly Configurations 57
4.7.4 Removable Surface Contamination 57
4.7.5 Identification/Labeling 58
4.7.6 Dunnage 61
4.7.7 Filter Vents 61
4.8 Radiological Properties 62
4.8.1 Radionuclide Composition 63
4.8.2 ^{239}Pu Fissile Gram Equivalent/^{235}U Fissile Equivalent Mass (FEM) 65
4.8.3 TRU Alpha Activity Concentration 68
4.8.4 ^{239}Pu Equivalent Activity 69
4.8.5 Radiation Dose Equivalent Rate 70
4.8.6 Decay Heat 70
4.9 Physical Properties 71
4.9.1 Observable Liquid 71
4.9.2 Sealed Containers 72
4.9.3 Physical Form 73
4.10 Chemical Properties 74
4.10.1 Pyrophoric Materials 74
4.10.2 Hazardous Waste 75
4.10.3 Chemical Compatibility 75
4.10.4 Explosives, Corrosives, and Compressed Gases 76
4.10.5 Headspace Gas Concentrations 77
4.10.6 Polychlorinated Biphenyls (PCBs) 77
4.11 Data Package Contents 78
4.11.1 Characterization and Certification Data 78
4.11.2 Shipping Data 79

5.0 QUALITY ASSURANCE PLAN 80
5.1 Organization and Quality Assurance Program 80
5.1.1 Organization 81
5.1.2 Implementation of the QA Program 85
5.2 Personnel Qualification and Training 87
5.2.1 Qualification Requirements 88
5.2.2 Training Requirements 88
5.3 Quality Improvement 89
5.4 Documents 91

Controlled
Copy

5.5 Records 93
5.6 Work Process 94
5.6.1 Work 94
5.6.2 Implementing Procedures 95
5.6.3 Item Identification and Control 96
5.6.4 Special Processes 96
5.6.5 Handling, Storage, and Shipping 97
5.7 Configuration Management 97
5.7.1 Equipment Configuration 97
5.7.2 Software Configuration 98
5.8 Procurement 98
5.8.1 Procurement Document Review and Approval 99
5.8.2 Acceptance of Items or Services 99
5.8.3 Control of Supplier Nonconformances 100
5.8.4 Commercial Grade Items 101
5.9 Inspection and Testing 102
5.9.1 Qualification of Inspection and Test Personnel 103
5.9.2 Qualification of Nondestructive Examination Personnel 104
5.9.3 Inspection Planning 104
5.9.4 Test Requirements 104
5.9.5 Monitoring, Measuring, Testing, and Data Collection Equipment 105
5.10 Management Assessments 106
5.11 Independent Assessments 107
5.11.1 Surveillances 107
5.11.2 Audits 107
5.12 Sample Control Requirements 108
5.12.1 Sample Identification 108
5.12.2 Handling, Storing, and Shipping Samples 108
5.12.3 Disposition of Nonconforming Samples 109
5.13 Data Documentation, Control, and Validation 109
5.14 Software 110
5.15 Performance Demonstration Program (PDP) 110

6.0 REFERENCES 111

LIST OF TABLES

Table 1. Authorized Payload Container Contents 26
Table 2. ^{239Pu} FGE Limits for Payload Containers 34
Table 3. PE-Ci Limits 39
Table 4. ^{239Pu} FGE Limits for a Canister Shipped in an RH-TRU 72-B Package 66
Table 5. ^{239Pu} FGE Limits for Drums Shipped in a 10-160B Package 67
Table 6. ^{235U} FEM Limit for a Canister Shipped in an RH-TRU 72-B Package 67
Table 7. PE-Ci Limits 69
Table A-1. Data Quality Objectives (DQOs) for Radioassay 123
Table A-2. Upper Limits for %RSD vs. Number of Replicates 126
Table A-2.1. NDA Procedures 127
Table A-3. Range of Applicability 130
Table B-1. Container Management Procedures 140
Table B-2. Radiography Procedures 140
Table B-3. VE Procedures 140
Table B-4. GGT Procedures 140
Table B-5. Certification Procedures 140
Table B-6. Remote-Handled Procedures 141
Table C-1. PE-Ci Weighting Factors for Selected Radionuclides 143

LIST OF FIGURES

Figure 1-1. CCP Document Hierarchy for TRU Waste Characterization, Certification, and Transportation 11
Figure 2-1. CCP Organization 19

LIST OF APPENDIXES

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste 117
Appendix 2 – Appendix 1 References 135
Appendix 3 – Acronyms and Abbreviations 137
Appendix 4 – Procedure Tables 140
Appendix 5 – PE-Ci Activity 142
Appendix 6 – Glossary 144
Appendix 7 – Payload Container Integrity Checklist 151
Appendix 8 – Payload Management of TRU Alpha Activity Concentration 155
Appendix 9 – Radiography Requirements for Contact-Handled Transuranic Waste 158
Appendix 10 – Visual Examination Requirements for Contact-Handled Transuranic Waste 164

Controlled
Copy

1.0 INTRODUCTION

The Central Characterization Program (CCP) is tasked with characterizing and certifying Transuranic (TRU) waste for disposal at the Waste Isolation Pilot Plant (WIPP). Accordingly, the CCP must comply with DOE/WIPP 02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC). The WAC establishes the specific physical, chemical, radiological, and packaging criteria for acceptance of defense TRU waste shipments at WIPP. The WAC also requires that the CCP produce documents, including a certification plan, that addresses applicable requirements and criteria pertaining to packaging, characterization, certification, and shipping of defense TRU waste to WIPP for disposal.

The CCP may provide its services to a site by contracting directly with that site. If this is the case, the scope of services provided by CCP is specified in a Statement of Work (SOW) issued by the site. The SOW also specifies health and safety requirements, quality requirements, and other requirements specific to that site. A site-specific interface document may also be prepared which provides more detail on the site-CCP interface. The CCP has the option to use data from established TRU waste characterization activities at a U.S. Department of Energy (DOE)-Carlsbad Field Office (CBFO)-certified site, per site-specific interface documents. Transportation services may be provided through the CCP Certified Program or by other DOE-CBFO certified sites.

The site has general management oversight responsibility for work performed by the CCP at the site. The site is responsible for ensuring that CCP conducts its activities in compliance with site requirements, as defined in the site-specific interface document for that location.

Figure 1-1, CCP Document Hierarchy for TRU Waste Characterization, Certification, and Transportation illustrates the hierarchy of regulatory requirements for TRU waste characterization, certification, and transportation, and reflects the flow-down of requirements from higher-level documents to site-level program documents and implementing procedures. To ensure that future changes to the WAC and other relevant requirements documents are appropriately reflected, this CCP Transuranic Waste Certification Plan (hereinafter referred to as the Plan) will be reviewed at least annually and updated as necessary.

This Plan establishes the programmatic framework and criteria within which the CCP ensures that TRU wastes can be certified as compliant with the WAC. This Plan includes the following sections:

- Section 2.0, ORGANIZATION OF THE CCP, describes the interaction between the characterization, certification, and transportation personnel, and lists the responsibilities of key CCP officials.

- Section 3.0, COMPLIANCE PLAN FOR CH-WAC, describes CCP activities and specific documents that implement and verify compliance with each requirement.

- Section 4.0, WASTE ACCEPTANCE REQUIREMENTS AND CRITERIA FOR RH WASTE, describes CCP activities and specific documents that implement and verify compliance with each requirement.

- Section 5.0, QUALITY ASSURANCE PLAN, describes how the CCP complies with DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document* (QAPD) (Reference 18), the WAC (Reference 47), DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan* (WCPIP) (Reference 17), and provides the QA Plan for transportation as required by Title 10 *Code of Federal Regulations* (CFR), *Energy,* Part 71, *Packaging and Transportation of Radioactive Material,* Subpart H, *Quality Assurance*.

This Plan and associated Quality Assurance (QA) Plan (Section 5.0), CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (QAPjP), CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC),* and CCP-PO-505, *Remote-Handled Transuranic Waste Authorized Methods for Payload Control* establish the programmatic framework for the CCP's waste characterization, certification, and transportation activities. The QA Plan (Section 5.0) within this Plan implements all of the applicable CBFO QAPD requirements. These documents are submitted to the CBFO for review and approval. CCP will not characterize, certify, or ship TRU wastes to the WIPP before CBFO approval of this Plan.

1.1 CBFO Organization and Responsibilities

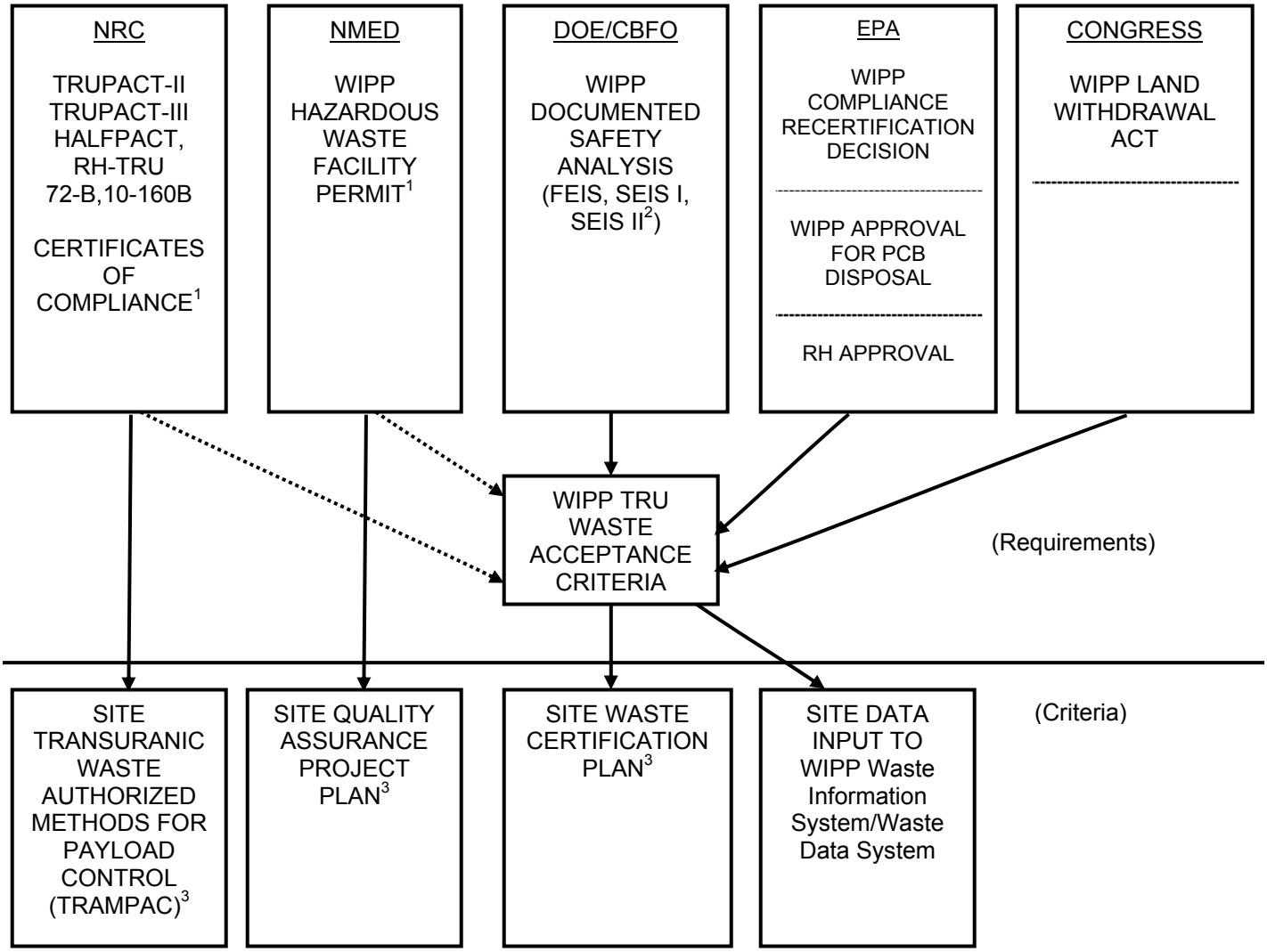
1.1.1 DOE-CBFO Office Director, Office of (Quality Assurance Manager)

[A] The DOE-CBFO QA Manager provides independent oversight of QA activities of the CCP and approves this Plan. This will include audits and surveillances to ensure that CCP is in compliance with this Plan.

1.1.2 DOE-CBFO Office Director, Office of National TRU Program

[A] The DOE-CBFO Office Director, Office of National TRU Program provides overall policy direction and oversees the CCP characterization and certification activities and approves this Plan.

Figure 1-1. CCP Document Hierarchy for TRU Waste Characterization, Certification, and Transportation



Note 1: The TRAMPACs as referenced by the TRUPACT-II, TRUPACT-III, HalfPACT, and RH-TRU 72-B Certificates of Compliance, the Safety Analysis Report (SAR) as referenced by the 10-160B Certificate of Compliance, and the WIPP Hazardous Waste Facility Permit (HWFP) provide detailed requirements. This Plan provides only an overview of these requirements.

Note 2: Final Environmental Impact Statement (FEIS), Supplemental Environmental Impact Statement (SEIS).

Note 3: All work performed by the site for the CBFO must be performed under an approved QA program. The site-specific Transuranic Waste Authorized Methods for Payload Control (TRAMPAC) can be a separate document or can be embodied in the site waste certification plan. The 10-160B SAR does not require the preparation of a site-specific TRAMPAC. Instead, acceptable methods for payload compliance for the 10-160B package are implemented by a Nuclear Regulatory Commission (NRC)-approved site-specific Appendix to the 10-160B SAR.

2.0 ORGANIZATION OF THE CCP

The responsibilities for TRU waste management of the CCP are distributed within various organizations. This section identifies the organizations involved in the CCP and describes the responsibilities of and interactions between these organizations.

2.1 Organization and Responsibilities

2.1.1 CCP Management

[A] CCP management has overall responsibility for successfully accomplishing activities subject to the QAPD. Management provides the necessary planning, organization, direction, control, resources, and support to achieve their defined objectives. Management is responsible for planning, performing, assessing, and improving the work.

[B] CCP management is responsible for establishing and implementing policies, plans, and procedures that control the quality of work, consistent with the provisions of the CBFO QAPD.

[C] Ensuring that adequate technical and QA training is provided for personnel performing activities subject to the CBFO QAPD.

[D] CCP management is responsible for ensuring that individual workers are knowledgeable of requirements for work they perform and are provided the necessary resources and administrative controls needed to accomplish assigned tasks.

[E] Ensuring compliance with all applicable regulations, DOE orders and requirements, and applicable federal, state, and local laws.

[F] Ensuring that personnel adhere to procedures for the generation, identification, control, and protection of QA records.

[G] Exercising the authority and responsibility to STOP unsatisfactory work such that cost and schedule do not override environmental, safety, or health considerations.

[H] Developing, implementing, and maintaining plans, policies, and procedures that implement the CBFO QAPD.

[I] Identifying, investigating, reporting, and correcting quality problems.

[J] Members of CCP management are responsible for achieving and maintaining quality in their area. Quality achievement is the responsibility of those performing the work. Quality achievement is verified by persons or organizations not directly responsible for performing the work.

[K] CCP management empowers employees by delegating authority and decision making to the lowest appropriate level in the organization.

[L] Figure 2-1, CCP Organization, is a functional organization chart pertaining to TRU waste characterization and certification activities at the CCP. The following subsections identify the organizations that oversee the CCP and describe the roles and responsibilities of key positions within the CCP charged with implementing the requirements defined in this Plan.

2.1.2 NTPC Certification Manager

[A] The National TRU Program Certification (NTPC) Manager is responsible for the day-to-day management and direction of CCP activities. The NTPC Certification Manager is responsible for:

[A.1] Ensuring successful CCP/site interface.

[A.2] Ensuring CCP plans and operations are coordinated, integrated, and consistent with DOE-CBFO programs, policies, and guidance.

[A.3] Coordinating CCP activities and functioning as principal point-of-contact (POC) with DOE-CBFO and other regulating agencies.

[A.4] Reviewing and approving this Plan.

2.1.3 CCP Certification Manager

[A] The CCP Certification Manager is the principal POC with DOE (including CBFO and National TRU Program [NTP]) for technical activities associated with TRU waste. The CCP Certification Manager performs the Site Project Manager (SPM) duties described in Appendix E of the CBFO QAPD. The CCP Certification Manager may delegate specific individuals within CCP to perform functions that are the responsibility of an SPM. The use of the term “SPM” in this Certification Plan refers to those delegated individuals. This delegation is documented by the completion and approval of an SPM Qualification Card in accordance with CCP-QP-002.

The CCP Certification Manager coordinates with the CCP Waste Certification Official (WCO) and Transportation Certification Official (TCO) and oversees CCP activities to ensure that TRU waste is characterized and certified compliant with WIPP requirements. Specific responsibilities assigned to the CCP Certification Manager include the following:

[A.1] Reviewing and approving this Plan.

[A.2] Developing, maintaining, reviewing, approving, and implementing CCP procedures and plans. Development, approval, and implementation of procedures and plans will occur at the earliest time consistent with the schedule for accomplishing the activities.

[A.3] Scheduling revisions and distributing CCP procedures and plans and forwarding these documents (if significantly revised) to DOE-CBFO for review and approval before implementation. The term "significantly revised" means non-editorial changes in accordance with the CBFO QAPD, Section 1.4.3.

[A.4] Ensuring CCP personnel receive appropriate training and are properly qualified, so that suitable proficiency is achieved and maintained.

[A.5] Obtaining Acceptable Knowledge (AK) information from waste generators regarding U.S. Environmental Protection Agency (EPA) hazardous waste numbers.

[A.6] Reviewing and approving interface documents.

[A.7] Waste selection and tracking.

[A.8] Halting characterization or certification activities if problems affecting the quality of certification processes or work products exist.

[A.9] Validating and verifying characterization data.

[A.10] Reconciling verified data with data quality objectives (DQOs).

[A.11] Evaluating and reconciling AK information with characterization data.

[A.12] Preparing and submitting SPM Data Validation Summaries, Waste Stream Profile Forms (WSPFs), Characterization Information Summaries, Waste Stream Characterization Packages, and QA/Quality Control (QC) reports to DOE-CBFO.

[B] The CCP Certification Manager may delegate any of these activities to another individual; however, the CCP Certification Manager retains ultimate responsibility for ensuring that CCP certification requirements are met.

2.1.4 CCP Transportation Certification Official (TCO)

[A] The CCP TCO documents and certifies that payload containers and assemblies to be transported meet the requirements of CCP-PO-003. Specific responsibilities of the TCO include the following:

[A.1] Reviewing the applicable CCP transportation plans and transportation procedures.

[A.2] Interfacing with the SPM, CCP Certification Manager, WCO, and QA on matters associated with waste transportation.

[A.3] Reviewing and maintaining CCP-PO-003.

[A.4] Ensuring that data used in completion of the transportation documents are accurate and demonstrate that the waste is acceptable for transportation.

[A.5] Preparing and signing Payload Container Transportation Certification Documents (PCTCDs) and Overpack Payload Container Transportation Certification Documents (OPCTCDs).

[A.6] Preparing and signing Payload Assembly Transportation Certification Documents (PATCDs).

[A.7] Assisting QA with preparation of responses to deficiency reports in transportation matters.

[A.8] Ensuring that the transportation data entered into the WIPP Waste Information System/Waste Data System (WWIS/WDS) are accurate and demonstrate that waste is acceptable for disposal at WIPP.

[A.9] Reviewing interface documents.

[A.10] Halting transportation certification activities if problems affecting the certification or work process exist.

2.1.5 NWP Quality Assurance (QA) Manager

[A] The (NWP) Nuclear Waste Partnership QA Manager has the overall responsibility and authority to perform independent assessments to verify the organization's achievement of quality and assure the effective implementation of the QA program. The NWP QA Manager has the responsibilities and authorities described in Section 1.1.5 of WP 13-1, Nuclear Waste Partnership LLC Quality Assurance Program Description (NWP QAPD).

2.1.6 Quality Assurance (QA)

[A] QA provides QA oversight and planning for TRU waste characterization and certification, verifies the implementation of the QAPjP and the QA requirements of this Plan, and provides day-to-day guidance to CCP staff on quality-related matters. QA has the authority to STOP CCP work activities if quality is not assured or controlled. QA has no assigned responsibilities unrelated to the QA Program that would prevent appropriate attention to QA matters. QA is responsible for verifying the achievement of quality by those performing the work. As shown in the organization chart in Figure 2-1, the Assurance Programs Manager reports to the NWP QA Manager, so that required authority and organizational freedom are provided, including sufficient independence from cost and schedule considerations. The Assurance Programs Manager performs the duties and has the responsibilities and authorities described for the site project QA manager in Appendix E of the CBFO QAPD. QA specific responsibilities include the following:

[A.1] Reviewing and approving CCP procedures and plans including this Plan.

[A.2] Coordinating and participating in internal and external audits and assessments to verify compliance.

[A.3] Tracking compliance and evaluating trends in compliance with QA objectives (QAOs).

[A.4] Performing assessments of testing facilities.

[A.5] Tracking and trending CCP nonconformances and corrective action reports (CARs).

[A.6] Verifying CCP corrective actions.

[A.7] Submitting semi-annual and other QA/QC reports to the CCP Certification Manager and DOE-CBFO.

[A.8] Participating in the development of responses to Corrective Action Reports generated by DOE-CBFO or other external assessment organizations.

[A.9] Reviewing and approving supplier and subcontractor QA Plans.

[A.10] Reviewing interface documents.

[A.11] Providing guidance to all CCP organizations concerning identification, control, and protection of QA records.

[A.12] STOPPING work if quality is not ensured or controlled.

[A.13] Providing day-to-day guidance on quality-related matters to CCP staff.

[A.14] Maintaining liaison with participant QA organizations and other affected organizations.

[A.15] Developing, establishing, and interpreting QA policy and ensuring effective implementation.

[A.16] Interfacing, as appropriate, with the DOE-CBFO staff, participants, and other stakeholders on QA matters.

[A.17] Assisting CCP organizations with quality planning, documentation, quality measurement, and problem identification and resolution.

[A.18] Initiating, recommending, or providing solutions to quality problems through designated channels.

[A.19] Ensuring that further processing, delivery, installation, or use is controlled until proper disposition of a nonconformance, deficiency, or unsatisfactory condition has occurred.

[A.20] Coordinating with responsible management on resolution of differences of opinion involving the definition and implementation of QA Program requirements. If not resolved, progressively elevating

the issues to successively higher levels of management as necessary.

[A.21] Ensuring that a graded approach is used to exercise control over activities affecting quality to an extent consistent with their importance.

[A.22] Interfacing with the CCP WCO and TCO on matters related to waste certification and transportation.

[A.23] Providing inspection services for procurement, including source inspections

[A.24] Providing vendor qualification and maintenance of the NWP Qualified Suppliers List (QSL) for vendors used by the CCP.

[B] QA may delegate one or more individuals to perform the above functional responsibilities; however, QA retains ultimate responsibility for ensuring compliance with QA requirements.

2.1.7 CCP Waste Certification Official (WCO)

[A] The CCP WCO is responsible for reviewing data and information necessary to document TRU waste payload containers prepared for shipment to WIPP meet specified criteria. The WCO coordinates activities related to waste certification. Specific duties and responsibilities of the WCO include the following:

[A.1] Certifying that waste packages meet WAC requirements.

[A.2] Interfacing with the CCP Certification Manager, SPM, TCO, and QA on matters related to waste certification.

[A.3] Stopping waste certification activities if problems affecting the quality of certification processes or work products exist.

[A.4] Ensuring that certification data entered into the WIPP WWIS/WDS are accurate and demonstrate the acceptability of the waste for transport to and disposal at the WIPP.

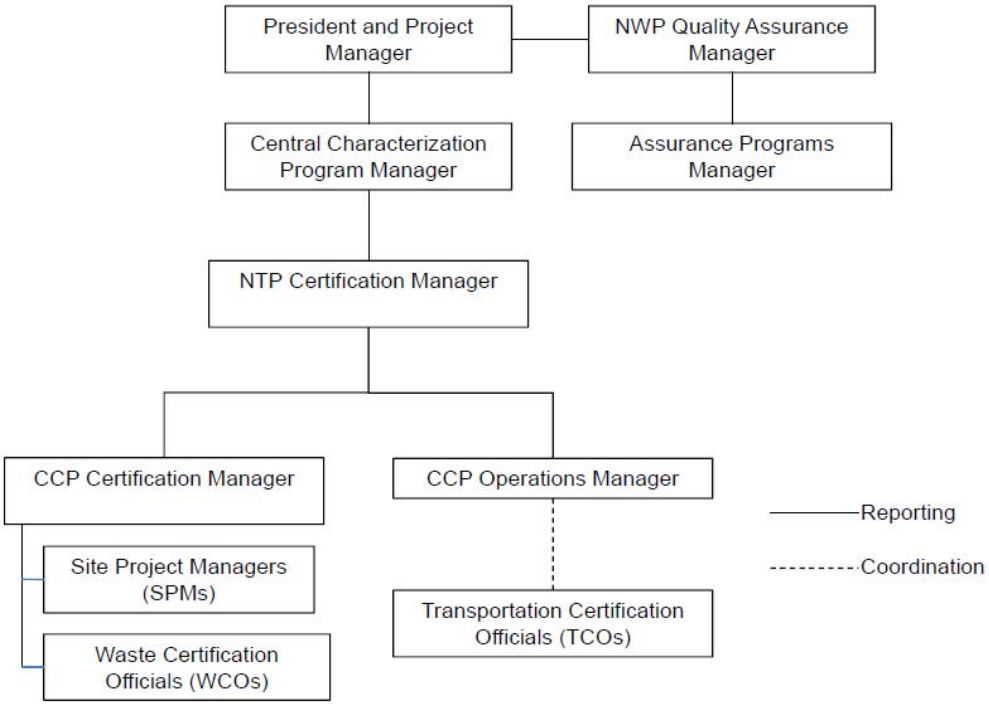
[A.5] Reviewing the applicable CCP plans and procedures and any other waste certification-related documents.

[A.6] Reviewing this Plan.

[A.7] Preparing responses to deficiency reports.

[B] The WCO may delegate one or more individuals to perform the above responsibilities; however, the WCO retains ultimate responsibility for ensuring compliance with WAC requirements.

Figure 2-1. CCP Organization



3.0 COMPLIANCE PLAN FOR CH-WAC

This section describes how the CCP complies with the requirements of the WIPP WAC and associated requirements contained in the WIPP Documented Safety Analysis (DSA) (Reference 4), the Transuranic Package Transporter II (TRUPACT-II), Transuranic Package Transporter III (TRUPACT-III), and/or HalfPACT Certificates of Compliance (References 5 and 6), the WIPP Land Withdrawal Act (LWA) (Reference 2) the WIPP HWFP (Reference 9), the Compliance Recertification Decision (Reference 10), the Initial Report for Polychlorinated Biphenyl (PCB) Disposal Authorization (Reference 11), the EPA letter of approval to land dispose non-liquid PCBs at WIPP (References 12 and 13), and the Revision to the Record of Decision for the DOE's WIPP Disposal Phase and associated WIPP National Environmental Policy Act (NEPA) database (References 14 and 15).

3.1 Organization of Requirements

WAC requirements are organized under five major categories: container properties, radiological properties, physical properties, chemical properties, and data package contents. Sections 3.2 through 3.6 correlate with the organization in the WAC for Contact-Handled (CH) TRU waste requirements and identify methods of compliance to meet each requirement. Procedures that implement the process controls, techniques, tests, and other actions to be applied to each TRU payload container, waste stream, and shipment are also identified. Revisions of requirements in referenced documents controlled by agencies or organizations other than DOE (e.g., EPA, NMED, and NRC) shall have precedence over values quoted in this Plan. Changes incorporated in future revisions of the CH-WAC will be reflected in future revisions of this Plan.

Regarding any discussions of compliance and verification methods, if a requirement is not met, personnel will initiate a Nonconformance Report (NCR) or a CAR in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*. Corrective action will be taken in accordance with CCP-QP-029, *CCP Corrective Action Management,* to resolve nonconformances. Section 5.3 of this Plan provides additional details about the NCR/CAR process. Only waste from a properly characterized waste stream will be certified as meeting the requirements and associated criteria contained in this Plan. Waste containers for a waste stream that has not been represented by an approved WSPF will not be shipped to WIPP for disposal (Reference 9, Part 2, Section 2.3.3.10). The required characterization, certification, and shipment data will be transmitted to WIPP using the WWIS/WDS.

3.1.1 DOE Operations and Safety Requirements for WIPP

[A] The WIPP DSA (Reference 4) addresses TRU waste handling and emplacement operations. The waste acceptance for emplacement in the WIPP will conform to the WAC.

3.1.2 NRC Transportation Safety Requirements for Type B Packages

[A] Acceptable methods for payload compliance control are defined in the TRUPACT-II, TRUPACT-III and HalfPACT Certificates of Compliance and implemented by the CH-TRAMPAC (References 23a and 23b). For shipments to WIPP, the CCP has prepared a CCP CH-TRAMPAC (CCP-PO-003) and a CCP TRUPACT-III TRAMPAC (CCP-PO-050 *CCP Trupact-III TRU Waste Authorized Methods For Payload Control [CCP TRUPACT-III TRAMPAC]*) describing compliance with each payload parameter. The CCP CH-TRAMPAC and CCP TRUPACT-III TRAMPAC will contain sufficient detail to allow reviewers to adequately understand and evaluate the compliance methodology for each payload parameter.

[B] The QA Program in Section 5.0 of this Plan defines the QA activities that apply to the use of NRC-approved transportation packaging in accordance with Title 10 CFR Part 71, Subpart H (Reference 24).

3.1.3 NMED Hazardous Waste Facility Permit Requirements

[A] TRU waste is classified as TRU mixed waste if it contains hazardous constituents regulated under the New Mexico Hazardous Waste Act (Reference 25). Only TRU mixed waste and TRU waste that have been characterized in accordance with WIPP Waste Analysis Plan (WIPP WAP) and that meet the treatment, storage, and disposal facility waste acceptance criteria as presented in permit Sections 2.3.3.1 through 2.3.3.10 will be shipped to WIPP for disposal. The CCP QAPjP describes compliance with the WIPP WAP.

3.1.4 EPA Compliance Recertification Decision Requirements

[A] Title 40 CFR §194.24(c) (Reference 26) requires the DOE to specify the limiting values for waste components to be emplaced in the repository. The EPA's Recertification Decision specifies waste components (including free water,

metals, and cellulose, plastic, and rubber) and their limits that are associated with the waste proposed for disposal at WIPP.

[B] CCP estimates or determines the weight of cellulose, plastics, and rubber, and reports this estimate in the WWIS/WDS on a container basis. In addition, CCP quantifies and reports the activity values of each of the following radionuclides for purposes of tracking the inventory curie content: ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs. The presence or absence of these radionuclides is determined using AK documentation and radioassay in accordance with Appendix A of the WAC. The results of these determinations are reported in the WWIS/WDS on a payload container basis. TRU waste payload containers shall contain more than 100 nanocuries per gram (nCi/g) of waste of alpha-emitting TRU isotopes with half-lives greater than 20 years, as specified in Section 3.3.3.

3.1.5 EPA Approval for PCB Disposal

PCB contaminated TRU and PCB contaminated TRU waste mixed with a hazardous waste including PCB remediation waste, PCB Articles, and PCB bulk product waste may be stored and disposed at the WIPP (References 11, 12, 13, 14, and 15). Waste streams identified as containing PCBs shall be brought to the attention of the CBFO in order that a determination can be made regarding their acceptability at WIPP. Applicable waste acceptance criteria are addressed in Sections 3.2.5, 3.4.1, and 3.5.6.

3.1.6 Land Withdrawal Act Requirements (Public Law 102-579)

[A] WIPP can only accept radioactive waste generated by atomic energy defense activities of the United States (Reference 1). A TRU waste is eligible for disposal at the WIPP if it has been generated in whole or in part by one or more of the following functions (References 27 and 28):

- Naval reactors development
- Weapons activities, including defense inertial confinement fusion
- Verification and control technology

- Defense nuclear materials production
- Defense nuclear waste and materials by-products management
- Defense nuclear materials security and safeguards and security investigations
- Defense research and development

Using AK, CCP determines that each waste stream to be disposed at WIPP is “defense” TRU waste.

[B] High-level radioactive waste or spent nuclear fuel shall neither be transported, emplaced, nor disposed of at the WIPP. Also, no TRU waste may be transported by or for the DOE to or from the WIPP, except in Type B packages:

- the design of which has been certified by the NRC, **AND**
- that have been determined by the NRC to satisfy its QA requirements.

3.2 Container Properties Criteria and Requirements

3.2.1 Payload Container Description

[A] Requirements

[A.1] Each payload container shall be assigned to a payload shipping category (References 23a and 23b). Authorized payload containers are listed in Table 1, Authorized Payload Container Contents. Payload containers shall meet U.S. Department of Transportation (DOT) Specification 7A, Type A, packaging requirements delineated in 49 CFR 173.465 (Reference 4, Section 2.6.2; Reference 9, Attachment A1, Section A1-1b, Reference 12, Section VI.F). Payload containers must be made of steel and be in good and unimpaired condition prior to shipment from the generator/storage sites. To demonstrate compliance with the requirement that payload containers be in good and unimpaired condition, the exterior of all payload containers shall undergo 100 percent visual inspection prior to loading into a Type B package. The results of this visual inspection

shall be documented using Appendix 7, Payload Container Integrity Checklist, of this Plan. A payload container in good and unimpaired condition, 1) does not have significant rusting, 2) is of sound structural integrity, and, 3) does not show signs of leakage. Significant rusting is a readily observable loss of metal due to oxidation (e.g., flaking, bubbling, or pitting) that causes degradation of the payload container's structural integrity. Rusting that causes discoloration of the payload container surface or consists of minor flaking is not considered significant. A payload container is not of sound structural integrity if it has breaches or significant denting/deformation. Breaching is defined as a penetration in the payload container that exposes the internals of the container. Significant denting/deformation is defined as damage to the payload container that results in creasing, cracking, or gouging of the metal, or damage that affects payload container closure. Dents or deformations that do not result in creasing, cracking, or gouging or affect payload container closure are not considered significant. CCP will report to the WWIS/WDS the number and types of payload containers planned for shipment to the WIPP.

[B] Compliance and Verification

[B.1] The CCP procures payload containers (e.g., drums, Standard Waste Box [SWBs], Standard Large Box2 [SLB2] and Ten-Drum Overpack [TDOPs]) that meet the following requirements:

(a) SWBs, SLB2s, and TDOPs are procured to the same standards and specifications as the containers used in Type A testing.

(b) New 55-gallon drums are procured as UN1A2 reusable drums, in accordance with applicable requirements of 49 CFR 173, which is allowable per CBFO memo CBFO:NTP:JFS97-1144UFC5822. Drums may also be procured to the same standards and specifications as the drums used in Type A testing.

[B.2] Recovered drums are inspected to ensure that they are DOT Specification 17C or 17H or meet

UN1A2 requirements for reusable drums. Permanent markings embossed on the bottom of the drums are used to verify the drum type if procurement records are not available. Alternatively, if the markings are not visible (e.g., drums that are galvanized through a dipping process, which obscures the embossing), the drums are inspected and inspection results are compared to requirements for 17C, 17H, or UN1A2 drums. Personnel examine retrievably stored containers for compliance with the applicable requirements and verify that the containers are in good condition in accordance with site-specific container management procedures (See Appendix 4, Procedure Tables, Table B-1), and CCP-TP-033, *CCP Shipping of CH-TRU Waste*. CCP-TP-033 contains Appendix D from the WAC, and is used to document compliance with the Payload Container Integrity Checklists.

[B.3] Personnel document their procurement acceptance and/or visual inspections. If packages cannot be shown to meet the above requirements by procurement records and/or physical examination, CCP personnel take corrective action (e.g., repackage the waste into a certifiable container) to resolve the nonconformance.

[B.4] Personnel will report the number and types of containers to WIPP using WWIS/WDS, in accordance with CCP-TP-030, *CCP CH-TRU Waste Certification and WWIS/WDS Data Entry*.

Table 1. Authorized Payload Container Contents

Payload Container	Contents
55-gallon drum	Either direct loaded or containing a pipe component (commonly referred to as a pipe overpack container [POC])
85-gallon drum[1]	Either direct loaded or containing a 55-gallon drum
100-gallon drum	Direct loaded
Shielded container	Containing a 30-gallon steel drum
SWB	Either direct loaded or containing up to four 55-gallon drums, up to three 85-gallon drums, up to two 100-gallon drums, or one bin
SLB2	Direct loaded or containing various individual containers (4 x 4 x 7-foot boxes and 5 x 5 x 8-foot boxes as well as other containers of smaller sizes)
TDOP	Either direct loaded or containing up to ten 55-gallon drums or up to six 85-gallon drums or one SWB

[1]The term "85-gallon drum" includes 75-gallon to 88-gallon drums.

3.2.2 Container Weight and Center-of-Gravity

[A] Requirements

[A.1] See the CH-TRAMPAC for weight limits and center-of-gravity requirements (Reference 23a). See the TRUPACT-III TRAMPAC for applicable weight limits (Reference 23b).

3.2.3 Assembly Configurations

[A] Requirements

[A.1] See the CCP CH-TRAMPAC and TRUPACT-III TRAMPAC for payload assembly configuration requirements (References 23a and 23b).

3.2.4 Removable Surface Contamination (Payload Containers)

[A] Requirements

[A.1] The removable surface contamination for each CH-TRU waste payload container, payload assembly and packaging must be measured and documented prior to shipment. Removable surface contamination

on CH-TRU waste payload containers, container assemblies, and packaging shall not be greater than 20 disintegrations per minute (dpm) per 100 square centimeters (cm^2) for alpha-emitting radionuclides and 200 dpm per 100 cm^2 for beta-gamma-emitting radionuclides (Reference 9, Attachment A1, Section A1-1d[2]; References 29 and 30).

[A.2] Fixing surface contamination to meet the above criterion is not permitted.

[B] Compliance and Verification

[B.1] A Host site Radiological Control Technician (RCT) surveys TRU waste payload containers, payload assemblies and packaging, for removable surface contamination before they are loaded for shipment. The RCT assesses removable contamination and documents the results in accordance with Host site radiological survey procedures. If the RCT determines that removable contamination exceeds 20 dpm per 100 cm^2 for alpha-emitting radionuclides or 200 dpm per 100 cm^2 for beta-gamma-emitting radionuclides, personnel determine whether surface contamination can be removed to meet established limits. If compliance with removable surface contamination limits cannot be achieved, personnel segregate and disposition noncompliant container(s) in accordance with CCP-QP-005. The survey results are added to the container data package. The WCO confirms removable surface contamination survey results in accordance with Host site radiological survey procedures. CCP-TP-033 is utilized to comply with requirements of this section.

3.2.5 Container Identification/Labeling

[A] Requirements

[A.1] Each CH-TRU waste payload container shall be uniquely identified by means of bar code labels permanently attached in conspicuous locations. (Reference 23a, Section 2.4; Reference 23b, Section 2.3). The unique payload container identification number shall include a site identifier as a prefix (References 23a and 23b, Section 6.2.1).

[A.2] The container identification number shall be in medium to low density Code 39 bar code symbology as required by American National Standards Institute (ANSI) Standard ANSI/Association for Automatic Identification and Mobility (AIM) BC1-1995 (Reference 31) in characters at least 1-in. high, and alphanumeric characters at least 0.5-in. [inch] high. In the case of a 55-gallon, 85-gallon, or 100-gallon drum, or a shielded container, a minimum of three bar code identification labels shall be placed at approximately equal intervals around the circumference of the drum or shielded container (e.g.,120 degrees for three labels, 90 degrees for four labels) so that at least one label is clearly visible when drums or shielded containers are assembled into a payload assembly (e.g., a label must be visible after slip sheets and wrapping are applied). The bar code labels are required on the flat sides of SWBs. For TDOPs and SLB2s, a minimum of one bar code is required.

[A.3] Payload containers shall be marked “Caution Radioactive Material” using a yellow and magenta label as specified in 10 CFR Part 835 (Reference 30).

[A.4] Payload containers whose content are also Resource Conservation and Recovery Act (RCRA) regulated (mixed-TRU) shall be additionally marked “Hazardous Waste” as specified in 40 CFR §262.32 (Reference 33).

[A.5] For TRU and mixed-TRU wastes containing PCBs, the payload containers shall be marked in accordance with 40 CFR §761.40 (Reference 13).

[A.6] Additionally, DOT Type B packages (i.e., the TRUPACT-II, TRUPACT-III and HalfPACT) containing PCBs must be properly marked in accordance with the EPA letter of approval and 40 CFR §761.40 (References 12 and 13).

[A.7] If an empty drum or shielded container is used as dunnage to complete a shipment to the WIPP, the drum shall be labeled with a unique payload identification number and “EMPTY” or “DUNNAGE.”

[A.8] If a seven-pack of 55-gallon drums, a four-pack of 85-gallon drums, a three-pack of 100-gallon drums, or a SWB is shipped as dunnage to fill a TRUPACT-II, the drums or SWB will be labeled as "EMPTY" or "DUNNAGE" but will not be labeled with the unique site-specific payload container identification numbers (CINs) or included in WWIS/WDS data.

[B] Compliance and Verification

[B.1] Fifty-five gallon, 85-gallon, 100-gallon drums or shielded container certified will have a minimum of three bar code labels equally spaced around the drum that identify the site and contain a unique identification number in accordance with the Host site-specific container management procedure(s). Bar code labels will be affixed on the flat side of SWBs, while on a TDOP, a minimum of one bar code will be affixed.

[B.2] After verifying payload parameters, personnel ensure each container is marked with the appropriate site and container identification number in accordance with the host site-specific container management procedures. The TCO verifies the container marking (e.g., barcode, Radiation Material, PCB, or Hazardous Waste labels) in accordance with CCP-TP-033.

[B.3] Refer to Section 3.2.6[B] of this Plan for compliance with the dunnage requirements and verifications.

3.2.6 Dunnage

[A] Requirements

[A.1] See the CCP CH-TRAMPAC for dunnage requirements (Reference 23a).

[A.2] The use of dunnage shall be minimized.

[A.3] In the event the use of dunnage cannot be avoided, the preferred practice for maximizing the efficiency of waste handling and the utilization of disposal room capacity is to ship them in assemblies (e.g., a seven-pack assembly of 55-gallon drums).

[B] Compliance and Verification

[B.1] The minimization of the use of dunnage is through load management. The use of dunnage drums is reviewed and approved concurrently with the review and approval of shipment assemblies by the WWIS/WDS Data Administrator on a case-by-case basis.

3.2.7 Filter Vents

[A] Requirements

[A.1] Payload containers that have been stored in an unvented condition (i.e., no filters and/or unpunctured liner) shall be aspirated for a specific length of time as described in the CH-TRAMPAC to ensure equilibration of any gases that may have accumulated in the closed payload container (References 23a and 23b, Section 5.3.1). All payload containers (including overpacks, but not dunnage containers) shall be vented with one or more filters to control gas concentration and pressure (Reference 4, Section 2.6.2; Reference 47, Reference 23a, Section 2.5.1; Reference 23b, Section 2.4.1; Reference 9, Attachment A1, Section A1-1b[2]). Filters shall meet the specifications described in the WIPP Hazardous Waste Facility Permit and the CH-TRAMPAC, and TRUPACT-III TRAMPAC (Reference 9, Attachment A1, Section A1-1d [1]; Reference 23a, Section 2.5.1; Reference 23b, Section 2.4.1). The model number of each filter vent or combination of filter vents will be reported using the WWIS/WDS.

[B] Compliance and Verification

[B.1] Personnel will procure approved filters for use on TRU waste containers. Filters will be selected from the DOE-CBFO-approved filter list. Filters will be procured in accordance with CCP-QP-015, *CCP Procurement*.

[B.2] The personnel visually verify that filter vents, if present, have been installed properly. If filter vents are not installed, personnel procure filter vents that meet specifications and install the correct number of

filter vents. The WCO confirms payload venting in accordance with CCP-TP-030. When a payload container does not meet the payload container filter requirements, an NCR is initiated. Nonconforming filters are replaced as necessary.

3.3 Radiological Properties

3.3.1 Radionuclide Composition

[A] Requirements

[A.1] The radionuclide composition of each waste container being characterized must be quantified and reported for purposes of tracking the inventory curie content. The activities and masses of the following radionuclides must be reported: ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs. The estimated activities and masses, including their associated total measurement uncertainties (TMU) expressed in terms of one standard deviation for these ten radionuclides shall be reported to the WWIS/WDS on a payload container basis. For any of these ten radionuclides whose presence can be substantiated from AK, direct measurement, computations, or a combination thereof, and whose measured data are determined to be below the lower limit of detection (LLD) for that radionuclide, the site shall report the character string "< LLD" to the WWIS/WDS for the activity and mass of that radionuclide; otherwise a value of zero shall be reported. Quantitative estimates for LLD shall not be used when calculating related radiological properties of the waste such as TRU alpha activity concentration, ^{239}Pu Fissile Gram Equivalent (FGE), decay heat, etc.

[A.2] In addition, all radionuclides other than the ten WIPP-tracked radionuclides (i.e., ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs) that contribute to 95 percent of the radioactive hazard for the payload container shall be reported on the bill of lading or manifest in accordance with Title 49 CFR, *Transportation* §172.203, (Reference 36) and Title 49 CFR §173.433, (Reference 37). The activities and masses of these other radioisotopes shall also be reported to the WWIS/WDS along with their

associated TMU, expressed in terms of one standard deviation for each waste container.

[B] Compliance and Verification

[B.1] CCP uses AK and measurements to determine radionuclide composition. The requirements for nondestructive assay (NDA) are presented in Appendix 1, Radioassay Requirements for Contact-Handled Transuranic Waste. NDA personnel quantify radionuclide values in accordance with the applicable procedures listed in Appendix 1, Table A-2.1, NDA Procedures. NDA personnel use AK data and assay measurements and calculations to create an isotopic profile of each waste container. The activities and masses of the ten WIPP-tracked radionuclides including TMU (one standard deviation) and all radionuclides other than the ten WIPP-tracked radionuclides including TMU (one standard deviation) that contribute to 95 percent of the radioactive hazard for the payload container being characterized will be reported for each container using WWIS/WDS in accordance with procedure CCP-TP-030. In addition, all radionuclides other than the ten WIPP-tracked radionuclides that contribute to 95 percent of the radioactive hazard for the payload container shall be reported on the bill of lading or manifest in accordance procedure CCP-TP-033.

[B.2] For any of the ten WIPP-tracked radionuclides whose presence can be substantiated from AK, direct measurement, or a combination thereof, and whose measured data are determined to be below the LLD for that radionuclide, the CCP will report the character string “< LLD” to the WWIS/WDS for the activity and mass of that radionuclide; otherwise a value of zero will be reported.

3.3.2 Fissile Material Quantity (^{239}Pu FGEs)

[A] Requirements

[A.1] For each payload container, the sum of ^{239}Pu FGE plus two times its associated TMU, expressed in terms of one standard deviation, shall comply with the limits in Table 2, ^{239}Pu FGE Limits for Payload Containers (Reference 4, Section 6.4.2 References 23a and 23b, Section 3.1.1). The values calculated for ^{239}Pu FGE and its associated TMU, expressed in terms of one standard deviation, shall be reported to the WWIS/WDS for each payload container.

[A.2] See the CCP CH-TRAMPAC for ^{239}Pu FGE limits applicable to the TRUPACT-II and/or HalfPACT packaging (Reference 23a).

[A.3] See the CCP CH-TRUPACT-III TRAMPAC for ^{239}Pu FGE limits applicable to the TRUPACT-III packaging (Reference 23b).

Table 2. ^{239}Pu FGE Limits for Payload Containers

Waste Container Type	Be/BeO Limits	Special Waste Container Geometry/Material Requirements	^{239}Pu FGE Limit
Non-Machine Compacted Waste			
55- (excluding pipe overpacks), 85-, and 100-gallon drums	≤ 1% by weight of the waste	None	≤ 200
55-gallon drum configured as a pipe overpack (i.e., a standard, S100, S200, or S300 pipe overpack)	≤ 1% by weight of the waste	None	≤ 200
Shielded Container	≤ 1% by weight of the waste	None	≤ 200
SLB2	≤ 1% by weight of the waste	The minimum ^{240}Pu content in grams for the SLB2 waste container, denoted in the adjacent ^{239}Pu FGE Limit column as a parenthetical, shall be determined after the subtraction of two times the error (i.e., two standard deviations)	≤ 325 ≤ 340 (5) ≤ 360 (15) ≤ 380 (25)
SWB	≤ 1% by weight of the waste	None	≤ 325
TDOP	≤ 1% by weight of the waste	None	≤ 325
55- (excluding pipe overpacks), 85-, and 100-gallon drums	>1% by weight of the waste up to 100 kg	None	≤ 100
SWB	>1% by weight of the waste	None	≤ 100
TDOP	>1% by weight of the waste	None	≤ 100

Table 2. ^{239}Pu FGE Limits for Payload Containers (Continued)

Waste Container Type	Be/BeO Limits	Special Waste Container Geometry/Material Requirements	^{239}Pu FGE Limit
Machine Compacted Waste			
Pipe overpacks (i.e., a standard, S100, S200 , or S300 pipe overpack)	> 1% by weight of the waste	None	≤ 140
55- (excluding pipe overpacks), 85-, and 100-gallon drums	≤ 1% by weight of the waste	Partially compacted waste. Applies to waste that has been compacted such that the distribution and form of polyethylene in the waste does not exceed 0.646 gram/cubic centimeter (g/cm^3), i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3).	≤ 200
55- (excluding pipe overpacks), 85-, and 100-gallon drums	≤ 1% by weight of the waste	Fully compacted waste without design vertical spacing. Applies to waste that has been compacted such that the distribution and form of polyethylene in the waste exceeds 0.646 g/cm^3, i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3).	≤ 170
55- (excluding pipe overpacks), 85-, and 100-gallon drums	≤ 1% by weight of the waste	Fully compacted waste with design vertical spacing. Applies to waste that has been compacted such that the distribution and form of polyethylene in the waste exceeds 0.646 g/cm^3, i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3), and the dimensions of the payload containers (e.g., 100-gallon drums) ensure a minimum 0.5-in. separation between their compacted waste contents and other axially adjacent payload containers.	≤ 200
Shielded Container	≤ 1% by weight of the waste	None	≤ 200

Table 2. ^{239}Pu FGE Limits for Payload Containers (Continued)

Waste Container Type	Be/BeO Limits	Special Waste Container Geometry/Material Requirements	Waste Container
Machine Compacted Waste			
SWB/TDOP	≤ 1% by weight of the waste	Fully compacted waste with design vertical spacing. Applies to waste that has been compacted such that the distribution and form of polyethylene in the waste exceeds 0.646 g/cm^3, i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3), and contains one 16-gauge steel 100-gallon drum having a top and bottom design spacing of 0.75 and 0.50-inches, respectively, with no loose material or other drums of waste in the SWB/TDOP.	≤ 250
SWB/TDOP	≤ 1% by weight of the waste	Fully compacted waste with design vertical spacing. Containing one 55-, 85-, or 100-gallon drum whose design ensures a minimum of 0.5-in. vertical spacing between drum contents and the exterior top and bottom of the drum (e.g., a recessed lid) with no loose material or other drums of waste in the SWB/TDOP.	≤ 200
SWB/TDOP	≤ 1% by weight of the waste	Partially compacted waste. Containing one 55-, 85-, or 100-gallon drum whose contents have been compacted such that the distribution and form of polyethylene in the waste does not exceed 0.646 g/cm^3, i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3) with no loose material or other drums of waste in the SWB/TDOP.	≤ 200
SWB/TDOP	≤ 1% by weight of the waste	Fully compacted waste with design vertical spacing. Applies to waste that has been compacted such that the distribution and form of polyethylene in the waste exceeds 0.646 g/cm^3, i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3).	≤ 185

[B] Compliance and Verification

[B.1] Personnel obtain the CH-TRU waste fissile content in accordance with the processes described in Appendix 1, Radioassay equipment is qualified under the corresponding Performance Demonstration Program (PDP) requirements. CCP calculates the fissile or fissionable radionuclide content of the CH-TRU waste container as ^{239}Pu FGE according to approved calculation methods in accordance with CCP-TP-033.

[B.2] Personnel compile and review AK to make initial determinations about radionuclide content and concentrations. CCP confirms AK by obtaining information on the isotopic composition of the waste through radioassay of the filled payload container.

[B.3] Personnel compute the container ^{239}Pu FGE and container ^{239}Pu FGE TMU manually or using a computational algorithm. Individual radionuclide mass quantities and TMUs are converted to ^{239}Pu FGE by multiplying the mass value (g) by ^{239}Pu FGE conversion factors (FGE/g) listed in Table 3.1.2 of the CH-TRAMPAC (Reference 23a) and Table 3.1-1 of the TRUPACT-III TRAMPAC (Reference 23b). The ^{239}Pu FGE of each payload container shall be calculated from the isotopic composition and quantity of radionuclides. The ^{239}Pu FGE value plus two times the measurement error shall be less than the applicable limit for each payload container.

[B.4] The total ^{239}Pu FGE error is the square root of the sum of the squares of the individual ^{239}Pu FGE TMUs. Two times this error shall be added to the ^{239}Pu FGE of the Type B package payload and compared to the limit. The ^{239}Pu FGE of the radionuclides in each payload container will be reported to the WIPP using the WWIS/WDS and the TRUPACT-II and TRUPACT-III payload total FGE will be recorded on the PATCD. Payload containers shipped to the WIPP will meet both the Type B package and the WIPP repository requirements for criticality.

3.3.3 TRU Alpha Activity Concentration

[A] Requirements

[A.1] TRU waste containers to be disposed of at the WIPP shall contain greater than 100 nCi/g of waste of alpha-emitting TRU isotopes, with half-lives greater than 20 years. Without taking into consideration the TMU, the TRU alpha activity concentration for a payload container is determined by dividing the TRU alpha activity of the waste by the weight of the waste. The weight of the waste is the weight of the material placed into the payload container (i.e., the net weight of the container). The weight of the waste is typically determined by subtracting the tare weight of the payload container (including the weight of the rigid liner and any shielding external from the waste, if applicable) from the gross weight of the payload container. In the event waste containers (e.g., 55-gallon, 85-gallon or 100-gallon drums) that have been radioassayed are overpacked in a payload container (e.g., in a SWB), CCP shall sum the

individual TRU alpha activity values of the individual waste containers and divide by the sum of the individual net waste weights (i.e., less container, shielding, and liner weights as appropriate) to determine the activity per gram for the payload container. Should CCP utilize load management by overpacking waste containers, the determination of the payload container's TRU alpha activity concentration shall be in accordance with Appendix 8, Payload Management of TRU Alpha Activity Concentration. Loading a 55-gallon pipe-overpack with cans is considered direct loading, not overpacking for the purposes of calculating the weight of the container. The TRU alpha activity concentration shall be reported to the WWIS/WDS; however, there are no reporting requirements for its associated TMU (Reference 35, Chapter 4).

[B] Compliance and Verification

[B.1] Personnel measure TRU alpha activity concentration in accordance with the NDA processes described in Appendix 1. Personnel calculate the TRU alpha activity concentration of the CH TRU waste container manually or using computational algorithms. Personnel will subtract the tare weight of the containers before calculating the TRU alpha activity concentration. Personnel validate and verify calculation programs, before the data are used in accordance with CCP-QP-022, *CCP Software Quality Assurance Plan*. Assay data are validated and verified, and submitted in batch data reports (BDRs) to the CCP Project Office. The WCO confirms the reported TRU alpha activity concentration is appropriately calculated and above the specified limit.

3.3.4 ^{239}Pu Equivalent Activity

[A] Requirements

[A.1] ^{239}Pu equivalent curie (PE-Ci) limits are shown in Table 3, PE-Ci Limits. PE-Ci quantities shall be calculated in accordance with Appendix 5 for each payload container and reported to the WIPP using the WWIS/WDS (Reference 4, Section 3.3.2.3.1 and Table 3.3-6). There are no reporting requirements for the associated TMU.

Table 3. PE-Ci Limits

Payload Container	Packing Configuration	PE-Ci Limit
55-, 85-, and 100-gallon drum	Direct loaded – all approved waste forms other than solidified/vitrified waste	≤ 80 PE-Ci
Shielded Container	Direct loaded – vented 30-gallon inner steel drum – all approved waste forms other than solidified/vitrified waste	≤ 80 PE-Ci
SLB2	Direct loaded – all approved waste forms other than solidified/vitrified waste	≤560 PE-Ci
SWB	Direct loaded (or a bin) – all approved waste forms other than solidified/vitrified waste	≤ 560 PE-Ci
TDOP	Direct loaded – all approved waste forms other than solidified/vitrified waste	≤ 800 PE-Ci
85-gallon drum	Overpacking an undamaged[1] 55-gallon drum – all approved waste forms other than solidified/vitrified waste	≤ 1100 PE-Ci
SWB, TDOP	Overpacking an assembly of undamaged[1] 55- or 85-gallon drums with no single payload container within the assembly exceeding 1100 PE-Ci – all approved waste forms other than solidified/vitrified waste	≤ 1200 PE-Ci
TDOP	Overpacking an undamaged[1] SWB – all approved waste forms other than solidified/vitrified waste	≤ 1200 PE-Ci
Pipe Overpacks (Standard, S100, S200, and S300)	All approved waste forms	≤ 1800 PE-Ci
All	Solidified/vitrified waste	≤ 1800 PE-Ci

[1] An undamaged container provides an additional barrier should a breach occur in the overpack. When overpacking one or more damaged waste containers, direct loaded PE-Ci limits apply.

[B] Compliance and Verification

[B.1] Personnel calculate the activity of the CH-TRU waste container as PE-Ci according to the methodology in Appendix 5 of this Plan and CCP-TP-030. Personnel identify payload containers exceeding limits stated in Table 2, segregate them, and disposition them in accordance with approved nonconformance and corrective action management procedures. The WCO verifies compliance of the PE-Ci limits. Personnel will report the PE-Ci activity to the WIPP using the WWIS/WDS.

3.3.5 Radiation Dose Equivalent Rate

[A] Requirements

[A.1] The external radiation dose equivalent rate of individual payload containers shall be:

[A.2] ≤200 milliroentgen equivalent man (mrem)/hour (hr) at the surface with the exception of the S100 and S300 pipe overpacks which are limited to ≤179 mrem/hr and ≤155 mrem/hr, respectively, at the surface (References 23a and 23b, Section 3.2; Reference 4, Sections E1 and 2.1). Internal payload container shielding shall not be used to meet this criterion, except for authorized shielded payload container configurations such as the use of 55-gallon drums containing a pipe component or a shielded container (Reference 23a, Section 2.9). Total dose equivalent rate and the neutron contribution to the total dose equivalent rate shall be reported for each payload container in the WWIS/WDS.

[A.3] See the CCP CH-TRAMPAC and TRUPACT-III TRAMPAC for associated package requirements (References 23a and 23b).

[B] Compliance and Verification

[B.1] A Host site RCT measures surface dose rates of the individual payload containers in accordance with site radiological survey procedures using the beta-gamma and neutron dose rates for each container at the surface, and records the results for each payload container. If the combined beta-gamma and neutron dose rate exceeds the dose rate specified in step 3.3.5[A] at the surface for any container, the container is rejected, marked, and segregated. Total dose equivalent rate and the neutron contributions to the total payload container dose rate will be reported separately using the WWIS/WDS in accordance with CCP-TP-030.

3.3.6 Decay Heat

[A] Requirements

[A.1] See the CCP CH-TRAMPAC and TRUPACT-III TRAMPAC for decay heat requirements (References 23a and 23b).

[B] Compliance and Verification

[B.1] Personnel will compute the payload container decay heat and the measurement error manually or using a computational algorithm in accordance with CCP-TP-030. Personnel will ensure that the results of the calculations are equal to or less than the limits of the assigned shipping category. Individual radionuclide mass quantities and errors are converted to decay heat by multiplying the mass values (g) by decay heat conversion factors (W/g). Table 3.1-2 in the CH-TRAMPAC and TRUPACT-III TRAMPAC (References 23a and 23b) lists ^{239}Pu FGE, decay heat, and specific activity for many radionuclides. The values calculated for decay heat and its associated TMU (expressed in terms of one standard deviation) shall be reported to the WWIS/WDS for each payload container in accordance with CCP-TP-030.

3.4 Physical Properties

3.4.1 Observable Liquid

[A] Requirements

[A.1] Liquid waste is not acceptable at the WIPP. Observable liquid containing PCBs is prohibited at the WIPP.

Liquid in the quantities delineated below is acceptable:

- Observable liquid shall be less than 1 percent[1] by volume of the outermost container at the time of radiography or visual examination (VE) (Reference 9).

[1]The limit of “less than 1 percent” is taken from the CH-TRAMPAC and TRUPACT-III TRAMPAC and is more restrictive than the limit of “no more than 1 percent” in the HWFP.

- Internal containers with more than 60 milliliters (ml) or 3 percent by volume observable liquid, whichever is greater, are prohibited.

- Containers with Hazardous Waste Number U134 assigned shall have no observable liquid.

- Overpacking the outermost container that was examined during radiography or visual examination or redistributing untreated liquid within the container shall not be used to meet the liquid volume limits.

(Reference 9, Part 2, Section 2.3.3.1, Attachment C, Sections C-1c and C-3b; Reference 23a, Section 2.6.1; Reference 23b, Section 2.5.1; Reference 35, Appendix TRU Waste; Reference 12, Conditions of Approval, II.A.2).

[B] Compliance and Verification

[B.1] Initially, AK is used to determine container contents. Personnel estimate liquid volume by radiography and/or VE, in accordance with site-specific radiography and VE procedures (See Appendix 4, Tables B-2 and B-3). During VE, if personnel detect any liquid waste in non-transparent internal containers by shaking the internal container, they will assume that the internal container is completely filled and add the entire volume of the internal container to the total liquid in the container being characterized using VE. Personnel reject payload containers whose liquid volumes exceed the limits defined in 3.4.1 [A.1]. If necessary, personnel repackage noncompliant waste containers in accordance with site-specific VE procedures (See Appendix 4, Table B-3).

3.4.2 Sealed Containers

[A] Requirements

[A.1] Sealed containers that are greater than four liters (L) (nominal) are prohibited except for solid inorganic waste (Waste Material Type II.2) packaged in a metal container (Reference 23a, Section 2.8.1; Reference 23b, Section 2.7.1).

[B] Compliance and Verification

[B.1] Personnel will ensure that payload containers are verified to be free of sealed containers greater than four liters. Personnel use VE and/or Real-Time Radiography to ensure prohibited physical waste forms are not present in waste containers (See Appendix 4, Table B-2 through B-3).

Payload containers rejected for sealed containers greater than four liters or more are marked and segregated. The container is repackaged and reprocessed to verify the criteria are met. The WCO confirms the sealed container criteria in accordance with CCP-TP-030.

3.5 Chemical Properties

3.5.1 Pyrophoric Materials

[A] Requirements

[A.1] Radioactive pyrophoric materials shall be present only in small residual amounts (<1 percent by weight) in payload containers and shall be generally dispersed in the waste. Radioactive pyrophorics in concentrations greater than 1 percent by weight and all nonradioactive pyrophorics shall be reacted (or oxidized) and/or otherwise rendered nonreactive prior to placement in the payload container (References 23a and 23b, Section 4.1.1). Nonradionuclide pyrophoric materials are not acceptable at the WIPP (Reference 4, Section 11.4.1; Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Section 2.3.3.2; References 23a and 23b, Section 4.1.4).

[B] Compliance and Verification

[B.1] Personnel verify compliance with pyrophorics restriction by obtaining information documented in AK. VE and radiography verify there is no indication and document that waste does not contain pyrophorics or other prohibited material (See list of real-time radiography [RTR] and VE procedures in Appendix 4, Tables B-2 and B-3). Personnel review and evaluate AK to verify that waste-producing processes included

no pyrophorics or other prohibited materials. AK includes sampling and analysis data, documentation of waste stream descriptions, or actions to treat or stabilize the waste to eliminate specific characteristics.

3.5.2 Hazardous Waste

[A] Requirements

[A.1] Hazardous wastes not occurring as co-contaminants with TRU wastes (non-mixed hazardous wastes) are not acceptable at the WIPP. Each CH-TRU-mixed waste container shall be assigned one or more EPA hazardous waste codes as appropriate. Only EPA hazardous waste codes listed as allowable in the WIPP Hazardous Waste Facility Permit may be managed at the WIPP. Some of the waste may also be identified by unique state hazardous waste codes. These wastes are acceptable at the WIPP as long as the Treatment, Storage, and Disposal Facility WAC are met (Reference 9, Attachment C, Section C-1b; Reference 9, Part 2, Section 2.3.4). Wastes exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003) are not acceptable at WIPP. In the context of this Plan, hazardous waste codes are synonymous with hazardous waste numbers (Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Sections 2.3.3.3, 2.3.3.7, and 2.3.4).

[B] Compliance and Verification

[B.1] Personnel will ensure that each individual waste payload container is assigned to a waste stream identified by acceptable EPA hazardous waste codes and documented on a DOE-approved WSPF. Personnel will report the hazardous waste codes for each container to the WIPP via the WWIS/WDS in accordance with CCP-TP-030. EPA hazardous waste codes are assigned based on AK. CCP uses CCP-TP-005, CCP Acceptable Knowledge Documentation, to compile, review, evaluate, confirm and report AK documentation. The AK Summary Report delineates waste streams and assigns hazardous waste codes. If data are insufficient to

demonstrate that the concentration of the constituent is less than the regulatory level, the EPA hazardous waste number for the identified constituent is applied to the waste stream. CCP will report hazardous waste codes in accordance with CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*; CCP-TP-005 and CCP-TP-030.

3.5.3 Chemical Compatibility

[A] Requirements

[A.1] TRU waste containing incompatible materials or materials incompatible with payload container and packaging materials, shipping container materials, other wastes, repository backfill, or seal and panel closure materials are not acceptable for transport in the TRUPACT-II, TRUPACT-III, or HalfPACT or for disposal at the WIPP. Chemical constituents shall conform to the lists of allowable materials in Tables 4.3-1 through 4.3-8 of the CH-TRAMPAC. Other chemicals or materials not identified in these tables are allowed provided that they meet the requirements as specified in Section 4.3.1 of the CH-TRAMPAC and TRUPACT-III TRAMPAC (Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Section 2.3.3.4; References 23a and 23b, Sections 4.3 and 4.4).

[B] Compliance and Verification

[B.1] Personnel ensure compliance with the chemical compatibility requirements based on AK. Only wastes that have been shown to meet the approved chemical lists in Tables 4.3-1 through 4.3-8 of the CH-TRAMPAC and Tables 4.3-1 through 4.3-7 of the TRUPACT-III TRAMPAC are acceptable at the WIPP. The WCO confirms compliance with the chemical compatibility criteria in accordance with CCP-TP-030. If necessary, personnel repackage CH TRU waste containers not meeting the chemical compatibility requirement.

3.5.4 Explosives, Corrosives, and Compressed Gases

[A] Requirements

[A.1] Waste shall contain no explosives, corrosives, or compressed gases (pressurized containers) (Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Sections 2.3.3.5 and 2.3.3.7; References 23a and 23b, Section 4.2.1).

[B] Compliance and Verification

[B.1] Personnel ensure that explosives, compressed gases, and corrosive liquids are not present in payload containers. Chemicals (e.g., oxidizers) capable of forming explosive mixtures under some conditions are also prohibited from the waste. Waste-generation processes are assessed for safety hazards such as potential explosion hazards and potential inadvertent production of explosive materials in accordance with CCP-TP-005. Corrosives must be either excluded from the payload container or processed to neutralize the corrosive material or otherwise render it noncorrosive. CCP operating procedures describe the specific actions taken to ensure compliance with the corrosive material prohibition, (e.g., site-specific radiography and VE procedures [See Appendix 4, Tables B-2 and B-3]).

[B.2] Personnel verify compliance with the prohibited items requirement by obtaining AK information (e.g., administrative, operating, QA procedures, and safety assessments) documenting that waste does not contain explosives, corrosives, or pressurized containers. Personnel review and evaluate AK to verify that waste-producing processes included no prohibited or restricted materials. AK includes sampling and analysis data, documentation of waste stream descriptions, or actions to treat or stabilize the waste to eliminate specific characteristics. Personnel verify that prohibited materials are not in the waste container through radiography or VE (See list of RTR and VE procedures in Appendix 4, Tables B-2 and B-3).

3.5.5 HSG VOC Concentrations

[A] Requirements

[A.1] The headspace gas (HSG) of payload containers shall be determined in accordance with a site-specific TRAMPAC (References 23a and 23b, Section 5.2), as required.

[B] Compliance and Verification

[B.1] CCP Personnel ensure that the required QAOs meet the requirements specified for gas generation rates in the Gas Generation QAPjP. For those payload containers that exceed the flammable volatile organic compound (VOC) limit, a determination of compliance with the flammable (gas/VOC) concentration limit as described in the CH-TRAMPAC allows the payload container to be shipped in the Type B package under the test category.

[B.2] Test category payload containers are tested by direct measurement in accordance with gas generation testing (GGT) procedures (See Appendix 4, Table B-4) to quantify the hydrogen/methane, VOC, and total gas generation rates (as appropriate) for purposes of determining if all applicable limits are met in accordance with CCP-TP-030.

[B.3] Representative sampling of HSG may be used to quantify the hydrogen/methane, VOC, and total gas generation rates (as appropriate) for purposes of determining if all applicable limits are met in accordance with CCP-TP-030.

3.5.6 Polychlorinated Biphenyl (PCB) Concentration

[A] Requirements

[A.1] For TRU and mixed-TRU wastes containing PCBs meeting the condition of approval in Reference 12, the payload container data entered into the WWIS/WDS shall include the earliest date of waste generation (i.e., the date of removal from service for disposal), the date of waste certification for disposal, and the date the waste was sent to the WIPP for disposal (Reference 12, Section III.D.4). Additionally,

the estimated weight of the PCBs in kilograms (kg) (as recorded on the Uniform Hazardous Waste Manifest [UHWM]) and a description of the type of PCB waste (e.g., PCB Articles, PCB remediation waste), shall be entered into the WWIS/WDS (Reference 13, § 761.207 [a][2] and § 761.180). Hanford, Idaho National Laboratory, Savannah River Site, Oak Ridge National Laboratory, Knolls Atomic Power Laboratory, and Los Alamos National Laboratory are authorized to ship their TRU and TRU-mixed wastes containing PCBs to WIPP (References 14 and 15).

[B] Compliance and Verification

[B.1] Personnel use AK obtained from CCP-TP-005, and/or verification, and testing to demonstrate compliance with the PCB requirement. Personnel use nondestructive examination (NDE) (VE and RTR) procedures (See Appendix 4, Tables B-2 and B-3) during packaging of newly generated waste to identify the presence of PCBs. For retrievably stored debris waste, personnel compile, record, and evaluate AK to demonstrate compliance with the PCB limitation. The WCO verifies compliance with the PCB requirements.

3.6 Data Package Contents

3.6.1 Characterization and Certification Data

[A] Requirements

[A.1] Sites shall prepare a WSPF for each waste stream. Each WSPF shall be approved by the DOE-CBFO prior to the first shipment of that waste stream. Characterization and certification information for each payload container shall be submitted to the WWIS/WDS and approved by the WWIS/WDS Data Administrator. Sites are required to estimate the cellulose, plastics, and rubber (CPR) weights and report these estimates in the WWIS/WDS on a payload container basis. Any payload container from a waste stream that has not been preceded by an appropriate certified WSPF is not acceptable at the WIPP (Reference 9, Part 2, Section 2.3.3.10).

[B] Compliance and Verification

[B.1] Personnel will verify compliance with the data package requirements by reviewing data packages in accordance with CCP-TP-001, *CCP Project Level Data Validation and Verification,* and CCP-TP-005. Personnel will prepare and submit the WSPF to DOE-CBFO in accordance with procedure CCP-TP-002. The WCO ensures that the WWIS/WDS data are entered into the system and transmitted to the DOE-CBFO for approval before waste shipment in accordance with CCP-TP-030. Waste containers will be certified under an approved WSPF prior to shipment.

3.6.2 Shipping Data

[A] Requirements

[A.1] Sites shall prepare either a Bill of Lading or a UHWM for CH-TRU waste shipments as required by the transportation requirements. The Land Disposal Restriction (LDR) notification for CH-TRU mixed waste shipments shall state that the waste is not prohibited from land disposal (Reference 9, Attachment C, Section C-5b(2); References 23a and 23b, Section 6).

[B] Compliance and Verification

[B.1] Personnel verify compliance with the data package requirements by reviewing the data packages in accordance with CCP-TP-001 and CCP-TP-005. The TCO and WCO ensure that the WWIS/WDS data are entered into the system and transmitted to DOE-CBFO for approval before waste shipment in accordance with CCP-TP-030 and CCP-TP-033.

[B.2] The TCO prepares a PCTCD/OPCTCD for each payload container and a PATCD for each payload assembly in accordance with the CCP CH-TRAMPAC prior to loading the container into a Type B package. The TCO completes the PCTCD/OPCTCD and PATCD to certify an individual payload container and a PATCD to certify the payload assembly for shipping in accordance with CCP-TP-033, which is based on

Section 6.0 of the CCP CH-TRAMPAC. The PCTCDs, OPCTCDs, and the PATCDs are completed prior to shipping the Type B package. The LDR Exemption Notification form is completed for mixed waste shipments in accordance with CCP-TP-033. The shipping site's transportation personnel or personnel prepare a bill of lading or UHWM. For non-mixed waste shipments, a Bill of Lading is prepared. A UHWM is prepared for mixed waste shipments. If the TCO is the shipper of record, shipping data are prepared in accordance with CCP-TP-033.

[B.3] CCP Transportation is tasked with the final review of the payload assembly and documentation. The final approval of the assembly and documentation (UHWM or Bill of Lading) is done by CCP Transportation or other certified Host site program.

4.0 WASTE ACCEPTANCE REQUIREMENTS AND CRITERIA FOR RH WASTE

This section describes how the CCP complies with the requirements of the WIPP WAC for RH waste and associated requirements contained in the WIPP DSA (Reference 4), RH TRU 72-B and 10-160B Certificates of Compliance (References 7 and 8), WIPP LWA (Reference 2), WIPP Hazardous Waste Facility Permit (Reference 9), Compliance Recertification Decision (Reference 10), Initial Report for PCB Disposal Authorization (Reference 11), EPA letter of approval to land dispose non-liquid PCBs at WIPP (References 12 and 13), Revision to the Record of Decision for the DOE's WIPP Disposal Phase and associated WIPP NEPA database (References 14 and 15), EPA's letter of approval of DOE's RH TRU Waste Characterization Program (Reference 16), and the WCPIP (Reference 17).

4.1 Organization of Requirements

The purpose of Section 4.0 and related appendices is to describe the compliance methods and rationale for the requirements and associated criteria that must be met for RH TRU waste to be transported to, managed at, and disposed of in the WIPP. The requirements/criteria and associated compliance methods are organized under five major headings: Container Properties, Radiological Properties, Physical Properties, Chemical Properties, and Data Package Contents. Sections 4.7 through 4.11 correlate with the organization in the WIPP WAC for RH TRU waste requirements and identify methods of compliance to meet each requirement. Procedures that implement the process controls, techniques, tests, and other actions to be applied to each RH-TRU payload container, waste stream, and shipment are also identified. Revisions of requirements in referenced documents controlled by agencies or organizations other than DOE (e.g., EPA, NMED and NRC) shall have precedence over values quoted in this Plan. Changes incorporated in future revisions of the WIPP WAC for RH waste will be reflected in future revisions of this Plan.

In addition to the discussion described in this section, a CCP RH-TRU Waste Certification Plan for 40 CFR Part 194 compliance is presented in Appendix 11, CCP RH TRU Waste Certification Plan for 40 CFR Part 194 Compliance to this Plan. This Appendix satisfies the WCPIP requirement for a waste certification plan that provides, among other things, a listing of the DQOs specified in the WCPIP and the identification of methods and a description of the rationale that will be used to assess compliance with those DQOs.

Regarding any discussions of compliance and verification methods, if a requirement is not met, personnel will initiate an NCR or a CAR in accordance with CCP-QP-005. Corrective action will be taken in accordance with CCP-QP-029 to resolve nonconformances. Section 5.3

provides additional details about the NCR/CAR process. Only waste from a properly characterized waste stream will be certified as meeting the requirements and associated criteria contained in this Plan. Waste containers for a waste stream which has not been represented by an approved WSPF will not be shipped to WIPP for disposal (Reference 9, Part 2, Section 2.3.3.10). The required characterization, certification, and shipping data will be transmitted to the WIPP using the WWIS/WDS.

4.2 DOE Operations and Safety Requirements for WIPP

4.2.1 The WIPP DSA addresses waste handling and emplacement operations. Waste acceptance for emplacement in the WIPP will conform to the WAC to meet the DSA (Reference 4).

4.3 NRC Transportation Safety Requirements

4.3.1 Acceptable methods for payload compliance are defined in the RH-TRU 72-B and 10-160B Certificates of Compliance (References 7 and 8).

Acceptable methods for payload compliance for the RH-TRU 72-B are implemented by the RH-TRAMPAC (Reference 41). CCP-PO-505 describes how CCP will ensure compliance with each payload parameter. The CCP RH-TRAMPAC contains sufficient detail to allow reviewers to adequately understand and evaluate the compliance methodology for each payload parameter.

The payload requirements for the 10-160B package and site-specific compliance are specified by the 10-160B SAR (Reference 38). Prior to use of the 10-160B package, CCP will prepare a CCP Appendix if applicable. For shipments in the 10-160B package, CCP verifies compliance to the requirements for the applicable site-specific appendix to the 10-160B SAR. The 10-160B SAR does not require the preparation of a site-specific "TRAMPAC."

4.3.2 The QA Program described in Section 5.0 defines the QA activities that apply to the use of NRC-approved transportation packaging in accordance with 10 CFR Part 71, Subpart H (Reference 24).

4.4 NMED Hazardous Waste Facility Permit Requirements

4.4.1 TRU waste is classified as TRU-mixed waste if it contains hazardous constituents regulated under the New Mexico Hazardous Waste Act (Reference 25). Only TRU-mixed waste and TRU waste that have been characterized in accordance with the WIPP WAP and that meet the Treatment, Storage and Disposal Facility (TSDF) WAC as presented in permit Sections 2.3.3.1 through 2.3.3.10 will be shipped to WIPP for disposal. The CCP QAPjP describes compliance with the WIPP WAP.

4.5 EPA Compliance Recertification Decision Requirements

4.5.1 Title 40 CFR § 194.24(c) requires the DOE to specify the limiting values for waste components to be emplaced in the repository (Reference 26). The EPA's Compliance Recertification Decision (Reference 10) identifies the repository limits for several waste components including free water, metals, and CPR.

4.5.2 CCP estimates or determines the weight of CPR and reports this estimate in the WWIS/WDS on a container basis. The repository limit for CPR is a maximum of 2.2×10^7 kg. In addition, CCP quantifies and reports the activity values of each of the following radionuclides for purposes of tracking the inventory curie content: ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs. The presence or absence of these radionuclides is determined using AK documentation and radiological characterization techniques performed in accordance with the WCPIP. The results of these determinations are reported in the WWIS/WDS on a payload container basis. TRU waste payload containers shall contain more than 100 nCi/g of alpha-emitting TRU isotopes with half-lives greater than 20 years, as specified in Section 4.8.3 (Reference 47).

4.5.3 EPA Approval for PCB Disposal

PCB-contaminated TRU and PCB-contaminated TRU waste mixed with a hazardous waste including PCB remediation waste, PCB articles, and PCB bulk product waste may be stored and disposed at the WIPP (References 11, 12, 13, 14 and 15). Applicable waste acceptance criteria are addressed in Sections 4.7.5 (Identification/Labeling), 4.9.1 (Observable Liquids), and 4.10.6 (Polychlorinated Biphenyls).

Waste streams identified as containing PCBs shall be brought to the attention of the CBFO in order that a determination can be made regarding their acceptability at WIPP.

4.6 WIPP Land Withdrawal Act Requirements (Public Law 102-579)

4.6.1 WIPP can accept only radioactive waste generated by atomic energy defense activities of the United States (Reference 2, Section 2[19]). A TRU waste is eligible for disposal at WIPP if it has been generated in whole or in part by one or more of the following functions (References 27 and 28):

- naval reactors development
- weapons activities, including defense inertial confinement fusion
- verification and control technology
- defense nuclear materials production
- defense nuclear waste and materials by-products management
- defense nuclear materials security and safeguards and security investigations
- defense research and development

Using AK, CCP determines that each waste stream to be disposed of at WIPP is "defense" TRU waste (Reference 2).

4.6.2 High-level radioactive waste or spent nuclear fuel shall neither be transported, emplaced, nor disposed of at WIPP (Reference 2, Section 12). Also, no TRU waste may be transported by or for the DOE to or from WIPP, except in packages:

- the design of which has been certified by the NRC, and
- that have been determined by the NRC to satisfy its QA requirements.

4.7 Container Properties

4.7.1 Description

[A] Requirements

[A.1] The only payload containers authorized for receipt of RH-TRU waste in the RH bay of the Waste Handling Building at WIPP include 55-gallon drums and RH-TRU waste canisters shipped in 10-160B and RH-TRU 72-B packaging, respectively (references 7 and 8). The site shall report the number and type of payload containers to WIPP using the WWIS/WDS.

[A.2] Payload containers must meet DOT Type 7A standards (Reference 4, Section 2.5.2). Prior to loading in the transportation packaging, the exterior of a payload container must undergo 100 percent visual inspection to ensure compliance with the requirement that payload containers be in good and unimpaired condition. The results of this visual inspection must be documented. Inspection of 55-gallon drums shall be documented using the payload container integrity checklist contained in Appendix 7. A payload container is in good and unimpaired condition if it does not have significant rusting, is of sound structural integrity, and does not show signs of leakage.

The RH-TRU waste canister shall comply with the specifications in the CCP RH-TRAMPAC (Reference 7).

[B] Compliance and Verification

[B.1] CCP only uses RH-TRU 72-B waste canisters for use in the RH-TRU 72-B cask as payload containers for RH waste. The only authorized payload container of RH-TRU waste for shipment in the 10-160B to WIPP is a 55-gallon drum. CCP reports the number and type of payload containers to WIPP using the WWIS/WDS in accordance with procedure CCP-TP-530, *CCP RH TRU Waste Certification and WWIS/WDS Data Entry*.

[B.2] The CCP procures canisters in accordance with procedure CCP-QP-015 to comply with specifications

of Appendix 1.3.4 of the DSA for the RH-TRU 72-B Cask.

One hundred percent visual inspection of the exterior of the payload container is performed to ensure that the payload container is in good and unimpaired condition. The results of this inspection are documented. Inspection of payload containers for compliance to requirements is performed in accordance with CCP-TP-507, *CCP Shipping of Remote-Handled Transuranic Waste*.

All payload containers are assigned to a Content Code per procedure CCP-TP-530.

4.7.2 Weight Limits

[A] Requirements

[A.1] Each payload container shall comply with the following maximum weight limit:

- Removable Lid Canister (direct loaded or drum loaded) – 4,240 lbs (Reference 39)
- Welded Lid Canister (direct loaded) – 5,250 lbs (Reference 40)
- Welded Lid Canister (drum loaded) – 5,980 lbs (Reference 40)
- NS15 Neutron Shielded Canister – 3100 lbs (Reference 41)
- NS30 Neutron Shielded Canister – 3100 lbs (Reference 41)
- 1,000 lbs (453.59 kg) per 55-gallon drum (Reference 17, Section 2.4.1; Reference 4, Section 2.5.2.2)

See the RH-TRU 72-B and/or 10-160B packaging Certificates of Compliance for applicable package weight limits (References 7 and 8).

[B] Compliance and Verification

[B.1] CCP verifies the weight limits of the canister and the RH-TRU 72-B cask are within tolerance using DOE/WIPP 02-3284, *RH Packaging Operations Manual.* The TCO certifies compliance to applicable weight limits on the Packaging Transportation Certification Document (PTCD) in accordance with CCP-TP-507.

[B.2] CCP verifies the weight limits of the payload containers and the 10-160B cask are within tolerance using DOE/WIPP 06-3336, 10-160B RH Cask Program Guidance. The TCO certifies compliance to applicable weight limits in accordance with CCP-TP-507.

4.7.3 Assembly Configurations

[A] Requirements

[A.1] See the RH-TRU 72-B and/or 10-160B packaging Certificates of Compliance for assembly configuration requirements (References 7 and 8).

[B] Compliance and Verification

[B.1] Loading of waste, either direct loading or loading with drums, into RH-TRU canisters is performed in accordance with site-specific canister loading procedures.

[B.2] Loading of waste drums, into a 10-160B Cask is performed in accordance with 10-160B loading procedures.

4.7.4 Removable Surface Contamination

[A] Requirements

[A.1] Removable surface contamination on TRU waste payload containers, payload assemblies, and packagings shall not exceed 20 dpm/100 cm^2 alpha and 200 dpm/100 cm^2 beta-gamma (Reference 9, Attachment A1, Section A1-1d[2]; References 29 and 30). The fixing of surface contamination to meet these criteria is not allowed by WIPP in accordance

with best management practices for ensuring worker radiation dose is within the as low as reasonably achievable (ALARA) guidelines.

[B] Compliance and Verification

[B.1] Compliance is achieved by measurement using radiological contamination surveys. Specifically, a Host site RCT surveys RH-TRU waste canisters for removable surface contamination prior to loading into the cask. Packaging (i.e., cask) is surveyed for removable surface contamination after completion of cask loading and prior to shipment. Survey results are then compared to removable surface contamination limits to determine compliance per procedure CCP-TP-530. If removable contamination exceeds limits, surfaces may be wiped and cleaned and resurveyed to achieve compliance. Fixing of surface contamination is prohibited.

4.7.5 Identification/Labeling

[A] Requirements

[A.1] Each payload container shall be labeled with a unique payload container identification number permanently applied in a conspicuous location. The unique payload container identification number shall include a site identifier as a prefix.

[A.2] For the RH-TRU waste canisters, payload container labeling shall be as follows:

- Each canister shall be labeled with a unique payload container identification number (ID) that includes a site identifier as a prefix.
- The characters composing the canister ID number shall be approximately 2-inches high and of a color contrasting with their background.
- A minimum of three canister ID numbers shall be placed at approximately equal intervals around the circumference of the canister and within 18-inches of the top of the canister.

[A.3] Exceptions to the labeling/identification requirements may be granted upon request to and approval from the CBFO.

[A.4] The 10-160B 55-gallon payload container identification shall be in medium to low density Code 39 bar code symbology as required by ANSI, standard ANSI/AIM BC1-1995 (Reference 31) in characters at least 1-in. high and alphanumeric characters at least ½-in. high. In the case of 55-gallon drums, the labels must be placed approximately 120 degrees apart so that one label is visible once the containers are assembled into a 5-drum carriage.

[A.5] Payload containers shall be marked "Caution Radioactive Material" using a yellow and magenta label as specified in 10 CFR Part 835 (Reference 30). Those payload containers whose contents are also RCRA regulated (mixed-TRU), shall be additionally marked "Hazardous Waste" as specified in 40 CFR §262.32 (Reference 33). For TRU and TRU-mixed wastes containing PCBs, the payload containers shall be marked in accordance with 40 CFR §761.40 (References 12 and 13). Additionally, DOT Type B packages containing PCBs must be properly marked in accordance with 40 CFR §761.40 (References 12 and 13).

[A.6] If an empty 55-gallon drum is used as dunnage to complete a payload configuration in the 10-160B package, the dunnage container shall be labeled with the following information:

- Unique payload container identification number
- “EMPTY” or “DUNNAGE”

[A.7] If a five-drum carriage of only dunnage 55-gallon drums is used in the 10-160B, the containers shall be labeled only “EMPTY” or “DUNNAGE,” and the unique container identification number label is not required for these containers.

[B] Compliance and Verification

[B.1] CCP verifies canisters are labeled in accordance with CCP-TP-507 procedure. This procedure must include instructions to satisfy the following requirements:

- Each canister is labeled with a unique ID that includes a site identifier as a prefix.
- Characters composing the canister ID number on labels are approximately 2-inches high and of a color contrasting with their background.
- A minimum of three canister ID labels are placed on a canister at approximately equal intervals around the circumference of the canister and within 18-inches of the top of the canister.
- Alternate labeling of payload containers may be used only after a request to use an alternate labeling approach is submitted and approved by CBFO on a case-specific basis.

[B.2] CCP verifies payload containers are marked in accordance with CCP-TP-507 procedure. These procedures must contain instructions to ensure the following:

- All RH-TRU and TRU mixed payload containers are marked “Caution Radioactive Material” using a yellow and magenta label.
- All RH-TRU mixed waste payload containers are marked “Hazardous Waste.”
- All RH-TRU DOT Type B packages containing PCBs are marked in accordance with 40 CFR § 761.40.

[B.3] CCP verifies 10-160B 55-gallon payload containers are labeled in accordance with procedure CCP-TP-507.

4.7.6 Dunnage

[A] Requirements

[A.1] See the 10-160B packaging Certificate of Compliance for dunnage requirements (Reference 8).

To maximize the efficiency of operations at the WIPP, CCP will minimize the use of dunnage drums.

[B] Compliance and Verification

[B.1] The use of dunnage is not applicable to the RH-TRU 72-B shipping package. The minimization of the use of dunnage for the 10-160B Cask is through payload configuration. The use of dunnage drums is reviewed and approved concurrently with the review and approval of shipment assemblies by the WWIS/WDS Data Administrator on a case-by-case basis.

[B.2] CCP verifies 10-160B 55-gallon dunnage containers are labeled in accordance with procedure CCP-TP-507.

4.7.7 Filter Vents

[A] Requirements

[A.1] Each payload container and any sealed secondary or internal containers (greater than four liters in size), in the payload container shall meet the filter vent specifications of Reference 4, Section 2.5.2; Reference 7; Reference 8; Reference 9, Attachment A1, Section A1-1b[2]; and Reference 41; Section 2.4.1. These filter vents shall meet the specification of the 10-160B SAR and RH-TRAMPAC (Reference 38; Reference 41, Section 2.4.1).

The model number of each filter vent or combination of filter vents installed on a payload container shall be reported to the WWIS/WDS database (Reference 48).

[B] Compliance and Verification

[B.1] The TCO verifies the presence and model of filter(s) installed on individual payload containers in accordance with CCP-TP-507. CCP verifies any sealed secondary or internal containers (greater than

four liters in size), overpacked in the payload container shall be either vented or filtered to meet the specifications of Reference 7 or Appendix 1.3.5 of Reference 8 by VE using CCP-TP-500, *CCP Remote-Handled Waste Visual Examination,* or an evaluation of the AK record. CCP procures filters in accordance with CCP-QP-015 to specifications that comply with all applicable requirements for filter vents. Only filters identified on the listing of approved CBFO filter vent models are procured by CCP.

[B.2] The model numbers of each filter vent or combination of filter vents installed on a payload container (and internal containers, as applicable) are reported to the WWIS/WDS in accordance with procedure CCP-TP-530.

4.8 Radiological Properties

With respect to the required radiological properties identified within this Section, they can be divided into two distinct groups.

The first group includes the activities and masses of the ten WIPP-tracked radionuclides (i.e., ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs), and the TRU alpha activity concentration (i.e., >100 nCi/g of alpha-emitting TRU isotopes with half lives greater than 20 years), of the waste. Total activity will be quantified and tracked to ensure compliance with the LWA limits for RH-TRU waste including limiting activity to 23 curies per liter (Ci/l) per canister, limiting disposed RH-TRU waste to 5.1 million curies, and limiting surface dose rates of canister to 1000 roentgen equivalent man per hour (rem/hr). No more than 5 percent by volume of the RH-TRU waste received at WIPP may have a surface dose rate in excess of 100 rem/hr. Estimates of their activities and masses shall be derived from a system of controls certified by CBFO that includes AK, computations, measurements, and sampling (Reference 35). CCP RH-TRU Waste Certification Plan for 40 CFR Part 194, Compliance, provides the methods and requirements used to characterize the radiological composition of the RH-TRU waste.

The second group includes the remaining radionuclides contributing to the FGE, the PE-Ci, and the decay heat of the payload container. This set of radiological data is regulated both by the NRC as specified in the RH transportation documentation (References 7 and 8), and the CBFO as required by the WIPP DSA (Reference 4). PE-Ci quantities shall be calculated for each payload container in accordance with Appendix 5. Any method that complies with the Certificate of Compliance may be used to quantify the remaining radiological properties at the discretion of the shipping facility.

However, the resulting data (e.g., AK from Safeguards and Security data), the source and method from which the data was generated, and the basis for the reliability of the data shall be submitted to and approved by CBFO prior to use.

4.8.1 Radionuclide Composition

[A] Requirements

[A.1] RH-TRU waste received at the WIPP shall not exceed 23 curies per liter maximum activity level (averaged over the volume of the canister) (Reference 2, Section 7).

[A.2] Contents of the 10-160B may include fissile material contaminants provided the mass limits of the 10 CFR 71.15 are not exceeded and the plutonium content does not exceed 0.74 tera-bequerel (20 curies) (Reference 8). The quantity of radioactive material must not exceed 3,000 times the Type A quantity (Reference 8).

[A.3] The activities and masses of ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs shall be established on a payload container basis for purposes of tracking their contributions to the total WIPP radionuclide inventory (Reference 35). The estimated activities and masses, including their associated TMU expressed in terms of one standard deviation, for these ten radionuclides shall be reported to the WWIS/WDS on a payload container basis. For any of these ten radionuclides whose presence can be substantiated from AK, direct measurement, computations, or a combination thereof, and for which measured data are determined to be below the LLD for that radionuclide, the site shall report the character string "< LLD" to the WWIS/WDS for the activity and mass of that radionuclide; otherwise a value of zero shall be reported (Reference 17, Section 2.4.6).

[A.4] In addition, all radionuclides other than the ten WIPP-tracked radionuclides (i.e., ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs), that contribute to 95 percent of the radioactive hazard for the payload container shall be reported on the RH-TRU 72-B or 10-160B bill of lading or manifest. The activities and masses of these other

radioisotopes shall also be reported to the WWIS/WDS along with their associated TMU, expressed in terms of one standard deviation, for each waste container (Reference 35).

[B] Compliance and Verification

[B.1] CCP determines the radionuclide composition and quantity through a combination of AK and established radionuclide measurement methods (e.g., CCP-TP-504, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*). The radionuclide measurement methods that may be used are described in greater detail in Appendix 11. Radionuclide measurement is either performed directly on the payload container or on all of the smaller waste containers composing the payload container. If radionuclide measurement is not performed directly on the payload container itself, then, the measurement values (and uncertainties) for the payload container are calculated from the associated measurement results for all of the smaller containers composing the payload container.

CCP uses radionuclide measurement results to calculate and quantitate the total activity averaged over the volume of the payload container in the RH-TRU 72-B Cask to determine compliance with the 23 Ci/l limit.

CCP uses radionuclide measurement results to quantitate the activity and masses of the ten WIPP-tracked radionuclides and all other radionuclides that contribute to 95 percent of the radioactive hazard in a payload container. The activities and masses of these radionuclides, including their associated TMU (expressed in terms of one standard deviation), are reported to the WWIS/WDS on a payload container basis per procedure CCP-TP-530 and are reported on the Bill of Lading or UHWM. For any of the ten WIPP-tracked radionuclides that are measured below the LLD and whose presence can be substantiated from AK, direct measurement, computations, or a combination thereof, are reported as “< LLD” for its activity and mass to the WWIS/WDS.

[B.2] The contents of the 10-160B may include fissile material contaminants provided the mass limits of the 10 CFR 71.15 are not exceeded and the plutonium content does not exceed 0.74 tera-bequerel (20 curies) (Reference 8). The quantity of radioactive material must not exceed 3,000 times the Type A quantity (Reference 8). Compliance to these requirements are accomplished and verified through procedures CCP-TP-507 and 10-160B loading procedures.

4.8.2 ^{239}Pu Fissile Gram Equivalent/^{235}U Fissile Equivalent Mass (FEM)

[A] Requirements

[A.1] Each canister must comply with the limits in either Table 4 or Table 6. For a canister, either the sum of the ^{239}Pu FGE plus two times its associated TMU, expressed as one standard deviation, shall comply with the applicable limits in Table 4 or the ^{235}U Fissile Equivalent Mass (FEM) weight percentage plus two times is associated TMU, with TMU expressed in terms of one standard deviation, shall comply with the applicable limit in Table 6 (Reference 7).

[A.2] See the 10-160B packaging Certificates of Compliance for applicable ^{239}Pu FGE requirements (Reference 8 and Table 5 for associated drum requirements).

[A.3] The values calculated for the ^{239}Pu FGE or ^{235}U FEM and their associated TMUs (expressed in terms of one standard deviation) shall be reported to the WWIS/WDS for each payload container.

Table 4. ^{239}Pu FGE Limits for a Canister Shipped in an RH-TRU 72-B Package

Payload Contents	^{239}Pu FGE Limit (Removable/Welded Lid Canister)	^{239}Pu FGE Limit (Neutron Shielded Canister)
Non-Machine-Compacted Waste		
Be/BeO limited to ≤ 1 percent by weight of the waste	≤ 315	≤ 245
Be/BeO limited to ≤ 1 percent by weight of the waste including credit taken for ≥ 5g of ^{240} Pu Poisoning[1]	≤ 325	≤ 245
Be/BeO limited to ≤ 1 percent by weight of the waste including credit taken for ≥ 15g of ^{240}Pu Poisioning[1]	≤ 350	≤ 245
Be/BeO limited to ≤ 1 percent by weight of the waste including credit taken for ≥ 25g of ^{240}Pu Poisioning[1]	≤ 370	≤ 245
Be/BeO > 1 percent by weight of the waste and is chemically or mechanically bound	≤ 305	Unauthorized
Be/BeO > 1 percent by weight of the waste and is not chemically or mechanically bound	≤ 100	Unauthorized
Machine-Compacted Waste		
Be/BeO limited to ≤ 1 percent by weight of the waste	≤ 245	≤ 245
Be/BeO > 1 percent by weight of the waste	Unauthorized	Unauthorized

[1]The minimum ^{240} Pu content for the RH-TRU waste canister shall be determined after the subtraction of two times the error.

Table 5. ^{239}Pu FGE Limits for Drums Shipped in a 10-160B Package

Payload Contents	^{239}Pu FGE Limit
Non-Machine-Compacted Waste	
55-gallon drum (Be/BeO limited to ≤ 1 percent by weight of the waste)	≤ 200 g
55-gallon drum (Be/BeO > 1 percent by weight of the waste)	≤100 g
Machine-Compacted Waste	
55-gallon drum (Be/BeO limited to ≤1 percent of the weight of the waste)	≤ 170 g
55-gallon drum (Be/BeO limited ≤ 1 percent of the weight of the waste). 1.0-in. design spacing must be maintained between drum content and exterior top and bottom	≤ 200 g

Table 6. ^{235}U FEM Limit for a Canister Shipped in an RH-TRU 72-B Package

Payload Contents	Weight % ^{235}U FEM (Removable/Welded Lid Canister)	Weight % ^{235}U FEM (Neutron Shielded Canister)
Non-machine compacted homogenous solid/sludge with a particle size characteristic dimension of 1 in. or less that is primarily uranium (in terms of heavy metal component) with waste matrix distributed to not exceed enrichment limit (Reference 41).	≤ 0.96	Not Applicable

[B] Compliance and Verification

[B.1] CCP determines the quantity of fissile material in a payload container using established radionuclide measurement methods performed on the contents of the payload container as described in Appendix 11. Radionuclide measurement results are used to calculate the ^{239}PuFGE and associated uncertainty (expressed as one standard deviation) for a payload container.

[B.2] CCP determines the presence and quantity of beryllium on a waste stream basis by AK and is documented in the associated waste stream AK Summary Report. AK documentation is collected, evaluated and reported in accordance with CCP-TP- 005 and is summarized on a waste stream basis in AK Summary Reports.

[B.3] CCP compares the measured/calculated FGE plus two times uncertainty for a payload container and cask to the applicable FGE limits based on beryllium content.

[B.4] CCP reports the values calculated for the FGE and its associated uncertainty for each payload container to the WWIS/WDS as two separate items in accordance with CCP-TP-530.

4.8.3 TRU Alpha Activity Concentration

[A] Requirements

[A.1] TRU waste payload containers shall contain more than 100 nCi/g of alpha-emitting TRU isotopes with half-lives greater than 20 years (Reference 2, Section 2 [18]). Without taking into consideration the TMU, the TRU alpha activity concentration for a payload container is determined by dividing the TRU alpha activity of the waste by the weight of the waste.

The TRU alpha activity concentration shall be reported to the WWIS/WDS (Reference 35, Chapter 4; Reference 17, Section 2.4.5).

[B] Compliance and Verification

[B.1] CCP uses established radionuclide measurement methods (see Appendix 11) to quantitate the amount of alpha-emitting TRU isotopes with half-lives greater than 20 years (i.e., TRU alpha activity) in the waste contents of payload containers. Calibrated scales are used to determine the weight of waste material in payload containers (i.e., determine the net weight). The TRU alpha activity concentration is calculated by dividing the measured TRU alpha activity (without uncertainty) in a payload container by its net weight. Calculations are performed either manually or with the use of validated computational algorithms. If containers (e.g., 55-gallon or 30-gallon drums) are loaded into a canister, the TRU alpha activity concentration for the canister is determined by dividing the summation of the individual TRU alpha activity values of the individual waste containers by the summation of the individual net weights. Methods used to determine the TRU alpha activity

concentration have a lower limit of detection of 100 nCi/g or less.

The TRU alpha activity concentration for a payload container is reported to the WWIS/WDS in accordance with CCP-TP-530.

4.8.4 ^{239}Pu Equivalent Activity

[A] Requirements

[A.1] PE-Ci limits are shown in Table 7.

[A.2] PE-Ci quantities shall be calculated for each payload container (see Appendix B), and reported to WIPP using the WWIS/WDS (Reference 4, Section 3.3.2.3.1 and Table 3.3-6). There are no reporting requirements for the associated TMU (Reference 44).

Table 7. PE-Ci Limits

Payload Container	Packing Configuration	PE-Ci Limit
RH TRU Waste Canister	All approved waste forms other than solidified/vitrified waste	≤ 240
55-Gallon Drum (shipped in a 10-160B)		≤ 80
RH TRU Waste Canister 55-Gallon Drum (shipped in a 10-160B)	Solidified/vitrified waste	≤ 1,800

[B] Compliance and Verification

[B.1] CCP uses established radionuclide measurement methods (see Appendix 11) to quantitate the amount of radioactive material in payload containers. The measurement results are used to calculate the PE-Ci for each payload container as specified in Appendix 5. CCP compares the calculated PE-Ci (without uncertainty) value to the applicable PE-Ci limits for a payload container, assembly or drum to determine compliance with applicable limits.

CCP reports the calculated PE-Ci quantities for each payload container to WIPP using the WWIS/WDS in accordance with CCP-TP-530.

4.8.5 Radiation Dose Equivalent Rate

[A] Requirements

[A.1] The external surface radiation dose equivalent rate of individual containers must be ≥ 200 mrem/hr and ≤ 1,000 rem/hr (Reference 2, Sections 2 and 7).

[A.2] Total dose equivalent rate and the neutron contribution to the total dose equivalent rate shall be reported for each payload container in the WWIS/WDS (Reference 2, Section 16 and Reference 17, Section 2.4.4).

[A.3] See the RH-TRU 72-B and/or 10-160B packaging Certificates of Compliance for applicable radiation dose equivalent rate requirements (References 7 and 8).

[B] Compliance and Verification

[B.1] CCP using Host site personnel or records, measure container dose equivalent rates in accordance with site radiological survey procedures. The measurements are compared to applicable radiation dose equivalent rate limits and restrictions to determine compliance. The total dose equivalent rate and the neutron contribution to the total dose equivalent rate for each payload container are reported to the WWIS/WDS in accordance with CCP-TP-530.

4.8.6 Decay Heat

[A] Requirements

[A.1] See the RH-TRU 72-B and/or 10-160B packaging Certificates of Compliance for applicable decay heat requirements (References 7 and 8).

[B] Compliance and Verification

[B.1] CCP uses established radionuclide measurement methods (see Appendix 11) to quantitate the activity and mass of the radionuclides contained within the payload container. The measurement results are used to calculate the total decay heat (and TMU) for each payload container and payload assembly.

CCP compares the calculated decay heat value plus TMU (expressed in terms of one standard deviation) to the applicable decay heat limit for a payload container and payload assembly, as applicable, to determine compliance.

CCP reports the calculated decay heat values and associated TMU (expressed in terms of one standard deviation) for each payload container to WIPP using the WWIS/WDS in accordance with CCP-TP-530.

4.9 Physical Properties

4.9.1 Observable Liquid

[A] Requirements

[A.1] Liquid waste is not acceptable at the WIPP. Observable liquid containing PCBs is prohibited at the WIPP. Liquid in the quantities delineated below is acceptable.

- Observable liquid shall be less than 1 percent[1] by volume of the outermost container at the time of radiography or visual examination (Reference 9).
- Internal containers with more than 60 ml or 3 percent by volume observable liquid, whichever is greater, are prohibited.
- Containers with Hazardous Waste Number U134 assigned shall have no observable liquid.

[1]The limit of “less than 1 percent” is taken from the RH-TRAMPAC and is more restrictive than the limit of “no more than 1 percent” in the HWFP.

- Overpacking the outermost container that was examined during radiography or visual examination or redistributing untreated liquid within the container shall not be used to meet the liquid volume limits.

For sites that use VE, the detection of any liquid in non-transparent internal containers, detected from shaking the internal container, will be handled by assuming that the internal container is filled with liquid and adding this volume to the total liquid in the container being characterized using VE (Reference 9, Part 2, Section 2.3.3.1; Reference 9, Attachment C, Sections C-1c and C-3b; Reference 41, Section 2.5.1; Reference 35; Reference 12, Conditions of Approval, II.A.2).

[B] Compliance and Verification

CCP initially uses AK to determine container contents. AK documentation is collected and compiled in accordance with DOE/WIPP-02-3214 and/or CCP-TP-005. Personnel estimate liquid volume by AK, radiography or VE of the waste. Personnel reject payload containers found to exceed the criteria in 4.9.1[A.1].

4.9.2 Sealed Containers

[A] Requirements

[A.1] Sealed containers that are greater than four liters (nominal), are prohibited except for metal containers packaging solid inorganic waste: this packaging configuration does not generate flammable gas (Reference 41, Section 2.7.1).

[B] Compliance and Verification

[B.1] CCP achieves compliance through AK, radiography or VE of the waste contents of payload containers. VE is performed in accordance with procedure CCP-TP-500 and radiography is performed in accordance with procedure CCP-TP-508, *CCP RH Standard Real-Time Radiography Inspection Procedure*. Unvented rigid containers greater than four liters in volume are identified and controlled by an

NCR in accordance with CCP-QP-005 and dispositioned appropriately.

4.9.3 Physical Form

[A] Requirements

[A.1] Debris waste (S5000), shall be reported in WWIS/WDS as plastic using the volume of the waste container multiplied by 620 kg/cubic meters (m^3), up to the net weight of the waste. Soils and gravel (S4000) shall be reported to WWIS/WDS as the net weight of the waste with the waste material parameter type of "soil." Homogeneous solids (S3000) shall be reported to the WWIS/WDS as the net weight of the waste with the waste material parameter type appropriate to the waste. Debris included in containers of S3000 or S4000 waste shall be reported to WWIS/WDS as plastic with an estimated weight. Plastic packaging will also be reported to WWIS/WDS (as packaging), (Reference 17, Section 2.4.3).

[B] Compliance and Verification

[B.1] CCP using CCP-TP-530, reports the data to WWIS/WDS as follows: Debris waste (S5000), as plastic using the volume of the waste container multiplied by 620 kg/m^3, up to the net weight of the waste. If the net weight of the waste is greater than the calculated plastic, the excess is assigned to the material parameters by the percentages described in the AK Report. Soils and gravel (S4000), as the net weight of the waste with the waste material parameter type of "soil." Homogenous solids (S3000), as the net weight of the waste with the waste material parameter type appropriate to the waste. Debris included in containers of S3000 or S4000 waste shall be reported to WWIS/WDS as plastic with an estimated weight. Plastic packaging will also be reported to WWIS/WDS (as packaging).

4.10 Chemical Properties

4.10.1 Pyrophoric Materials

[A] Requirements

[A.1] Radioactive pyrophoric materials shall be limited to residual amounts (<1 percent by weight), in payload containers and shall be generally dispersed in the waste. Radioactive pyrophorics in concentrations ≥1 percent by weight and all nonradioactive pyrophorics shall be reacted (or oxidized), and rendered nonreactive prior to placement in the payload container (Reference 41, Section 4.4.1). Nonradionuclide pyrophoric materials are not acceptable at WIPP (Reference 4, Section 11.4.1; Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Section 2.3.3.2.

[B] Compliance and Verification

[B.1] CCP demonstrates compliance through acceptable knowledge documentation. Radiography and VE will be used, when necessary, to examine a waste container to verify its physical form. Specifically, AK is used to demonstrate that nonradionuclide pyrophoric materials are not present in a waste stream and that pyrophoric radioactive materials are limited to residual amounts. Waste streams for which AK documentation indicates the possible presence of radioactive pyrophorics in concentrations greater than or equal to 1 percent by weight are reacted (or oxidized), and rendered nonreactive. AK documentation is collected and compiled in accordance with DOE/WIPP-02-3214 and CCP-TP-005 and is summarized on a waste stream basis in AK Summary Reports.

4.10.2 Hazardous Waste

[A] Requirements

[A.1] Hazardous wastes not occurring as co-contaminants with TRU wastes (non-mixed hazardous wastes), are not acceptable at WIPP. Each RH-TRU mixed waste container shall be assigned one or more hazardous waste numbers as appropriate. Only EPA hazardous waste numbers listed as allowable in the Hazardous Waste Facility Permit may be managed at WIPP. Some of the waste may also be identified by unique state hazardous waste codes. These wastes are acceptable at WIPP as long as the TSDF waste acceptance criteria are met (Reference 9, Attachment C, Section C-1b; Reference 9, Part 2, Sections 2.3.3.3 and 2.3.4). Wastes exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003), are not acceptable at WIPP (Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Sections 2.3.3.7 and 2.3.4).

[B] Compliance and Verification

[B.1] CCP assigns EPA hazardous waste numbers to waste streams based on AK. AK is the basis for demonstrating compliance that hazardous waste, if present in TRU waste, occurs only as co-contaminants with the TRU waste. A more detailed description of the AK process used to assign EPA hazardous waste numbers to a waste stream is presented in the QAPjP. AK documentation is compiled, evaluated and reported in accordance with DOE/WIPP-02-3214 and CCP-TP-005 and is summarized by waste stream in an AK Summary Report.

4.10.3 Chemical Compatibility

[A] Requirements

[A.1] TRU waste containing incompatible materials or materials incompatible with payload container and packaging materials, shipping container materials, other wastes, repository backfill, or seal and panel closure materials are not acceptable for transport in

the RH-TRU 72-B or 10-160B packages or for disposal at the WIPP. Chemical constituents shall conform to the lists of allowable materials in the RH-TRU 72-B RH-TRAMPAC and Appendix 4.10.2 of the 10-160B SAR (References 41 and 38).

[A.2] The total quantity of the trace chemicals/materials (materials that occur in the waste in quantities less than 1 percent [weight]), not listed in Table 4.3-1, in the payload container is restricted to less than 5 percent weight (Reference 41). Chemical constituents in a payload of a particular waste-specific content code shall conform to the allowable chemical list for that content code. The content code must be reported to the WWIS/WDS for each payload container (References 7 and 8).

[B] Compliance and Verification

[B.1] Personnel ensure compliance with the chemical compatibility requirements based on AK. The WCO confirms compliance with the chemical compatibility criteria in accordance with CCP-TP-530. If necessary, personnel repackage waste containers not meeting the chemical compatibility requirement.

4.10.4 Explosives, Corrosives, and Compressed Gases

[A] Requirements

[A.1] Waste shall contain no explosives, corrosives, or compressed gases (pressurized containers), (Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Sections 2.3.3.5 and 2.3.3.7; Reference 41, Section 4.2.1).

[B] Compliance and Verification

[B.1] CCP assesses compliance through acceptable knowledge documentation. Specifically, AK is used to determine if explosives, corrosives, and/or compressed gases may be present in a waste stream. Radiography and VE will be used, when necessary, to examine a waste container to verify its physical form. AK documentation is collected and compiled in accordance with procedure CCP-TP-005 and is

summarized on a waste stream basis in AK Summary Reports.

4.10.5 Headspace Gas Concentrations

[A] Requirements

[A.1] The headspace gas of payload containers shall meet the requirements of the TRAMPAC (if shipping in RH-TRU 72-B packaging), or Appendix 4.10.2 (if shipping in the 10-160B packaging) (References 9, 41, and 38 respectively).

[B] Compliance and Verification

[B.1] CCP demonstrates compliance through the following methods:

- AK that demonstrates that the concentration of flammable VOCs in the headspace of waste containers of a waste stream is less than 500 parts per million (ppm).

AK documentation is collected, evaluated and reported in accordance with DOE/WIPP-02-3214 and CCP-TP-005 and is summarized on a waste stream basis in AK Summary Reports. Headspace gas sampling is performed in accordance with approved procedures.

4.10.6 Polychlorinated Biphenyls (PCBs)

[A] Requirements

[A.1] For TRU and TRU-mixed wastes containing PCBs meeting the conditions of approval in Reference 12, the payload container data entered into the WWIS/WDS shall include the earliest date of waste generation (i.e., the date of removal from service for disposal), the date of waste certification for disposal, and the date the waste was sent to the WIPP for disposal (Reference 12, Section III.D.4). Additionally, the estimated weight of the PCBs in kilograms (as recorded on the UHWM) and a description of the type of PCB waste (e.g., PCB remediation waste, PCB bulk product waste, etc.), shall be entered into the WWIS/WDS (Reference 13, §761.207(a)(2) and

§761.180). Hanford, Idaho National Laboratory, Savannah River Site, Oak Ridge Reservation, Knolls Atomic Power Laboratory, and Los Alamos National Laboratory are authorized to ship their TRU and TRU-mixed wastes containing PCBs to WIPP (References 14 and 15).

[B] Compliance and Verification

[B.1] CCP uses AK (which may include results of sampling and analysis) to identify waste streams that may contain PCBs. For waste streams that are identified as PCB contaminated, the AK record also includes a description of the type of PCB waste present (e.g., PCB remediation waste, PCB bulk product waste). AK documentation is collected, evaluated and reported in accordance with DOE/WIPP-02-3214 and CCP-TP-005 and is summarized on a waste stream basis in AK Summary Reports. Special information identified below is entered into the WWIS/WDS for each affected payload container in accordance with procedure CCP-TP-530.

1. Date of removal from service.
2. Date of waste certification for disposal.
3. Date the waste was sent to the WIPP for disposal.
4. The estimated weight of the PCBs in kilograms.
5. Description of the type of PCB waste.

CCP only certifies and ships PCB contaminated TRU waste from sites with an approved EPA PCB waste disposal authorization.

4.11 Data Package Contents

4.11.1 Characterization and Certification Data

[A] Requirements

[A.1] Sites shall prepare a WSPF for each waste stream. Each WSPF shall be approved by the Permittees prior to the first shipment of that waste stream.

Characterization and certification information for each payload container shall be submitted to the WWIS/WDS and approved by the Data Administrator. Any payload container from a waste stream that has not been preceded by an appropriate certified WSPF is not acceptable at WIPP (Reference 9, Part 2, Section 2.3.3.10).

[A.2] See the WCPIP (Reference 17) for additional characterization and certification data requirements.

[B] Compliance and Verification

[B.1] CCP prepares and submits WSPFs to the Permittees for review and approval per the instructions given in procedure CCP-TP-002. Characterization data for each payload container used to prepare the WSPF and the Characterization Reconciliation Report is submitted to the WWIS/WDS in accordance with procedure CCP-TP-530. CPR weights are estimated and input into the WWIS/WDS as described in Section 4.5.

4.11.2 Shipping Data

[A] Requirements

[A.1] Sites shall prepare either a bill of lading or a UHWM for RH TRU waste shipments as required by the transportation requirements. The land disposal restriction notification for RH TRU mixed waste shipments shall state that the waste is not prohibited from land disposal (Reference 9, Attachment C, Section C-5b(2); Reference 41).

[B] Compliance and Verification

[B.1] CCP prepares and completes the UHWM and/or Bill of Lading in accordance with CCP-TP-507. The Land Disposal Restriction Exemption Notification is completed for mixed waste shipments in accordance with procedure CCP-TP-507 and states that the waste is not prohibited from land disposal.

5.0 QUALITY ASSURANCE PLAN

The CBFO QAPD establishes QA program requirements for the programs, projects, and activities sponsored by CBFO. The NWP QAPD describes how NWP applies the QA program requirements of the CBFO QAPD to NWP activities, including CCP. This QA plan describes and implements the NWP QAPD requirements for the CCP. It is based on the NWP QAPD as it applies to the characterization, certification, and transportation of TRU waste as performed by CCP, and therefore incorporates the applicable requirements from the regulatory and commitment QA program source documents identified in the CBFO QAPD. This QA plan also fulfills the requirements for a transportation QA plan as required in 10 CFR Part 71, Subpart H. The scope of the integrated Quality Assurance Program Requirements for Nuclear Facilities (NQA)-1 Program is to ensure that all items and activities that are important to the safe containment of TRU Waste in the WIPP are in compliance with Program objectives. Applicable criteria are also identified in the individual element descriptions contained in this QA Plan.

The QA program is developed and maintained through an ongoing process that selectively applies QA criteria as appropriate to the function or work activity being performed. The organization of this QA Plan is generally based on the CBFO QAPD elements.

The QA program is implemented in accordance with a set of Quality Procedures that are applicable to all CCP activities, independent of the location where these activities are performed. The QA program also includes Technical Procedures and other documentation, some of which are site-specific and some of which are applicable across CCP. Implementing Technical Procedures are listed in the tables in Appendix 4.

QA program document references are included, as applicable, in each of the individual QA element descriptions throughout this QA Plan.

5.1 Organization and Quality Assurance Program

(Applicable Criteria: 10 CFR 830.122 Criterion 1
40 CFR 194.22(a)(2)(i)
ASME NQA-1-1989, Criterion 1
DOE O 414.1 Criterion 1
CBFO QAPD, Section 1.1
NWP QAPD, Section 1.1)

This QA program applies to items and activities affecting waste characterization, certification, and transportation by the CCP. The QA program elements are integrated into CCP items and activities through reviews, assessments, inspections, and approval and control of records and documents. The CCP has identified the Program Manager, the

Certification Program Manager, SPM, Assurance Programs Manager, TCO, and WCO as being responsible for ensuring QA within CCP. The responsibilities of each of these positions, as well as other personnel involved with TRU waste characterization and certification, are summarized in this Plan (Section 2.1).

Figure 1-1 (see Section 1.0) illustrates the hierarchy and interrelationships of QA documents governing the QA program. Quality management documents are audited and/or assessed to ensure they meet CCP requirements.

Personnel plan certification activities and document the planning process. Planning documentation is subject to review by subject matter experts (SMEs). CCP planning documentation consists of this Plan, the WIPP WAP, the WAC, the QAPjP, the CH-TRAMPAC, RH-TRAMPAC, the GGT QAPjP, implementing procedures, QA plans, training plans, and facility and certification process designs.

5.1.1 Organization

(Applicable criteria: 10 CFR Part 830.122 Criterion 1
DOE O 414.1 Criterion 1
ASME NQA-1-1989, Criterion 1
CBFO QAPD Section 1.1.1
NWP QAPD, Section 1.1)

The organization structure, functional responsibilities, levels of authority, and lines of communication for activities affecting quality are documented in this Plan, and CCP implementing procedures. Specific duties and responsibilities assigned to CCP management are summarized in the Plan, Section 2.1.1, and in CCP-PO-001.

The QA organization is responsible for ensuring the implementation of the QA program and verifying that activities affecting quality have been correctly performed. They have sufficient authority, access to work areas, and organizational freedom to identify quality problems; initiate, recommend, or provide solutions to quality problems; verify implementation of solutions; and ensure that further processing, delivery, installation, or use is controlled until proper disposition of nonconformances, deficiencies, or unsatisfactory conditions has occurred. QA personnel have direct access to responsible management at a level where appropriate action can be effected. They report to a management level such that required authority and organizational freedom are provided, including sufficient independence from cost and schedule considerations. Specific duties and responsibilities assigned to QA are summarized in the Plan, Section 2.1.4, and in CCP-PO-001.

The organizational structure of CCP, and the assignment of responsibilities, is based on the following QA principles, such that:

- Quality is achieved and maintained by those who have been assigned responsibility for performing work.
- Quality achievement is verified by personnel or organizations that are not directly responsible for performing the work.
- The individuals or organizations responsible for establishing and executing the QA program may delegate any or all of the work, but shall retain responsibility therefore.
- Responsibility for the control of further processing, delivery, installation, or operation of nonconforming items shall be designated in writing.
- When more than one organization is involved in the execution of activities covered by this document, the responsibility and authority of each organization shall be clearly established and documented.
- The external interfaces between organizations and the internal interfaces between organizational units, and changes thereto, shall be documented.
- Interface responsibilities shall be defined and documented.

All personnel involved with TRU waste certification and packaging are responsible for achieving and maintaining the quality of their activities and products. All personnel are responsible for promptly reporting existing, developing, or potential conditions adverse to quality to responsible management for evaluation and action. Management personnel are responsible for achieving and maintaining quality in the work activities under their control.

[A] Communication and Interface Responsibilities

(Applicable Criteria: CBFO QAPD Section 1.1.1.4
NWP QAPD, Section 1.1.10 and 1.1.11)

CCP management communicates to all levels of the organization timely information pertinent to quality performance, including status of the quality program, status and resolution of significant quality problems, lessons learned, quality management practices and improvements, and trend analysis results.

The responsibility and authority of the CCP and each participating organization are clearly established and documented in an interface document for each site. The external interfaces between CCP participant organizations, the internal interfaces between organizational units, and interface changes are documented. Interface responsibilities are defined and documented and include the requirements for management, performance, and assessment. Interfaces between CCP and the waste generating sites are detailed in project-level Interface Agreement documents specifically written for each site. Interfaces between CCP and NWP support organizations are defined in CCP implementing procedures.

[B] Reports to Management

(*Applicable Criteria: CBFO QAPD Appendix E, Section 8*
NWP QAPD, Section 1.1.8)

QA provides the QA interface between facilities and the CCP Certification Manager and SPM. QA oversees the NCR/CAR process for CCP related deficiencies and coordinates with the CCP Certification Manager and SPM to track and notify the appropriate personnel of nonconformances, and verify corrective action completion in accordance with CCP-QP-005. QA at project sites report the results of their surveillance assessments to the Assurance Programs Manager, and together they track assessment results and corrective actions. QA prepares and transmits a semi-annual QA report to the CCP Certification Manager and the DOE.

[C] Delegation of Work

(Applicable Criteria: CBFO QAPD Section 1.1.1.5
NWP QAPD, Section 1.1.6)

Management empowers employees by delegating authority and decision making to the lowest appropriate level in the organization. If work is delegated, the individual making the delegation retains responsibility for the delegated work. QA is responsible for determining the effectiveness of the QA program, which is accomplished through internal reporting procedures, audits, and assessments.

[D] Resolution of Disputes

(Applicable Criteria: CBFO QAPD Section 1.1.1.6
NWP QAPD, Section 1.1.7)

Disputes related to QA program requirements will be resolved by QA and cognizant personnel. If not resolved, the issues will be elevated progressively to successively higher levels of management as necessary.

[E] QA Management

(Applicable Criteria: CBFO QAPD, Section 1.1.3.A
NWP QAPD, Section 1.1.5)

QA Management shall:

[E.1] Schedule and conduct QA assessments.

[E.2] Maintain liaison with participant QA organizations and other affected organizations.

[E.3] Ensure preparation, review, and issuance of QA plans and procedures that implement the provisions of the NWP QAPD.

[E.4] Review and approve supplier and subcontractor QA plans.

[E.5] Track or perform trend analysis of quality problems, and report quality problem areas.

[E.6] Provide for the administrative processing of documentation of concerning conditions adverse to quality.

[E.7] Have direct access to responsible management at a level where appropriate action can be effected.

[E.8] Be sufficiently independent from cost and schedule considerations.

[E.9] Have the organizational freedom to communicate with management.

[E.10] Have no assigned responsibilities unrelated to the QA program that would prevent appropriate attention to QA matters.

[E.11] Develop, establish, and interpret QA policy and ensure effective implementation.

[E.12] Interface, as appropriate, with the CBFO staff, participants, and other stakeholders on QA matters.

[E.13] Assist subordinate organizations with quality planning, documentation, quality measurement, and problem identification and resolution.

[E.14] Provide guidance to all applicable subordinate organizations concerning identification, control, and protection of QA records.

[F] The QA organization shall have sufficient authority, access to work areas, and organizational freedom to:

(Applicable Criteria: CBFO QAPD, Section 1.1.1.3.B
NWP QAPD, Section 1.1.5)

[F.1] Identify quality problems.

[F.2] Recommend solutions.

[F.3] Verify implementation of solutions.

[F.4] Ensure that unsatisfactory conditions are controlled until proper disposition has occurred.

5.1.2 Implementation of the QA Program

(Applicable criteria: 40 CFR 194.22(a)(1)
ASME NQA-1-1989, Criterion 2
CBFO QAPD Section 1.1.2
NWP QAPD, Section 1.1.8)

The QA program is planned, implemented, and maintained in accordance with the requirements found in the CBFO QAPD, NWP QAPD, American Society of Mechanical Engineers (ASME) NQA-1-1989, 40 CFR § 194.22, and 10 CFR § 830.122. The QA program identifies the activities and items to which it applies, and provides control over activities affecting quality to an extent consistent with their importance. The QA program has been implemented during the process of program development, start-up, and operation.

The QA program provides for the planning and accomplishment of activities affecting quality under suitable controlled conditions.

Controlled conditions include the use of appropriate equipment, suitable environmental conditions for performing waste characterization and transportation activities, and assurance that prerequisites have been satisfied. This program also provides for special controls, processes, test equipment, tools, and skills to attain the required quality and for verification of quality.

[A] Grading Items and Activities and Applying Management Controls

(Applicable Criteria: CBFO QAPD Section 1.1.2.3
NWP QAPD, Section 1.1.8.2)

The graded approach to application of QA controls is used by the CCP to determine the importance of the item or activity with respect to the CCP mission, regulatory requirements, hazards, and life-cycle of the item or activity. Management controls are applied commensurate with the determined importance of the item or activity. The CCP uses the graded approach in accordance with CCP-QP-001, *CCP Graded Approach*, to comply with CBFO QAPD and NWP QAPD requirements for grading items and activities and applying management controls. Revisions to CCP-QP-001 are submitted to CBFO for approval prior to implementation.

[B] Work Planning

(Applicable Criteria: CBFO QAPD Section 1.1.2.4
NWP QAPD, Section 1.1.12)

CCP performs and documents planning to ensure that work is accomplished under suitably controlled conditions. CCP implements planning in accordance with CCP-QP-010, *CCP Document Preparation, Approval and Control,* and CCP-QP-026*, CCP Inspection Control*. As appropriate, planning elements include:

[B.1] Definition of work scope, objectives, and a listing of the primary tasks involved.

[B.2] Identification of scientific approaches or technical methods used to collect, analyze or study results of applicable work.

[B.3] Identification of field and testing standards and quality criteria.

[B.4] Identification of applicable implementation documents; appropriate nationally recognized standards will be used whenever possible.

[B.5] Identification of field and testing equipment or other equipment.

[B.6] Identification of, or provisions for the identification of, required records and the recording of objective evidence of the results of the work performed.

[B.7] Identification of prerequisites, special controls, specific environmental conditions, processes, or skills.

[B.8] Identification of computer software.

[C] Peer Review

(Applicable criteria: CBFO QAPD Section 1.1.2.5
NWP QAPD, Section 1.1.12)

When peer reviews are required, they are accomplished in accordance with CCP-TP-511, *CCP Peer Review*.

5.2 Personnel Qualification and Training

(Applicable criteria: 10 CFR 830.122 Criterion 2
ASME NQA-1-1989, Criterion 2
DOE O 414.1 Criterion 2
CBFO QAPD Section 1.2
NWP QAPD, Section 1.2)

The QA program provides for training and qualification, as necessary, of personnel performing activities affecting quality to ensure that suitable proficiency is achieved and maintained. Personnel performing work in support of CCP receive QA training and are qualified to ensure that proficiency is achieved and maintained in the performance of their assigned tasks. Records documenting qualifications and completed training programs are maintained and controlled. Training and qualification are performed in accordance with CCP-QP-002, *CCP Training and Qualification Plan* and CCP-QP-040, *Support Training.*

5.2.1 Qualification Requirements

(*Applicable criteria: CBFO QAPD Section 1.2.1*
NWP QAPD, Section 1.2.1)

The CCP Certification Manager and Training determine qualification standards for each job category relevant to the CCP and ensure that qualifications of personnel, including minimum education and experience, have been verified. Personnel maintain minimum qualifications in accordance with CCP-QP-002. The CCP Certification Manager determines which positions relevant to the CCP require minimum qualifications. The period of effectiveness for qualification associated with special processes and operations that require special skills and the requalification criteria are specified or referenced in CCP-QP-002. The CCP Certification Manager ensures that auditable records documenting personnel qualifications are maintained as described in CCP-QP-008, *CCP Records Management*. Records of qualified personnel, their areas of qualification, and qualification periods (as appropriate) are retained in the records files.

5.2.2 Training Requirements

(Applicable criteria: CBFO QAPD Section 1.2.2
NWP QAPD, Section 1.2.2)

The CCP Certification Manager and Training ensure that personnel receive indoctrination and training on the scope, purpose, and objectives and the specific QAOs of the tasks being performed. Personnel performing activities affecting quality are trained according to the training plan to ensure they achieve and maintain proficiency. Personnel receive initial and continuing training requisite with their activities and level of responsibility, as described in CCP-QP-002.

Training is designed, developed, conducted, and evaluated in accordance with requirements described in CCP-QP-002. Training programs may include classroom instruction; practical hands-on experience; supervised on-the-job training (OJT); self-paced individual study; and written, oral, or practical demonstration of worker competence. The CCP Certification Manager analyzes job positions and determines task responsibilities for personnel to ensure education, experience, and training is commensurate with minimum requirements specified. The CCP Certification Manager is responsible for ensuring that auditable records documenting the required training and qualifications are maintained in accordance with CCP-QP-002.

5.3 Quality Improvement

(Applicable Criteria: 10 CFR 830.122 Criterion 3
ASME NQA-1-1989, Criteria 15 & 16
DOE O 414.1 Criterion 3
CBFO QAPD Section 1.3
NWP QAPD, Section 1.3)

Quality improvement is a management process, carried out to improve items, services, products, or processes. All aspects of quality work activities and the management system are subject to continuous improvement through the assessment and feedback processes.

Conditions adverse to quality are identified promptly and corrected as soon as practical. In the case of a significant condition adverse to quality, the cause of the condition is determined and corrective action taken to preclude recurrence. The identification, cause, and corrective action for significant conditions adverse to quality are documented and reported to appropriate levels of management. Follow-up action is taken to verify implementation of corrective actions.

Items that do not conform to specified requirements are controlled to prevent inadvertent installation or use. Controls are provided for identification, documentation, evaluation, segregation when practical, and disposition of nonconforming items, and for notification to affected organizations.

Personnel continually evaluate and improve project activities. QA ensures that quality improvement is achieved by identifying and controlling conditions adverse to quality, analyzing trends, reporting and tracking nonconformances, and implementing corrective actions. These quality improvement activities detect and prevent unacceptable quality problems and thereby increase accuracy and reliability, and reduce variability. Data analysis and trending are performed in accordance with CCP-QP-014, *CCP Quality Assurance Trend Analysis and Reporting.*

A condition adverse to quality is an all-inclusive term used in reference to failures; malfunctions; deficiencies; and nonconforming items, materials, parts, or components, and processes. Personnel ensure that nonconforming items, materials, parts, or components are adequately identified and segregated from acceptable items and materials to preclude their inadvertent use. CCP and Host site personnel have the authority to stop certification, packaging, and transportation activities and/or refuse to accept work products or services (e.g., procured items, documentation, packaging, and waste shipments) that do not conform to requirements. Personnel report conditions adverse to quality to QA personnel, who ensure that the condition adverse to quality is investigated and that corrective action is taken as described in this section. Employees have

the responsibility to stop work that poses a clear and imminent danger to the safety and health of employees, subcontractors, visitors, or the environment.

Personnel notify QA of conditions adverse to quality affecting waste to be shipped to WIPP and forward CARs related to violations of the WIPP Hazardous Waste Facility Permit to QA for tracking. Conditions adverse to quality are documented, evaluated for significance, corrected, tracked, and reported in accordance with CCP-QP-029 and CCP-QP-005. All violations of the WIPP Hazardous Waste Facility Permit will be managed as significant conditions adverse to quality.

Deficiencies are uncontrolled and unapproved deviations from an approved plan, procedure, or expected result. Deficiencies specific to the CCP also include documentation or management practices that do not meet the requirements related to waste certification or payload container preparation, which are identified in the WIPP WAP, RH-TRAMPAC, CH-TRAMPAC, WAC, QAPD, and applicable federal and state regulations. Personnel are responsible for identifying any condition that affects compliance with these requirements. Assessments may often identify systems, processes, products, or services that do not meet performance criteria established in planning documents. When deficiencies are found, personnel take prompt action to rectify the situation.

Any individual who identifies a condition adverse to quality initiates an NCR or CAR in accordance with CCP-QP-005 or CCP-QP-029. If the safety or quality of the certification process could be compromised by continued use of a nonconforming item, the item is taken out of service and tagged or otherwise identified to prevent reuse or acceptance until the nonconformance is corrected. QA or the QA personnel at the facility where the nonconformance is identified ensures that an NCR is initiated and that corrective action is taken to resolve the nonconformance.

NCRs and CARs are forwarded to the CCP Project Office QA personnel. QA is responsible for validating and tracking CCP-related deficiencies to ensure that corrective action is implemented and that the corrective action resolves the nonconformance. Significant conditions adverse to quality are evaluated by QA and other affected organizations to determine if a work suspension is necessary. If necessary, work will be suspended until the condition is corrected and verified by QA. Personnel notify DOE-CBFO within seven calendar days of identification of any non-administrative nonconformance related to applicable requirements specified in the WIPP WAP, which are first identified at the SPM's signature release level. Personnel submit the NCR to DOE-CBFO within 30 calendar days of identification of the deficiency. QA ensures dissemination of information that may prevent problems or help improve

parallel processes in other waste generator or activities and re-evaluates system performance after corrective actions have been implemented. The CCP Certification Manager provides the resources necessary to accomplish corrective actions. Any containers with unresolved discrepancies associated with waste characterization cannot be certified for disposal; this includes containers affected by CAR's applicable to WIPP WAP and WAC requirements.

QA and the CCP Certification Manager are jointly responsible for identifying the following:

- Trends in nonconformances
- Root causes of nonconformances
- Specific, measurable corrective actions to resolve current problems and prevent recurrence
- Personnel responsible for implementing corrective actions
- Schedules for completing corrective actions

5.4 Documents

(Applicable Criteria: 10 CFR 830.122 Criterion 4
ASME NQA-1-1989, Criteria 6
DOE O 414.1 Criterion 4
CBFO QAPD Section 1.4
NWP QAPD, Section 1.4)

The preparation, issue, and change of documents that specify quality requirements or prescribe activities affecting quality are controlled to assure that correct documents are being employed. These documents, including changes, are reviewed for adequacy and approved for release by authorized personnel.

Personnel prepare and control documents supporting the quality of the CCP in accordance with CCP-QP-010. Document control coordinators will ensure that:

- Documents are controlled during the review and approval process.
- Applicable criteria for the review are identified. Criteria will consider technical adequacy, accuracy, completeness and compliance with requirements.
- Pertinent background information or data is made available to the reviewer.

- Reviews are performed by individuals other than the originator, who are also technically competent in the subject area.
- Organizations or technical disciplines affected by the document review the document.
- QA reviews documents that translate CBFO QAPD, WAC, WIPP WAP, CH-TRAMPAC, RH-TRAMPAC and WCPIP requirements.
- Review comments are resolved and evidence of review comment resolution is maintained.
- Documents are approved for release and distributed in accordance with CCP-QP-010. These documents include:
  - Program planning documents such as this Plan, the QAPjP, the TRAMPAC
  - Plans and procedures implementing TRU waste characterization, certification and packaging
  - Procedures implementing QA requirements
- Changes to documents, other than those designated as editorial changes, are reviewed by the same organizations that performed the original review and approval.

NWP controlled procedures are used for functions that NWP performs in support of CCP. These functions include procurement support, source inspection support, independent assessments, vendor audits, and QSL maintenance.

5.5 Records

(Applicable Criteria: 10 CFR Part 21
10 CFR Part 71
10 CFR 830.122 Criterion 4
ASME NQA-1-1989, Criterion 17
ASME NQA-2a-1990, Addenda, Part 2.7
ASME NQA-3 1989
Waste Isolation Pilot Plant Hazardous Waste Facility Permit
DOE O 414.1 Criterion 4
CBFO QAPD Section 1.5
NWP QAPD, Section 1.5
DOE O 414.1
DOE O 266.1
DOE G-414.1-2A
SNT-TC-1A-1980
NRC Certificate Number 9212
NRC Certificate Number 9218
NRC Certificate Number 9279
NRC Certificate Number 9204
NUREG-1297 (1988)
NUREG/BR-0167 (1993)
40 CFR Part 191
40 CFR Part 194)

Records that furnish documentary evidence of quality are specified, prepared, and maintained. Records are legible, identifiable, and retrievable. Records are protected against damage, deterioration, or loss. Requirements and responsibilities for record transmittal, distribution, retention, maintenance, and disposition are established and documented.

A QA record is an authenticated record that provides objective evidence of the quality of items and/or activities. The minimum lifetime and nonpermanent QA records are identified in the QAPjP. QA records are controlled and maintained to certify compliance with requirements and to reflect completed work. QA records are indexed, classified, controlled, and maintained by records management personnel as described in CCP-QP-008. The Records Inventory and Disposition Schedule (RIDS) is also defined in CCP-QP-028, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*.

Waste characterization data and QA/QC records related to TRU waste to be shipped to WIPP are designated as either Lifetime Records, or Non-Permanent Records. Records that are designated as Lifetime Records are maintained for the life of the waste characterization program

plus six years; **OR** transferred for permanent archival storage to the WIPP Records Archive. Waste characterization records designated as Non-Permanent Records will be maintained for ten years from the date of record generation and then dispositioned according to their approved RIDS.

5.6 Work Process

(Applicable Criteria: 10 CFR 830.122 Criterion 5
DOE O 414.1 Criterion 5
CBFO QAPD Section 2.1
NWP QAPD, Section 2.1)

The work processes and items supporting and affecting quality are controlled through plans and procedures identified in this Plan, the QAPjP, and the TRAMPAC.

Characterization, fabrication, installation, and inspection processes affecting the quality of items or services are controlled by procedures. Special processes that control or verify quality, such as those used in welding, heat treating, and nondestructive examination, are performed by qualified personnel using qualified procedures in accordance with specified requirements.

5.6.1 Work

(Applicable Criteria: CBFO QAPD Section 2.1.1
ASME NQA-1-1989, Criterion 1
NWP QAPD, Section 2.1.1)

The CCP Certification Manager ensures that activities are controlled and conducted in accordance with facility-specific procedures that describe and control work processes applicable to TRU waste characterization or certification.

Individual operating procedures provide controls for performance of special processes. Special process training and qualification requirements are described in CCP-QP-002.

Each individual performing work is responsible for ensuring that work processes are controlled and comply with established criteria. The CCP Certification Manager is responsible for ensuring that workers have the correct procedures, materials, and training to perform the required work. Instructions and procedures are maintained current with a documented and controlled method of revision. Instructions, procedures, and drawings are readily

available to personnel at locations requiring their use through either hard copy or electronic media.

5.6.2 Implementing Procedures

(Applicable criteria: ASME NQA-1-1989, Criterion 5
CBFO QAPD Section 2.1.2
NWP QAPD, Section 2.1.2)

Activities affecting quality are prescribed by and performed in accordance with documented instructions, procedures, or drawings of a type appropriate to the circumstances. These documents include or reference appropriate quantitative or qualitative acceptance criteria for determining that the prescribed activities have been satisfactorily accomplished.

Procedures and plans are developed, reviewed, approved, revised, and distributed in accordance with CCP-QP-010. CCP technical and QA personnel comply with the applicable technical standards and administrative controls described in procedures, which are reviewed and approved by the CCP Certification Manager and QA in accordance with CCP-QP-010. The CCP Certification Manager ensures personnel perform work following established procedures. For work processes such as procurement, source inspection, and independent assessments, applicable NWP non-CCP specific procedures are also used. CCP specific implementing procedures describe the required interfaces with applicable NWP general use procedures.

The procedures identified in this Plan, the QAPjP, and the TRAMPAC provide the following information:

- organizational and individual responsibilities
- training and qualification requirements
- technical, regulatory, and QA requirements
- step-by-step instructions for the process
- equipment specifications
- identification and control of items used or installed
- prevention of damage or loss and minimization of deterioration of items and materials during handling, storage, and shipment of items

- methods and criteria for ensuring and verifying the acceptability of equipment and materials used in the process (e.g., calibration)
- prerequisites, precautions, process parameters, and other limiting conditions
- products of the process
- quantitative and/or qualitative criteria for determining that prescribed process activities have been performed satisfactorily
- records generated by the process
- package and design control of equipment and materials

5.6.3 Item Identification and Control

(Applicable Criteria: ASME NQA-1-1989, Criterion 8
CBFO QAPD Section 2.1.3
NWP QAPD, Section 2.1.3)

Controls have been established to assure that only correct and accepted items are used or installed. Identification is maintained on items or in documents traceable to the items, or in a manner which assures that identification is established and maintained.

Items are identified and traced from time of receipt through end use. Physical markings, labels, tags or segregation are used to provide item identification and status. Specific details are provided in CCP-QP-017, *CCP Identification and Control of Items*.

5.6.4 Special Processes

(Applicable Criteria: ASME NQA-1-1989, Criterion 9
CBFO QAPD Section 2.1.4
NWP QAPD, Section 2.1.5)

Special processes that control or verify quality, such as those used in nondestructive examination, are performed by qualified personnel using qualified procedures in accordance with specified requirements.

Processes are considered to be special processes if:

- results are highly dependent on the control of the process
- results are highly dependent on the skill of the operator, or

- quality of the results cannot be readily determined by inspection or test of the product.

Implementing procedures have been developed to control special processes: NDE, NDA, DTC, Flammable Gas Analysis, GGT, and Helium Leak Detection. Training and qualification requirements for operators are identified in CCP-QP-002.

5.6.5 Handling, Storage, and Shipping

(Applicable Criteria: ASME NQA-1-1989, Criterion 13
CBFO QAPD Section 2.1.5
NWP QAPD, Section 2.1.6)

Handling, storage, cleaning, packaging, shipping, and preservation of items are controlled to prevent damage or loss and to minimize deterioration. Controls are provided through work and inspection procedures, shipping instructions, or other appropriate documents.

Measures are established in CCP-QP-015 and CCP-QP-023, *CCP Handling, Storage and Shipping*, to ensure that systems, components and items used for repair work for maintenance purposes or packaging purposes are adequately identified to preclude the use of incorrect or defective items. Also, where replacement of limited shelf life items is specified, measures are established to preclude use of items whose shelf life or time in operation has expired. Handling, storage, cleaning, shipping, and other means of preserving, transporting, and packaging of items are controlled in accordance with CCP-QP-023.

5.7 Configuration Management

(Applicable Criteria: CBFO QAPD Section 2.2
NWP QAPD, Section 2.2)

5.7.1 Equipment Configuration

CCP applies configuration management controls to characterization equipment, including vendor owned equipment, operated by CCP and its subcontractors on behalf of CBFO. In accordance with CCP-CM-001, *CCP Equipment Change Authorization and Documentation*, personnel:

- Coordinate the reviews of new equipment and changes/modifications/repairs to existing equipment.
- Establish and apply unique equipment numbering.

- Develop all required equipment change/modification/repair requests.
- Determine training needs due to equipment changes/modifications/repairs.
- Obtain appropriate approvals for equipment modifications, changes, repairs, and process drawing and document changes when required.
- Coordinate with host facility representatives in their reviews to ensure that proposed modifications comply with host facility Authorization Basis requirements.
- Oversee the implementation of approved changes.
- Ensure appropriate technical documentation is maintained on equipment changes/modifications/repairs.

5.7.2 Software Configuration

CCP applies configuration management controls to computer software and hardware/software configurations in accordance with the requirements of CCP-QP-022, as described in Section 5.14 of the Plan.

5.8 Procurement

(Applicable Criteria: 10 CFR 830.122 Criterion 7
ASME NQA-1-1989 Criteria 4 & 7
DOE O 414.1 Criterion 7
CBFO QAPD Section 2.3
NWP QAPD, Section 2.3)

Applicable design bases and other requirements necessary to ensure adequate quality are included or referenced in documents for procurement of items and services. Procurement documents require suppliers to have a QA program consistent with the graded application of quality requirements. Procurements are controlled to ensure conformance with specified requirements. Procurement controls provide for source evaluation and selection, evaluation of objective evidence of quality furnished by the supplier, source inspection, audit, and examination of items or services upon delivery or completion.

CCP implements procedures to ensure that procurement of items and services important to safety and quality meet requirements and perform as intended. Procurement controls are applicable to equipment and services,

including commercial grade items that directly affect testing, and data quality. Other NWP organizations provide support to the CCP for procurement process elements such as procurement planning, supplier selection and evaluation, bid evaluation, supplier performance evaluation, requisition review and processing, and procurement records. Personnel adhere to procurement and record keeping practices established in written procedures. The procurement criteria are implemented according to CCP-QP-015, NWP procedure WP 15-PC3609, *Preparation of Purchase Requisitions and Purchase Requisition Change Notices*, and the procedures specified in the following subsections.

When deemed appropriate, CCP may permit some or all supplier work to be performed under the NWP QA program, provided that the requirements are adequately implemented. In these cases, procurement documents shall specify the NWP QA implementing procedures, including CCP specific procedures that are applicable to the supplier and that CCP will provide these applicable documents to the supplier.

5.8.1 Procurement Document Review and Approval

(Applicable Criteria: CBFO QAPD Section 2.3.5
NWP QAPD, Section 2.3.2)

The CCP Certification Manager ensures that personnel control procurement documents in accordance with CCP-QP-015. Procurements are planned and controlled to ensure that suppliers have QA programs consistent with the intended use of the item being procured. Procurement activities shall be planned as early as possible. At a minimum, the activities shall be planned no later than the start of those procurement activities that are required to be controlled. Procurement documents supporting waste management and packaging and transportation activities must include required specifications and acceptance criteria. Procurement documents are reviewed by appropriate organizations and engineering disciplines to ensure that they contain adequate scope of work, technical requirements, supplier QA program requirements, and provisions for acceptance. Qualified personnel verify suppliers' conformance to procurement document requirements.

5.8.2 Acceptance of Items or Services
(Applicable Criteria: CBFO QAPD Section 2.3.7
NWP QAPD, Section 2.3.4)

The SPM ensures that personnel control items and services purchased (including supplier evaluations and inspections) in accordance with CCP-QP-015, NWP Procedure

WP 15-PC3609, and CCP-QP-001. Methods shall be established for the acceptance of an item or service being furnished by a supplier. Prior to offering an item or service for acceptance, the supplier shall verify that the item or service complies with the procurement requirements. Documentary evidence of conformance to the procurement specifications is provided before installation or use of systems, components, items, and services, and is retained in accordance with CCP-QP-015. Acceptance of quality related systems, components, items and services will be through source verification, receipt inspection, post-installation testing, or supplier certificate of conformance as appropriate to the quality level. Supplier nonconformances will be documented, tracked, and dispositioned in accordance with CCP-QP-015. An example of conditions requiring a report of nonconformance include: The item does not conform to the original requirement even though the item can be restored to a condition such that its capability to function is unimpaired (i.e., a waiver is requested).

5.8.3 Control of Supplier Nonconformances

(Applicable Criteria: CBFO QAPD Section 2.3.8
NWP QAPD, Section 2.3.5)

Subcontractors perform work that directly affects the quality of characterization and certification data. CCP-QP-015, describes how personnel control subcontractor services. Subcontractors may support activities under a “staff augmentation” role or for procurement of products and services. Staff augmentation subcontractors operate under the umbrella of the QA program and are subject to applicable requirements for functions that they perform. Subcontractors who support the CCP will be informed of the need to perform operations in compliance with requirements.

If subcontractors are authorized to perform procurements of quality-affecting items and services, they are required to establish procurement controls and a QA program to ensure that purchased materials, equipment, and services conform to the procurement and QA program documents. NWP adds and maintains such subcontractors on the NWP QSL, to support the scope of work and ensure that the appropriate subcontractor QA controls are applied. The controls must include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products on delivery. Subcontractors are subject to periodic assessments and audits at intervals consistent with the importance, complexity, and quantity of the product or services provided to ensure compliance with

procurement requirements. Subcontractors shall submit copies of CCP-related, quality affecting documents to the CCP Certification Manager.

Items and services procured are subject to control of nonconformances. Quality Levels are determined for items and services procured for use, and quality-affecting items are evaluated for adequacy prior to use through receipt inspection, source inspection, functional testing, or other appropriate means. Items that are found deficient are documented, controlled to prevent use, evaluated, and corrective actions performed.

A combination of CCP specific and NWP general use procedures are used to exercise controls over supplier nonconformances. They include:

- CCP-QP-015, *CCP Procurement*
- CCP-QP-029, *CCP Corrective Action Management*
- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- WP 15-PC3609, *Preparation of Purchase Requisitions and Purchase Requisition Change Notices*

5.8.4 Commercial Grade Items

(Applicable Criteria: CBFO QAPD Section 2.3.9
NWP QAPD, Section 2.3.6 and 2.3.7)

Commercial grade items may be used when specified by design. Commercial grade items are identified in procurement documents using manufacturer or distributor catalog numbers or descriptions. Data collection and test instruments procured as commercial grade items that are intended for use in quality related applications are calibrated by qualified suppliers of calibration services prior to use. Commercial grade items are procured in accordance with CCP-QP-015, CCP-QP-026, WP 13-QA1003, *Quality Assurance Receipt/Source Inspections*, WP 15-PC3609, WP 13-QA3012, *Supplier Evaluation and Qualification,* and NWP Procurement Services Commercial Instruction C1015 *Supplier Selection*.

5.9 Inspection and Testing

(Applicable Criteria: 10 CFR 830.122 Criterion 8
ASME NQA-1-1989, Criteria 10 & 14
DOE O 414.1 Criterion 8
CBFO QAPD Section 2.4
NWP QAPD, Section 2.4)

Inspections required to, verify conformance of an item or activity to specified requirements are planned and executed. Characteristics to be inspected and inspection methods to be employed are specified. Inspection results are documented. Inspection for acceptance is performed by persons other than those who performed or directly supervised the work being inspected.

The status of inspection and test activities is identified either on the items or in documents traceable to the items where it is necessary to assure that required inspections and tests are performed and to assure that items which have not passed the required inspections and tests are not inadvertently installed, used, or operated. Status is maintained through indicators appropriate to the activity or item, such as physical location and tags, markings, travelers, stamps, inspection records, or other suitable means. The authority for application and removal of tags, markings, labels, and stamps is specified.

Equipment is tested, inspected, and maintained in accordance CCP-QP-016*, CCP Control of Measuring, Testing, and Data Collection Equipment*; CCP-QP-026, and CCP-QP-027, *CCP Test Control*. CCP personnel identify and control items (e.g., items with limited shelf or operating lives, materials, equipment, and samples) and ensure that only correct and accepted items are used according to CCP-QP-026. These procedures and documents address planning, parameters for evaluation, techniques to be used qualifications of inspection and test personnel, hold points, documentation, acceptance criteria, and organizational responsibilities.

Personnel routinely test and inspect items and processes and control, calibrate, and maintain equipment to ensure proper operation and data quality. Procedures identified above implement an inspection program that establishes criteria for inspection of activities affecting quality by, or for, the organization performing the activity, and to verify conformance with the requirements for accomplishing the activity. The verification is performed in accordance with written procedures, instructions, or drawings. Personnel performing the inspections are independent from the individuals performing the activity being inspected. Equipment modifications, repairs, and replacement are inspected in accordance with the original design and inspection requirements unless an approved

alternative exists. The inspection program also provides for identification and documentation of deficiencies discovered during the inspection. Measures are established to indicate, by the use of markings, tags, stamps, labels, routing cards, or other suitable means, the status of inspections and tests performed. These measures provide for the identification of items that have satisfactorily passed required inspections and tests, where necessary, to preclude inadvertent bypassing of the inspections and tests.

Quality related procured items are inspected by qualified personnel at receipt or at the source prior to shipment. These inspections may include dimensional verification, functional testing, verification of documentation or other appropriate methods.

5.9.1 Qualification of Inspection and Test Personnel

(Applicable Criteria: CBFO QAPD Section 2.4.1
NWP QAPD, Section 2.4.1)

Inspection and test personnel are trained and qualified in accordance with CCP-QP-002, CCP-QP-030, *CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel*, and CCP-QP-032, *CCP Written Practice for the Qualification of CCP Pressure Change Leak Testing Personnel*. Candidates for inspection and test positions are evaluated for previous education, experience, training, and testing as appropriate. Minimum qualifications are established, and personnel selected for these activities are documented to have experience or training commensurate with the scope, complexity, or special nature of the inspections or tests performed. Inspection and test personnel are indoctrinated in the technical and QA objectives, requirements, and controls, and formal or OJT is performed as appropriate. Qualifications are documented, and records maintained in the Records System.

Job performance of inspection and test personnel is evaluated at periodic intervals, and is performed through review of evidence of continued satisfactory performance or redetermination of capability. If personnel are found to not perform adequately, they are removed from that function until the required capability is demonstrated. Personnel that have not performed inspection or testing activities in their qualified area for more than a year are re-evaluated for the required capability.

5.9.2 Qualification of Nondestructive Examination Personnel

(Applicable Criteria: CBFO QAPD Section 2.4.2.A
NWP QAPD, Section 2.4.1.2)

Personnel performing NDE are trained and certified in accordance with CCP-QP-002. This procedure implements the requirements of the American Society of Nondestructive Testing (ASNT) Recommended Practice No. SNT-TC-1A, June 1980 edition. Training and certification of NDE personnel are documented and records maintained in the Records System.

5.9.3 Inspection Planning

(Applicable Criteria: CBFO QAPD Section 2.4.3.1
NWP QAPD, Section 2.4.2.1)

Inspections are planned, performed and documented in accordance with CCP-QP-026. Inspection planning includes identification of work operations to be inspected, inspection hold points, identification of characteristics to be inspected, inspection methods, acceptance criteria, sampling requirements, method of documentation of inspection results, Measuring and Testing Equipment (M&TE) to be used, and identification of statistical methods for sampling.

The types of inspections that may be performed include:

- in-process inspections and monitoring
- final inspection
- in-service inspections

Each of these types of inspections may include review of documentation, examination or verification of physical characteristics, performance of tests, or other means of verifying quality and conformance to the applicable requirements. Inspections are documented and records maintained as part of the Records System.

5.9.4 Test Requirements

(Applicable Criteria: ASME NQA-1-1989, Criterion 11
CBFO QAPD Section 2.4.4
NWP QAPD, Section 2.4.3)

Tests required to verify conformance of an item or computer program to specified requirements and to demonstrate satisfactory

performance for service shall be planned and executed. Characteristics to be tested and test methods to be employed are specified. Test results are documented and their conformance with acceptance criteria are evaluated.

Tests required to collect data are planned, executed, documented and evaluated. Test planning includes identification of test procedures, test requirements and acceptance limits, including required levels of precision and accuracy, identification of M&TE, test prerequisites, hold points, and test and data documentation requirements. Test results are documented and their conformance with acceptance criteria are evaluated by qualified personnel.

Testing is performed in accordance with CCP-QP-027.

5.9.5 Monitoring, Measuring, Testing, and Data Collection Equipment

(Applicable Criteria: 10 CFR 830.122, Criterion 5
ASME NQA-1-1989, Criterion 12
CBFO QAPD Section 2.4.5
NWP QAPD, Section 2.5)

Tools, gages, instruments, and other measuring and test equipment used for activities affecting quality are controlled and at specified periods calibrated and adjusted to maintain accuracy within necessary limits. This equipment is controlled in accordance with CCP-QP-016.

[A] Use and Control of M&TE

(Applicable Criteria: CBFO QAPD Section 2.4.6
NWP QAPD, Section 2.5.1)

Measuring and test equipment with the necessary range and accuracy is provided to qualified personnel for the inspection, test, and acceptance of material, parts, components, and systems. The specific controls imposed on measuring and test equipment are described in procedure CCP-QP-016, and CCP-QP-026. M&TE are labeled, and any that are found to be out of calibration are reviewed to determine the impact. Records are maintained in the Records System.

[B] Calibration

(*Applicable Criteria: CBFO QAPD Section 2.4.7*
NWP QAPD, Section 2.5.1)

Equipment accuracy is ensured by periodic calibration that is traceable to national standards or a documented equivalent basis for calibration. M&TE shall be calibrated to provide traceability of the calibration against certified equipment having known valid relationships to nationally recognized standards. If nationally recognized standards do not exist, the basis for calibration shall be documented. The specific controls imposed on measuring and test equipment are described in procedure CCP-QP-016, and CCP-QP-026.

5.10 Management Assessments

(Applicable Criteria: 10 CFR 820.122 Criterion 9
ASME NQA-1-1989 Criterion 2
DOE O 414.1 Criterion 9
CBFO QAPD Section 3.1
NWP QAPD, Section 3.1)

Management regularly assess the adequacy of that part of the QA program for which they are responsible to assure its effective implementation, and ensure compliance with applicable requirements. Management assessments are conducted according to CCP-QP-018, *CCP Management Assessment*. CBFO and external regulatory agencies also conduct assessments. QA tracks deficiencies identified during assessments; identifies corrective actions to resolve deficiencies according to CCP-QP-029 and CCP-QP-005, and ensures the resolutions are reported to the CCP Certification Manager and CBFO. Documentation of deficiencies identified in activities conducted at waste generating sites are also reported to the appropriate organizations at those sites, in accordance with interface documents.

Management periodically assesses the performance of its organization to determine the effectiveness of QA Program provisions that enable the organization to comply with requirements of the WIPP WAP, QAPD, WAC, and applicable procedures and documents. Managers evaluate QA Program effectiveness by focusing on the identification and resolution of both systemic and management issues and problems, and identifying strengths and weaknesses to facilitate actions to improve quality efficiency and cost-effectiveness. Management assessments may include an introspective evaluation to determine whether the entire integrated management system effectively focuses on meeting strategic goals. Management assessments are conducted as described in CCP-QP-018.

Management is responsible for the conduct of these assessments and reports at least annually on relevant findings.

5.11 Independent Assessments

(Applicable Criteria: 10 CFR 830.122, Criterion 10
ASME NQA-1-1989, Criterion 18
DOE O 414.1, Criterion 10
CBFO QAPD Section 3.2
NWP QAPD, Section 3.2)

Planned and scheduled audits are performed to verify compliance with all aspects of the QA program and to determine its effectiveness. These audits and surveillances are performed in accordance with written procedures or checklists by personnel who do not have direct responsibility for performing the activities being audited. Audit and surveillance results are documented and reported to and reviewed by responsible management. Follow-up actions are taken where indicated.

Documented independent assessments (audits and surveillances) are used to measure item service and quality, process adequacy and effectiveness, and to promote improvement.

5.11.1 Surveillances

(Applicable Criteria: CBFO QAPD Section 3.2.1
NWP QAPD, Section 3.2)

Surveillances are conducted primarily to monitor work in progress and to follow up on corrective actions. Surveillance results are reported and monitored similar to other assessment activities. At each host location, surveillances are scheduled as early in the project as practical. Surveillances are performed in accordance with CCP-QP-021, *CCP Surveillance Program*.

5.11.2 Audits

(Applicable Criteria: CBFO QAPD Section 3.2.2
NWP QAPD, Section 3.2)

Internal and external audits are planned and scheduled throughout the life of the CCP and are conducted by qualified personnel.

The CCP is subject to CBFO certification audits. A CBFO audit of is conducted before any waste characterized by the CCP is shipped to the WIPP and annually thereafter. In addition, the CBFO may conduct audits on a random basis. These audits are scheduled

through the CBFO QA Manager who coordinates the plans and schedule through the CCP Certification Manager.

5.12 Sample Control Requirements

(Applicable Criteria: CBFO QAPD Section 4.1
NWP QAPD, Section 4.1)

This section identifies the requirements for controlling samples of waste and environmental media. Control measures stated in site specific container management procedures (see Appendix 4, Table B-1) and analysis procedures include provisions for the identification, handling, storage and shipping, archiving, and identification of nonconforming drums.

Samples/drums are controlled and identified in a manner consistent with their intended use in accordance with container management procedures specific to each site (See Appendix 4, Table B-1).

5.12.1 Sample Identification

(Applicable Criteria: CBFO QAPD Section 4.2
NWP QAPD, Section 2)

[A] Waste containers used as samples are labeled and tracked in accordance with site specific container management procedures. Each waste container used as a sample is checked for physical marking that:

[A.1] Are applied using materials and methods that provide a clear and legible identification.

[A.2] Are not obliterated or hidden on the surface.

[B] If samples/waste containers used as samples are stored, they are controlled in accordance with container management procedures and the method requirements for characterization.

5.12.2 Handling, Storing, and Shipping Samples

(Applicable Criteria: CBFO QAPD Section 4.3
NWP QAPD, Section 4.3)

[A] Handling, storing, cleaning, packaging, and shipping waste containers used as samples is conducted in accordance with

established work and inspection implementing procedures, CCP-QP-023.

5.12.3 Disposition of Nonconforming Samples

(Applicable Criteria: CBFO QAPD Section 4.4
NWP QAPD, Section 4.4)

[A] Waste containers used as samples that do not conform to requirements are reported on an NCR in accordance with CCP-QP-005.

[B] The disposition of waste containers used as samples is identified and documented in accordance with CCP-QP-005.

5.13 Data Documentation, Control, and Validation

(Applicable Criteria: CBFO QAPD Section 5.3
NWP QAPD, Section 4.6 and 4.7)

5.13.1 Data are controlled to prevent loss and ensure integrity, security and freedom from error. Erroneous, rejected or superseded data are controlled to prevent use. Data uncertainty levels are determined prior to use. Data reduction methods are prescribed in technical procedures to allow validation of the reduction process. Data verification and validation is performed to assure accuracy, completeness and traceability in accordance with QA and technical procedures. These procedures include CCP-TP-001 and CCP-TP-002.

5.13.2 Data validation is a systematic process used to review data to ensure that the required data quality characteristics have been obtained. Results of the review may require that qualifiers be placed on the use of the data.

5.13.3 Validation methods shall be planned and documented. The documentation shall include the acceptance criteria used to determine if the data are valid.

5.13.4 All applicable data collected shall be validated. Validation shall include the following:

[A] The relevant documentation is reviewed to evaluate the technical adequacy, the suitability for the intended use, and the adequacy of the QA record.

[B] The results of the data review shall be documented.

[C] The reviewer shall be independent of the collection activities.

5.13.5 Data validation shall be controlled to permit independent reproducibility by another qualified individual.

5.13.6 Data considered as established fact by the scientific and engineering community, such as engineering handbook data, critical tables, etc., do not require validation.

5.14 Software

(Applicable Criteria: ASME NQA-2a-1990 Part 2.7
CBFO QAPD Section 6
NWP QAPD, Section 6)

Computer software and hardware/software configurations used in activities are developed, documented, verified, validated, and tested prior to use in compliance with requirements contained in the QAPD, QAPjP, and NQA-1, Subpart 2.7, *Quality Assurance Requirements of Computer Software for Nuclear Facility Applications* (ASME 1989). CCP-QP-022 describes the processes for computer software development, validation, and verification.

Software used are identified and controlled through inventory and categorization, and configuration management is maintained. CCP-QP-022 provides the controls for configuration management; software procurement and development; software life-cycle management including installation, testing, verification and validation, operation, and retirement; access controls; and required documentation. Software problems are identified and reported, and changes to software are controlled.

5.15 Performance Demonstration Program (PDP)

The CCP participates in the PDP. PDP samples are processed according to procedures applicable to the specific testing and CCP-TP-058, *CCP NDA Performance Demonstration Plan*.

6.0 REFERENCES

NOTE
The current revision of these reference documents is applicable. The Internet links are provided for informational purposes only and may change.

1. Public Law 96-164, 93 Stat. 1259. National Security and Military Applications of Nuclear Energy Authorization Act of 1980, Section 213(a). (http://thomas.loc.gov/cgi-bin/bdquery/z?d096:SN006_73:|TOM:/bss/d096query.htm)

2. Public Law 102-579, 106 Stat. 4777, 1992 (as amended by Public Law 104-201, 1996). Waste Isolation Pilot Plant Land Withdrawal Act. (http://www.wipp.energy.gov/library/CRA/BaselineTool/Documents/Regulatory%20Tools/10%20WIPPLWA1996.pdf)

3. 42 U.S.C. 6901 et seq. Resource Conservation and Recovery Act (RCRA) of 1976. (http://www.epa.gov/epawaste/inforesources/online/index.htm)

4. U.S. Department of Energy. *Waste Isolation Pilot Plant Documented Safety Analysis*. DOE/WIPP-07-3372. Carlsbad, New Mexico, Waste Isolation Pilot Plant, U.S. Department of Energy. (http:www.wipp.energy.gov/library/DSA/DOE_WIPP_07_3372_Rev_3_DSA.pdf)

5a. U.S. Nuclear Regulatory Commission. *TRUPACT-II Certificate of Compliance.* NRC Docket No. 71-9218. Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission. (http://www.wipp.energy.gov/Documents_Transportation.htm)

5b. U.S. Nuclear Regulatory Commission. TRUPACT-III *Certificate of Compliance.* NRC Docket No. 71-9305. Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission. (http://www.wipp.energy.gov/Documents_Transportation.htm)

6. U.S. Nuclear Regulatory Commission. *HalfPACT Certificate of Compliance.* NRC Docket No. 71-9279. Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission. (http://www.wipp.energy.gov/Documents Transporation.htm)

7. U.S. Nuclear Regulatory Commission. *RH-TRU 72-B Certificate of Compliance*. NRC-Docket-No.71-9212. Office of Regulatory Procedures. U.S. Nuclear Regulatory Commission. Washington, D.C. (http://www.wipp.energy.gov/Documents_Transportation.htm)

8. U.S. Nuclear Regulatory Commission. *10-160B Certificate of Compliance* NRC-Docket-No.71-9204. Office of Regulatory Procedures. U.S. Nuclear Regulatory Commission. Washington, D.C. (http://wipp.energy.gov/Documents_Transportation.htm)

9. New Mexico Environment Department. *Waste Isolation Pilot Plant Hazardous Waste Facility Permit.* NM4890139088-TSDF, Santa Fe, New Mexico. (http://www.nmenv.state.nm.us/wipp/pdfpermit.html)

10. 75 FR70584. Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance with the Disposal Regulations: Recertification Decision: EPA Final Rule. Federal Register75:70584-70595, November 18, 2010, Radiation Protection Division, Washington, D.C. (http://www.gpo.gov/fdsys/pkg/FR-2010-11-18/pdf/2010-28806.pdf)

11. U.S. Department of Energy. *Waste Isolation Pilot Plant Initial Report for PCB Disposal Authorization*. DOE/WIPP 02-3196. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/rcradox/final/02-3196_PCB_Initial_3-19-02_4-29-02.pdf)

12. U.S. Environmental Protection Agency, Letter and enclosed *Conditions of Approval* from Carl E. Edlund (Director, Multimedia Planning and Permitting Division, EPA) to Edward Ziemanski (Acting Manager, Carlsbad Field Office, DOE), dated January 5, 2011, granting approval for WIPP to dispose of TRU and TRU-mixed wastes containing PCBs. (http://www.wipp.energy.gov/rcradox/final/EPA_Letter_to_DOE_2011-0105.pdf)

13. Title 40 CFR Part 761, *Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions*. Code of Federal Regulations, Washington, D.C., Office of Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

14. 69 FR 39456. *Revision to the Record of Decision for the Department of Energy's Waste Isolation Pilot Plant Disposal Phase*. Federal Register 69: 39456-39459, June 30, 2004, Department of Energy, Washington, D.C. (http://www.em.doe.gov/pdfs/92604PCB%20ROD%20Fed%20Reg%20063004%20p39456-9.pdf)

15. WIPP National Environmental Policy Act Database, June 19, 2007, Carlsbad, New Mexico, Waste Isolation Pilot Plant, U.S. Department of Energy.

16. U.S. Environmental Protection Agency. Letter and Enclosures from Frank Marcinowski (Director, Radiation Protection Division), to R. Paul Detwiler (Acting Manager, Carlsbad Field Office), dated March 26, 2004. (http://www.wipp.energy.gov/rcradox/RH-EPAFinal3-26-04.pdf)

17. U.S. Department of Energy. *Remote-Handled TRU Waste Characterization Program Implementation Plan*. DOE/WIPP-02-3214. Carlsbad, New Mexico. Carlsbad Field Office. U.S. Department of Energy. (http://www.wipp.energy.gov/rcradox/DOE-WIPP_02-3214_Rev_3.pdf)

18. U.S. Department of Energy. *Quality Assurance Program Document*. DOE/CBFO-94-1012. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/library/qapd/qapd.pdf)

19. DOE (U.S. Department of Energy), 1980. *Final Environmental Impact Statement for the Waste Isolation Pilot Plant,* DOE/EIS-0026, October, Washington, D.C.

20. DOE (U.S. Department of Energy), 1990. *Final Supplemental Environmental Impact Statement for the Waste Isolation Pilot Plant,* DOE/EIS-0026-FS, January, Washington, D.C.

21. DOE (U.S. Department of Energy), 1997. *Waste Isolation Pilot Plant Disposal Phase Final Supplemental Environmental Impact Statement,* DOE/EIS-0026-S-2, September, Washington, D.C. (http://www.wipp.energy.gov/library/seis/summary-1o4.pdf)

22. U.S. Department of Energy. *Waste Data System User's Manual,* DOE/WIPP-09-3427. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/Documents_NTP.htm)

23a. U.S. Nuclear Regulatory Commission. *Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC)*. Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission.

23b. U.S. Nuclear Regulatory Commission. *TRUPACT-III Transuranic Waste Authorized Methods for Payload Control (TRUPACT-III TRAMPAC).* Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission.

24. Title 10 CFR Part 71. *"Packaging and Transportation of Radioactive Material."* Code of Federal Regulations. Washington, D.C. Office of the Federal Register. National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/Index.html)

25. *New Mexico Hazardous Waste Act*, NMSA 1978, 74-4-1 through 74-4-14 (http://www.nmonesource.com/nmnxtadmin/NMPublic.aspx)

26. Title 40 CFR Part 194, *Criteria for the Certification and Re-certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations*. Code of Federal Regulations, Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

27. 42 U.S.C. 2011 et seq. *Atomic Energy Act (AEA) of 1954*. (http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0980/v1/sr0980v1.pdf)

28. 42 U.S.C 10141. *Nuclear Waste Policy Act of 1982*. (http://epw.senate.gov/nwpa82.pdf)

29. U.S. Department of Energy Standard Radiological Control, DOE-STD-1098-2008, Table 2-2 and Chapter 4, Part 2, Sec. 423. (http://www.hss.energy.gov/healthsafety/wshp/radiation/doe-std-1098.pdf)

30. Title 10 CFR Part 835. *Occupational Radiation Protection*. Code of Federal Regulations, Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

31. American National Standards Institute. ANSI/AIM BC1-1995, *Uniform Symbology Specification* - Code 39. American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018

32. U.S. Department of Energy. *Radioactive Waste Management*, DOE Order 435.1, Implementation Guide, Chapter III, Section III.L, page 103. (https://www.directives.doe.gov/pdfs/doe/doetext/neword/435/g4351-1ch3.pdf)

33. Title 40 CFR Part 262, *Standards Applicable to Generators of Hazardous Waste*. Code of Federal Regulations, Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

34. Title 40 CFR, Part 191, *Environmental Radiation Protection for Management and Disposal of Spent Nuclear Fuel, High-Level, and Transuranic Radioactive Wastes*. Code of Federal Regulations, Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

35. U.S. Department of Energy. *Title 40 CFR Part 191, Compliance Recertification Application for the Waste Isolation Pilot Plant*, DOE/WIPP 2004-3231, 2009, Carlsbad, New Mexico. (http://www.wipp.energy.gov/library/CRA/BaselineTool/Index.htm)

36. Title 49 CFR, § 172.203. *Additional Description Requirements*. Code of Federal Regulations, Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

37. Title 49 CFR § 173.433 (g). *Shipping Papers and Labeling. Code of Federal Regulations,* Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

38. *Safety Analysis Report for Model 10-160B Type B Radwaste Shipping Cask*, NRC-Docket-No.71-9204. Office of Regulatory Procedures. U.S. Nuclear Regulatory Commission. Washington, D.C.

39. Nuclear Waste Partnership (NWP). *RH-TRU 72-B Cask Removable Lid Canister Handling and Operation Manual*. WP 08-PT.07. Carlsbad, New Mexico. Waste Isolation Pilot Plant, U.S. Department of Energy

40. Nuclear Waste Partnership (NWP). *RH-TRU 72-B Cask Welded Lid Canister Handling and Operation Manual*. WP 08-PT.12. Carlsbad, New Mexico. Waste Isolation Pilot Plant, U.S. Department of Energy

41. U.S. Nuclear Regulatory Commission. *Remote-Handled Transuranic Waste Authorized Methods for Payload Control (RH-TRAMPAC)*. Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission.

42. U.S. Environmental Protection Agency. *Guidance for the Data Quality Objectives Process*. EPA-QA/G-4, Washington, DC, Quality Assurance Management Staff, U.S. Environmental Protection Agency. (http://www.epa.gov/osw/hazard/correctiveaction/resources/guidance/qa/epaqag4.pdf)

43. U.S. Department of Energy. *Packaging and Transportation Safety.* DOE Order 460.1C. Washington, D.C. (http://www.directives.doe.gov/pdfs/doe/doetext/neword/460/o4601a.html)

44. U.S. Department of Energy. *Departmental Materials Transportation and Packaging Management.* DOE Order 460.2 A. Washington, D.C. (http://www.directives.doe.gov/pdfs/doe/doetext/neword/460/o4602c1.html)

45. U.S. Department of Energy. *CH Packaging Program Guidance*, DOE/WIPP-02-3183. Carlsbad, New Mexico, Waste Isolation Pilot Plant, U.S. Department of Energy.

46. U.S. Department of Energy. *RH Packaging Program Guidance*. DOE/WIPP-02-3283. Carlsbad, New Mexico. Waste Isolation Pilot Plant. U.S. Department of Energy.

47. U.S. Department of Energy/Waste Isolation Pilot Plant (DOE/WIPP) 02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant.*

48. U.S. Department of Energy. *CBFO Approved Filter Vents.* DOE/WIPP-11-3384. Carlsbad, New Mexico, Waste Isolation Pilot Plant, U.S. Department of Energy.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste

A.1 Introduction

Radioassay techniques are used to determine the radionuclide content of waste. Radioassay methods include both nondestructive and destructive techniques. The term "radioassay" includes all types of assay techniques. NDA refers only to nonintrusive assay techniques, whereas radiochemistry (RC) is used to refer to destructive assay techniques. This appendix is intended to apply to NDA activities conducted within the WIPP CCP.

Common NDA techniques rely on detection of gamma rays, neutrons, or heat generated by the waste. NDA is performed on a waste container basis.

RC will not be performed by CCP. If plans change, then RC will be performed in compliance with the requirements of the current WAC, and this Plan will be revised.

The DOE is required to collect radiological characterization data to:

- Track the WIPP radionuclide inventory, by isotopic activity and mass, for those radionuclides listed in Section 3.3.1,
- Demonstrate that each payload container disposed of at the WIPP contains TRU waste as specified in Section 3.3.3, and
- Verify that applicable transportation and facility limits on individual payload containers and assemblies for FGE, PE-Ci, and decay heat are not exceeded, as specified in Section 3.3.2, 3.3.4 and 3.3.6.

The radioassay process quantifies at least one of the more prevalent radionuclides known to be present in the waste. The remaining listed radionuclides present in the waste in significant quantities will be identified by direct measurement of isotopic ratios as discussed in Section A.2. The isotopic ratios are then used to quantify radionuclides based on the assay value.

The requisite data on isotopic ratios and quantities will be derived from AK (see Section A.2), radioassay or both using CBFO approved NDA or RC techniques, instruments and procedures. Each site must technically justify that the AK and/or radioassay techniques, instruments and procedures used:

- Are appropriate for the specific waste stream and waste content code descriptions being assayed, and
- Will result in unbiased values for the cumulative activity and mass of the WIPP radionuclide inventory.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

Existing radioassay data collected prior to the implementation of a QA program pursuant to 40 CFR §194.22(a)(1) may only be qualified in accordance with an alternate methodology that is approved by CBFO and employs one or more of the following methods:

- Peer review in accordance with NUREG-1297 (Reference A1),
- Corroborating data,
- Confirmatory testing (i.e., testing made on a representative sub-population of payload containers within a waste stream), or
- Demonstrating the equivalence of an alternative QA program (as described in Reference A2, Section 5.4).

Proposals for alternative approaches to identification and quantification of radioisotopes (e.g., quantification of isotopic ratio AK on a waste stream basis) must be submitted to CBFO for review and approval. CBFO will report such proposals to the EPA for consideration prior to issuing approval.

Controlled changes to radioassay (NDA or RC) related plans or procedures are managed through the document control process described in CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*. The CCP Certification Manager and QA shall review all such changes and report to the CBFO those changes that could impact compliance with the criteria in this document. The CCP Certification Manager shall ensure that site approved changes to radioassay related plans or procedures affecting either the performance criteria or data quality of certified systems/processes are not used in the collection of waste certification data prior to CBFO's review and approval. Related testing, calibration, and training performed in accordance with these site-approved changes, however, are not precluded from being conducted prior to CBFO's review and approval. (Memorandum from CBFO to Distribution, CBFO:NTP:RMK:VW:02-2734: UFC:5822, July 29, 2002.)

The CCP program will establish or confirm isotopic ratios by direct measurements and these ratios will be used in conjunction with measured or AK data to calculate WIPP-reportable values.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

A.2 Radionuclide Isotopic Ratios

Establishing isotopic ratios for use in quantifying radionuclides is performed by direct measurement of the containers using WIPP-certified systems. Sites may opt to qualify AK as permitted by 40 CFR §194.22(b) by performing confirmatory testing using WIPP-certified radioassay systems. When a site performs direct measurements of isotopic ratios, it is expected that all containers in the waste stream will be measured, with the understanding that, in some cases, valid data may not be obtainable for given containers for technical reasons (e.g., lack of sufficient signal or poor counting statistics). All such instances will be documented and appropriately dispositioned by the measurement facility. For those few waste containers for which direct measurement does not yield useable isotopic ratio information, AK may be used. The assay programs will establish or confirm isotopic ratios by direct measurement and these ratios will be used in conjunction with the reported data to calculate WIPP-reportable values.

A.2.1 Methods for Confirmation of Isotopic Ratio AK

As a minimum, to confirm existing AK data, it is necessary to compare ratios of the two most prevalent radionuclides in the isotopic mix. For weapons and reactor grade plutonium, these are typically ^{239}Pu and ^{240}Pu. For heat source waste, the predominant radionuclides are typically ^{238}Pu and ^{239}Pu. Measured isotopic ratios for ^{241}Am may confirm existing AK by waste stream.

However, due to the fluctuation of ^{241}Am in certain waste streams, it may become necessary to measure ^{239}Pu to ^{241}Am isotopic ratios on all containers in that waste stream.

^{241}Am is the daughter of ^{241}Pu, which decays with a half-life of about 14 years. If the time since the chemical separation of the plutonium is known, the quantity of measured ^{241}Am can be used to calculate the quantity of ^{241}Pu. This assumes there was no ^{241}Am in the waste just after the chemical separation and that no ^{241}Am was added to or removed from the waste during the time since the separation. Since ^{241}Am is an indirect measurement of ^{241}Pu, it could be compared (by ratio) to any plutonium isotope (^{239}Pu or ^{240}Pu) associated with weapons and reactor grade plutonium.

For weapons grade and reactor grade waste, isotopic ratio values for ^{238}Pu can be assumed to be valid in AK data if the values for ^{239}Pu and ^{240}Pu have been confirmed. Because ^{242}Pu cannot be measured using NDA methods, the contribution of ^{242}Pu isotopic ratio is calculated by correlation techniques.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

For some of the generator sites that were involved primarily in weapons production, the fissile isotopes ^{235}U and ^{233}U and the fissionable isotope ^{238}U may not have been measured when the transuranic waste was originally assayed (i.e., using non-WIPP-certified systems), primarily because the plutonium isotopes were the radionuclides of interest to the generator site. However, other forms of AK may be available. If so, then the AK can be confirmed by data generated on a WIPP-certified system. If valid AK does not exist, then the data generated on a WIPP-certified system can only be used to detect or calculate ^{238}U, ^{235}U, and ^{233}U or to confirm their absence. Because ^{234}U cannot be measured using NDA methods, the isotopic ratios for ^{234}U may be calculated from the ^{235}U enrichment. Values or lack thereof, for ^{137}Cs can be confirmed by the data generated on a WIPP-certified system. This is typically done by measuring ^{137}Cs directly, or by comparing the NDA measured ^{241}Am 662 kiloelectron volt (keV) peak to the other ^{241}Am peaks (e.g., the 125 keV or 721 keV peaks) to determine if the 662 keV peak's intensity is consistent with the expected ^{241}Am intensity. A disproportionate response for the 662 keV peak relative to the other ^{241}Am peaks may indicate the presence of ^{137}Cs. ^{90}Sr may be calculated from the value for ^{137}Cs and AK. If detected, a waste container's concentration of ^{137}Cs can be used to derive a value of ^{90}Sr through the application of the appropriate scaling factor(s). All scaling factors used will be technically sound and based on known, documented relationships or correlations. The data report for the waste containers for which the ^{90}Sr, value is derived in this manner shall reflect the use of a scaling factor(s) and provide sufficient documentation to enable its independent calculation. Finally, the gamma spectra must be carefully examined for significant presence of other radionuclides to ensure compliance with transportation requirements. Data obtained for radionuclides other than the WIPP-tracked radionuclides presented above are required to address confounding isotope issues (i.e., masking) with regard to NDA. When RC is used for confirmation radioassay instead of NDA, less reliance on calculated isotopics is required.

CCP will technically justify that the techniques used to confirm the absence or the ratio of non-measurable radionuclides are valid for the particular radioassay method used to confirm AK.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

A.2.2 Acceptable Knowledge (AK) Documentation

The use of AK information concerning the radiological composition of a waste stream will be documented either in the AK Summary Report for the waste characterization of the waste stream or in another controlled document approved by the SPM. Should this information be contained in AK package(s) prepared to meet other general waste characterization requirements, it need not be duplicated in other controlled documents that address the radiological properties of the waste stream; however, all relevant information must be included in the AK record. CCP uses procedure CCP-TP-005, *CCP Acceptable Knowledge Documentation*, to compile, review, evaluate, confirm, and report AK documentation.

The following discussion is included for the sake of completeness.

A.2.2.1 Required Elements

This section identifies the required radiological information that each TRU waste site or measurement facility must maintain for a waste stream. A TRU waste generator site or waste characterization facility may use AK to delineate the distribution of the 10 WIPP-tracked radioisotopes within a TRU waste stream and the presence or absence of isotopes. The type and quantity of supporting documentation may vary by waste stream and shall be compiled in a written record that shall include a summary identifying all sources of information used to delineate the waste stream's isotopic distribution. The basis and rationale for the delineation shall be clearly summarized in an AK report and traceable to referenced documents. Assumptions made in this delineation shall be identified. The following information shall be included as part of the AK written record:

- Map of the site with the areas and facilities involved in TRU mixed waste generation, treatment, and storage identified
- Facility mission description as related to radionuclide-bearing materials and their management, e.g., routine weapons production, fuel research and development, and experimental processes
- Description of the specific site locations (such as the area or building) and operations relative to the isotopic composition of the TRU wastes they generated, e.g., plutonium recovery, weapons fabrication, pyrochemical operations and waste incineration

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

- Waste identification or categorization schemes used at the facility relevant to the waste material's isotopic distribution, e.g., the use of codes that correlate to a specific isotopic distribution, and a description of the isotopic composition of each waste stream

- Information regarding the waste's physical and chemical composition that could affect the isotopic distribution, e.g., processes used to remove ingrown ^{241}Am or alter its expected contribution based solely on radioactive decay kinetics

- Statement of all numerical adjustments applied to derive the material's isotopic distribution, e.g., scaling factors, decay/ingrowth corrections and secular equilibrium considerations

- Specification of the isotopic ratios for the ten WIPP-tracked radionuclides (^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs) and, if applicable, the radionuclides that comprise 95 percent of the radiological hazard on a waste stream, waste stream subpopulation, or container basis

A.2.2.2 Supplemental AK Information

Each generator site or measurement facility shall obtain supplemental AK information, dependent on availability. The amount and type of this information cannot be mandated, but sites shall collect information as appropriate to support their contention regarding the waste's isotopic distribution. This information will be used to compile the waste's AK written record. Supplemental AK documentation that may be used includes, but is not limited to, information from the following sources:

- Safeguards & Security, Materials Control & Accountability, and other nuclear materials control systems or programs and the data they generated

- Reports of nuclear safety or criticality, or accidents/excursions involving the use of special nuclear material (SNM) or nuclear material

- Waste packaging, waste disposal, building or nuclear material management area (NMMA) logs or inventory records, and site databases that provide information on SNM or nuclear materials

- Test plans, research project reports, or laboratory notebooks that describe the radionuclide content of materials used in experiments

- Information from site personnel (e.g., documented interviews)

- Historical analytical data relevant to the isotopic distribution of the waste stream

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

A.2.2.3 Discrepancy Resolution

If there is a discrepancy between AK information related to isotopic ratios or composition, the site will evaluate the sources of the discrepancy to determine if the discrepant information is credible. Information that is not credible or information that is limited in its applicability to WIPP characterization will be identified as such and the reasons for dismissing it will be justified in writing. Limitations concerning the information will be documented in the AK record and summarized in the AK Summary Report. In the event that the discrepancy cannot be resolved, the site will perform direct measurements for the impacted population of containers.

If discrepancies result in a change to the original determinations, the AK summary will be updated in accordance with procedure CCP-TP-005.

A.3 Data Quality Objectives (DQOs)

The DQOs for WIPP certifiable radiological characterization data are established in Section 3.3 of this Plan. They are summarized below in Table A-1, Data Quality Objectives (DQOs) for Radioassay, as they apply to individual payload containers.

Table A-1. Data Quality Objectives (DQOs) for Radioassay

Requirement	DQO	Confidence[a]
TRU α-activity concentration > 100 nCi/g[b]	A > LLD	N/A
Fissile mass ≤ FGE limit	$FGE + 2\sigma_{TMU}(FGE) \leq$ FGE limit	97.5%
Decay heat (DH) ≤ CH-TRAMPAC limit	$DH + 1\sigma_{TMU}(DH) \leq L_{CH\text{-}TRAMPAC}$[c]	84%

[a]Confidence means the statistical level of confidence that the limit is exceeded or not exceeded depending on the requirements of the individual data quality objectives (DQOs). The confidence is derived from the specified DQOs which assume contributions to TMU are normally distributed.
[b]TRU waste determinations shall be in accordance with the Policy for the Management of TRU Alpha Activity Concentration when overpacking waste containers (see Appendix 8).
[c]TRAMPAC includes both the CH-TRAMPAC and the TRUPACT-III TRAMPAC.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

There are no stipulated DQOs for PE-Ci or individual isotope activities (except as they impact the requirements listed above). However, at a minimum, radioassay programs must be capable of identifying, measuring, and reporting the presence or absence of:

- the ten radionuclides identified in Section 3.3.1 for tracking of the WIPP radionuclide inventory (see Section A.2.1),
- ^{235}U, in order to calculate FGE, as required in Section 3.3.2 for compliance with transportation requirements, and
- other radionuclides whose presence contribute to 95 percent of the radioactive hazard, as specified in Section 3.3.1, for compliance with transportation requirements.

In support of the above requirements, each site must evaluate, document and technically justify the following determinations:

Lower Limit of Detection (LLD): The LLD for each radioassay system must be determined. Instruments performing TRU/low-level waste discrimination measurements must have an LLD of 100 nCi/g or less. Site specific environmental background and container specific interferences must be factored into LLD determinations. The LLD is that level of radioactivity which, if present, yields a measured value greater than the critical level with a 95 percent probability, where the critical level is defined as that value which measurements of the background will exceed with 5 percent probability. Because the LLD is a measurement-based parameter, it is not feasible to calculate LLDs for radionuclides that are not determined primarily by measurement, e.g., ^{90}Sr. In such cases, the site shall derive the equivalent of an LLD, i.e., a reporting threshold for a radionuclide(s), when it is technically justified. This value may be based on decay kinetics, scaling factors or other scientifically based relationships and must be adequately documented in site records. For purposes of reporting radionuclide data in the WWIS/WDS, this value will be the equivalent of an LLD. References A3 and A4 provide information in developing the LLD.

Total Measurement Uncertainty (TMU): The method used to calculate the TMU for the quantities in Table A-1 must be documented and technically justified for each CBFO certified radioassay system. Compliance with this requirement will be evaluated in reviews of the TMU documentation package for each assay system by CBFO. General guidance for determining the TMU is provided in References A5 and A6.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

Calibration Procedures and Frequencies: Each radioassay measurement system shall be calibrated before initial use. During calibration or re-calibration, system correction factors shall be established and algorithms adjusted such that the value of percent recovery (%R) is set equal to 100 percent; i.e., the system is calibrated to 100%R. The range of applicability of system calibrations must be specified in site procedures. The matrix/source surrogate waste combination(s) used for calibration shall be representative of the:

- activity range(s) or gram loading(s), and
- relevant waste matrix characteristics (e.g., densities, moderator content, container size) planned for measurement by the system.

Calibration(s) shall be performed in accordance with consensus standards, when such standards exist. If consensus standards are not used, full documentation of the calibration technique must be provided to and approved by CBFO prior to performing WIPP-related assays. Primary calibration standards shall be obtained from suppliers maintaining a nationally accredited measurement program. When primary standards are not available, the standards used shall be correlated with primary standards obtained from a nationally accredited measurement program. For calorimetry, calibration shall be performed in accordance with Reference A9.

Calibration Verification: Notwithstanding the need to calibrate individual components for replacement, changes or adjustments (e.g., energy calibration of a detector), verification of the radioassay measurement system's calibration shall be performed after any one of the following occurs:

- major system repairs and/or modifications
- replacement of the measurement system's components, e.g., detector, neutron generator or supporting electronic components that have the capacity to affect data
- significant changes to the system's software
- relocation of the system

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

Calibration verification shall consist of demonstrating that the system is within the range of acceptable operation. Secondary standards can be used for the calibration verification if their performance has been correlated with the calibration standard. If a verification of the measurement system's calibration or other test demonstrates that the system's response has significantly changed, a re-calibration of the system shall be performed.

Calibration Confirmation: In order to confirm that the calibration of the NDA system was correctly established, the accuracy and precision of the system are determined after each calibration or re-calibration by performing replicate measurements of a non-interfering matrix. Calibration confirmation replicate measurements shall be performed on containers of the same nominal size as those in which actual waste is assayed and according to approved waste assay procedures. The number of replicate measurements to be performed shall be documented and technically justified. The replicate measurements shall be performed using nationally recognized standards, or certified standards derived from nationally recognized standards that span the range of use. The standards used to calculate accuracy shall not be the same as those used for the system calibration. Accuracy is reported as percent recovery (%R). The applicable range for accuracy shall not exceed ± 30 percent on a non-interfering matrix. Precision is reported as percent relative standard deviation (%RSD). The %RSD shall not exceed the values listed in Table A-2, Upper Limits for %RSD vs. Number of Replicates, for the corresponding number of replicate measurements in a non-interfering matrix.

Table A-2. Upper Limits for %RSD vs. Number of Replicates

Number of Replicates	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Max %RSD	1.8	6.6	10.0	12.3	14.0	15.2	16.2	17.1	17.7	18.3	18.8	19.3	19.7	20.0

[a] The values listed are derived from the measured standard deviation of the replicate measurements using $\frac{s}{\mu} \bullet 100\% < \sqrt{\frac{(0.292) \bullet \chi^2_{0.05,n-1}}{n-1}} \bullet 100\%$ where s is the measured standard deviation, n is the number of replicates, Φ is the true value, $\chi^2_{0.05,n-1}$ is the critical value for the upper 5 percent tail of a one-sided chi-squared distribution with n-1 degrees of freedom, and 0.292 corresponds to a 95 percent upper confidence bound on the true system precision limit of 29.2 percent.

Measurement facilities may develop alternate limits for accuracy and precision subject to approval by CBFO prior to certification of waste.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

The CCP NDA standard operating procedures (Table A-2.1) demonstrate and justify that the radioassay techniques used are appropriate for specific waste streams.

Table A-2.1. NDA Procedures

Procedure Title	Procedure Number
CCP Waste Assay Gamma Spectrometer (WAGS) and SWEPP Gamma-Ray Spectrometer (SGRS) Calibration Procedure	CCP-TP-010
CCP Waste Assay Gamma Spectrometer (WAGS) Operating Procedure	CCP-TP-019
CCP Mobile IQ3 System Calibration Procedure	CCP-TP-046
CCP Mobile IQ3 Gamma Scanner Operation	CCP-TP-047
CCP Mobile IQ3 System Data Reviewing, Validating and Reporting Procedure	CCP-TP-048
CCP Operating the High Efficiency Neutron Counter Using NDA 2000	CCP-TP-063
CCP Calibrating the High Efficiency Neutron Counter Using NDA 2000	CCP-TP-064
CCP Gamma Energy Assay (GEA) Calibration, Confirmation, and Verification Procedure	CCP-TP-070
CCP Gamma Energy Assay (GEA) Operating Procedure	CCP-TP-071
CCP Gamma Energy Assay (GEA) Data Review, Validation, and Reporting Procedure	CCP-TP-072
CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization	CCP-TP-101
CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000	CCP-TP-103
Operating the CCP High Efficiency Neutron Counter Using NDA 2000	CCP-TP-107
Calibrating the CCP High Efficiency Neutron Counter Using NDA 2000	CCP-TP-108
CCP Data Reviewing, Validating and Reporting Procedure	CCP-TP-109
CCP SWEPP Gamma-Ray Spectrometer (SGRS) Operating Procedure	CCP-TP-115
CCP SuperHENC Operating Procedure	CCP-TP-146
CCP SuperHENC Data Reviewing, Validating and Reporting Procedure	CCP-TP-148
CCP Drum Waste Assay System Imaging Passive/Active Neutron Operations	CCP-TP-166
CCP Drum Waste Assay Imaging Passive/Active Neutron Calibration	CCP-TP-167
CCP Drum Waste Assay System Imaging Passive/Active Neutron/Segmented Gamma Scanner Data Generation Level Validation	CCP-TP-168
CCP Operating the Mobile Segmented Gamma Scanner	CCP-TP-169

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

Table A-2.1. NDA Procedures (Continued)

CCP SuperHENC Calibration Procedure	CCP-TP-170
CCP Calibrating the Mobile Segmented Gamma Scanner	CCP-TP-172
CCP Box Segmented Gamma System (BSGS) Operating Procedure	CCP-TP-189
CCP Box Segmented Gamma System (BSGS) Calibration Procedure	CCP-TP-190
CCP Box Neutron Assay System (BNAS) Operating Procedure	CCP-TP-191
CCP Box Neutron Assay System (BNAS) Calibration Procedure	CCP-TP-192
CCP Data Reviewing, Validating, and Reporting Procedure for the Nondestructive Assay Box Counters	CCP-TP-193
Peer Review – Sealed Sources Peer Review Report	Record TWCP-18562

A.4 Quality Control (QC)

To ensure that data of known and documented quality are generated, each participating measurement facility shall implement a documented facility QA program. Any radioassay technique used for TRU waste must be performed in accordance with calibration and operating procedures that have been written, approved, and controlled by the site or testing facility. Laboratory procedures must contain applicable QCs. Facility QA programs shall specify qualitative and quantitative acceptance criteria for the QC checks of this program and corrective action measures to be taken when these criteria are not satisfied. NDA standard operating procedures address QC elements and are listed in Table A-2.1.

A.4.1 General Requirements

Radioassay Training: Only appropriately trained and qualified personnel shall be allowed to perform radioassay and data validation/review. Standardized Training requirements for radioassay personnel shall be based upon existing industry standardized training requirements (e.g., American Society for Testing and Materials [ASTM] C1490, *Standard Guide for Selection, Training and Qualification of Nondestructive Assay [NDA] Personnel* [Reference A8]; American National Standards Institute [ANSI] N15.54, *Radiometric Calorimeters - Measurement Control Program* [Reference A9]) and shall meet the specifications in the QAPD.

Requalification of radioassay personnel shall be based upon evidence of continued satisfactory performance and must be performed at least every two years. The training program is conducted in accordance with procedure CCP-QP-002, *CCP Training and Qualification Plan*.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

Software QC Requirements: All computer programs and revisions thereof used for radioassay shall meet the applicable requirements in Section 6.0 of the QAPD (Reference A2) and in accordance with procedure CCP-QP-022, *CCP Software Quality Assurance Plan*.

*Comparison Program*s: Sites using radioassay systems shall participate in any relevant measurement comparison program(s) sponsored or approved by the CBFO. Such programs may be conducted as part of the NDA PDP (References A7 and A10) or through other third parties (Reference: WIPP Compliance Recertification Application including Annual Reports to the EPA).

A.4.2 NDA QC Requirements

The assay procedures cited in various ASTM and ANSI standards (References A9, A11-A15) and NRC standard practices and guidelines (Reference A16) as referenced in this appendix are recommended for use at all testing facilities.

Background Measurements: Background measurements must be performed and recorded daily, unless otherwise approved by CBFO. Contributions to background due to radiation from nearby radiation producing equipment, standards or wastes must be carefully controlled or more frequent background checks must be performed. For calorimeters, basepower or baseline measurements shall be conducted at a frequency determined by each site and approved by CBFO.

Instrument Performance Measurements: Performance checks on calibrated and operable gamma and neutron NDA instruments must be performed and recorded once per operational day. Performance checks shall include efficiency checks (when applicable), matrix correction checks and, for spectrometric instruments, peak position and resolution checks.

Both radioactive sources and surrogate waste matrix containers (both non-interfering and interfering) are used. At least once per operational week an interfering matrix must be used to assess the long-term stability of the NDA instrument's matrix correction. Surrogate waste containers must reflect the type of waste, (e.g., debris, sludge) currently being assayed. To verify calibration, radioactivity standards must be selected such that, over a six-month period, the operating range of the assay system is tested in each applicable surrogate waste matrix. The use of interfering and non-interfering matrices provides a realistic assessment of the assay system's performance over time, and will assist measurement personnel in detecting potential problems relative to the matrices currently assayed by the measurement system.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

Interfering surrogate matrix containers must be constructed in such a way that the waste characteristics do not change over time.

Radioactive sources should be long-lived, easy to position relative to the detector(s), and of sufficient radioactivity to obtain good results with relatively short count times.

Performance checks for calorimetry shall be performed with electrical and/or heat standards traceable to a nationally accredited measurement program at a frequency determined by each site, consistent with Reference A17. This information is specified in site operating procedures and approved by CBFO.

Data Checks: Background (for calorimetry: baseline or base power) and performance measurements shall be reviewed and evaluated at least weekly to determine continued acceptability of the assay system and to monitor performance trends. If daily performance checks result in data that are outside the acceptable range, the required responses in Table A-3 shall be followed.

Table A-3. Range of Applicability

Category	Acceptability Range[a]	Required Response
Acceptable Range	$\ast Data \ast^{c} \# 2\sigma^{b}$	No action required.
Warning Range	$2\sigma^{b} < \ast Data \ast \# 3\sigma^{b}$	The performance check standard shall be rerun no more than two times. If the rerun performance check(s) result in data within ± 2σ, then the additional performance checks shall be documented and work may continue. If the system does not fall within ± 2σ after two rerun performance checks, then the required response for the Action Range shall be followed.
Action Range	$\ast Data \ast > 3\sigma^{b}$	Work shall stop and the occurrence shall be documented and appropriately dispositioned (e.g., initiating a non-conformance report). The radioassay system shall be removed from service pending successful resolution of all necessary actions, and all assays performed since the last acceptable performance check are suspect, pending satisfactory resolution. Recalibration or calibration verification is required prior to returning the system back to service.

[a]Reference A15
[b]"σ" - the standard deviation is only based on the reproducibility of the data check measurements themselves. This is not TMU.
[c]Absolute Value

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

A.5 Data Management

A.5.1 Data Review and Validation

All radioassay data must be reviewed and approved by qualified personnel prior to being reported. At a minimum, the data must be reviewed by a technical reviewer and approved by the SPM. The validation process includes verification that the applicable QCs specified in Section A.4 have been met. Radioassay data is reviewed at the data generation level in accordance with NDA operating procedures listed in Table A-2.1, while data validation and verification at the Project Office is performed in accordance with procedure CCP-TP-001, *CCP Project Level Data Validation and Verification*.

A.5.2 Data Reporting

Radioassay data must be reported to the Site Project Office on a testing batch basis. Batches are defined, for the purpose of the program, as a suite of waste containers undergoing radioassay using the same testing equipment. For NDA, the sites shall specify the size of the testing batch as needed, without regard to waste matrix.

Each radioassay testing facility is required to submit testing BDRs for each testing batch to the site project office on standard forms (either hard copy or electronic equivalent), as provided in approved site-specific documentation. Radioassay testing BDRs shall consist of the following:

- testing facility name, testing batch number, container numbers included in that testing batch, and signature release by the SPM
- table of contents
- background and performance data or control charts for the relevant time period
- data validation per the QAPD (Reference A2, Section 5.3.2) and as described in site procedures (Reference Table A-2.1)
- separate testing report sheet(s) for each container in the testing batch that includes:
  - title “Radioassay Data Sheet”
  - method used for radioassay (i.e., procedure identification)
  - date of radioassay

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

- activities and/or masses of individual radioisotopes present and their associated TMUs (curies and/or grams)
- operator signature/date
- reviewer signature/date

Other radiological properties to be documented for each container include:

- decay heat expressed in Watts (W) and its associated TMU
- total ^{239}Pu FGE expressed in grams (g) and its associated TMU
- TRU alpha activity concentration expressed in curies/gram (Ci/g) and its associated TMU, and
- total ^{239}Pu equivalent activity expressed in Ci

These calculated quantities shall be included in the radioassay BDR or other QA record or database.

When TMU is reported differently on the testing report sheet than in WWIS/WDS, the method of expressing TMU shall be specified on the testing report sheet or associated procedures/QAPjP.

Radioassay data reporting at the data generation level is performed in accordance with NDA operating procedures listed in Table A-2.1, while data validation and verification at the Project Office is performed in accordance with procedure CCP-TP-001. Data reporting in WWIS/WDS is performed in accordance with procedure CCP-TP-030.

A.5.3 Data and Records Retention

QA records are indexed, classified, controlled, and maintained by records management personnel as described in procedure CCP-QP-008, *CCP Records Management*, and the site Records System. Records management is addressed in Section 5.5 of this Plan.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

The following nonpermanent records shall be maintained at the radioassay-testing facilities or shall be forwarded to the Site Project Office for maintenance, and shall be documented and retrievable by testing batch number, in accordance with the QAPD:

- testing batch reports
- all raw data, including instrument readouts, calculation records, and radioassay QC results
- all instrument calibration reports, as applicable

A.6 Quality Characteristics Assessment

Per 40 CFR §194.22(c), there are five "quality characteristics" that must be assessed. These quality characteristics and the method by which they are assessed are described in the following sections.

A.6.1 Data Accuracy

Per 40 CFR §194.22(c)(1), *Data Accuracy* is defined as "the degree to which data agree with an acceptable reference or true value." For NDA methods, this quality characteristic is met and maintained as described in Section A.3.

A.6.2 Data Precision

Per 40 CFR §194.22(c)(2), *Data Precision* is defined as "a measure of the mutual agreement between comparable data gathered or developed under similar conditions expressed in terms of standard deviation." For NDA methods, this quality characteristic is met and maintained as described in Section A.3.

A.6.3 Data Representativeness

Per 40 CFR §194.22(c)(3), *Data Representativeness* is defined as "the degree to which data can accurately and precisely represent a characteristic of a population, a parameter, variations at a sampling point, or environmental conditions." For NDA methods, this quality characteristic for the waste stream is met and maintained through 100 percent measurement confirmation on a payload container basis. For NDA, since the entire waste container is subjected to measurement, representativeness pertaining to the actual measurement is not applicable.

Appendix 1 – Radioassay Requirements for Contact-Handled Transuranic Waste (Continued)

A.6.4 Data Completeness

Per 40 CFR §194.22(c)(4), *Data Completeness* is defined as "a measure of the amount of valid data obtained compared to the amount that was expected." For NDA methods, this quality characteristic is met and maintained by requiring 100 percent valid results. Any results indicating the NDA measurement was invalid require re-measurement.

A.6.5 Data Comparability

Per 40 CFR §194.22(c)(5), *Data Comparability* is defined as "a measure of confidence with which one data set can be compared to another." For NDA and RC methods, this quality characteristic is addressed by ensuring that all data are produced under the same system of controls. These controls apply to all aspects of the data generation process, including: procurement of analytical instruments; calibration and operation of assay equipment according to industry standards; preparation and use of standardized instrument and data review procedures; and, training of equipment operators and technical/data review personnel to the QAPD, as specified in Section A.4.1. All NDA systems and methods are approved by CBFO prior to use in generating waste characterization data. Additionally, comparison of measured data with AK derived or based values, as applicable, provides a means to assess comparability on a waste stream basis. Although no specific confidence level is specified, these controls provide comparability among all data generated under this program. Sites using radioassay systems shall participate in measurement comparison programs as specified in Section A.4.1.

Appendix 2 – Appendix 1 References

A1 U.S. Nuclear Regulatory Commission. *Peer Review for High-Level Nuclear Waste Repositories,* NUREG-1297, Washington D.C., Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission

A2 U.S. Department of Energy. *Quality Assurance Program Document*. DOE/CBFO-94-1012. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/library/qapd/qapd.pdf)

A3 Currie, Lloyd A., 1968. *Limits for Qualitative Detection and Quantitative Determination*. *Anal.Chem.* 40: 586-93

A4 EPA, 1980. *Upgrading Environmental Radiation Data.* EPA 520/1-80-012, Washington D.C., Office of Radiation Programs, U. S. Environmental Protection Agency

A5 K. C. Smith, R. A. Stroud, K. L. Coop, and J. F. Bresson. 1998. *Total Measurement Uncertainty Assessment for Transuranic Waste Shipments to the Waste Isolation Pilot Plant*. Proceedings of the 6th Nondestructive Assay Waste Characterization Conference, Salt Lake City, Utah, Nov. 17-19, 1998, pp. 21-37

A6 K. L. Coop, J. F. Bresson, M. E. Doherty, B. M. Gillespie, and D. R. Davidson. *Standardized Total Measurement Uncertainty Reporting for WIPP*. Nondestructive Assay Interface Working Group, Salt Lake City, Utah, May 22, 2000

A7 U.S. Department of Energy. *Performance Demonstration Program Plan for Nondestructive Assay of Boxed Wastes for the TRU Waste Characterization Program*. DOE/CBFO-01-1006, Current Revision. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/Documents NTP.htm)

A8 American Society for Testing and Materials. *Standard Guide for Selection, Training and Qualification of Nondestructive Assay (NDA) Personne*l, ASTM C1490, Annual Book of ASTM Standards, Philadelphia, Pennsylvania, American Society for Testing and Materials

A9 American National Standards Institute. *Radiometric Calorimeters - Measurement Control Program*, ANSI N15.54, American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018

Appendix 2 – Appendix 1 References (Continued)

A10 U.S. Department of Energy. *Performance Demonstration Program Plan for Nondestructive Assay of Drummed Wastes for the TRU Waste Characterization Program*. DOE/CBFO-01-1005, Current Revision. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/Documents_NTP.htm)

A11 American Society for Testing and Materials. *Standard Test Method for Determination of Plutonium Isotopic Composition by Gamma-Ray Spectrometry*. ASTM C1030, Annual Book of ASTM Standards, Philadelphia, Pennsylvania, American Society for Testing and Materials

A12 American Society for Testing and Materials. *Standard Test Method for Nondestructive Assay of Nuclear Material in Scrap and Waste by Passive-Active Neutron Counting Using a 252Cf Shuffler*. ASTM C1316, Philadelphia, Pennsylvania, American Society for Testing and Materials

A13 American Society for Testing and Materials. *Standard Test Method for Nondestructive Assay of Special Nuclear Material in Low Density Scrap and Waste by Segmented Passive Gamma-Ray Scanning*. ASTM C1133, Annual Book of ASTM Standards, Philadelphia, Pennsylvania, American Society for Testing and Materials

A14 American Society for Testing and Materials. *Standard Test Method for Nondestructive Assay of Plutonium, Tritium and 241 Am by Calorimetric Assay*. ASTM C1458, Annual Book of ASTM Standards, Philadelphia, Pennsylvania, American Society for Testing and Materials

A15 American National Standards Institute. *Nondestructive Assay Measurement Control and Assurance*, ANSI N15.36. American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018

A16 U.S. Nuclear Regulatory Commission. 1984. *Nondestructive Assay of Special* Nuclear *Material Contained in Scrap and Waste.* Regulatory Guide 5.11, Washington, DC, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission

A17 American National Standards Institute. *Plutonium-Bearing Solids Calibration Techniques for Calorimetric Assay.* ANSI N15.22, American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018

Appendix 3 – Acronyms and Abbreviations

AK	Acceptable Knowledge
ALARA	as low as reasonably achievable
AMAD	activity mean aerodynamic diameter
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
BDR	Batch Data Report
CBFO	Carlsbad Field Office
CAR	Corrective Action Report
CCP	Central Characterization Program
CFR	Code of Federal Regulations
CH	Contact-Handled
CH-TRAMPAC	Contact-Handled Transuranic Waste Authorized Methods for Payload Control
CH-TRU	Contact-Handled Transuranic
Ci	curies
Ci/g	curies/gram
CIN	Container Identification Number
cm^2	Square centimeters
cm^3	Cubic centimeters
CPR	cellulose, plastic, and rubber
DA	Destructive assay
DSA	Documented Safety Analysis
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DPM	disintegrations per minute
DQO	Data Quality Objective
DSA	Documented Safety Analysis
EPA	U.S. Environmental Protection Agency
FEIS	Final Environmental Impact Statement
FEM	fissile equivalent mass
FGE	fissile gram equivalent
g	gram
GGT	gas generation testing
hr	hour
HSG	Headspace Gas
HWFP	Hazardous Waste Facility Permit
ID	identification number
in.	inch
keV	Kiloelectron Volt
kg	kilogram(s)
L	Liter
LLD	lower limit of detection

Appendix 3 – Acronyms and Abbreviations (Continued)

LDR	Land Disposal Restriction
LWA	Land Withdrawal Act
M^3	cubic meter(s)
ml	milliliter(s)
mrem	milliroentogen equivalent man
M&TE	Measuring and Testing Equipment
nCi/g	nanocurie(s) per gram
NDA	nondestructive assay
NCR	Nonconformance Report
NDE	Nondestructive Examination
NEPA	National Environmental Policy Act
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMMA	nuclear material management area
NRC	U.S. Nuclear Regulatory Commission
NTP	National TRU Program
NWP	Nuclear Waste Partnership
OJT	on-the-job training
OPCTCD	Overpack Payload Container Transportation Certification Document
PATCD	Payload Assembly Transportation Certification Document
PCB	polychlorinated biphenyl
PCTCD	Payload Container Transportation Certification Document
PDP	Performance Demonstration Program
PE-Ci	^{239}Pu equivalent curie(s)
POC	point-of-contact
ppm	parts per million
QA	Quality Assurance
QAO	Quality Assurance Objective
QAPD	Quality Assurance Program Document
QAPjP	Quality Assurance Project Plan
QC	Quality Control
QSL	Qualified Suppliers List
%R	Percent Recovery
%RSD	percent relative standard deviation
RC	radiochemistry
RCRA	Resource Conservation and Recovery Act
RCT	Radiological Control Technician
rem	roentgen equivalent man
RH	Remote-Handled
RH-TRAMPAC	Remote-Handled Transuranic Waste Authorized Methods for Payload Control
RIDS	Records Inventory and Disposition Schedule

Appendix 3 – Acronyms and Abbreviations (Continued)

RPD	relative percent difference
RSD	relative standard deviation
RTR	Real-Time Radiography
SAR	Safety Analysis Report
SEIS	Supplemental Environmental Impact Statement
SLB2	standard large box 2
SME	subject matter expert(s)
SNM	Special Nuclear Material
SOW	Statement of Work
SPM	Site Project Manager
SWB	Standard Waste Box
TCO	Transportation Certification Official
TDOP	ten-drum overpack
TMU	total measurement uncertainty
TRAMPAC	Transuranic Authorized Methods for Payload Control
TRU	Transuranic
TRUPACT-II	Transuranic Package Transporter-II
TRUPACT-III	Transuranic Package Transporter-III
TSDF	Treatment, Storage, and Disposal Facility
VE	visual examination
VOC	volatile organic compound
UHWM	Uniform Hazardous Waste Manifest
VEE	Visual Examination Expert(s)
WAC	Waste Acceptance Criteria
WCO	Waste Certification Official
WDS	Waste Data System
WCPIP	*Remote-Handled TRU Waste Characterization Program Implementation Plan*
WIPP	Waste Isolation Pilot Plant
WIPP WAP	Waste Isolation Pilot Plant Waste Analysis Plan
WSPF	Waste Stream Profile Form
WWIS	WIPP Waste Information System

Appendix 4 – Procedure Tables

Table B-1. Container Management Procedures

Procedure Title	Procedure Number
CCP Container Management	CCP-TP-035
CCP Standardized Container Management	CCP-TP-068
CCP Container Management	CCP-TP-120

Table B-2. Radiography Procedures

Procedure Title	Procedure Number
CCP Standard Real-Time Radiography (RTR) Inspection Procedure	CCP-TP-053

Table B-3. VE Procedures

Procedure Title	Procedure Number
CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste	CCP-TP-006
CCP Sealed Source Visual Examination and Packaging	CCP-TP-069
CCP Standard Contact-Handled Waste Visual Examination	CCP-TP-113

Table B-4. GGT Procedures

Procedure Title	Procedure Number
CCP Gas Generation Testing	CCP-TP-083
CCP Execution of Long-Term Objective for the Unified Flammable Gas Test Procedure	CCP-TP-138

Table B-5. Certification Procedures

Procedure Title	Procedure Number
CCP Transuranic Authorized Methods For Payload Control (CCP-CH-TRAMPAC)	CCP-PO-003
CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)	CCP-PO-505
CCP CH-TRU Waste Certification and WWIS/WDS Data Entry	CCP-TP-030
CCP RH-TRU Waste Certification and WWIS/WDS Data Entry	CCP-TP-530

Appendix 4 – Procedure Tables (Continued)

Table B-6. Remote-Handled Procedures

Procedure Title	Procedure Number
CCP Remote-Handled Waste Visual Examination	CCP-TP-500
CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste	CCP-TP-504
CCP Removable Lid Canister Loading	CCP-TP-505
CCP Shipping of Remote-Handled Transuranic Waste	CCP-TP-507
CCP RH Standard Real-Time Radiography Inspection Procedure	CCP-TP-508
CCP Remote-Handled Waste Sampling	CCP-TP-512

Appendix 5 – PE-Ci Activity

The concept of PE-Ci is intended to eliminate the dependency of radiological analyses on specific knowledge of the radionuclide composition of a TRU waste stream. A unique radionuclide composition and/or distribution are associated with most TRU waste streams at each site. By normalizing all radionuclides to a common radiotoxic hazard index, radiological analyses that are essentially independent of these variations can be conducted for the WIPP facility. ^{239}Pu, as a common component of most defense TRU wastes, was selected as the radionuclide to which the radiotoxic hazard of other TRU radionuclides could be indexed.

Modeled operational releases from the WIPP facility, including both routine and accident-related, are airborne. There are no known significant liquid release pathways during the operational phase of the facility. This, and the fact that TRU radionuclides primarily represent inhalation hazards, allows a valid relationship to be established, which normalizes the inhalation hazard of a TRU radionuclide to that of ^{239}Pu for the purpose of the WIPP radiological analyses. In effect, the radiological dose consequences of an airborne release of a quantity of TRU radioactivity with a known radionuclide distribution will be essentially identical to that of a release of that material expressed in terms of a quantity of ^{239}Pu. To obtain this correlation, the 50-year effective whole-body dose commitment or dose conversion factor for a unit intake of each radionuclide will be used.

For a known radioactivity quantity and radionuclide distribution, the ^{239}Pu equivalent activity is determined using radionuclide-specific weighting factors. The ^{239}Pu equivalent activity (AM) can be characterized by:

$$AM = \sum_{i=1}^{K} A_i / WF_i$$

where K is the number of TRU[1] radionuclides, A_i is the activity of radionuclide i, and WF_i is the PE-Ci weighting factor for radionuclide i.

WF_i is further defined as the ratio

$$WF_i = E_o / E_i$$

where E_o (roentgen equivalent man [rem]/µCi) is the 50-year effective whole-body dose commitment due to the inhalation of ^{239}Pu particulates with a 1.0 µm activity median aerodynamic diameter (AMAD) and a weekly pulmonary clearance class, and E_i

[1]TRU as designated in this equation refers to any radionuclide with an atomic number greater than 92 and including ^{233}U.

Appendix 5 – PE-Ci Activity (Continued)

(rem/µCi) is the 50-year effective whole-body dose commitment due to the inhalation of radionuclide (*i*) particulates with a 1.0 µm activity median aerodynamic diameter and the pulmonary clearance class resulting in the highest 50-year effective whole-body dose commitment.

Weighting factors calculated in this manner are presented in Table C-1 for radionuclides typically present in CH-TRU waste. If other TRU radionuclides are determined to be present in the payload container, their weighting factors can be obtained from the values of E_o and E_i contained in DOE/EH-0071 (Reference B1).

Table C-1. PE-Ci Weighting Factors for Selected Radionuclides

Radionuclide	Pulmonary Clearance Class[a]	Weighting Factor
^{233}U	Y	3.9
^{237}Np	W	1.0
^{236}Pu	W	3.2
^{238}Pu	W	1.1
^{239}Pu	W	1.0
^{240}Pu	W	1.0
^{241}Pu	W	51.0
^{242}Pu	W	1.1
^{241}Am	W	1.0
^{243}Am	W	1.0
^{242}Cm	W	30.0
^{244}Cm	W	1.9
^{252}Cf	Y	3.9

[a](W) Weekly, (Y) Yearly

Reference for Appendix 5

B1. U.S. Department of Energy. *Internal Dose Conversion Factors for Calculation of Dose to the Public.* DOE/EH-0071, July 1988.

Appendix 6 – Glossary

10-160B Packaging – An NRC-certified Type B transportation packaging used for transportation of TRU wastes.

Acceptable knowledge (AK) – Any information about the process used to generate waste, material inputs to the process, and the time period during which the waste was generated, as well as data resulting from the analysis of waste, conducted prior to or separate from the waste certification process authorized by EPA's Certification Decision, to show compliance with Condition 3 of the certification decision (Appendix A of this part) (40 CFR §194.2 and 194.67).

Activity – A measure of the rate at which a material emits nuclear radiation, usually given in terms of the number of nuclear disintegrations occurring in a given length of time. The common unit of activity is the curie, which amounts to 37 billion (3.7×10^{10}) disintegrations per second. The International Standard unit of activity is the becquerel and is equal to one disintegration per second.

Administrative controls – Provisions relating to organization and management, procedures, record keeping, assessment, and reporting necessary to ensure the safe operation of the facility.

Atomic energy defense activities – Activities of the Secretary of Energy (and predecessor agencies) performed in whole or in part in carrying out any of the following functions: naval reactors development; weapons activities, including defense inertial confinement fusion; verification and control technology; defense nuclear material production; defense nuclear waste and materials by-product management; defense nuclear materials security investigations; and defense research and development.

Authorization basis – Those aspects of the facility design and operational requirements relied upon by DOE to authorize the operation of nuclear facilities and processes.

Characterization – Sampling, monitoring, and analysis - whether by review of AK, nondestructive examination, NDA, or RC - to identify and quantify the constituents of a waste material.

Chemical compatibility – Assessing the properties of chemicals in a payload container (>1 weight percent); there must be no adverse safety or health hazards produced as a result of any mixtures that occur.

Appendix 6 – Glossary (Continued)

Completeness – The percentage of measurements made that are judged to be valid measurements. The completeness goal is to generate a sufficient amount of valid data based on program needs. Valid results for radioassay, and radiography data are those that were obtained when the laboratory or testing facility demonstrated that the instrumentation and method were in control; that is, that all calibration, verification, interference, and zero matrix checks met acceptance criteria.

Compressed gas – Compressed gases are those materials defined as such by 49 CFR Part 173, Subpart G.

Contact-Handled transuranic waste – Transuranic waste with a surface radiation dose equivalent rate not greater than 200 mrem/h.

Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC) – The governing document for shipments in the TRUPACT-II and the HalfPACT packagings.

Content code – A uniform system applied to waste forms to group those with similar characteristics for purposes of shipment in the TRUPACT-II, TRUPACT-III, HalfPACT, and RH-TRU 72-B packagings.

Corrosive/Corrosivity – A solid waste exhibits corrosivity if a sample of the waste is either aqueous and has a pH $\leq$2 or $\geq$ 12.5, or it is a liquid and corrodes steel at a rate >6.35 millimeter (0.250 in.) per year at a test temperature of 55°Celsius (130°Fahrenheit) (40 CFR §261.22).

Curie – A unit of activity equal to 37 billion (3.7×10^{10}) disintegrations per second.

Disposal – Permanent isolation of TRU waste from the accessible environment with no intent of recovery, whether or not such isolation permits the recovery of such waste (Reference 2, Section 2[5]).

Dose conversion factor – A numerical factor used in converting radionuclide uptake (curies) in the body to the resultant radiation dose (rem).

Dose equivalent rate – The radiation dose equivalent delivered per unit time (e.g., rem per hour).

Drum – Includes 55-gallon, 85-gallon, and 100-gallon drums as described in the CH-TRAMPAC and HWFP.

Fissile gram equivalent – An isotopic mass of radionuclide normalized to ^{239}Pu.

Appendix 6 – Glossary (Continued)

Fissile material – Any material consisting of or containing one or more radionuclides that can undergo neutron-induced fission with neutrons of essentially zero kinetic energy (e.g., thermal neutrons) such as ^{233}U, ^{235}U, and ^{239}Pu.

HalfPACT – An NRC-certified Type B transportation packaging used for transportation of CH-TRU wastes.

Hazardous waste – Those wastes which are designated hazardous by EPA (or state) regulations. For a detailed description, see 40 CFR § 261.3. Hazardous wastes are listed in 20.4.1 New Mexico Administrative Code (NMAC), subpart II (40 CFR Part 261) and/or exhibit one of the four characteristics in 20.4.1 NMAC, subpart II (40 CFR Part 261) (i.e., ignitability, corrosivity, reactivity, and toxicity).

Headspace – The total contained volume of a container minus the volume occupied by the waste material.

Headspace gas – The gas within the headspace of a container.

Internal container – A container inside the outermost container examined during radiography or VE. Drum liners, liner bags, plastic bags used for contamination control, capillary-type lab ware, and debris not designed to hold liquid at the time of original waste packaging are not internal containers (Reference 9, Part 1, Section 1.5.17).

Lower Limit of Detection – The level of radioactivity which, if present, will yield a measured value greater than the critical limit with a 95 percent probability. The critical limit is defined as that value which measurements of the background will exceed with a 5 percent probability.

Machine-Compacted Waste – Waste whose volume has been reduced using a mechanical process.

Observable liquid – Liquid that is observable using radiography or VE (Reference 9, Part 1, Section 1.5.18)

Overpack - A container put around another container.

Package – (1) A packaging plus its contents. (2) The reusable Type B shipping container (i.e., TRUPACT-II, TRUPACT-III, HalfPACT, RH-TRU 72-B, and 10-160B) loaded with TRU waste payload containers, which has been prepared for shipment in accordance with the package QA program. (3) In the regulations governing the transportation of radioactive materials, the packaging, together with its radioactive contents, as presented for transport.

Appendix 6 – Glossary (Continued)

Packaging – The reusable Type B shipping container for transport of TRU waste payload containers (i.e., TRUPACT-II, TRUPACT-III, HalfPACT, RH-TRU 72-B, and 10-160B).

Packaging Quality Assurance Program – A site-specific document that defines the quality assurance and quality control activities applicable to usage of the NRC-approved packaging. This program shall meet the requirements of 10 CFR Part 71, Subpart H.

Payload container – The outermost container (i.e., a drum, shielded container, SLB2, SWB, TDOP, or canister) for TRU waste material that is placed in a reusable Type B shipping container (i.e., a TRUPACT-II, TRUPACT-III, HalfPACT, RH-TRU 72-B, and 10-160B) for transport.

Payload assembly – An assembly of payload containers qualified for transport in a TRUPACT-II, HalfPACT, or 10-160B.

Pipe overpack – A packaging configuration consisting of a vented cylindrical pipe component surrounded by dunnage within a vented 55-gallon drum with a rigid polyethylene liner and vented lid.

Plutonium-239 equivalent activity – An equivalent radiotoxic hazard of a radionuclide normalized to ^{239}Pu.

Precision – A measure of mutual agreement among individual measurements of the same property made under prescribed similar conditions; often expressed as a standard deviation or relative percent difference (RPD).

Pyrophoric – Materials that may ignite spontaneously in air or that emit sparks when scratched or struck, especially with materials such as steel. A flammable solid that, under transport conditions, might cause fires through friction or retained heat or that can be ignited readily and, when ignited, burns vigorously and persistently so as to create a serious transportation hazard. Included in the pyrophoric definition are spontaneously combustible materials, water reactive materials, and oxidizers. Examples of nonradioactive pyrophorics are organic peroxides, sodium metal, and chlorates.

Radioassay – Methods used to identify and quantify radionuclides in TRU waste. Radioassay includes NDA and RC.

Radiography – A nondestructive testing method that uses x-rays to inspect and determine the physical form of waste.

Radionuclide – A nuclide that emits radiation by spontaneous transformation.

Remote-Handled transuranic waste – Transuranic waste with a surface dose rate of 200 millirem per hour or greater (Reference 2, Section 2[12]).

Appendix 6 – Glossary (Continued)

Remote-Handled Transuranic Waste Authorized Methods for Payload Control (RH-TRAMPAC) – The governing document for shipments in the RH-TRU 72-B packaging (Reference 41).

RH-TRU Waste Canister – Container that is transported in the RH-TRU 72B Cask.

RH-TRU 72-B Packaging – An NRC-certified Type B transportation packaging used for transportation of RH TRU wastes.

Shielded container – A metal payload container authorized for use within the HalfPACT packaging, that has been tested by DOE to meet DOT Specification 7A Type A requirements. It is approximately the same size as a standard 55-gallon drum, contains one 30-gallon steel drum, and incorporates a nominal 1-inch layer of lead lining to shield waste forms with high gamma energies. Although the shielded container is managed during handling, shipment, storage, and disposal as a CH payload container, the waste contained in a shielded container is characterized and inventoried in the WWIS as RH waste.

Shipper – A TRU waste site that releases an NRC-approved packaging to a carrier for shipment.

Shipping category – A shipping category is defined by the following parameters: chemical composition of the waste (waste type), gas generation potential of the waste material type (quantified by the g-value for hydrogen), and gas release resistance (type of payload container and type and maximum number of confinement layers used).

Sites – Department of Energy TRU waste generator/storage sites.

Standard large box 2 – A specialized metal payload container with a top-loading and a bottom-loading option for use within the TRUPACT-III packaging, that has been tested by DOE to meet DOT Specification 7A Type A requirements.

Standard waste box – A metal payload container authorized for use within the TRUPACT-II or HalfPACT packaging, that has been tested by DOE to meet DOT Specification 7A Type A requirements.

Summary Category Group – Used to segregate TRU mixed wastes into broad groups having similar physical forms. The summary category groups include homogeneous solids (S3000) that are at least 50 percent by volume solid process residues, soil/gravel (S4000) that is at least 50 percent by volume soil/gravel, and debris (S5000) that is at least 50 percent by volume materials that meet the criteria specified in 20.4.1.800 New Mexico Administrative Code (incorporating 40 CFR §268.2[g]). Categorization is based on the Summary Category Group constituting the greatest volume of waste for a waste stream (Reference 9, Attachment C).

Appendix 6 – Glossary (Continued)

Ten-drum overpack – A metal payload container authorized for use within the TRUPACT-II packaging, that has been tested by DOE to meet DOT Specification 7A Type A requirements.

Test Category – Payload containers that do not meet the analytical category decay heat limits or whose concentration of flammable volatile organic compounds (VOCs) in the headspace exceeds 500 ppm are classified as test category (References 23a and 23b, Section 5.2.2).

Trace chemicals/materials – Chemicals/materials that occur individually in the waste in quantities less than 1 weight percent. The total quantity of trace chemicals/materials not listed as allowed materials for a given waste material type in any payload container is restricted to less than 5 weight percent (References 23a and 23b, Section 4.3.1, Reference 41, Section 4.3.1).

TRU isotope – An isotope of any element having an atomic number greater than uranium (i.e., 92).

TRU waste – Waste containing more than 100 nCi of alpha-emitting TRU isotopes per gram of waste, with half-lives greater than 20 years, except for (1) high-level radioactive waste, (2) waste that the Secretary has determined, with the concurrence of the Administrator, does not need the degree of isolation required by the disposal regulations, or (3) waste that the NRC has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61 (Reference 2, Section 2[18]).

TRU mixed waste – TRU waste that is also a hazardous waste as defined by the Hazardous Waste Act and 20.4.1.200 NMAC (incorporating 40 CFR § 261.3) (Reference 9, Part 1, Section 1.5.7).

TRUPACT-II – An NRC-certified Type B transportation packaging used for transportation of CH-TRU wastes.

TRUPACT-III – An NRC-certified Type B transportation packaging used for transportation of CH-TRU wastes in the SLB2 container.

TRUPACT-III Transuranic Waste Authorized Methods for Payload Control (TRUPACT-III TRAMPAC) – The governing document for shipments in the TRUPACT-III packaging (Reference 23b, Section 1).

Verification – The act of authenticating or formally asserting the truth that a process, item, data set, or service is, in fact, that which is claimed. Data verification is the process used to confirm that all review and validation procedures have been completed.

Appendix 6 – Glossary (Continued)

Volatile organic compounds – For the purposes of the TRU waste program, those RCRA-regulated VOCs listed in the WIPP WAP and any additional compounds tentatively identified by VOC analytical procedures used to satisfy program requirements (i.e., any compound containing carbon and hydrogen with any other element that has a vapor pressure of 77.6 milliliters (ml) of mercury (1.5 psia) or greater under actual storage conditions).

Waste Acceptance Criteria – Constraints (limits) on the physical, chemical, and radiological properties of TRU waste and its packaging as determined by WIPP's authorization basis requirements. TRU waste will not be approved for shipment to and disposal at the WIPP until it has been certified as meeting these criteria. Waste Acceptance Criteria ensure that TRU waste is managed and disposed of in a manner that protects human health and safety and the environment.

Waste Analysis Plan – The waste analysis plan includes test methods, details of planned waste analysis for complying with the general waste analysis requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.13), a description of the waste shipment screening and verification process, and a description of the QA/QC program. Sites are required to implement the applicable requirements of the WIPP WAP.

Waste characterization – The process of determining that TRU waste meets the requirements of the WAC by the acceptable performance of the activities defined by CBFO-approved site-specific plans.

Waste certification – Formal and documented declaration by sites that waste has been characterized and meets the requirements of the WAC.

Waste matrix code – A DOE-developed coding system for grouping waste streams that have similar matrix constituents, especially for treatment objectives. This coding system allows waste streams within the DOE TRU waste system that have similar physical and chemical waste form properties to be categorized together (Transuranic Waste Baseline Inventory Report - 2004, DOE/TRU-2006-3344).

Waste stream – A waste stream is waste materials that have common physical form, that contain similar hazardous constituents and that are generated from a single process or activity (Reference 9, Appendix C).

WIPP Waste Information System – A computerized data management system used by WIPP to gather, store, and process information pertaining to CH and RH-TRU waste destined for or disposed of at WIPP. The WWIS database is a subsystem of the WDS.

Appendix 7 – Payload Container Integrity Checklist

The Operator is to visually examine 100 percent of the payload container exterior to determine if the payload container meets the criteria of Section 3.2.1. At a minimum, sites shall incorporate the questions and criteria contained in the following checklist into applicable site procedures (see CCP-TP-033, *CCP Shipping of CH-TRU Waste*). This payload container inspection shall be performed and documented as a part of the TRUPACT-II, TRUPACT-III, or HalfPACT loading process. Any YES answer on the inspection checklist will result in the operator discontinuing the inspection, marking the payload container as unacceptable for shipment, and removal of the payload container from the shippable inventory. Before the rejected container can be shipped, it must undergo appropriate corrective actions (e.g., evaluation, repackaging, overpacking), as applicable. All containers must have an acceptable and complete inspection checklist documenting that it meets the DOT 7A criteria. Personnel complete the following payload container integrity checklist in accordance with procedure CCP-TP-033.

CONTAINER EXAMINATION		DISCUSSION OF CRITERIA	COMPLIANCE	
1.	Is the payload container obviously degraded?	Obviously degraded means clearly visible and potentially significant defects in the payload container or payload container surface.	YES	NO
2.	Is there evidence that the payload container is, or has been, pressurized?	Pressurization can be indicated by a fairly uniform expansion of the sidewalls, bottom or top. Past pressurization can be indicated by a notable outward deflection of the bottom or top. Verify that the payload container is not warped.	YES	NO

Appendix 7 – Payload Container Integrity Checklist (Continued)

CONTAINER EXAMINATION		DISCUSSION OF CRITERIA	COMPLIANCE	
3.	Is there any potentially significant rust or corrosion such that wall thinning, pin holes, or breaches are likely or the load bearing capacity is suspect?	Rust shall be assessed in terms of its type, extent, and location. Pitting, pocking, flaking, or dark coloration characterizes potentially significant rust or corrosion. This includes the extent of the payload container surface area covered, thickness, and, if it occurs in large flakes or built-up (caked) areas. Rusted payload containers may not be accepted if: A.1 Rust is present in caked layers or deposits A.2 Rust is present in the form of deep metal flaking, or built-up areas of corrosion products In addition, the location of rust should be noted; for example on a drum: top lid; filter region; locking chine; top one-third, above the second rolling hoop; middle one-third, between the first and second rolling hoops; bottom one-third, below the second rolling hoop; and on the bottom. Payload containers may still be considered acceptable if the signs of rust show up as: A.1 Some discoloration on the payload container A.2 If rubbed would produce fine grit or dust or minor flaking (such that wall thinning does not occur).	YES	NO
4.	Are any of the following apparent? A.1 wall thinning A.2 pin holes A.3 breaches	Wall thinning, pin holes, and breaches can be a result of rust/corrosion (see discussion for #3).	YES	NO
5.	Are there any split seams, tears, obvious holes, punctures (of any size), creases, broken welds, or cracks?	Payload containers with obvious leaks, holes or openings, cracks, deep crevices, creases, tears, broken welds, sharp edges or pits, are either breached or on the verge of being breached. Verify that there is no warpage that could cause the container to be unstable or prevent it from fitting properly in the applicable package.	YES	NO
6.	Is the load-bearing capacity suspect?	The load-bearing capacity could be reduced for excessive rust (see discussion for #3), wall thinning (see discussion for #4), breaches, cracks, creases, broken welds, etc. (see discussion for #5).	YES	NO

Appendix 7 – Payload Container Integrity Checklist (Continued)

CONTAINER EXAMINATION		DISCUSSION OF CRITERIA	COMPLIANCE	
7.	Is the payload container improperly closed?	Inspect the fastener and fastener ring (chine) if applicable for damage or excessive corrosion. Check the alignment of the fastener to ensure that it is in firm contact around the entire lid and the payload container will not open during transportation.	YES	NO
8.	Are there any dents, scrapes, or scratches that make the payload container's structural integrity questionable or prevent the top and bottom surfaces from being parallel?	Deep gouges, scratches, or abrasions over wide areas are not acceptable. If top and bottom surfaces are not parallel, this would indicate that the container is warped. Dents should be less than 1/4 in. deep by 3-inches long and between ½ in. to 6-inches wide. All other dents must be examined to determine impact of structural integrity.	YES	NO
9.	Is there discoloration which would indicate leakage or other evidence of leakage of material from the payload container?	Examine the payload container regions near vents, top lid fittings, bottom fittings, welds, seams and intersections of one or more metal sheets or plates. Payload containers must be rejected if evidence of leakage is present.	YES	NO
10.	Is the payload container bulged?	For the purposes of this examination, bulging is indicated by: A.1 A fairly uniform expansion of the sidewalls, bottom, or top (e.g., in the case of a drum, either the top or bottom surface protrudes beyond the planar surface of the top or bottom ring. A.2 A protrusion of the side wall (e.g., in the case of a drum, beyond a line connecting the peaks of the surrounding rolling hoops or a line between a surrounding rolling hoop and the bottom or top ring), or A.3 Expansion of the sidewall (e.g., in the case of a drum, such that it deforms any portion of a rolling hoop).	YES	NO

Appendix 7 – Payload Container Integrity Checklist (Continued)

References to Appendix 7

1. INEEL Engineering Design File "*Waste Container Integrity Evaluation for Storage"*, EDF-RWMC-705, September 25, 1996. Idaho National Engineering and Environmental Laboratory, Idaho Falls, ID

2. Title 49 CFR Part 173, Subpart 475. *"Quality Control Requirements Prior to Each Shipment of Class 7 (Radioactive) Materials." Code of Federal Regulations,* Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.ecfr.gov)

3. DOE/RL-96-57, Section 2.5.5. *"Test & Evaluation Document for the U. S. Department of Transportation Specification 7A type to Packaging"* (Formerly WHC-EP-0558) (http://rampac.energy.gov/certinfo/special/noncertified/dot7a/pdot7a.aspx)

Appendix 8 – Payload Management of TRU Alpha Activity Concentration

1.0 Scope

The policies and methods for the management of TRU alpha activity concentration within each TRU waste payload container disposed of at the WIPP are set out in this appendix. They are based on the definition of TRU waste in the *WIPP LWA*, Public Law 102-579. The LWA defines TRU waste as:

"…waste containing more than 100 nanocuries of alpha emitting transuranic isotopes per gram of waste, with half lives greater than 20 years…" (Sec. 2[18]).

This appendix pertains specifically to the payload management of TRU alpha activity concentration of waste containers selected for overpacking.

2.0 Policies

The Office of National TRU Program has established the following policies for managing TRU alpha activity concentration in compliance with the LWA: (References 1, 2, and 3)

- The TRU alpha activity concentration limit for TRU waste (> 100 nCi/g) applies to the TRU waste stream as a whole.

- Waste containers belonging to a TRU waste stream may vary in their TRU alpha activity concentration, some containing > 100 nCi/g and some containing < 100 nCi/g. Using process knowledge in combination with radioassay measurements to determine the presence of TRU isotopes within the waste stream, generator sites define a TRU waste stream based on its potential to include waste containers with a TRU alpha activity concentration in excess of 100 nCi/g.

- Waste containers belonging to the same TRU waste stream may be overpacked into a payload container (e.g., SWB or TDOP) provided the TRU alpha activity concentration of the payload container exceeds 100 nCi/g.

Appendix 8 – Payload Management of Transuranic (TRU) Alpha Activity Concentration (Continued)

3.0 Prerequisites for Implementation

- Each waste container selected for payload management must be part of the TRU waste stream identified in the AK Summary Report for that waste stream (References 2 and 3).

- Sites shall submit to the CBFO, for its review and approval, applicable plans and procedures for making TRU waste determinations based on payload management practices that involve the overpacking of waste containers (Reference 2).

- CBFO will notify the EPA of sites seeking such authorization prior to CBFO's approval of a site to manage TRU alpha activity concentration using payload management. The WIPP will not accept payload managed waste for disposal until EPA has received notice (Reference 3).

4.0 Implementation and Practice

- Each TRU waste stream selected for payload management must include in its AK Summary Report an estimate of the total waste volume and the percentage of the waste volume that is above and below 100 nCi/g (It should be noted that this information, although based on the best available AK information, is preliminary and subject to the performance of WIPP certified NDA measurements and cannot and will not be used as a measure of AK accuracy) (Reference 3).

- Each waste container selected for payload management must contain at least one TRU isotope (e.g., Pu-238, Pu-239, Pu-240, Pu-242) whose activity exceeds the LLD of the radioassay system used to characterize the waste (References 2 and 3). The applicability of LLD will vary from system to system and may be on a container basis. Sections 3.3.1 and A.3 of this document provide the applicable requirements for determining and reporting LLDs.

- Each waste container selected for payload management may only be overpacked into a payload container (e.g., SWB or TDOP) with other waste containers from the same TRU waste stream.

- The TRU alpha activity concentration of the payload container is determined according to Sections 3.3.3 and 4.3.3 of this document.

Appendix 8 – Payload Management of Transuranic (TRU) Alpha Activity Concentration (Continued)

5.0 References

1. Public Law 102-579, 106 Stat.4777, 1992 (as amended by Public Law 104-201, 1996). *Waste Isolation Pilot Plant Land Withdrawal Act* (http://www.wipp.energy.gov/library/cra/baselinetool/documents/regulatory%20tools/10%20WIPPLWA1996.pdf)

2. Letter to Mr. Frank Marcinowski (Director, Office of Radiation and Indoor Air, U.S. Environmental Protection Agency) from Dr. Ines R. Triay (Manager, Carlsbad Field Office, U.S. Department of Energy), August 4, 2003

3. Letter to Dr. Ines R. Triay (Manager, Carlsbad Field Office, U.S. Department of Energy) from Mr. Frank Marcinowski (Director, Office of Radiation and Indoor Air, U.S. Environmental Protection Agency), August 8, 2003

Appendix 9 – Radiography Requirements for Contact-Handled Transuranic Waste

9.1 Radiography Requirements for Contact-Handled Waste

Radiography aids in the examination and identification of containerized waste. All activities required to achieve radiography objectives shall be described in site Program documents as identified in Appendix 4, Table B-2. These documents shall include instructions specific to the radiography systems used at the site. This appendix applies to radiography of CH waste; requirements for radiography of RH waste are found in the WCPIP.

A radiography system (e.g., real-time radiography or digital radiography/computed tomography), normally consists of an x-ray producing device, an imaging system, an enclosure for radiation protection, a waste container handling system, an audio/video recording system, and an operator control and data acquisition station. Although these six components are required, it is expected there will be some variation within a given component between sites. The radiography system shall have controls or an equivalent process which allow the operator to control image quality. On some radiography systems, it should be possible to vary the voltage between 150 and 400 kilovolts to provide an optimum degree of penetration through the waste.

To perform radiography, the waste container is scanned while the operator views the video monitor. An audio/video recording shall be made of the waste container scan and is maintained as a non-permanent record. A radiography data form shall also be used to document the Waste Matrix Code; verify there are no ignitable, reactive, or corrosive wastes present by verification that there is no observable liquid in excess of the waste acceptance criteria and there are no compressed gases; and estimated waste material parameter weights of the waste.

The estimated waste material parameter and weights for CH waste should be determined by compiling an inventory of waste items and packaging materials. The items on this inventory should be sorted by waste material parameter and combined with a standard weight look-up table to provide an estimate of waste material parameter weights.

Containers whose contents prevent full examination of the remaining contents shall be subject to visual examination unless the site certifies that visual examination would provide no additional relevant information for that container using acceptable knowledge for the waste stream.

For containers which contain classified shapes and undergo radiography, the radiography recording shall be considered classified information. The radiography data forms will not contain classified information.

Appendix 9 – Radiography Requirements for Contact-Handled Waste (Continued)

9.2 Radiography Training

The radiography system involves qualitative and semi-quantitative evaluations of visual displays. Operator training and experience are the most important considerations for assuring quality controls in regard to the operation of the radiography system and for interpretation and disposition position of radiography results. Only trained and qualified radiography operators shall be allowed to operate radiography equipment.

Standardized training and qualification requirements for radiography operators shall be based upon existing industry standard training requirements and shall comply with the training and qualification requirements of this document and the QAPD.

The site shall develop a training program that provides radiography operators with both formal and OJT. Radiography operators shall be instructed in the specific waste generating practices, typical packaging configurations, and associated waste material parameters expected to be found in each Waste Matrix Code at the site.
The OJT and apprenticeship shall be conducted by an experienced, qualified radiography operator prior to qualification of the training candidate. The training programs shall be site-specific due to differences in equipment, waste configurations, and the level of waste characterization efforts. For example, certain sites use digital radiography equipment, which is more sensitive than real-time radiography equipment. In addition, the particular physical forms and packaging configurations at each site will vary; therefore, radiography operators shall be trained on the types of waste that are generated, stored, or characterized at that particular site.

The training program shall contain the following elements:

- Project Requirements
- State and Federal Regulations
- Basic Principles of Radiography
- Radiographic Image Quality
- Radiographic Scanning Techniques
- Application Techniques
- Radiography of Waste Forms
- Standards, Codes, and Procedures for Radiography
- Site-Specific Instruction

Appendix 9 – Radiography Requirements for Contact-Handled Waste (Continued)

The training program shall also contain OJT which addresses:

- System Operation
- Identification of Packaging Configurations
- Identification of Waste Material Parameters
- Weight and Volume Estimation
- Identification of Prohibited Items

Radiography test drums shall contain items common to the waste streams to be generated and stored at the site. The test drums shall be divided into layers with varying packing densities or different drums may be used to represent different situations that may occur during radiography examination at the site. Test drums shall be representative of the waste matrix codes for which WSPF approval is sought. Test drums shall be examined and successfully identified prior to waste stream shipment. The following is a list of required elements of a radiography test drum:

- A punctured aerosol can
- Pigtails on polyliners (horsetail bag)
- Pair of coveralls
- Empty bottle
- Irregular shaped pieces of wood
- Empty one-gallon paint can
- Full container
- Aerosol can with fluid
- One-gallon bottle with three tablespoons of fluid
- One-gallon bottle with one cup of fluid (upside down)
- Leaded glove or leaded apron
- Wrench

These items shall be successfully identified by the operator as part of the qualification process. Qualifications of radiography operators shall, at a minimum, encompass the following requirements:

- Successfully pass a comprehensive exam based upon training enabling objectives. The comprehensive exam will address all of the radiography operations, documentation, characterization and procedural elements stipulated in this WAC.

- Perform a practical capability demonstration in the presence of appointed site radiography SME. The person will be an experienced radiography operator who is also qualified as an OJT trainer.

Appendix 9 – Radiography Requirements for Contact-Handled Waste (Continued)

Re-qualifications of operators are based on evidence of continued satisfactory performance (primarily audio/video recording reviews), and shall be done at least every two years. Unsatisfactory performance will result in disqualification. Unsatisfactory performance is defined as the misidentification of a prohibited item in a training drum or a score of less than 80 percent on the comprehensive exam. Retraining and demonstration of satisfactory performance are required before a disqualified operator is again allowed to operate the radiography system.

A training drum with internal containers of various sizes shall be scanned semiannually by each operator. The audio/video recording shall then be reviewed by a supervisor to ensure that operator's interpretations remain consistent and accurate. Imaging system characteristic shall be verified on a routine basis.

9.3 Quality Control

Independent replicate scans and replicate observations of the video output of the radiography process shall be performed under uniform conditions and procedures. Independent replicate scans shall be performed on one waste container per day or once per testing batch, whichever is less frequent. Independent observation of one scan (not the replicate scan), shall be made once per day or once per testing batch, whichever is less frequent, by a qualified radiography operator other than the individual who performed the first examination. A testing batch is a suite of waste containers undergoing radiography using the same testing equipment. A testing batch can be up to 20 waste containers without regard to waste matrix.

Oversight functions include periodic audio/video recording reviews of accepted waste containers by a qualified radiography operator other than the operator who dispositioned the waste container. The results of this independent verification shall be made available to the radiography operator.

9.4 Data Review and Validation

A testing BDR for data validation and QA purposes is required when radiography is used to characterize waste. A testing BDR (or equivalent), includes data pertaining to radiography for up to 20 waste containers or samples.

Appendix 9 – Radiography Requirements for Contact-Handled Waste (Continued)

All measurement data is reviewed and approved by qualified personnel prior to being reported. Reviews shall meet the requirements of the QAPD. At a minimum, the data is reviewed by an independent technical reviewer and approved by the SPM. This review is performed by an individual other than the data generator who is qualified to have performed the initial work. The independent technical reviewer shall verify, at a minimum, the following information:

- Data generation and reduction is conducted in a technically correct manner in accordance with the methods used (verification of procedure and revision).
- Data is reported in the proper units and correct number of significant figures.
- Calculations are verified by a valid calculation program, a spot check of verified calculation programs, and/or 100 percent check of all hand calculations.
- Values that are not verifiable to within rounding or significant difference discrepancies shall be rectified prior to completion of independent technical review.
- The data is reviewed for transcription errors.
- The testing QA documentation for BDRs is complete and includes, as applicable, raw data, calculation records, calibration records (or references to an available calibration package), list of containers in the batch, and QC sample results. Corrective action is taken to ensure that all BDRs are complete and include all necessary raw data prior to completion of the independent technical review.
- QC sample results are within established control limits and, if not, the data have been appropriately dispositioned using the nonconformance process. This includes complete summarized qualitative and quantitative data for all waste containers with data flags or qualifiers.
- Radiography tapes are reviewed (independent observation) on a waste container basis at a minimum of once per testing batch or once per day of operation, whichever is less frequent.
- The container contains no indication that there is liquid in excess of this waste acceptance criteria, no indication of compressed gas, no indication of incompatible wastes, and the physical form matches the Waste Matrix Code.
- The appropriate QAOs have been met.

Appendix 9 – Radiography Requirements for Contact-Handled Waste (Continued)

All data must be approved by the SPM. The SPM shall verify, at a minimum, the following information:

- Data generation-level independent technical review, validation, and verification have been performed as evidenced by the completed review checklists and appropriate signature release. Batch data review checklists are complete.

- BDRs are complete and data are properly reported (e.g., data are reported in the correct units and with the correct number of significant figures).

- Data meet all applicable Quality Assurance Objectives.

The SPM shall provide a SPM Summary and a Data Validation Summary for each BDR. These reports may be combined and shall consist of a detailed checklist documenting that the batch has been adequately reviewed and that the data meet program objectives.

To ensure that data of known and documented quality are generated, each participating measurement facility shall implement a documented facility QA program. Facility QA programs shall specify qualitative and quantitative acceptance criteria for the QC checks of this program, and corrective actions to be taken when these criteria are not satisfied. Only appropriately trained and qualified personnel shall be allowed to perform data validation/review.

Appendix 10 – Visual Examination Requirements for Contact-Handled Transuranic Waste

10.1 Visual Examination Requirements for Contact-Handled Waste

This appendix applies to visual examination requirements for CH waste; requirements for visual examination of RH waste are found in the WCPIP.

Contact handled waste container contents may be verified directly by performing VE on the waste container contents. Visual examination may also be performed during packaging or repackaging of waste. The CCP performs VE in accordance with the procedures found in Appendix 4, Table B-3.

VE does not require audio/video recordings of the examination; the examination is documented on a data form and certified with signatures from two qualified VE operators. If the second operator cannot verify the descriptions of the first operator, corrective actions will be taken in accordance with the established QA Program.

VE shall be conducted to describe all contents of a waste container and includes estimated or measured weights of the contents. The description shall clearly identify all discernible waste items, packaging materials, and waste material parameters in the waste container. VE activities are documented on VE data forms.

VE video/audio recordings of containers that contain classified shapes shall be considered classified information. Visual examination data forms will not contain classified information.

Appendix 10 – Visual Examination Requirements for Contact-Handled Transuranic Waste (Continued)

10.2 Visual Examination Training

VE shall consist of a semi-quantitative and qualitative evaluation of the waste container contents and may be recorded on audio/video recording media. Standardized training for VE includes both formal classroom training and OJT. Personnel performing VE shall be instructed in the specific waste generating processes, typical packaging configurations, and the waste material parameters expected to be found in each Waste Matrix Code at the site. The OJT and apprenticeship shall be conducted by an operator experienced and qualified in VE prior to qualification of the candidate. The training shall be site-specific to include the various waste configurations at the site. For example, the particular physical forms and packaging configurations at each site will vary so operators shall be trained on types of waste that are generated, stored, or characterized at that particular site. VE operators need only be trained to the physical forms and packaging configurations used on the waste stream that they are examining and packaging. VE personnel shall be requalified once every two years.

Training shall address the following required elements:

- Project Requirements
- State and Federal Regulations
- Application Techniques
- Site-Specific Instruction

Training shall also include OJT that addresses:

- Identification of Packaging Configurations
- Identification of Waste Material Parameters
- Weight and Volume Estimation
- Identification of Prohibited Items

The SPM appoints each Visual Examination Expert (VEE) and ensures the appointment is facility-specific. The VEE shall be familiar with the waste generating processes that have taken place at the site and will also be familiar with all types of waste being characterized at that site. The VEE shall be responsible for the overall direction and implementation of the visual examination at that facility. The VEE shall receive training in the same elements as the visual examination personnel, including both formal training and OJT. Qualification of a VEE shall be based on familiarity with waste generating processes, familiarity with the types of waste being characterized, and meeting the training requirements discussed above. Consistent with other VE personnel, the VEE shall be requalified once every two years. CCP-QP-002 specifies the selection, qualification and training requirements for the VEE.

Appendix 10 – Visual Examination Requirements for Contact-Handled Transuranic Waste (Continued)

10.3 Method

Visual examination recorded on video/audio media meet the following minimum requirements:

- The audio/video media shall record the waste packaging event for the container such that all waste items placed into the container are recorded in sufficient detail and shall contain an inventory of waste items in sufficient detail that another trained VE operator can identify the associated waste material parameters.

- The video/audio media shall capture the waste container identification number.

- The personnel loading the waste container shall be identified on the video/audio media or on packaging records traceable to the loading of the waste container.

- The date of loading of the waste container will be recorded on the video/audio media or on packaging records traceable to the loading of the waste container.

VE performed using two operators shall meet the following minimum requirements:

- At least two site personnel who witnessed the packaging of the waste shall approve the data forms or packaging records attesting to the contents of the waste container.

- The data forms or packaging records shall contain an inventory of waste items in sufficient detail that a trained VE operator can identify the associated waste material parameters.

- The container identification number shall be recorded on the data forms or packaging records.

A description of the waste container contents is recorded on a VE data form. The description clearly identifies all waste material parameters and provides enough information to estimate weights of waste material parameters. In cases where bags are not opened, a brief written description of the contents of the bags shall contain an estimate of the amount of each waste type in the bags. The written records of VE are supplemented with the audio/videotape recording, if applicable.

Appendix 10 – Visual Examination Requirements for Contact-Handled Transuranic Waste (Continued)

10.4 Data Review and Validation

A testing BDR for data validation and QA purposes is required when VE is used to characterize waste. A BDR (or equivalent), includes data pertaining to VE for up to 20 waste containers or samples.

All measurement data is reviewed and approved by qualified personnel prior to being reported. Reviews meet the requirements of the QAPD. At a minimum, the data is reviewed by an independent technical reviewer and approved by the SPM. This review is performed by an individual other than the data generator who is qualified to have performed the initial work. The independent technical reviewer shall verify, at a minimum, the following information:

- Data generation and reduction were conducted in a technically correct manner in accordance with the methods used (verification of procedure and revision).
- Data were reported in the proper units and correct number of significant figures.
- Calculations have been verified by a valid calculation program, a spot check of verified calculation programs, and/or 100 percent check of all hand calculations.
- Values that are not verifiable to within rounding or significant difference discrepancies must be rectified prior to completion of independent technical review.
- The data have been reviewed for transcription errors.
- The testing QA documentation for BDRs is complete and includes, as applicable, raw data, calculation records and list of containers in the batch. Corrective action will be taken to ensure that all BDRs are complete and include all necessary raw data prior to completion of the independent technical review.
- The container contains no indication that there is liquid in excess of this waste acceptance criteria, no indication of compressed gas, no indication of incompatible wastes, and the physical form matches the Waste Matrix Code.
- The appropriate QAOs have been met.

Appendix 10 – Visual Examination Requirements for Contact-Handled Transuranic Waste (Continued)

All data must be approved by the SPM. The SPM shall verify, at a minimum, the following information:

- Data generation-level independent technical review, validation, and verification were performed as evidenced by the completed review checklists and appropriate signature release. Batch data review checklists are complete.

- BDRs are complete and data are properly reported (e.g., data are reported in the correct units and with the correct number of significant figures).

- Data meet all applicable Quality Assurance Objectives.

The SPM shall provide a SPM Summary and a Data Validation Summary for each BDR. These reports may be combined and shall consist of a detailed checklist documenting that the batch has been adequately reviewed and that the data meet program objectives.

To ensure that data of known and documented quality are generated, each participating measurement facility shall implement a documented facility QA program. Facility QA programs shall specify qualitative and quantitative acceptance criteria for the QC checks of this program, and corrective actions to be taken when these criteria are not satisfied. Only appropriately trained and qualified personnel shall be allowed to perform data validation/review.

Controlled
Copy

CCP-PO-012

Revision 15

CCP/Los Alamos National Laboratory (LANL) Interface Document

EFFECTIVE DATE: 01/23/2014

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	10/21/2003	Initial Issue.
1	12/16/2003	Revised the Scope of the document. Updated Section 2.1 References. Updated Section 3.0, steps 3.7 VPM responsibilities and inserted step 3.10 LANL SPQAO responsibilities. Corrected referenced section in step 4.14.4. Updated Figure 1.
2	04/20/2004	Interface Document updated to reflect changes in work scope and joint organizational responsibilities.
3	04/26/2004	Incorporated CBFO Adequacy Review Comment resolutions to Section 1.0 and inserted step 4.17.
4	03/31/2006	Revised to make organizational changes, changes to be consistent with Statement of Work (SOW) clarifications, and changes to reflect coordination details learned during Fiscal Year (FY) 2004. Revised based on the Implementation Plan for CCP Characterization Operations Improvements.
5	11/16/2006	Revised to incorporate controls in the Central Characterization Project (CCP) Basis for Interim Operation (BIO) for the Waste Isolation Pilot Plant (WIPP) Mobile Characterization Units and to provide notifications between the Host site, CCP, and WIPP site. Revised to implement the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/Remote-Handled (RH) Permit Modification Request (PMR).
6	08/06/2007	Revised to clarify Authorization Basis and Configuration Management requirements and editorial changes.
7	05/08/2008	Revised to reflect corrective actions identified during accident investigation and follow-up safety assessments.
8	12/29/2010	Minor revision to update references to the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit.*
9	01/04/2012	Revised to incorporate box line operating procedures, CCP-TP-059, *CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000,* and CCP-TP-198, *CCP HE-RTR Operating Procedure,* and make any editorial changes necessary.
10	07/09/2012	Procedure is being revised to correctly describe the process for receiving Central Procurement Project supplied commodities at Los Alamos National Laboratory.

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
11	10/01/2012	Revised to incorporate Nuclear Waste Partnership (NWP) transition changes.
12	11/05/2012	In response to CAR-LANL-0003-12, revised to clarify roles associated with providing measuring and testing equipment (M&TE) Certificates of Calibration to Central Characterization Program (CCP).
13	06/25/2013	Incorporate the Gas Generation Testing (GGT) process, In Situ Object Counting Systems (ISOCS) process, and editorial changes. Revised to implement the Permit Modification Request Class 2 approved by New Mexico Environment Department (NMED) dated March 13, 2013.
14	10/30/2013	Incorporate CCP-TP-068, *CCP Standardized Container Management* for container management and incorporate additional responsibility titles for operations at Technical Area (TA)-55.
15	01/23/2014	Revised to provide the allowance to use either CCP-TP-120, *CCP Container Management* or CCP-TP-068, *CCP Standardized Container Management,* for container management.

TABLE OF CONTENTS

1.0 PURPOSE 6
1.1 Scope 6

2.0 REQUIREMENTS 9
2.1 Acronyms and Key Definitions 9
2.2 Criteria 9

3.0 RESPONSIBILITIES 10
3.1 CCP LANL Project Manager/Designee 10
3.2 LANS LTP Director/Designee 11
3.3 Environmental Waste Management Operations (EWMO) Facilities Operations Director (FOD)/Designee 11
3.4 CCP Site Project Manager (SPM) 12
3.5 NWP Assurance Programs Manager 12
3.6 CCP Vendor Project Manager (VPM)/Designee 13
3.7 LTP Production Control Manager 14
3.8 LTP Shipping and Safe Storage Manager (SSS-PM) 14
3.9 LANL LTP Source Custodian. 16
3.10 LANL Industrial Hygiene Support 16

4.0 INTERFACE 17
4.1 Initial Setup for Operations 17
4.2 Routine Operations 17
4.3 Training 21
4.4 Employee Monitoring 22
4.5 Container Management 23
4.6 Deficiencies 24
4.7 Visual Examination (VE), Repackaging, and Prohibited Item Disposition (PID) 25
4.8 Filter Inspection/Filter Changeout 25
4.9 Prescreen Nondestructive Examination (NDE) 25
4.10 Prescreen Nondestructive Assay (NDA) 26
4.11 Nondestructive Examination (NDE) 26
4.12 Nondestructive Assay (NDA) 26
4.13 Source Control 28
4.14 Waste Sampling and Analysis Methods 28
4.15 Gas Generation Testing (GGT) 29
4.16 Flammable Gas Analysis (FGA) 29
4.17 Acceptable Knowledge (AK) 29
4.18 Off-Site Source Recovery Program 30
4.19 CCP Project Office Certification Activities 30
4.20 Transportation to WIPP 31
4.21 Remote-Handled (RH) Waste Program 32

4.22 Measurement and Test Equipment (M&TE)..... 32
4.23 Procedures 33
4.24 Documents/Records 35
4.25 Procurement 37
4.26 Oversight 38
4.27 Notification 38
4.28 Occurrence Reporting and Processing System (ORPS) and Price-Anderson Amendments Act (PAAA) 39

5.0 RECORDS..... 41

LIST OF ATTACHMENTS

Attachment 1 – Acronyms and Key Definitions 42
Attachment 2 – Reference Documents.....45
Attachment 3 – LANS Host Site Required Documents 50
Attachment 4 – LANL Responsibilities Crosswalk.....52

LIST OF FIGURES

Figure 1. Nuclear Waste Partnership – LANL 53
Figure 2. Waste Disposition Project 54

1.0 PURPOSE

Through the Performance Management Plan (PMP) of July 2002, the U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) designated the Central Characterization Program (CCP) to provide assistance to the waste processing portion of the Transuranic (TRU) Program at the Los Alamos National Laboratory (LANL) site. A Statement of Work (SOW) ("Statement of Work for Characterization of LANL TRU Waste Contact-Handled [CH] and Remote Handled [RH]") describes the assistance to be provided to CCP by LANL. This document establishes the CCP/LANL interfaces necessary to implement the requirements of the TRU Waste Program. This Interface Document, subordinate to the SOW, defines the interfaces between CCP and Los Alamos National Security (LANS) and details how the services described in the SOW are to be executed. All activities discussed in this document apply to the TRU Waste Project whether identified, conducted or implemented by CCP or LANS personnel.

1.1 Scope

As the waste generator, LANS maintains ownership of the waste and responsibility for its disposal. This responsibility includes additional chemical sampling and analysis deemed necessary by the WIPP Permittees. LANS is responsible to provide the infrastructure to support all activities described in this Interface Document. As set forth in the SOW, CCP will assist LANS by (a) providing a Waste Isolation Pilot Plant (WIPP)-certified program for the characterization, certification, and shipment of LANL TRU wastes, (b) training and qualifying personnel so that they can perform activities under the CCP WIPP-certified program in compliance with DOE Orders relevant to nuclear facilities, (c) providing services, personnel, and equipment to augment LANS required activities.

These services will be performed with CCP and/or Host site equipment operated with appropriate DOE/CBFO certified procedures. The Host site may augment CCP characterization efforts as required by CCP.

The Host site has primary responsibility for assuring that requirements for safety (including Radiological Control, Emergency Management, Industrial Hygiene and Safety), security, safety basis, environmental protection, compliance, and other areas are met for CCP activities.

CCP will work under LANS' approved Environment, Safety, and Health (ES&H) Plan. LANS is responsible for supervising and overseeing the implementation of LANS' ES&H Plan, including compliance with Federal, State, and Local regulations protecting workers, the environment, waste management/disposal, and chemical usage. LANS has responsibility for

taking such action as is deemed necessary to ensure compliance with Resource, Conservation and Recovery Act (RCRA), and Toxic Substances Control Act (TSCA), DOE Orders and LANS' requirement related to environmental compliance and waste management.

CCP has responsibility for the safety of CCP employees, CCP subcontractors, and its lower-tier subcontractors as defined in this document, the SOW, and the Memorandum of Agreement. LANS is responsible for reporting conditions or concerns that may have safety, health, quality assurance (QA), security, operational or environmental implications; and therefore, LANS will provide oversight to this scope as set forth in Section 4.2.5. LANL TRU Program (LTP) activities, whether performed by CCP personnel or CCP activities performed by LANS personnel at LANL will be under the control of the CCP LANL Project Manager/Designee and LTP Program Manager except for the NWP Assurance Programs Manager (See Figure 1, Nuclear Waste Partnership – LANL), and CCP activities at LANL will be directly under the control of the LANS/CCP LANL Project Manager/Designee. In turn, the CCP LANL Project Manager/Designee will report through the LTP Waste Disposition Project Directorate.

This document applies to all personnel identified on the detailed LANS/CCP organization charts shown in Figure 1 and Figure 2, Waste Disposition Project with responsibilities for supporting the activities identified in the SOW.

This document addresses responsibilities associated with TRU waste characterization and defines interface requirements for the following areas:

- Initial Setup for Operations
- Routine Operations
- Training
- Container Management
- Deficiencies
- Visual Examination (VE) and Prohibited Item Disposition (PID)
- Filter Inspection/Filter Change out
- Nondestructive Examination (NDE)
- Nondestructive Assay (NDA) (certified and non-TRU waste data)
- Source Control
- Flammable Gas Analysis (FGA)
- Acceptable Knowledge (AK)
- Off-Site Source Recovery Program (OSRP)
- Project Office Certification Activities

- Transportation
- Measurement and Test Equipment (M&TE)
- Procedures
- Documents/Records
- Procurement
- Oversight
- QA
- Price-Anderson Amendments Act (PAAA)
- 10 Code of Federal Regulations (CFR) Part 851, *Worker Safety and Health Program*
- Drum Venting
- Gas Generation Test (GGT)

2.0 REQUIREMENTS

2.1 Acronyms and Key Definitions

Attachment 1, Acronyms and Key Definitions, lists acronyms and key definitions used in this Interface Document.

2.2 Criteria

The CCP Certified Program will be used to characterize, certify, and ship LANL's TRU waste to WIPP. The specific requirements documents to ensure compliance with the certified program are listed in Attachment 2, Reference Documents.

There are Host site documents used that are not part of the CCP Certified Program. These documents are listed in Attachment 3, LANS Host Site Required Documents.

3.0 RESPONSIBILITIES

NOTE

The titles for LANL personnel delineated in the Responsibilities section are specific to LTP operations at Technical Area (TA)-50 and TA-54. Titles for operations outside of LTP are included in Attachment 4, LANL Responsibilities Crosswalk.

3.1 CCP LANL Project Manager/Designee

3.1.1 Confirms that waste characterization activities are conducted at LANL per the SOW requirements and the Interface Document.

3.1.2 Provides primary oversight for project safety, and compliance of CCP personnel at LANL to CCP's certified program requirements.

3.1.3 Requests personnel and equipment from the LANS LTP Director/Designee to support characterization, certification, and transportation, as required.

3.1.4 Provides support to the CCP Site Project Manager (SPM).

3.1.5 Receives documentation of required and completed LANL site-specific training.

3.1.6 Provides weekly production reports to the DOE/CBFO and LANS Production Control Manager.

3.1.7 Receives reports of LANS oversight activities from Environmental Waste Management Operations (EWMO) Facility Operations Director (FOD) and formally responds, as required.

3.1.8 Interfaces with DOE/CBFO through the CCP Project Office.

3.1.9 Requests special nuclear material sources from LANS NDA Team Leader.

3.1.10 Ensures CCP personnel comply with LANS integrated work management, environmental, safety, and security requirements.

3.1.11 Ensures CCP procedures are approved by Host site.

3.2 LANS LTP Director/Designee

3.2.1 Ensures LTP completes performance measures/metrics as established by DOE/Los Alamos Site Office (LASO).

3.2.2 Functions as the point of contact with CCP LANL Project Manager for coordination and review of CCP procedures, plans, waste stream profile forms, and configuration management documents.

3.2.3 Interfaces with DOE/CBFO through the DOE/LASO.

3.2.4 Coordinates all LANS activities in support of TRU Programs working with CCP LANL Project Manager/Designee.

3.2.5 Requests resources to implement the integrated schedule for TRU waste.

3.3 Environmental Waste Management Operations (EWMO) Facilities Operations Director (FOD)/Designee

3.3.1 Provides documentation of applicable surveillances and audits to the CCP LANL Project Manager/Designee.

3.3.2 Ensures that new and/or modifications to documents or equipment for work performed in support of TRU waste activities at nuclear facilities are approved prior to implementation.

3.3.3 Ensures configuration management of LANS-owned equipment is maintained.

[A] Ensures that adequate information is provided to CCP on LANS-owned equipment prior to acceptance and turnover of equipment to CCP.

3.3.4 Ensures facility and/or equipment modification requests to LANS-owned equipment and facilities are submitted to EWMO-TRU Waste Operations for approval and are fully defined.

3.3.5 Ensures change control notice is submitted for changes to previously agreed upon modification requests.

3.3.6 Ensures CCP/LANS personnel comply with LANS integrated work management, environmental, safety, and security requirements through document reviews, emergency drills, monitoring, surveillances and audits. CCP will cooperate with and accommodate these oversight activities.

3.4 CCP Site Project Manager (SPM)

3.4.1 Functions as CCP's primary interface and point-of-contact between CCP and LANS for certification activities (e.g., data management).

3.4.2 Ensures the AK Summary Reports and drum lists for LANL waste streams are prepared, approved, and issued.

3.4.3 Ensures the preparation and approval of waste stream profile forms (WSPFs), as required.

3.4.4 Provides evidence to the CCP LANL Project Manager/Designee and LTP Director of the Performance Demonstration Program (PDP) participation and successful completion for each operating system.

3.4.5 Responsible for project level verification and validation of batch data reports (BDRs).

3.4.6 Provides support to the CCP LANL Project Manager/Designee.

3.4.7 Ensures that software used by CCP at LANL is controlled in accordance with CCP-QP-022, *CCP Software Quality Assurance Plan*. LANL retains ownership and licenses of LANL developed/procured software.

3.4.8 Confirms that in-process documents are transmitted to the CCP Project Office as soon as practicable.

3.5 NWP Assurance Programs Manager

3.5.1 Reports to the Nuclear Waste Partnership (NWP) QA Manager to maintain functional authority and independence from cost and schedule considerations.

3.5.2 Functions as CCP's primary interface and point-of-contact for QA issues between the CCP and LANS.

3.5.3 Validates Nonconformance Reports (NCRs).

3.5.4 Provides semi-annual trending summary reports to the CCP SPM.

3.5.5 Ensures surveillances of waste characterization activities at LANL are performed on a periodic basis and surveillance reports are provided to the CCP SPM, the CCP LANL Project Manager/Designee, and the LTP Project Director.

3.5.6 Performs receipt inspection of procured items in accordance with CCP and Host site requirements.

3.5.7 Provides assistance in generation, disposition, and closure of NCRs and Corrective Action Reports (CARs).

3.5.8 Coordinates with the CCP LANL Project Manager/Designee for any potential Noncompliance Tracking System-Reportable PAAA issues or any occurrence reports resulting from activities under the CCP Certified Program.

3.6 CCP Vendor Project Manager (VPM)/Designee

3.6.1 Responsible for safety and health of CCP personnel at LANL.

3.6.2 Monitors the List of Qualified Individuals (LOQI) daily to confirm that only qualified personnel perform waste characterization and transportation activities.

3.6.3 Controls access of CCP personnel including its subcontractors to the field. Request site access for visitors and provide full-time escorts.

3.6.4 Functions as CCP's primary interface and point-of-contact between CCP and LANL for characterization activities (operations).

3.6.5 Supports training and briefing of personnel in regards to procedural changes by scheduling training sessions, as required.

3.6.6 Coordinates the daily operations of CCP operations personnel, and its subcontractors.

3.6.7 Works in conjunction with LTP Production Control Manager to manage the control, movement, and tracking of waste containers through the CCP characterization process.

3.6.8 Coordinates with the EWMO TRU Waste Operations, CCP Operations Manager and CCP LANL Project Manager/Designee for any potential Noncompliance Tracking System-Reportable PAAA issues or any occurrence reports resulting from activities under the CCP Certified Program.

3.6.9 Ensures operability and availability of CCP-provided characterization equipment.

3.6.10 Ensures that CCP-provided equipment is maintained under a CCP approved Configuration Management Program.

3.6.11 Ensures that new addition to and/or modifications made to CCP-provided facilities and/or equipment are submitted to EWMO as soon as practicable and approvals are received prior to implementation.

3.7 LTP Production Control Manager

3.7.1 Manages the control, movement, and tracking of containers through the CCP characterization process utilizing the CCP SPM-designated container selection list (AK Tracking Spreadsheet).

3.7.2 Ensures that containers are processed in conjunction with the CCP SPM or CCP VPM.

3.7.3 Ensures Material at Risk (MAR) inventory limits established by the Documented Safety Analysis (DSA) for each facility, are not exceeded.

3.7.4 Ensures that applicable container tracking information is maintained and kept current as required to LANL site requirements.

3.7.5 Generates and submits regular, periodic production reports.

3.8 LTP Shipping and Safe Storage Manager (SSS-PM)

3.8.1 Reviews and provides comments on the CCP Health and Safety Plan (HSP) for the purpose of ensuring that facility safety and security requirements are met.

3.8.2 Approves CCP health and safety-specific documents, including Integrated Work Documents (IWDs), as the Responsible Division Leader (RDL).

3.8.3 Ensures Un-reviewed Safety Question Determinations (USQD) are completed to ensure that CCP operations and activities are performed in accordance with the applicable Waste Characterization, Reduction, and Repackaging Facility (WCRRF), Radioassay and Nondestructive Testing (RANT), and Area G Safety Basis Documents.

3.8.4 Ensures modifications to CCP procedures, equipment, and facilities undergo EWMO review and USQD.

3.8.5 Ensures new CCP activities follow the LANL readiness review requirements.

3.8.6 Ensures facility modifications requested by CCP or LTP are performed in a timely manner in accordance with an adequately defined job request.

3.8.7 Provides temperature-controlled environment for staging waste containers prior to real-time radiography (RTR) when temperatures are below freezing.

3.8.8 Provides Lockout/Tagout (LO/TO) support for work performed on the CCP equipment.

3.8.9 Provides work control resources for corrective or preventive maintenance on LANS-owned utilities or equipment or on CCP-owned equipment, as requested.

3.8.10 Ensures USQD are completed to ensure that LTP operations and activities are performed in accordance with the applicable WCRRF, RANT, and Area G Safety Basis Documents.

3.8.11 Ensures facility-specific training requirements for CCP and LTP operations at TA-50 and TA-54 are defined, training plans are established and implemented, and information on training status is provided to CCP Training.

3.8.12 Ensures notification is made to CCP or LTP tenants of any new training requirements.

3.8.13 Provides Radiological Control Technician (RCT) support and dosimetry for characterization and transportation operations.

3.8.14 Provides Industrial Hygiene support for characterization and transportation operations.

3.8.15 Participates in Readiness Assessments or surveillances, as required.

3.8.16 Ensures Technical Safety Requirements (TSR) surveillances are conducted as required.

3.8.17 Ensures Fire Protection and other facility surveillances, are performed when required.

3.8.18 Provides support for LANS-owned equipment under a LANL-approved Configuration Management Program.

3.8.19 LANS personnel perform waste handling operations in support of CCP as assigned by LANS supervision.

3.8.20 LANS supervision coordinates administrative activities for LANL personnel including training and work hours assignments.

3.9 LANL LTP Source Custodian.

3.9.1 Maintains nuclear material source control in accordance with LANS requirements.

3.10 LANL Industrial Hygiene Support

3.10.1 Responsible for workplace monitoring to include, as applicable, monitoring for volatile organic compounds, noise, cryogenics, beryllium, asbestos, and other hazardous materials.

3.10.2 Responsible for Occupational Safety and Health Administration (OSHA) compliance reviews, for reviewing and approving IWDs, and for assuring compliance with the LANL safety and health requirements applicable to the CCP operations at LANL.

4.0 INTERFACE

4.1 Initial Setup for Operations

4.1.1 The initial setup and startup of CCP characterization operations have been completed. In addition, the initial certification audit is complete and operations have commenced.

4.1.2 The Host site will provide infrastructure support as additional pieces of equipment or operations are added to the LANL scope.

4.2 Routine Operations

NOTE
Working shifts will be established by the CCP VPM and approved by the EWMO FOD Division Leader prior to implementation.

4.2.1 General Conditions of Operation

[A] The Host site has the overall responsibility for the management of the nuclear materials and operations of the nuclear facilities.

[B] Work performed by CCP personnel (including subcontractors) will be in compliance with Host site and CCP requirements.

[C] CCP personnel will STOP WORK and will notify Host site supervision and the CCP VPM in the event of a safety concern (e.g., TSR violation, PAAA violation, breached container, emergency, injury).

[D] CCP personnel will follow CCP-PO-005, *CCP Conduct of Operations*, for reporting employee concerns or abnormal conditions.

[E] Authorization Basis (AB) and Configuration Management

[E.1] The Host site has primary responsibility to ensure that CCP equipment and processes have been appropriately considered within the DOE-approved Host site DSA.

[E.2] The Host site shall provide to CCP, Host site generated AB documentation concerning CCP related activities and equipment, including USQDs, for CCP's review.

[E.3] CCP has primary responsibility to control operations and CCP-provided equipment configurations to ensure compliance with CCP and Host site procedures that protect the personnel, the public, and the environment.

[E.4] For CCP provided equipment, CCP will provide the documentation necessary for the Host site to perform the evaluation against its safety analysis. This documentation may include HSPs, hazard assessments, system descriptions, equipment drawings, or other information deemed necessary through mutual agreement between CCP and the Host site.

[E.5] For Host site-provided equipment, CCP will review operational and AB documentation, including USQDs, prior to assuming operation of the equipment to ensure the protection of personnel, the public, and the environment.

[E.6] All changes to equipment operated by CCP will be controlled by the Host site Work Control Program to ensure appropriate AB evaluations are conducted, and associated controls established.

[E.7] The Host site will submit all changes to AB requirements that affect CCP operations to CCP prior to implementation.

4.2.2 CCP VPM or Designee will perform the following activities to support daily operations:

[A] Ensure that work is performed in accordance with LANL requirements (e.g., LO/TO, Work Control, IWD) by trained and qualified personnel in accordance with approved work documents.

[B] Suspend work and notify the CCP LANL Project Manager/Designee and EWMO FOD/designee when appropriate, and others as needed.

[C] In the event of abnormal condition or occurrence, support an investigation, as required.

[D] Accept custody of waste containers delivered by LANL personnel and control approved waste characterization activities.

[E] Disposition NCRs and CARs as required, and communicate progress to the CCP LANL Project Manager/Designee and LTP Project Director.

[F] **IF** after Expert Analyst (EA) review, the NDA results indicate greater than 200 Fissile Gram Equivalent (FGE) (measured value plus two times the counting statistics) for a 55-gallon container, or greater than 325 FGE (measured value plus two times the counting statistics) for a standard waste boxes (SWB),
THEN notify the Operations Center and provide results.

[G] Ensure that equipment calibration is performed on CCP operated equipment, in accordance with Section 4.22.

[H] Maintain and monitor the LOQIs to ensure that only qualified personnel perform waste characterization activities.

[I] Attend pre-operations briefings performed for all on-site waste characterization personnel and attend the LANS Plan of the Day/Week briefings, as appropriate.

[J] Ensure the safe operation and maintenance of all CCP instruments and equipment.

[K] STOP WORK and notify the Operations Center, QA, and LTP Project Director and CCP LANL Project Manager/Designee in the event of a safety concern (e.g., TSR violation, PAAA violation, breached container, emergency).

[L] Ensure the safe operation of equipment by CCP personnel by performing periodic oversight.

[M] Ensure that CCP-provided equipment is properly maintained.

[N] Provide a copy of material safety data sheets (MSDSs) to the Operations Center, the CCP LANL Project Manager/Designee, LTP Production Controls Manager, and the SSS-PM, and others as appropriate.

[N.1] When new chemicals are to be used, the MSDS will be provided to EWMO FOD prior to use to ensure that the Chemical Inventory requirements are updated.

4.2.3 SSS-PM will ensure the following radiological control support is provided for CCP activities:

[A] Maintain radiological postings.

[B] Perform an initial and periodic radiation protection surveys on NDA and NDE equipment and provide an approved survey report to the NDA Team Leader or NDE Team Leader, and the VPM.

[C] Perform radiation protection surveys and monitoring as necessary.

[D] Provide thermoluminescent dosimeters (TLDs) for CCP personnel.

[E] Provide calibrated and source checked survey instrumentation as required.

[F] Issue and/or modify Radiation Work Permits (RWPs) to support CCP activities as needed.

4.2.4 CCP personnel will work under the SSS-PM requirements for LO/TO.

4.2.5 CCP personnel will perform work in accordance with CCP-approved procedures for waste characterization and certification activities and LANS-approved work packages and procedures for non-waste characterization activities (e.g., equipment repairs). Both CCP-approved and LANS-approved processes will comply with LANL requirements.

4.2.6 CCP personnel will operate in accordance with CCP-PO-005.

4.2.7 CCP personnel with assistance from LANS industrial hygiene (IH) Safety will develop IWDs or other applicable documents for all CCP activities performed at LANL in accordance with LANS policies and submitted to the SSS-PM Team Lead for approval.

4.3 Training

4.3.1 Personnel will be trained and qualified to WIPP requirements in accordance with CCP-QP-002, *CCP Training and Qualification Plan*. CCP-QP-040, *Support Training,* applies to those activities that do not fall under the scope of CCP-QP-002. Additionally, CCP personnel assigned to LANL shall complete required LANL site, facility, and job-specific training. Both the WIPP (technical) training and LANL-specific training must be completed prior to the individual being qualified to perform work at LANL.

4.3.2 A LOQI will be posted at locations established by the CCP VPM and monitored daily by the CCP VPM to confirm personnel are in compliance with the training and qualification requirements in CCP-QP-002 and LANL site-specific training requirements.

[A] This documentation shall be available on the secure file transfer protocol (sftp) site for all personnel to review their qualification status.

4.3.3 The EWMO Training Coordinator or designee will provide LANL institutional and site-specific training requirements to CCP as established in the TA-54 Health and Safety Plan. This listing does not apply to the OSRP. For non-OSRP workers, this training includes the following as required by job task:

[A] HAZWOPER

[B] RadWorker II

[C] LANL General Employee Training (GET) (one time only)

[D] RCRA and Waste Management Training

[E] Facility-specific training

[F] Security training

4.3.4 The EWMO Training Coordinator or designee will notify the CCP SPM or designee whenever LANS training requirements have been modified.

4.3.5 OSRP personnel require LANL GET, RadWorker (if field work is performed), and Facility-specific training, as applicable.

4.3.6 LANL will ensure that site-specific training documentation is sent to CCP Training and notification is made to the SPM.

4.3.7 LANS Training records for CCP personnel shall be submitted to and maintained by CCP and EWMO training staff.

4.3.8 EWMO on-the-job training (OJT) instructor/evaluators shall comply with LANS training and qualification program.

4.3.9 CCP OJT instructors/evaluators shall comply with CCP's training and qualification program.

4.3.10 CCP and EWMO shall meet the LANL and CCP training records requirements regarding training records. A complete set of requirements documents and records shall be maintained by EWMO (the responsible LANL organization) training staff for audit/assessment purposes.

4.4 Employee Monitoring

4.4.1 CCP personnel will participate in the LANL Bioassay Program, as required. Required CCP personnel will provide samples as requested under the program established by LANS and will submit the bioassay samples required to establish a baseline for activities.

4.4.2 LANL will analyze bioassay samples provided by CCP personnel within 60 days of their receipt.

4.4.3 The CCP LANL Project Manager or CCP VPM will be notified if any bioassay sample provided by CCP personnel indicates that an uptake of material/waste may have occurred as soon as is reasonably possible.

4.4.4 LANS Radiological Controls personnel will perform routine surveys and monitoring for contamination and radiation as specified in LANS policies or procedures. The CCP LANL Project Manager/Designee or CCP VPM and appropriate LANL management personnel will be notified immediately upon the discovery of any loose surface contamination on any CCP-operated characterization equipment. Access to copies of routine survey results will be made available to CCP upon request.

4.4.5 LANS will provide "upon request" the CCP LANL Project Manager/Designee or CCP VPM with the results of continuous or fixed air sample filter analysis within 21 days of the removal of the filter from the sampler head, in any monitored area routinely occupied by CCP personnel.

4.5 Container Management

4.5.1 LANS will provide waste managed as TRU waste in 55-gallon drums, 85-gallon drums, and SWBs to the characterization facilities, depending upon certification and characterization capabilities. All CH containers delivered for characterization will be approved by the CCP VPM as prescribed in CCP-TP-068, *CCP Standardized Container Management* or CCP-TP-120, *CCP Container Management*.

4.5.2 LANS is responsible for providing documented information to the CCP SPM/designee on any modification to the drum or container after the AK has been completed by CCP.

4.5.3 The CCP SPM/designee will review the documented information for modified containers and will notify the LTP Production Controls Manager when the containers are approved for entrance into the characterization process.

4.5.4 LANS is responsible for movement of containers and implementing vehicle access controls, from characterization through shipment, including control of containers requiring remediation (prohibited items).

[A] Subcontractor support for container movement and management may be provided through CCP, provided personnel meet LANS training requirements.

[B] LANS and CCP will perform site container management in accordance with the applicable LANL and CCP procedures. This includes verification that the containers are included in the AK Tracking Spreadsheet for characterization by CCP.

4.5.5 CCP is responsible for administratively tracking the containers throughout the CCP characterization processes. Personnel will perform container management in accordance with CCP-TP-068 or CCP-TP-120.

4.5.6 LANS will provide the necessary dose rate and surface contamination information to CCP to certify the containers for disposal, (e.g., survey results). All containers will have a Health Physics Materials Survey tag attached to the container prior to movement to CCP for characterization.

4.5.7 If a nonconformance is identified with a container, during the characterization or certification process, the container will be controlled in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*.

4.6 Deficiencies

4.6.1 If either LANS or CCP personnel, identify a nonconformance condition associated with a waste container during the characterization or certification process, personnel will initiate an NCR in accordance with CCP-QP-005.

4.6.2 The CCP LANL Project Manager/Designee will notify the LTP Production Controls Manager of nonconformances by the distribution of NCRs. The LTP Production Controls Manager may request any supporting documentation needed by LANS.

NOTE

In some cases, LANS will perform the work required to resolve deficiencies identified in CCP NCRs and will initiate internal documentation as required by the LANL program. However, the CCP NCRs will remain open and CCP NCR Hold Tags will remain on the affected containers until resolution of the NCR condition has been confirmed by CCP under its program. At that point, CCP will close the NCRs and remove the NCR Tags.

4.6.3 If the nonconformance can **NOT** be resolved by CCP (e.g., certain prohibited items or non-certifiable container types), CCP will coordinate with LANS to determine the actions to be taken.

4.6.4 CCP will notify the SSS-PM, EWMO FOD, LTP Director, and the CCP LANL Project Manager/Designee immediately of occurrence reports or potential PAAA issues resulting from the CCP scope of work.

4.6.5 The QA will confirm appropriate closure of deficiencies.

4.7 Visual Examination (VE), Repackaging, and Prohibited Item Disposition (PID)

4.7.1 Glovebox operations will have oversight by CCP qualified VE Personnel, as required.

4.7.2 The CCP training programs for VE and VE technique will include OJT training. Personnel performing VE are instructed in the waste generating processes, typical packaging configurations, and waste material parameters expected to be in each Waste Matrix Code at LANL.

4.7.3 PID will be conducted on containers in accordance with approved Host site procedures with oversight by CCP VE trained personnel, as required.

4.8 Filter Inspection/Filter Changeout

4.8.1 LANL/CCP personnel will inspect the filters on containers as part of the container acceptance and will document whether the filter is a WIPP-approved filter. This information will be transmitted to the CCP VPM.

4.8.2 If filter change out is performed on containers that do not require repackaging. This operation will be documented and the information transmitted to the CCP VPM.

4.8.3 LANL/CCP personnel also inspect and verify filter models on containers as part of the FGA sampling and any filter changeouts that occur immediately following FGA sampling.

4.9 Prescreen Nondestructive Examination (NDE)

4.9.1 CCP personnel will perform prescreening for NDE to identify potentially certifiable containers that can be sent to NDE, as determined by LANL and agreed to by the CCP LANL Project Manager/designee. This information will be documented and provided to the LTP Production Controls Manager.

4.10 Prescreen Nondestructive Assay (NDA)

4.10.1 CCP personnel will perform prescreening for NDA as determined by LANL and agreed to by the CCP LANL Project Manager/designee. This information will be documented and provided to the LTP Production Controls Manager.

[A] Drums that are less than 100 nanocuries per gram (nCi/g) will be returned to the Host site for disposition. BDR information on these drums will be provided as part of the process of returning the drums to LANL.

4.11 Nondestructive Examination (NDE)

4.11.1 NDE will be performed by personnel trained under the CCP Certified Program.

4.11.2 Containers found with prohibited items or conditions requiring remediation (e.g., unvented container liner, liquids not meeting permit requirements) will be flagged, an NCR initiated, and staged for remediation at a later date.

[A] NDE Operators will notify the Operations Center if containers are found to contain compressed gas cylinders.

4.11.3 If a container is found during NDE that is suspected to contain a classified shape, it will be segregated and handled in accordance with LANL procedures.

[A] The information generated during the NDE of the drum will be subject to control of potentially classified information. This media will be redacted by LANS, as possible, to remove the potentially classified portion and the revised media will be returned to CCP to complete the associated BDR.

4.11.4 CCP NDE Operators may provide additional interpretation of scans to support other LANS repackaging activities as determined by LANS and agreed to by the CCP LANL Project Manager/designee.

4.12 Nondestructive Assay (NDA)

4.12.1 NDA will be conducted using certified equipment with personnel trained under the CCP Certified Program.

4.12.2 **IF** assay results are greater than facility AB limits for Plutonium Equivalent Curies (PE-Ci),
THEN NDA personnel will immediately notify the Operations Center, the CCP LANL Project Manager/Designee, and the CCP VPM.

[A] The limit for individual 55-gallon drums of debris waste is 80 PE-Ci.

[B] The limit for 55-gallon drums of solidified waste is 1,200 PE-Ci.

[C] The limit for overpack containers, SWBs, or metal waste boxes is 1,100 PE-Ci.

4.12.3 **IF** assay results are greater than the following criticality spacing limitations,
THEN the EA will notify the Operations Center, the CCP LANL Project Manager/Designee and the CCP VPM.

[A] Individual 55-gallon drums of waste exceeding 200 FGE (measured value).

[B] Containers found to exceed the calibration range of the NDA machine.

[C] Individual SWBs of waste exceeding 325 FGE (measured value).

4.12.4 If assay results indicate that a container exceeds the Waste Acceptance Criteria (WAC) limits for plutonium equivalent activity, criteria, CCP personnel will issue an NCR in accordance with CCP-QP-005.

4.12.5 For any containers that exceed the shipping limit for FGE, an NCR will be generated in accordance with CCP-QP-005 to return the drums to LANL for repackaging.

4.12.6 For any containers that are less than 100 nCi/g, an NCR will be generated in accordance with CCP-QP-005 to return the drums to LANS.

4.12.7 LANS will provide/refill the dewar required for the liquid nitrogen for NDA.

4.13 Source Control

4.13.1 LANS will be responsible for NDA sources used for both calibration (reference sources) and for the DOE/CBFO PDP. Responsibilities include inventory control, storage, inspection and handling. Responsibilities include ensuring radiological control support associated with sources is provided, maintaining the Radioactive Materials Area (RMA) postings and periodic surveys, and performing a semi-annual leak check on the reference sources.

4.13.2 LANS will provide support for the participation in the NDA PDP. This support includes training PDP coordinators, preparation of the test matrix drums, delivery of the drums to the NDA equipment, and responsibility for PDP source control. LANS support will be coordinated by the LTP Production Control Manager.

4.13.3 LANS, as custodian of the sources, will provide to CCP the necessary reference sources for calibration in accordance with CCP NDA calibration procedures.

4.14 Waste Sampling and Analysis Methods

4.14.1 If the Permittees determine that additional characterization is necessary using chemical sampling and analysis, the Permittees shall direct generator/storage site to provide the Permittees with the following documentation:

- Sampling and analysis plan
- EPA SW-846 test method(s), or functionally equivalent test method(s), to be used
- Identification of the laboratory(ies) that will be performing the test(s)

4.14.2 Upon the Permittees written approval of the sampling and analysis plan, the generator/storage site shall implement the sampling and analysis plan.

4.15 Gas Generation Testing (GGT)

4.15.1 CCP will perform Gas Generation Test (GGT) sampling and analysis using GGT canisters in accordance with CCP-TP-083, *CCP Gas Generation Testing,* and CCP-PO-016, *CCP Gas Generation Testing Quality Assurance Project Plan.*

4.15.2 CCP will be responsible for maintenance and repairs of the GGT canisters and instrumentation per CCP-TP-089, *CCP Mobile Gas Generation Testing Sampling System (MGSS) Sampling Operation.*

4.16 Flammable Gas Analysis (FGA)

4.16.1 FGA is for transportation only and will be performed using approved DOE/WIPP procedures by personnel trained under the CCP Qualification Program. This includes OSRP containers, as required.

4.16.2 The Operations Center, the CCP LANL Project Manager/Designee, and the CCP VPM will be notified if after completion of the analysis, the containers exceed the following:

[A] >7,000 ppm flammable volatile organic compounds (VOCs)

[B] >6.4% Hydrogen

[C] >16,000 ppm Methane

4.17 Acceptable Knowledge (AK)

4.17.1 CCP records personnel in Carlsbad will maintain the auditable AK record necessary to support the AK Summary Report in accordance with CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*, and CCP-QP-008, *CCP Records Management*.

4.17.2 AK personnel will perform and document the AK collection, reporting, and confirmation of AK in accordance with CCP-TP-005, *CCP Acceptable Knowledge Documentation* and DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*. CCP shall submit the AK Summary Report for LTP Production Controls Manager review.

4.17.3 As determined by the LANS LTP Director, the assigned LANS staff will provide written comments to be dispositioned by CCP before CCP document approval. Disposition of comments on the AK Summary Report is tracked in accordance with CCP-QP-010, *CCP Document Preparation, Approval, and Control*.

4.17.4 NCRs that identify possible changes to the AK of a waste stream (Trend Code L) require evaluation by the CCP SPM to determine if an AK Expert investigation is warranted.

4.17.5 Containers less than 100 nCi/g will be moved from the AK Tracking Spreadsheet to a separate tab prior to closure of the NCR.

4.18 Off-Site Source Recovery Program

4.18.1 OSRP VE and Radiological Characterization will be conducted using certified equipment with personnel trained under the CCP Certified Program.

4.18.2 The OSRP uses a separate procedure for VE and packaging. In addition, it uses AK documentation in combination with calculations, in lieu of NDA.

4.18.3 Prior data for Off-Site Source Recovery (OSR) containers generated under the LANL Certified Program will be evaluated for acceptability into the CCP Certified Program.

[A] The previous BDRs will be reviewed and validated at the CCP Project Office prior to acceptance into the program.

[B] If the data validators at the CCP Project Office are unable to verify the data, the BDRs will not be accepted and will require re-generation under the CCP program.

[C] OSRP containers are weighed and inspected prior to being added to the AK Tracking Spreadsheet.

4.19 CCP Project Office Certification Activities

4.19.1 CCP Project Office certification activities consist of project-level review of BDRs, lot evaluations, data validation, and WIPP Waste Information System/Waste Data System (WWIS/WDS) data entry. CCP Project Office certification activities will be conducted using personnel trained under the CCP Certified Program.

4.19.2 Data validators are responsible for completing the required checklists, resolving comments, and ensuring records are complete.

4.19.3 WWIS/WDS personnel will ensure information is entered into WWIS in accordance with CCP-TP-030, *CCP CH TRU Waste Certification and WWIS/WDS Data Entry,* and CCP-TP-530, *CCP RH TRU Waste Certification and WWIS/WDS Data Entry*.

4.19.4 The Waste Certification Official (WCO) will certify and transmit characterization and certification data using the WWIS/WDS and approved procedures.

4.19.5 The WCO will document and certify that all TRU waste payload containers prepared from the certified process for WIPP meet all of the requirements of DOE/WIPP-02-3214, CCP-PO-001, CCP-PO-002, *CCP Transuranic Waste Certification Plan,* and CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)* or CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)*.

4.19.6 The WCO will transmit information to the CCP Records in accordance with CCP-TP-030 and CCP-TP-530.

4.19.7 The WCO will provide the Transportation Certification Official (TCO) with all certification information necessary to certify the payload for transportation.

4.20 Transportation to WIPP

4.20.1 Transportation certification, preparation of the shipment of certified packages (e.g., Transuranic Package Transporter-II [TRUPACT-II], TRUPACT-III, HalfPact, or RH 72-B Cask), and shipment of the waste will be conducted using personnel trained under the CCP Certified Program.

4.20.2 CCP will provide TRUPACT-II, HalfPACT, CH, and RH loading training to LANL employees, as required, to maintain certifications required for transportation activities.

4.20.3 LANL will provide manifesting, marking, labeling and placarding of the shipments in accordance with Title 40 CFR, *Protection of Environment*, Title 49 CFR, *Transportation* requirements, and site-specific procedures.

4.20.4 LANL will verify and ensure that drums being shipped to RANT or the loading area do not exceed AB MAR inventory.

4.20.5 LANL will track MAR inventory at RANT onsite, RANT facility, or other loadout facility.

4.20.6 The TCO will inspect the containers and verify that the filter installed on the containers to be shipped meet WIPP requirements and match information submitted during waste certification.

4.20.7 Waste will be loaded and prepared for transport to WIPP in accordance with DOE-approved operating procedures.

4.20.8 The TCO will provide documentation to the LTP Production Coordination Manager certifying the waste for shipment in accordance with CCP procedures.

4.21 Remote-Handled (RH) Waste Program

4.21.1 Specific roles and responsibilities will be established for personnel under the CCP RH Program.

4.22 Measurement and Test Equipment (M&TE)

4.22.1 The CCP M&TE Custodian will provide recall notification for CCP M&TE that requires calibration to the CCP LANL Project Manager/Designee. M&TE requiring calibration will include such things as weight scales, infrared thermometers, temperature data-loggers, electronic calibrators, digital readouts, and pressure transducers.

4.22.2 LANS will provide National Institute of Science and Technology (NIST)-traceable calibration services for specified M&TE. LANS will maintain records on M&TE calibration in accordance with its Qualified Suppliers List (QSL)-accepted program. LANS will provide copies of the Certificates of Calibration for these items of M&TE to the CCP VPM and the CCP M&TE Custodian via the CCP LANL Project Manager/Designee prior to issuing M&TE to CCP for use.

4.22.3 LANS will notify the CCP M&TE custodian when M&TE are added, deleted, found out-of-tolerance/defective or failed calibration by the Host site.

4.23 Procedures

4.23.1 Editorial or minor changes may be made without the same level of review and approval as the original document as defined in CCP-QP-010.

4.23.2 New Technical Operating Procedures (procedures that operate equipment) developed by CCP scheduled to be used at the Host site, shall be evaluated by the Host facility LTP Production Control Manager to determine if the procedure shall be added to the Host facility review lists defined in step 4.23.4.

4.23.3 All characterization procedures, which physically manipulates the waste (e.g., VE) or the waste container (e.g., NDE or NDA) and all revisions to these procedures, will be provided to the EWMO FOD, SSS-PM, LTP Project Director, by the CCP LANL Project Manager/Designee for review (e.g., USQD, AK evaluation, Health & Safety Review and Implementation), before approval by DOE/CBFO and implementation by CCP.

4.23.4 The LTP Project Director, EWMO FOD/designee, CCP LANL Project Manager/Designee will review or designate the appropriate reviews of the procedures listed below (which do not meet the criteria of step 4.23.1 and do not affect the AB) and forward written comments to CCP Document Control in accordance with CCP-QP-010 or LANL Document Control in accordance with EP-DIR-SOP-4001, *Document Control,* for resolution.

CCP Procedures:

- AK Summary Reports
- CCP-CM-003, *CCP High Efficiency Neutron Counter (HENC-01) (Equipment #NDA-HENC-01) Equipment Description*
- CCP-CM-018, *CCP Real-Time Radiography MCS Unit #3 LANL Unit #2 (RTR #2) (Equipment #NDE-RTR-03/ LANL-RTR-02) Equipment Description*

- CCP-CM-028, *CCP Real-Time Radiography LANL Unit #1 (Equipment #LANL-RTR-01)* Equipment Description
- CCP-CM-024, *CCP High Efficiency Neutron Counter (HENC-02) (Equipment #NDA-HENC-02) Equipment Description*
- CCP-HSP-014, *Health and Safety Program Implementation for CCP*
- CCP-PO-016, *CCP Gas Generation Testing Quality Assurance Project Plan*
- CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*
- CCP-TP-054, *CCP Adjustable Center of Gravity Lift Fixture Preoperational Checks and Shutdown*
- CCP-TP-055, *CCP Varian Porta-Test Leak Detector Operations*
- CCP-TP-059, *CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000*
- CCP-TP-063, *CCP Operating the High Efficiency Neutron Counter Using NDA 2000*
- CCP-TP-064, *CCP Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000*
- CCP-TP-066, *CCP Radiography Screening Procedure for Prohibited Items*
- CCP-TP-068, *CCP Standardized Container Management*
- CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*
- CCP-TP-076, *CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000*

- CCP-TP-077, *CCP Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000*
- CCP-TP-082, *CCP Waste Container Filter Vent Operation*
- CCP-TP-083, *CCP Gas Generation Testing*
- CCP-TP-086, *CCP CH Packaging Payload Assembly*
- CCP-TP-101, *CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization*
- CCP-TP-107, *CCP Operating the High Efficiency Neutron Counter #3 (HENC #3) Using NDA 2000*
- CCP-TP-108, *CCP Calibrating the High Efficiency Neutron Counter #3 (HENC #3) Using NDA 2000*
- CCP-TP-103, *CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000*
- CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination*
- CCP-TP-120, *CCP Container Management*
- CCP-TP-121, *CCP RTR #1 Operating Procedure*
- CCP-TP-122, *CCP RTR #2 Operating Procedure*
- CCP-TP-198, *CCP HE-RTR Operating Procedure*

LANL Procedures:

- TA-54, *Area G Security Plan,* May 2008

4.23.5 The LANS LTP Director and the EWMO FOD will confirm that written comments from LANS are resolved prior to proceeding with operations.

4.24 Documents/Records

4.24.1 All AK documents generated at LANL must be reviewed prior to release by an Authorized Derivative Classifier (ADC) as detailed in

ADC guidance documents. LANS' governing document is LIR 406-00-01, *General Security*.

4.24.2 In addition, any document created by CCP or LANS that is intended for public release must be reviewed and processed for Unclassified Controlled Nuclear Information (UCNI) review and Public Release review prior to release. LANS' governing document is Attachment 10 of LIR 406-00-01, *UCNI and* DOE M 475.1-1 *for Public Release*.

4.24.3 Documents listed in steps 4.24.4 and 4.24.5, which are provided from one organization to the other as information copies, may be transmitted via memo, fax, e-mail, or formal correspondence.

4.24.4 Documents to be provided by LANS after completion of ADC review to CCP personnel include copies of the following:

[A] Existing AK documentation including, but not limited to: source documents, spreadsheets, NCR/CAR, VE, PID information, and characterization raw data.

[B] Changes to drum data information after AK has been collected and/or reconciled.

[C] Any documentation required for CCP to perform its scope of work, including correspondence pertaining to characterization activities.

4.24.5 Documents to be provided by CCP (No ADC review required) to LANL personnel, as applicable, include copies of the following:

[A] Completed BDRs for all processes.

[B] Copy of WSPF for concurrence.

[C] Copy of AK Summary Reports for concurrence.

[D] Lot Evaluation documentation.

[E] Completion of CCP Training/LOQI updates.

[F] AK Tracking Spreadsheet.

[G] NCRs and CARs generated.

[H] Other reports generated to support a certified program.

[I] Daily Production Reports.

4.24.6 Documents that are generated during the implementation of the LTP at LANL will be processed through the CCP Records process in accordance with CCP-QP-008. After completion of all activities, these records will be turned over to LANL and the end of the project.

4.25 Procurement

4.25.1 Qualified LANS personnel may procure, inspect, and perform receipt inspection of U.S. Department of Transportation (DOT) Type 7A drums, filters, gases and various non-quality affecting items for certified CCP operations in accordance with LANL procurement requirements.

4.25.2 LANS personnel will perform procurement activities in accordance with its QSL-accepted program.

4.25.3 CCP may procure, inspect, and perform receipt inspection of quality-affecting items (e.g., DOE Type 7A drums, filters, and gases) and various nonquality affecting items for certified operation in accordance with CCP procurement requirements. Quality-related procurements ordered by CCP require a CCP receipt inspection only; they DO **NOT** require a LANL QA receipt inspection. Documentation of these inspections will be made available to the EWMO-QA Manager upon request.

4.25.4 All procurements for commodities (e g., Pipe Overpack, and SWB) procured through CBFO's Central Procurement Program (CPP) will require LANL receipt inspection. CPP acceptance is evidenced by the approved data package provided with each shipment.

4.25.5 All HAZMAT packaging procured or leased by CCP or CBFO shall be in accordance with written specification and receipt inspection plans that have been reviewed and approved by LANL Operations Support Packaging and Transportation (OS-PT). These specifications and plans will be provided by OS-PT with the procurement request documents that are provided to CCP or CBFO.

4.26 Oversight

NOTE

LANS retains the responsibility for proper disposal as the waste owner and generator. Accordingly, this section defines the level of oversight of CCP characterization activities performed by LANS.

4.26.1 LANS will conduct periodic surveillances and/or audits to ensure work is conducted safely in accordance with CCP and LANS procedures. These surveillances and/or audits will be scheduled and conducted in accordance with LANL QA procedures.

4.26.2 The EWMO QA Manager will provide copies of the LANS surveillances and/or audit reports to the CCP LANL Project Manager/Designee.

4.26.3 The CCP LANL Project Manager/Designee and QA will review the LANL audit and surveillance reports for any findings or other deficiencies against the CCP scope of work.

4.26.4 If required, CCP will prepare and process CARs in accordance with WP 15-GM1002, *Issues Management Processing of WIPP Forms*, for deficiencies identified during the review.

4.26.5 The CCP LANL Project Manager/Designee will provide the LTP Director with CCP actions to correct identified deficiencies.

4.26.6 The LTP Director and EWMO FOD will concur upon or approve of corrective actions taken by CCP in response to LANL surveillances and/or audits.

4.27 Notification

4.27.1 The Host site has primary responsibility to notify CCP when there are changes in the Host site facilities used by CCP for characterization activities or changes that may impact operations.

4.27.2 The Host site has primary responsibility to notify CCP when there are changes to policies, processes, or procedures that may affect CCP characterization activities or operations.

4.27.3 The Host site has primary responsibility to notify CCP when repairs or modifications are made to transportation trailers or packaging equipment (TRUPACT-II, HalfPACTs, etc.). CCP will then notify the appropriate cognizant engineer at the WIPP site. The cognizant engineer will verify the modification.

4.27.4 The Host site has primary responsibility to notify CCP of required notifications of various container conditions or changes to the notification requirements.

4.27.5 CCP has primary responsibility to ensure changes to equipment are in accordance with CCP-CM-001, *CCP Equipment Change Authorization and Documentation*.

4.27.6 CCP has primary responsibility to notify the Host site when there are configuration changes to CCP-provided equipment.

4.27.7 CCP has responsibility to notify the Operations Center of various container conditions (e.g., FGE) as identified in the previous sections.

4.28 Occurrence Reporting and Processing System (ORPS) and Price-Anderson Amendments Act (PAAA)

4.28.1 Both LANS and CCP maintain the responsibility for reporting potential PAAA issues resulting from waste certification or safe operation of characterization activities (e.g., Technical Safety Requirements, Radiation Safety, Industrial Safety, Industrial Hygiene, Maintenance, Lockout/Tagout, Conduct of Operations) of TRU waste by CCP at LANL. This includes filing any Occurrence Reporting and Processing System (ORPS) reports resulting from the characterization activities of TRU waste by CCP.

4.28.2 Both LANS and CCP shall invite the other to participate in the investigation of any waste characterization event that results in an ORPS or PAAA report.

4.28.3 Both LANS and CCP shall support and participate in investigations when CCP characterization activities result in an ORPS or PAAA report.

4.28.4 Within CCP, the NWP Compliance Coordinator serves as the PAAA point-of-contact. Within LANS, the PAAA Coordinator for EWMO Division acts as the PAAA point-of-contact, with roles and responsibilities in accordance with the Host site program.

4.28.5 In coordination with the CCP LANL Project Manager/Designee and the CCP VPM, the NWP Compliance Coordinator is responsible for notifying the LANS PAAA point-of-contact for any occurrences or conditions related to CCP characterization operations that are an actual or potential noncompliance to the Area G, RANT or WCRRF AB, and for any occurrences or conditions that are an actual or potential noncompliance to the CCP Certified Program procedures, implementation of the QA Program (10 CFR Part 830, *Nuclear Safety Management*) or the Radiation Protection Program (10 CFR Part 835, *Occupational Radiation Protection*) impacting or potentially impacting nuclear safety, or implementation of the Worker Safety and Health Plan (10 CFR Part 851) impacting or potentially impacting personnel safety.

[A] Both parties are responsible for ensuring compliance with their respective programs.

4.28.6 The LANS PAAA point-of-contact will notify the NWP Compliance Coordinator of any PAAA noncompliance with the CCP Certified Program. The CCP LANL Project Manager/Designee is responsible for ensuring that deficiencies identified within the CCP Program are appropriately documented and forwarded to the NWP Compliance Coordinator.

5.0 RECORDS

5.1 Records are generated during the implementation of procedures referenced in this Interface Document. These records are maintained as QA records in accordance with CCP-QP-008. No additional records are generated as a result of this Interface Document.

Attachment 1 – Acronyms and Key Definitions

AB	Authorization Basis
ADC	Authorized Derivative Classifier
AK	Acceptable Knowledge
BDR	Batch Data Report
CAR	Corrective Action Report
CBFO	Carlsbad Field Office
CCP	Central Characterization Program
CFR	Code of Federal Regulations
CH	Contact-Handled
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DSA	Documented Safety Analysis
ES&H	Environment, Health, and Safety Plan
EWMO	Environmental Waste Management Operations
FGA	Flammable Gas Analysis
FGE	Fissile Gram Equivalent
FOD	Facility Operations Director
FOSC	EWMO Facility Oversight Safety Committee
GET	General Employee Training
GGT	Gas Generation Testing
HENC	High Efficiency Neutron Counter
HSP	Health and Safety Plan
INL	Idaho National Laboratory
Interface Agreement	An agreement between the CCP and LANL for defining the responsibilities associated with WIPP requirements defined in the reference documents identified in Section 2.2 of the Interface Document.
IWD	Integrated Work Documents
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security
LASO	Los Alamos Site Office
LIR	Laboratory Implementation Requirements
LO/TO	Lockout/Tagout
LOQI	List of Qualified Individuals
MAR	Material at Risk
MILCC	Mobile ISOCS Large Container Counter
MSDS	Material Safety Data Sheet
M&TE	Measurement and Test Equipment
nCi/g	nanocuries per gram
NCR	Nonconformance Report
NDA	Nondestructive Assay
NDE	Nondestructive Examination

Attachment 1 – Acronyms and Key Definitions (Continued)

NIST	National Institute of Science and Technology
NWP	Nuclear Waste Partnership
OJT	On-The-Job-Training
ORPS	Occurrence Reporting and Processing System
OSHA	Occupational Safety and Health Administration
OS-PT	Operations Support Packaging and Transportation
OSR	Off-Site Source Recovery
OSRP	Off-Site Source Recovery Program
PAAA	Price-Anderson Amendments Act
PE-Ci	Plutonium Equivalent Curies
PDP	Performance Demonstration Program
PID	Prohibited Item Disposition
PMP	Performance Management Plan
QA	Quality Assurance
QAPD	Quality Assurance Program Document
QSL	Qualified Suppliers List
RANT	Radioassay and Nondestructive Testing
RCRA	Resource Conservation and Recovery Act
RCT	Radiological Control Technician
RDL	Responsible Division Leader
RH	Remote-Handled
RMA	Radioactive Materials Area
RWP	Radiation Work Permit
sftp	secure file transfer protocol
SOW	Statement of Work
SPM	Site Project Manager
STR	Subcontract Technical Representative
SWB	Standard Waste Box
TA	Technical Area
TCO	Transportation Certification Official
TLD	Thermoluminescent Dosimeters
TRAMPAC	Transuranic Authorized Methods for Payload Control
TRU	Transuranic
TRUPACT	Transuranic Package Transporter
TRUPACT-II	Transuranic Package Transporter Model II
TRU Waste	Waste containing more than 100 nanocuries (nCi) of alpha emitting Transuranic isotopes per gram of waste with half-lives >20 years (for payload containers)
TWOM	TRU Waste Operations Manager
TSCA	Toxic Substances Control Act
TSR	Technical Safety Requirements
UCNI	Unclassified Controlled Nuclear Information
USQD	Unreviewed Safety Question Determination

Attachment 1 – Acronyms and Key Definitions (Continued)

VE	Visual Examination
VPM	Vendor Project Manager
WAC	Waste Acceptance Criteria
WCO	Waste Certification Official
WCRRF	Waste Characterization, Reduction, and Repackaging Facility
WIPP	Waste Isolation Pilot Plant
WIPP Requirements	Requirements contained in references identified in documents contained in Section 2.2 of the Interface Document
WSPF	Waste Stream Profile Form
WWIS/WDS	WIPP Waste Information System/Waste Data System

Attachment 2 – Reference Documents

DOE Carlsbad Documents:

- *Waste Isolation Pilot Plant Hazardous Waste Facility Permit*, EPA No. *Waste Analysis Plan*
- DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document*
- DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
- DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*
- DOE/CBFO-01-1005, *Performance Demonstration Program Plan for Nondestructive Assay of Drummed Wastes for the TRU Waste Characterization Program*
- DOE/CBFO-95-1076, *Performance Demonstration Program Plan for Analysis of Simulated Headspace Gases*

First-Tier Coordination Documents:

- *Statement of Work for Characterization of LANL TRU Waste (Contact Handled and Remote Handled)*
- FTA-WFM-023, *Agreement between FWO-Waste Facility Management*
- *First-Tier Coordination Documents for the RH TRU Waste Characterization Program Implementation Plan*

First-Tier Certification Documents:

- WP 13-1, Nuclear Waste Partnership LLC, *Quality Assurance Program Description*
- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*

Attachment 2 – Reference Documents (Continued)

- CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)*

Lower-Tier Documents:

- CCP-AK-LANL-004, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory TA-50 Mixed Transuranic Waste Waste Streams: LA-MIN03-NC.001, LA-CIN02.001, LA-MHD09.001*

- CCP-AK-LANL-006, Central Characterization Program Acceptable Knowledge Summary Report For *Los Alamos National Laboratory TA-55 Mixed Transuranic Waste Waste Streams: LA-MHD01.001, LA-CIN01.001, LA-MIN02-V.001, LA-MIN04-S.001*

- CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources Waste Streams: LA-OS-00-01.001, LA-OS-00-03, and LA-OS-00-04*

- CCP-AK-LANL-009, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Chemistry and Metallurgy Research (CMR) Facility Waste Streams: LA-MHD03.001, LA-CIN03.001*

- CCP-AK-LANL-010, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory TA-21 DP West Facility Waste Streams: LA-MHD04.001, LA-MSG04.001*

- CCP-CM-001, *CCP Equipment Change Authorization and Documentation*

- CCP-CM-003, *CCP HighEfficiency Neutron Counter (HENC-01) (Equipment #NDA-HENC-01) Equipment Description*

- CCP-CM-018, *CCP Real-Time Radiography MCS Unit #3 LANL Unit #2 (RTR #2) (Equipment #NDE-RTR-03/LANL-RTR-02) Equipment Description*

- CCP-CM-024, *CCP High-Efficiency Neutron Counter (HENC-02) (Equipment #NDA-HENC-02) Equipment Description*

- CCP-CM-028, *CCP Real-Time Radiography LANL Unit #1 (Equipment #LANL-RTR-01) Equipment Description*

Attachment 2 – Reference Documents (Continued)

Lower-Tier Documents (Continued):

- CCP-HSP-014, *Health and Safety Program Implementation for CCP*
- CCP-PO-005, *CCP Conduct of Operations*
- CCP-PO-006, *CCP Conduct of Operations Matrix*
- CCP-PO-012, *CCP/Los Alamos National Laboratory (LANL) Interface Document*
- CCP-PO-016, *CCP Gas Generation Testing Quality Assurance Project Plan*
- CCP-PO-026, *CCP Configuration Management*
- CCP-QP-001, *CCP Graded Approach*
- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, *CCP Records Management*
- CCP-QP-010, *CCP Document Preparation, Approval, and Control*
- CCP-QP-016, *CCP Control of Measuring and Testing Equipment*
- CCP-QP-022, *CCP Software Quality Assurance Plan*
- CCP-QP-040, *Support Training*
- CCP-TP-001, *CCP Project Level Data Validation and Verification*
- CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*
- CCP-TP-003, *CCP Data Analysis for S3000, S4000, and S5000 Characterization*
- CCP-TP-005, *CCP Acceptable Knowledge Documentation*

Attachment 2 – Reference Documents (Continued)

Lower-Tier Documents (Continued):

- CCP-TP-030, *CCP CH TRU Waste Certification and WWIS/WDS Data Entry*
- CCP-TP-033, *CCP Shipping of CH TRU Waste*
- CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*
- CCP-TP-054, *CCP Adjustable Center of Gravity Lift Fixture Preoperational Checks and Shutdown*
- CCP-TP-055, *CCP Varian Porta-Test Leak Detector Operations*
- CCP-TP-059, *CCP Operating the Super High Efficiency Neutron Counter (SuperHENC) Using NDA 2000*
- CCP-TP-063, *CCP Operating the High Efficiency Neutron Counter Using NDA 2000*
- CCP-TP-064*, CCP Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000*
- CCP-TP-066, *CCP Radiography Screening Procedure for Prohibited Items*
- CCP-TP-068, *CCP Standardized Container Management*
- CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*
- CCP-TP-082, *CCP Waste Container Filter Vent Operation*
- CCP-TP-083, *CCP Gas Generation Testing*
- CCP-TP-086, *CCP CH Packaging Payload Assembly*
- CCP-TP-089, *CCP Mobile Gas Generation Testing Sampling System (MGSS) Sampling Operation*
- CCP-TP-101, *CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization*
- CCP-TP-103, *CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000*

Attachment 2 – Reference Documents (Continued)

Lower-Tier Documents (Continued):

- CCP-TP-107, *CCP Operating the High Efficiency Neutron Counter #3 (HENC #3) Using NDA 2000*
- CCP-TP-108, *CCP Calibrating the High Efficiency Neutron Counter #3 (HENC #3) Using NDA 2000*
- CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination*
- CCP-TP-120, *CCP Container Management*
- CCP-TP-121, *CCP RTR #1 Operating Procedure*
- CCP-TP-122, *CCP RTR #2 Operating Procedure*
- CCP-TP-198, *CCP HE-RTR Operating Procedure*
- CCP-TP-506, *CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report*
- CCP-TP-507, *CCP Shipping of Remote-Handled Transuranic Waste*
- CCP-TP-530, *CCP RH TRU Waste Certification and WWIS/WDS Data Entry*
- DOE/WIPP 02-3183, *CH Packaging Program Guidance*
- DOE/WIPP 02-3184, *CH Packaging Operations Manual*
- DOE/WIPP 02-3220, *CH Packaging Operations for High-Wattage Waste*
- DOE/WIPP 02-3283*, RH Packaging Program Guidance*
- DOE/WIPP 02-3284*, RH Packaging Operations Manual*
- DOE/WIPP 02-3285*, RH Packaging Maintenance Manual*
- DOE/WIPP 06-3345*, Waste Isolation Pilot Plant Flammable Gas Analysis*
- WP 08PT.13 *RH-TRU 72-B Cask Uprighting Trailer Operation and Maintenance Manual*
- WP 15-GM1002, *Issues Management Processing of WIPP Forms*

Attachment 3 – LANS Host Site Required Documents

Upper-Tier LANL Documents:

- Integrated Work Management, P 300
- Verification of Readiness to Start Up or Restart LANL Nuclear Facilities, Activities, and Operations, P 115
- Procedure for pause/stop work, P 101-18
- Cryogenic Fluids or Cryogens, P 101-5
- Lockout/Tagout for Hazardous Energy Control, P 101-3
- Personal Protective Equipment, P 101-6
- Cranes, Hoists, Lifting Devices, and Rigging Equipment, P 101-25
- LANL Emergency Management, PD 1200-1
- Waste Management , P 409
- LANL Packaging and Transportation
- Integrated Safeguards and Security Management, SD 200
- Nuclear Safeguards, PD205
- Performance Improvement from Abnormal Events , P 322-3
- Hazardous Waste Operations and Emergency Response Training Requirements
- LANL Fire Protection Program, PD 1220
- Radiation Protection, P 121-1
- Institutional Service Model for Facility Management and Operations
- 10 CFR Part 830, *Nuclear Safety Management*
- 10 CFR Part 835, *Occupational Radiation Protection*
- 10 CFR Part 851, *Worker Safety and Health Program*

Attachment 3 – LANS Host Site Required Documents (Continued)

Upper-Tier LANL Documents (Continued):

- Title 40 CFR, *Protection of Environment*
- Title 49 CFR, *Transportation*

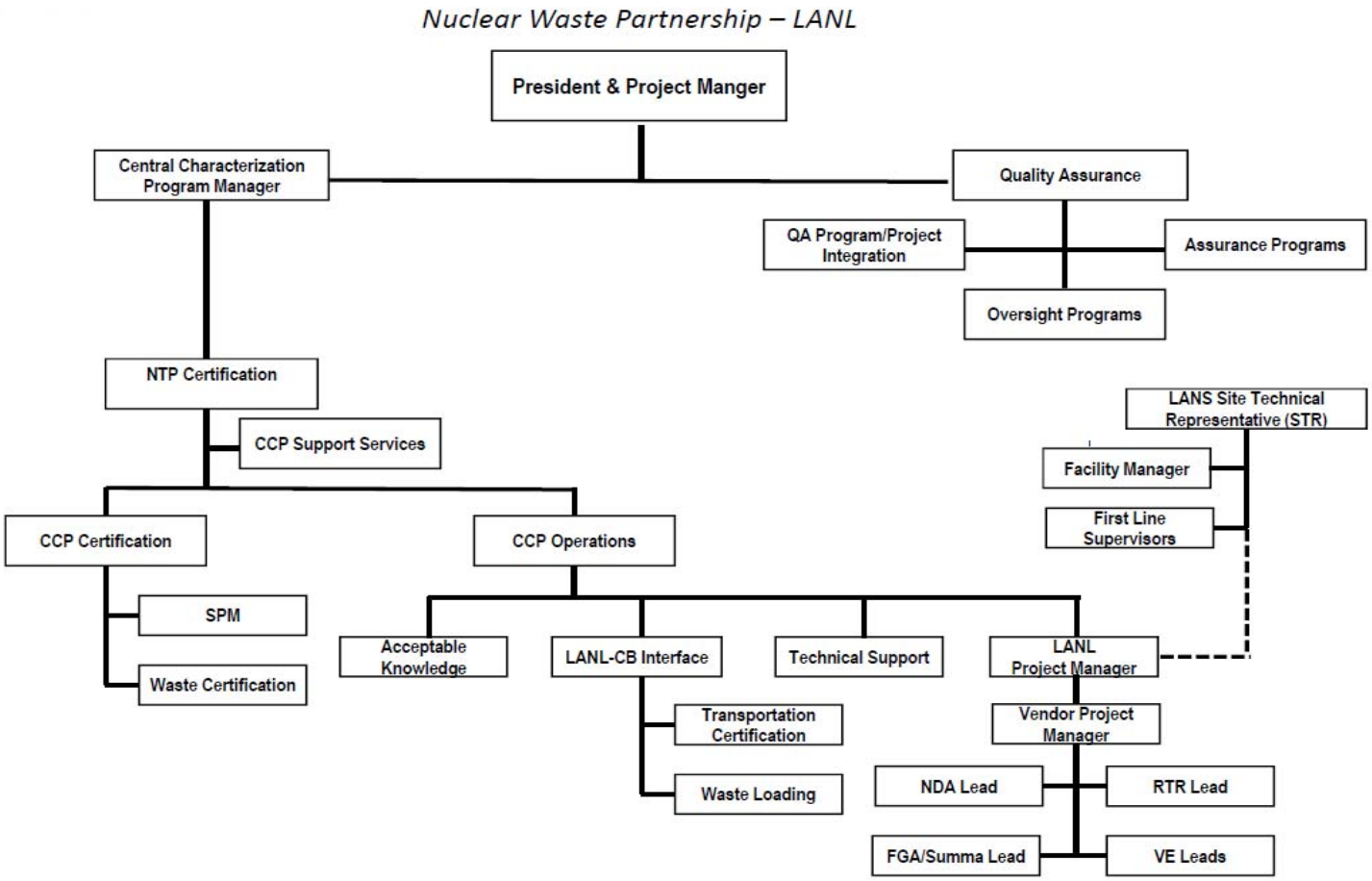
Lower-Tier LANL Documents:

- EP-DIR-AP-10001*, ADEP Document Control*
- EP-PLAN-3201*, TA-54 Health and Safety Plan*
- *Real Time Radiography (RTR) Quick Scan Operations*

Attachment 4 – LANL Responsibilities Crosswalk

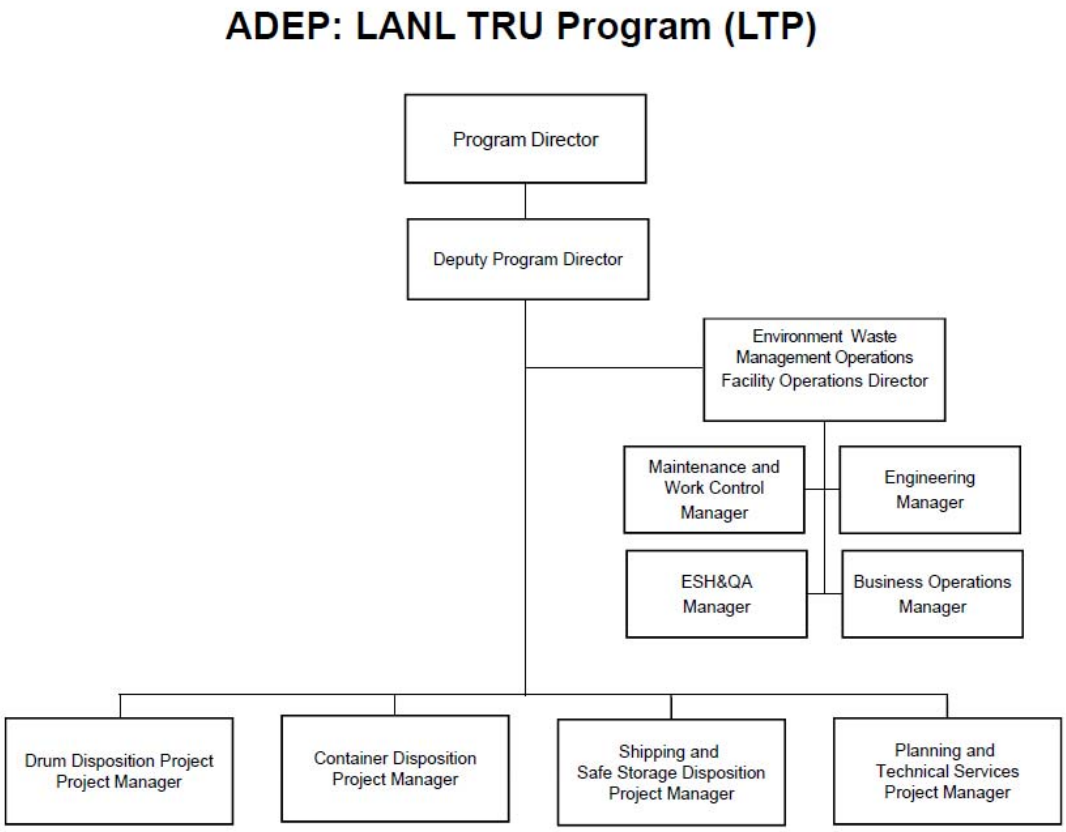
TA-54	TA-55
LANS LTP Director/Designee	Nuclear Process Infrastructure (NPI) Division Leader
Environmental Waste Management Operations (EWMO) Facilities Operations Director/Designee	TA-55 Facility Operations Director
LTP Production Control Manager	Production Planning and Control (NPI-2)
LTP Shipping and Safe Storage Manager (SSS-PM)	Hazardous Materials Management (NPI-7)
LANL LTP Source Custodian	NPI-7 Source Custodian
LANL Industrial Hygiene Support	Environment Safety and Health Deployed Services (DSESH-TA55)

Figure 1. Nuclear Waste Partnership – LANL



Controlled
Copy

Figure 2. Waste Disposition Project



Controlled
Copy

CCP-QP-002

Revision 38

CCP
Training and Qualification Plan

EFFECTIVE DATE: 08/07/2014

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
9	02/20/2002	Major rewrite to streamline and create a more concise procedure. Document reduced from 57 pages to 16 pages.
10	06/05/2002	Added References. Changes to CCP Technical Supervisor responsibilities. Added Training Evaluations to Records section. Deleted 4.2.5 Audit Personnel Qualifications. Other changes for clarification and consistency.
11	09/12/2002	Deleted Sections 3.3.2 and 3.3.3.
12	10/24/2002	Added Steps 3.8.2 and 3.8.3 in response to SRS Recertification Audit.
13	06/30/2003	Added NDE RTR Section, revised qualification letter and other minor editorial changes. Separated electronically fillable forms and updated references in procedure.
14	12/02/2003	Revision initiated to address CAR# 04-002 identified during CBFO audit A-04-03 and CAR# CCP-0009-03. Added information about RTR audio/videotapes and Capability Demonstrations. Added paragraph 4.2.3[A.5] discussing qualification card addenda. Added section 4.2.4[C] discussing FQAO appointment requirements.
15	03/10/2004	Added Capability Demonstration Instructions (Attachment 2) and CCP Capability Demonstration Data Sheet (Attachment 3 or CCP-QP-002-A1).
16	12/07/2004	Deleted the Technical Supervisor responsibilities section and incorporated them into the Vendor Project Manager responsibilities. Added partial qualification section. Removed requirement for the Site Project Manager to appoint the Facility Quality Assurance Officer by letter.
17	06/06/2005	Addressed CAR 05-029 and CAR 05-033 identified during Carlsbad Field Office (CBFO) Audits A-05-09 and A-05-12. Areas modified were qualification requirements for Nondestructive Assay (NDA) Expert Analyst and examination requirements for Central Characterization Project (CCP) Helium Leak Detection (HLD) Level III.
18	12/13/2005	Clarified roles and responsibilities in reviewing Capability Demonstration training audio/video media and modified Attachment 3 – CCP Capability Demonstration Data Sheet.
19	12/15/2005	Clarification for Level of Qualification in step 4.2.2[B.1].

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
20	05/03/2006	Addressed CAR-RHINL-0001-06. Incorporated Remote-Handled waste training and position requirements. Restructured for improved flow.
21	06/13/2006	Updated step 4.2.5 to delete the word “training” from the requirements for VE Operator/ITR/TS/FQAO.
22	11/16/2006	Revised to implement the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/Remote-Handled (RH) Permit Modification Request (PMR). Addressed Carlsbad Field Office (CBFO) Document Review Record (DRR) comments.
23	02/01/2007	Revised to address CCP Quality Assurance Surveillance Number SUR-CCP-0005-06.
24	02/27/2007	Revised to address concern raised during Surveillance #S-07-18.
25	05/08/2007	Revised to address Corrective Action Report (CAR) SRS-0002-07.
26	02/07/2008	Revised to address U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) Corrective Action Report (CAR) 08-004.
27	09/30/2008	Revised to change nondestructive examination (NDE) to comply with Management Assessment MA-CCP-0023-08. Also revised Section 5.1.1[J] in response to Carlsbad Field Office (CBFO) Corrective Action Report (CAR) 08-036.
28	05/26/2010	Revised to address Corrective Action Report (CAR)-CCP-0012-09, to clarify Acceptable Knowledge (AK) briefings, training for solids lab, and approval process for training material. References to Central Characterization Project (CCP) Program Manager/Project Manager were removed and the responsibilities assigned to the Lead Site Project Manager and CCP Manager responsible for Training.
29	07/08/2010	Revised to incorporate changes into Attachment 4, CCP Test Drum Data Sheet for Contact-Handled Waste, and other minor editorial changes.
30	12/29/2010	Revised to bring into compliance with the revision of the Waste *Isolation Pilot Plant Hazardous Waste Facility Permit.*

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
31	04/21/2011	Revised based on Revision 2 of the DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*.
32	04/03/2012	Revised to simplify the process for tracking waste stream Summary Training in Section 4.2. Added full requalification as an option in Section 4.1.2 [I]. Added the Training Module in Integrated Data Center (IDC) as a source of Training information to the note in Section 4.1. Incorporated Standing Orders CCP-SO-051 in Section 4.4.1[C], CCP-SO-069 in Section 4.2, and CCP-SO-078 in Section 4.1.2[F]. Expanded Section 4.1.1 to add a documented analysis of positions requiring qualification, in response to Carlsbad Field Office (CBFO) Corrective Action Report (CAR) 12-010.
33	08/30/2012	As a corrective action in response to CBFO CAR 12-033, revised the document to remove references to Lead SPMs and Alternate SPMs, so that any qualified SPM may perform the actions in Section 3.1.
34	01/30/2013	Revised to incorporate Standing Order CCP-SO-086, *Clarification of the Time Period for Performance of the RTR Semiannual Training Container Required by CCP-QP-002*; incorporate changes to DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*; update the title of the organization, as appropriate; and minor editorial changes.
35	06/06/2013	Revised to implement the Permit Modification Request Class 2 approved by New Mexico Environment Department (NMED) dated March 13, 2013 and CAR-CCP-0003-13.
36	03/31/2014	Revised to incorporate changes in response to U.S. Environmental Protection Agency (EPA) Issue Tracking Form ORNL-CCP-CC-RTR-2014-02CR: adding a requirement for a written record for the Training Container, to be filled out by the operator for the review by the Cognizant Engineer (CE), and adding a place on the Training Container evaluation sheet for operator acknowledgement of counseling for any missed items. Also incorporated Standing Order CCP-SO-110.

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
37	05/12/2014	In response to Carlsbad Field Office of the Department of Energy (CBFO) corrective active report (CAR) 14-030, revised the NOTE in Section 3.4 to clarify that the preferred method for determining an Subject Matter Expert (SME)/On-the-Job Training (OJT) candidate's education and experience is by reviewing the individual's resume, but whatever method is used must be explicitly stated in the documentation provided to Training by the site project manager (SPM). Also added a new Attachment 7 as a template for appointment letters to be issued by the SPM, which may be customized as necessary.
38	08/07/2014	Update the title of the organization from National TRU Program Certification (NTPC) to Central Characterization Program (CCP), clarify when Attachment 7, SPM Appointed Letter, is to be used, allow the acceptable knowledge expert (AKE) to give the waste stream summary training in addition to the Site Project Manager (SPM), add written notifications to the Records Section, delete the Operator/Independent Technical Reviewer (ITR) box in Attachment 7. Reorganized Section 4.3.2 to improve the flow of the sequence in steps.

TABLE OF CONTENTS

1.0 PURPOSE 7
1.1 Scope 7

2.0 REQUIREMENTS 8
2.1 References 8

3.0 RESPONSIBILITIES 10
3.1 Site Project Manager (SPM) 10
3.2 Vendor Project Manager (VPM) 11
3.3 Training 12
3.4 SME/OJT Instructor 14
3.5 Personnel 15
3.6 Trainee 15
3.7 Manager Responsible for Training 15
3.8 Cognizant Engineer (CE) 15

4.0 PROCEDURE 17
4.1 General Training Requirements 17
4.2 Waste Stream Summary Training 20
4.3 Specific Qualification and Training Requirements 21
4.4 Appointments 27

5.0 RECORDS 29

LIST OF ATTACHMENTS

Attachment 1 – Minimum Training, Education, and/or Experience 31
Attachment 2 – Test Drum Instructions for Contact-Handled Waste Drums 32
Attachment 3 – Test Drum Data Sheet for Contact-Handled Waste 35
Attachment 4 – Training Container Instructions 37
Attachment 5 – Training Container Data & Evaluation Sheet 39
Attachment 6 – Annual Record of Eye Examination 40
Attachment 7 – SPM Appointment Letter 41

1.0 PURPOSE

NOTE

CCP-QP-040, *Support Training,* applies to those activities that do not fall under the scope of CCP-QP-002, *CCP Training and Qualification Plan* as defined herein. CCP-QP-040 applies to those positions which are not covered by the baseline documents listed in Section 2.1 of this document.

This plan describes the responsibilities of personnel involved in the Central Characterization Program (CCP) Qualification and Training Program. This plan also describes the process for identifying qualification and training requirements for all personnel and technical support personnel, who perform characterization, packaging, certification, and activities.

1.1 Scope

This plan applies to all personnel who conduct quality-affecting activities associated with transuranic (TRU) waste under the CCP, including characterization, packaging, certification, and transportation.

Personnel under this plan are qualified and trained to ensure suitable proficiency is achieved and maintained for assigned tasks. Training and qualification requirements are commensurate with the nature of the activities and level of responsibility.

Training will emphasize the correct performance of work, provide a description of why quality, safety, and TRU waste characterization and certification requirements exist, and describe the fundamentals of the work and its context.

Training will be subject to an on-going evaluation to determine instruction and training program effectiveness and will be upgraded whenever needed improvements or enhancements are identified.

Controlled
Copy

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- DOE/WIPP 02-3183, *CH Packaging Program Guidance*
- DOE/WIPP 02-3184, *CH Packaging Operations Manual*
- DOE/WIPP 02-3185, *CH Packaging Maintenance Manual*
- NRC Docket 71-9212, *RH-TRU 72-B Safety Analysis Report*, Rev. 3, November 2002
- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-003, *CCP Transuranic Authorized Methods For Payload Control (CCP CH-TRAMPAC)*

Referenced Documents

- DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
- ASNT SNT-TC-1A, *Recommended Practice for Personnel Qualification and Certification in Nondestructive Testing,* American Society for Nondestructive Testing (1980 Edition)
- ASTM C1490, *Standard Guide for the Selection, Training, and Qualification of Nondestructive Assay (NDA) Personnel*
- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, *CCP Records Management*
- CCP-QP-030, *CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel*
- CCP-QP-032, *CCP Written Practice for the Qualification of CCP Pressure Change Leak Testing Personnel*
- CCP-QP-040*, Support Training*

- CCP-TP-028, *CCP Radiographic Test Drum and Training Container Construction*
- WP 15-GM1002, *Issues Management Processing of WIPP Forms, Management Control Procedure*

3.0 RESPONSIBILITIES

3.1 Site Project Manager (SPM)

3.1.1 Oversees planning, characterization, and certification activities.

3.1.2 Ensures personnel are qualified and trained to perform their assigned job functions.

3.1.3 Determines initial and continuing qualification and training requirements in cooperation with appropriate Cognizant Engineer (CE), Manager Responsible for Training, and Training to ensure job proficiency is maintained.

NOTE

Staffing changes includes situations where individuals are brought into or re-assigned in the program (these qualified positions can be either project level or operational level).

3.1.4 Notifies Training of staffing changes and candidates for job positions and provides supporting documentation (e.g., resumes, certificates, diplomas, training records).

3.1.5 Verifies education/experience requirements for Nondestructive Assay (NDA) Expert Analysts (EA).

NOTE

Attachment 7, SPM Appointment Letter, is a template to be used by the Site Project Manager (SPM) when appointing NDA EA(s), Remote-Handled (RH) Technical Staff, Subject Matter Experts (SME), or Visual Examination Experts (VEE). As a template/outline, it may be customized by the SPM, as necessary.

3.1.6 Using Attachment 7, appoints the following based on education and experience, as applicable:

[A] NDA EA

[B] RH Technical Staff

[C] Qualified personnel as SME/OJT Instructors

[D] VEE

3.1.7 Reviews and approves Qualification Cards.

3.1.8 Ensures project personnel who are assigned to perform project activities that affect quality:

[A] Are cognizant of the qualification and training requirements of this plan.

[B] Satisfy qualification and training requirements for the tasks associated with their assigned job classification(s).

3.1.9 Ensures the requirements of this plan are implemented, as follows:

[A] Personnel receive training and qualification, as necessary, to achieve initial proficiency, maintain proficiency, and adapt to changes in technology, methods, job responsibilities, and quality implementing procedures, prior to performing or verifying any waste characterization, certification, or transportation activities.

3.1.10 Ensures qualification and training documentation is complete and is submitted to Training.

3.1.11 Evaluates and documents personnel job performance at periodic intervals (as a minimum, during requalification).

3.1.12 Notifies the Manager Responsible for Training when full requalification is required (e.g., when an individual has been disqualified for unsatisfactory performance).

3.1.13 Analyzes positions to determine major job/task responsibilities as a basis for preparation of qualifications cards (shared responsibility).

3.2 Vendor Project Manager (VPM)

3.2.1 May administer the annual eye examination.

3.2.2 Notifies Training when qualified operations personnel leave the program (e.g., a subcontractor's employment has been terminated).

3.3 Training

3.3.1 Determines initial and continuing qualification and training requirements for positions in cooperation with an appropriate SME/OJT Instructor, the CE, a SPM, and the Manager Responsible for Training using a graded approach that is commensurate with scope, complexity, and nature of the work to include:

[A] Descriptions of the fundamentals of the work and the context in which the work is performed.

[B] Identification of the applicable quality and safety requirements related to job performance.

[C] Emphasis on the correct performance of work in accordance with established procedures and/or other relevant technical documents.

[D] Inclusion of education in both principles and enhancement of skills.

3.3.2 Supports an SPM in evaluating training and qualification requirements of each position. This may be done by, but is not limited to, evaluating training requirements using a training analysis. The analysis will result in an approved task list from which tasks may or may not be selected for training. When completed, the analysis will be signed by participants, and the task list reviewed and approved by the designated SME/OJT, the CE (if applicable), an SPM, and the Manager Responsible for Training for completeness of training requirements.

3.3.3 Develops, implements, and monitors training required to maintain qualification of personnel.

3.3.4 Ensures project-required training effectiveness is reviewed when the need for improvements or enhancements is identified, and ensures the training program is updated.

3.3.5 Maintains documentation of current personnel training status.

3.3.6 Issues approved training materials and assists in the completion of qualifications and training activities.

3.3.7 Prepares Qualification Cards.

3.3.8 Returns incomplete/incorrect training materials to candidate's manager, as applicable.

Controlled
Copy

3.3.9 Provides qualification cards to an SPM for review and approval.

3.3.10 Ensures qualification/training records and supporting documentation (including audio/video recorded media for test drums and training containers) are maintained, secured, and controlled in accordance with CCP-QP-008, *CCP Records Management*.

3.3.11 Prepares list of qualified individuals (LOQIs) delineating those individuals who have completed Qualification Cards, and distributes to the applicable site.

3.3.12 Reviews, develops, and approves Comprehensive Examinations for thoroughness and adequacy.

3.3.13 Reviews real-time radiography (RTR) completed Attachment 3, Test Drum Data Sheet for Contact-Handled Waste, audio/video recorded media, in accordance with CCP-QP-008.

3.3.14 Reviews (RTR) completed Attachment 5, Training Container Data & Evaluation Sheet, audio/video recorded media, in accordance with CCP-QP-008.

3.4 SME/OJT Instructor

NOTE

Before any OJT can be performed, it is necessary to initially qualify one SME/OJT Instructor for each discipline based on education and experience. The basis for SME/OJT Instructor qualification will be provided by an SPM and documented in the applicable Training files. The normal and preferred method for determining an SME/OJT candidate's education and experience is by reviewing the individual's resume, but whatever the method, it must be explicitly stated on Attachment 7, which is provided to Training by the SPM. The qualification is by discipline and is non-site specific. The basis for qualification will be used to complete a qualification card for the candidate as an SME/OJT Instructor. The successful candidate will be added to the appropriate LOQI(s) once the qualification card is complete.

The SME/OJT Instructor will have adequate education and/or technical knowledge in the applicable discipline, communication skills, and ability to provide trainees with hands-on experience, as determined by an SPM. Technical knowledge may be based on experience with the applicable process or involvement in development of operational procedures or qualification requirements for the applicable process.

The Mobile Loading Unit (MLU) Field Operations Manager (or designee) will appoint SME/OJTs for Transportation activities.

All SME/OJT candidates must complete the SME/OJT briefing and pass the SME/OJT exam.

3.4.1 Provides supervised hands-on training in the work environment to accomplish performance objectives of the training tasks.

3.4.2 Determines initial and continuing qualification and training requirements for CCP positions in cooperation with an SPM, the CE, the Manager Responsible for Training, and Training.

3.4.3 Ensures trainee(s) have satisfactory knowledge of and competence in skills requirements, as defined on the Qualification Card.

3.4.4 Verifies the correct revision of the qualification card is being used.

3.4.5 Signs and dates Qualification Card, indicating acceptable performance levels are met.

3.4.6 Provides all training documentation generated to Training in accordance with CCP-QP-008.

3.4.7 Analyzes positions to determine major job/task responsibilities as a basis for preparation of qualifications cards (shared responsibility).

3.5 Personnel

3.5.1 Provides copies of their qualification documents (e.g., resumes, education, and experience) to an SPM or Training, as applicable.

3.5.2 Completes initial training in accordance with this procedure, as stated on each individual's Qualification Card.

3.5.3 Ensures qualification requirements are completed and signed off before performing assigned tasks without supervision.

3.5.4 Maintains requisite qualifications throughout the duration of work.

3.5.5 Attends CCP and site-specific training, as necessary.

3.6 Trainee

3.6.1 Completes Qualification Card(s) in a timely manner.

3.6.2 Works only under the supervision of a qualified operator or a SME/OJT Instructor.

3.7 Manager Responsible for Training

3.7.1 Reviews and approves all training material for applicability and technical content.

3.7.2 Determines when full requalification is required.

3.7.3 Analyzes positions to determine major job/task responsibilities as a basis for preparation of qualifications cards (shared responsibility).

3.8 Cognizant Engineer (CE)

NOTE
A CE is not required for Transportation or Acceptable Knowledge (AK).

3.8.1 The CE is designated for each specific process by the CCP Manager based on their education, knowledge, and experience for the characterization process.

Controlled
Copy

3.8.2 The CE has overall responsibility for the implementation and quality of the characterization activity.

3.8.3 The CE reviews material developed by Training for applicability and technical content.

3.8.4 Analyzes positions to determine major job/task responsibilities as a basis for preparation of qualifications cards (shared responsibility).

3.8.5 Reviews and evaluates training containers for RTR personnel.

3.8.6 Evaluates the training documentation for RTR personnel and determines if they meet the requirements for certification.

Controlled
Copy

4.0 PROCEDURE

4.1 General Training Requirements

NOTE
The Training Module in the Integrated Data Center (IDC) provides information that may be used to update and maintain the information in documents provided by training, such as the LOQI. Such usage will be described in the applicable sections of this procedure.

4.1.1 Personnel selected to perform or verify CCP activities will have the education, experience, and training commensurate with job position requirements. The need for job position Qualification Cards will be determined by an SPM, the CE, and the Manager Responsible for Training.

[A] Job position requirements will be analyzed and documented to determine the major duties and tasks associated with the position, as a basis for developing the Qualification Card for each activity requiring qualification. The analyses will be performed by an SPM, a SME/OJT Instructor, the CE (if applicable), and the Manager Responsible for Training.

[B] A separate analysis may not be required for new positions where the major duties and tasks are closely-related to those for an existing, already-analyzed position. This determination will be made and documented by the performers identified in [A], above.

4.1.2 All training candidates are required to complete a Qualification Card to verify that they possess the knowledge and skills necessary to competently perform specified tasks.

[A] Qualification Cards technical content will be determined by a SME/OJT Instructor, the CE, the Manager Responsible for Training, and an SPM based on project requirements and federal and state regulations.

NOTE

The qualification cards for Helium Leak Detection Personnel are issued in accordance with CCP-QP-030, *CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel*. The qualification cards for Pressure Change Leak Testing (PCLT) personnel are issued in accordance with CCP-QP-032, *CCP Written Practice for the Qualification of CCP Pressure Change Leak Testing Personnel*.

[B] All Qualification Cards shall be issued by Training.

[C] The SME will verify current revision.

[D] Training will verify that prerequisites are met.

[E] Upon completion of the Qualification Card, candidates are considered qualified to perform their respective duties.

[F] The Qualification Cards will contain the following information:

[F.1] Name of job position.

[F.2] Revision number and effective date.

[F.3] Trainee's name.

[F.4] Signature spaces for approvals of format, technical content, and use by a SME/OJT, the CE, an SPM, and the Manager Responsible for Training, as applicable.

[G] The Qualification Card will be divided into the following parts, as applicable:

[G.1] Education/Experience.

[G.2] Job Specific Training (which may include):

- Indoctrination/Orientation
- Initial Reading
- Formal Training
- National Standards Certifications
- OJT
- Signature line and date for trainee
- Approval section for a SME/OJT
- Approval section for an SPM

Controlled
Copy

[G.3] If a Qualification Card requires changes, the following is performed:

(a) Training, prepare the revised Qualification Card, using the next sequential revision number.

(b) Training, route the revised Qualification Card to the following for review and approval: a SME/OJT, the CE (if applicable), an SPM, and the Manager Responsible for Training.

(c) Training, upon approval, place a new effective date on the Qualification Card and issue the Qualification Card.

[G.4] Other required formal training materials, such as the Waste Analysis Plan (WAP)/Quality Assurance Project Plan (QAPjP) Briefing or training determined by a training evaluation (i.e., classroom, OJT, or self-paced instruction) shall be approved for format, technical content, and use by an SPM and the Manager Responsible for Training.

(a) As initial and continuing qualification and training requirements change, these approved training materials shall be revised by Training.

(b) All approved training materials shall be maintained, secured, and controlled by Training.

[H] Operational Positions (e.g., RTR, NDA, etc.) require requalification every two (2) years. Exceptions are: Helium Leak Detection (HLD) Level III (Limited) has a three year requalification requirement. If necessary, additional training may be required by an SPM, or the Manager Responsible for Training. The sections of the qualification card that must be re-performed during each requalification are identified on the Qualification Cards.

NOTE

Requalifications are due by the end of the month in which the qualification period falls, unless a specific date is listed on the qualification card.

[I] Requalification of Project Office positions is not required.

[J] Unsatisfactory performance will result in disqualification by the Manager Responsible for Training. The candidate must successfully complete a full requalification (i.e., repeat the entire Qualification Card) to re-establish qualification.

[K] Full requalification is also required when an SPM and the Manager Responsible for Training jointly determine that an individual has not been performing in the qualified function for a significant period of time, due to re-assignment and return, or extended absence from the position for other reasons. Typically, full requalification would apply after an absence from the position of more than one year; however, there may be extenuating circumstances and each occurrence is reviewed and documented on a case-by-case basis.

4.1.3 Completion of the Waste Isolation Pilot Plant (WIPP) WAP/QAPjP Briefing is a pre-requisite for all personnel before they perform *Waste Isolation Pilot Plan-Waste Analysis Plan* (WIPP-WAP) specific tasks.

NOTE

RTR and visual examination (VE) personnel shall be trained on newly developed and revised waste stream reports which change the waste generating processes, packaging, and expected waste material parameters (WMP) expected to be found in each Waste Matrix.

4.2 Waste Stream Summary Training

4.2.1 SPM forward the newly issued or revised AK to the Vender Project Manager (VPM) at the Host location where the AK applies.

4.2.2 SPM in conjunction with Acceptable Knowledge Expert (AKE), develop the AK training in the form of a briefing which identifies as a minimum the following:

- Specific waste generating processes
- Packaging
- WMP for the waste matrix code

4.2.3 SPM or AKE, provide the briefing to the required RTR and VE personnel.

4.2.4 SPM or AKE, submit the briefing materials and the completed briefing sheet(s) (or personnel can send individual e-mail acknowledgements) to Training.

4.2.5 Training, update the LOQI for all personnel who received the briefing, showing that they are qualified to perform work on the identified waste stream.

[A] Remove the qualified status for the identified waste stream from the LOQI when either:

[A.1] The SPM so directs, because the waste stream is no longer active, or

[A.2] The Training Module in the IDC shows that the waste stream is no longer active.

4.3 Specific Qualification and Training Requirements

4.3.1 Acceptable Knowledge (AK) Personnel

[A] Personnel assigned to compile, evaluate, and resolve discrepancies associated with AK information, require the following:

[A.1] WIPP-WAP Briefing.

[A.2] Waste Acceptance Criteria (WAC) knowledge.

[A.3] DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan* knowledge.

[A.4] Training on Federal and State Resource Conservation and Recovery Act (RCRA) regulations associated with solid and hazardous waste determinations. Training requirement will be satisfied by documented completion of a formal RCRA training program, (e.g., a commercially available RCRA Seminar, or an SPM's documented evaluation of adequate training and/or experience).

[A.5] Knowledge of procedures associated with:

(a) Waste characterization using AK.

(b) AK records development including AK discrepancy resolution.

(c) Nonconformance Report (NCR) process in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*.

(d) WIPP Form process, in accordance with WP 15-GM1002, *Issues Management Processing of WIPP Forms, Management Control Procedure*.

[A.6] Knowledge of resolving and managing prohibited items as noted in nonconformance reporting.

4.3.2 RTR Operator/Independent Technical Reviewer (ITR)

[A] Qualification Process

[A.1] Education, Training, and Experience Requirements

(a) Personnel considered for qualification in RTR must have sufficient education, training, and experience to ensure understanding of the principles and procedures.

(b) Education requirements are listed in Attachment 1, Minimum Training, Education, and/or Experience. Personnel being considered for qualification as an RTR Operator/ITR will complete organized training to become familiar with the principles and practices of the applicable RTR method.

(c) Any previous training and experience gained in a position similar to the RTR Operator/ITR position may be considered in satisfying the qualification criteria of this procedure and shall be documented in the Training file (i.e., resume).

[A.2] All RTR personnel will be trained to the guidance of American Society for Nondestructive Testing (ASNT) Recommended Practice Number SNT-TC-1A, *Recommended Practice for Personnel Qualification and Certification in Nondestructive Testing,* modified to suit the RTR application/method.

(a) A certificate from an approved vendor stating that the individual operator is qualified RTR operator Level II (L) SNT-TC-1A will be provided to Training.

[A.3] An individual qualifying as an RTR Operator/Independent Technical Reviewer (ITR) is considered a trainee. A trainee will work only under the supervision of a qualified operator or SME/OJT Instructor.

[A.4] To be considered for qualification as an RTR Operator/ITR, the trainee must:

(a) Pass the required examinations as listed in Section 4.3.2 [B].

(b) Complete the Qualification Card.

[B] Examinations

[B.1] Physical

NOTE
Eye Exams are due by the end of the month in which the examination was given.

(a) All trainees will pass an initial eye examination to ensure natural or corrected near-distance acuity in at least one eye. The trainee must be capable of reading Jaeger Number 2 at a distance of not less than twelve (12) inches on a standard Jaeger test chart.

(b) The eye examination will demonstrate the capability of distinguishing and differentiating contrast used in RTR.

(c) The eye examination will be administered on an annual basis and the results maintained in the Training files. VPMs at each site may administer the eye examination.

[B.2] Comprehensive

(a) Pass a program-specific comprehensive exam with an 80 percent or better grade that addresses radiography operations, documentation, characterization, and procedural elements.

[B.3] Training Container

NOTE

A Training Container is required by CH and RH operators at initial qualification, requalification, and semi-annually. The nominal period for performance of the Training Container is every six months, due by the end of the month of the sixth month from the date the Training Container was successfully passed.

The Training Container will contain items which can be identified by RTR, are representative of the physical properties of the waste based on AK documentation reviewed, and prohibited items.

(a) At initial qualification, requalification, and semiannually, successfully examine a Training Container and identify 100 percent of the items required to meet the Data Quality Objectives (DQO's) The Nondestructive Examination (NDE) CE will review the audio/video recording to ensure the operator's interpretations remain consistent and accurate.

(b) Instructions and documentation required for Training Containers is as follows:

(b.1) Attachment 4, Training Container Instructions

(b.2) Attachment 2, CCP NDE Training Container Inventory Sheet (from CCP-TP-028)

(b.3) Attachment 5, Training Container Data & Evaluation Sheet

(b.4) Audio/video recorded media of the Training Container

(c) The NDE CE or an SPM may request an extension of the period between performances of the Training Container for up to one additional month (for a total of seven months between Training Containers, beginning with the date the examination was reviewed and approved by the CE).

(c.1) Upon receipt of a written request from the SPM or NDE CE, Training will extend the Training Container due date for the operator on the LOQI.

(c.2) The request will be retained by Training.

(c.3) When Training receives evidence the operator has satisfactorily completed the Training Container, Training will enter a due date for the next Training Container that takes into account the earlier extension (e.g., five month due date, not six month).

(c.4) If the operator exceeds the one month extension due date on the LOQI, Training will remove the individual from the LOQI until the Training Container has been successfully completed.

(c.5) Extension is not permitted at the time of requalification.

[B.4] Test Drum

NOTE

The requirement for completing the test drum defined in the Waste Characterization Program Implementation Plan (WCPIP) is met by successfully completing the Training Container.

Test Drums are due by the end of the month in which the qualification period falls.

(a) At initial qualification and subsequent requalification, successfully examine a test drum that includes items common to the waste streams and is representative of the waste matrix codes and WAC required items.

(b) Instructions and documentation required for test drums are as follows:

(b.1) Attachment 2, Test Drum Instructions for Contact-Handled Waste Drums

(b.2) Attachment 1, CCP NDE Test Drum Inventory Sheet (from CCP-TP-028, *CCP Radiographic Test Drum and Training Container Construction*).

(b.3) Attachment 3, Test Drum Data Sheet for Contact-Handled Waste.

(b.4) Audio/video recorded media of the test drum.

NOTE
Certification of RTR Operator/ITR personnel is documented on the completed qualification card.

[C] Qualification

[C.1] Successful qualification of the RTR Operator/ITR is documented by completing the Qualification Card.

[C.2] To maintain qualifications, the CH and RH RTR Operator/ITR must:

(a) Successfully perform a Training Container semiannually, documented on Attachment 5.

(b) Successfully complete an annual eye examination.

[D] Requalification

[D.1] Requalification is based on evidence of satisfactory performance of a test drum, a training container, and passing a comprehensive exam with a grade of 80 percent or better once every two years.

[D.2] If necessary, additional training may be required by a SME/OJT, an SPM, the CE, or the Manager Responsible for Training.

[E] Upon successful qualification, an RTR Operator/ITR will:

[E.1] Be able to set up and operate equipment, and be qualified to interpret and evaluate results with respect to applicable codes, standards, and specifications.

[E.2] Be thoroughly familiar with the scope and limitations of RTR.

[E.3] Exercise the responsibility for OJT and apprenticeship of trainees.

[E.4] Be able to prepare written instructions.

[E.5] Be able to organize Batch Data Reports (BDRs) with the results of RTR.

4.3.3 Transportation personnel who require qualification in HLD are trained in accordance with CCP-QP-030 and documented on Attachment 1, CCP HLD Qualification Card of CCP-QP-030.

4.3.4 Transportation personnel who require qualification in PCLT are trained in accordance with CCP-QP-032 and documented on Attachment 1, CCP PCLT Qualification Card of CCP-QP-032.

4.3.5 VE Operator/ITR

[A] For the initial qualification and subsequent requalification, the Operator/ITR must:

[A.1] Pass comprehensive exam with an 80 percent or better grade that addresses VE operations, documentation, characterization, formal training elements, and procedural elements.

[A.2] VE Operators must demonstrate capability in the presence of the site VEE during OJT. However, the formal and OJT training is conducted by a qualified SME.

4.4 Appointments

4.4.1 For VEE candidate(s), an SPM performs the following:

[A] Review the training files for qualification/familiarity to waste stream, experience handling TRU waste, and VE Operator qualifications.

[B] Provide written notification to Training delineating the candidate's qualifications and experience, using Attachment 7.

[C] Ensures that the appointments are facility–specific.

4.4.2 For NDA EA candidate(s), an SPM will perform the following:

[A] Review the training files for an undergraduate degree in physical science or engineering and five years NDA experience; or ten equivalent years of experience in the NDA field.

[B] Provide written notification to Training delineating the candidate's qualifications and experience, using Attachment 7.

4.4.3 For RH Technical Staff candidate(s), an SPM will perform the following:

[A] Review the training files for the minimum requirements identified in Attachment 1.

[B] Provide written notification to Training delineating the candidate's qualifications and experience, using Attachment 7.

5.0 RECORDS

5.1 Records generated during the performance of this plan are maintained as quality assurance (QA) records in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Nonpermanent Records

[A] Written Notifications

[B] Attachment 7, SPM Appointment Letter

[C] Letters to Training

[D] Certificates of Completion

[E] Training Analysis

[F] Qualification and training records

[F.1] OJT records

[F.2] Completed exams

[F.3] Qualification Card

[G] Training materials (e.g., course presentation, exam)

[H] Completed attendance/briefing forms,

[I] Attachment 3, Test Drum Data Sheet for Contact-Handled Waste

[I.1] Audio/video recording media (primary and backup)

[J] Attachment 5, Training Container Evaluation Data Sheet

[J.1] Audio/video recording media (primary and backup)

[K] Resumes as applicable

[L] Comprehensive Examinations

[M] WAP Briefing

[N] Eye Examination (Medical)

[N.1] Attachment 6, Annual Record of RTR Eye Examination, when applicable

[N.2] Independent Eye Examination (from medical facility), when applicable

[O] Training Module (Electronic)

Attachment 1 – Minimum Training, Education, and/or Experience

Personnel	Education/Experience/Requirements
1. Radiography	
Radiography Operators	Site specific training based on waste matrix codes, waste material parameters, and packaging configurations; requalification every two years.
2. Nondestructive Assay (NDA)	
NDA Personnel	In accordance with ASTM C1490, *Standard Guide for Selection, Training, and Qualification of Nondestructive Assay (NDA) Personnel;* ANSI N15.54, *Radiometric Calorimeters - Measurement Control Program.*
3. Technical Staff	
RH Technical Staff	B.S. Nuclear Engineering or the equivalent knowledge and experience to perform assigned tasks, including: • Calculation of reactor neutron spectra • Generate ORIGEN format cross sections • Perform ORIGEN isotope generation and depletion calculations • Ensure that appropriate samples are collected and analyzed from waste • Perform shielding calculation of waste containers **OR** B.S. degree in statistics or the equivalent knowledge and experiences to problem assigned tasks, including: • Develop Sampling plan to obtain representative samples of waste. Propagate uncertainties to determine Total Measurement Uncertainty.
RH Technical Reviewer	• Equivalent qualifications necessary to have originally performed the task under review. At least five years experience in the technical area applicable to the review task.

Controlled
Copy

Attachment 2 – Test Drum Instructions for Contact-Handled Waste Drums

OPERATOR

1.0 In the presence of an RTR SME/OJT Instructor, perform the following:

1.1 Pre-start operations and audio/video recording media system setup of the RTR equipment per site approved radiography operating procedure.

1.2 Load the test drum into the RTR unit.

1.3 Ensure the audio/video recording identifies the following information:

[A] The identifying test drum container (e.g., NDE-TEST-01)
[B] Exam date
[C] Operator's name

1.4 Complete Blocks 1 through 4 of Attachment 3.

1.5 Perform scan of the test drum, identifying test drum container, and complete Block 5 of Attachment 3. Provide a detailed description (including content) of all items found within the container.

1.6 Complete Block 6 of Attachment 3.

1.7 Label the audio/video media with the following information:

[A] The identifying training container (e.g., NDE-TEST-01)
[B] Exam date
[C] Operator's name
[D] "A" for primary or "B" for backup

1.8 Provide the audio/video recording media and Attachment 3 to an RTR SME/OJT Instructor.

SME/OJT INSTRUCTOR

2.0 Observe the test drum and complete Attachment 3 as follows:

2.1 Complete Blocks 7 and 8 of Attachment 3.

2.2 **IF** the Operator has correctly identified the items within the test drum, **THEN** perform the following:

2.2.1 Enter N/A in Block 9 of Attachment 3.

2.2.2 Check PASS in Block 10 of Attachment 3.

Controlled
Copy

Attachment 2 – Test Drum Instructions for Contact-Handled Waste Drums (Continued)

2.2.3 Print name, sign, and date in Block 11 of Attachment 3.

2.2.4 Forward the audio/video recording media and Attachment 3 to Training in accordance with CCP-QP-008.

2.3 **IF** the Operator DOES **NOT** identify all WAC required items in Block 8 of Attachment 3 correctly,
THEN perform the following:

2.3.1 If applicable, document unidentified non-WAC required items in Block 9 of Attachment 3, **ELSE** enter N/A.

2.3.2 Check FAIL in Block 10 of Attachment 3.

2.3.3 Print name, sign, and date in Block 11 of Attachment 3.

2.3.4 Notify an SPM and Training.

2.3.5 Forward Attachment 3 and the audio/video recording media to Training in accordance with CCP-QP-008.

NOTE

RTR Personnel who fail the test drum will be requalified after meeting initial qualification requirements.

2.4 **IF** any items (other than WAC-required items) were not identified,
THEN discuss and document the noted discrepancies with the Operator.

2.4.1 Document unidentified items in Block 9 of Attachment 3, **AND** discuss with the Operator.

2.4.2 Check PASS in Block 10 of Attachment 3.

2.4.3 Print name, sign, and date in Block 11 of Attachment 3.

2.4.4 Forward Attachment 3 with the audio/video recording media to Training in accordance with CCP-QP-008.

Attachment 2 – Test Drum Instructions for Contact-Handled Waste Drums (Continued)

TRAINING

3.0 Ensure receipt of all required test drum documentation.

4.0 **IF** notified by the RTR SME/OJT Instructor that a currently qualified Operator has failed the test drum,
THEN remove the Operator from the LOQI **AND** update the Training files.

5.0 **IF** Attachment 3 indicates PASS,
THEN update the LOQI and the Training files.

Attachment 3 – Test Drum Data Sheet for Contact-Handled Waste

1. Operator Name:	
2. Test Drum #:	**3. Date of Demonstration:**
4. Audio/Video Recording Media Label:	
5. Container Inventory (Provide detailed description)	
6. Operator Signature:_____ **Date:**_____	

Attachment 3 – Test Drum Data Sheet for Contact-Handled Waste (Continued)

7. Operator Name:			
8. WAC Required Items (SME check items identified by operator)			
	Aerosol can with puncture		Full container
	Horsetail bag		Aerosol can with fluid
	Pair of coveralls		One gallon bottle with three tablespoons of fluid
	Empty bottle		One gallon bottle with one cup of fluid (upside down)
	Irregular shaped pieces of wood		Leaded glove or leaded apron
	Empty one gallon paint can		Wrench
9. Additional items not identified:			

10. As SME/OJT Instructor, I observed the above demonstration and have discussed any missed items with the Operator. I have assigned a grade based on the review above.	**PASS**		**FAIL**	

11. SME Printed Name:_____

SME Signature:_____ **Date:**_____

Controlled
Copy

Attachment 4 – Training Container Instructions

OPERATOR

1.0 Perform the following:

1.1 Complete Blocks 1 through 4 of Attachment 5.

1.2 Verify the RTR unit and audio/video system is configured to run the training container.

1.3 Load the training container into the RTR unit.

1.4 Ensure the audio/video recording identifies the following information:

[A] The identifying training container (e.g., NDE-TRAINING-01)
[B] Exam date
[C] Operator's name

1.5 Perform scan of the training container, identifying training container, detailed description of contents including container sizes and volumes of liquid.

1.6 Document the scan information in Block 5 of Attachment 5.

1.7 Complete Block 6 of Attachment 5.

1.8 Label the audio/video media with the following information:

[A] The identifying training container (e.g., NDE-TRAINING-01)
[B] Exam date
[C] Operator's name
[D] "A" for primary or "B" for backup

1.9 Make a copy of training audio/video for the NDE CE. (Labeled the same add "Copy".)

2.0 Forward the audio/video (primary and backup) recording media and Attachment 5 to Training, in accordance with CCP-QP-008.

3.0 Forward the copy of the training audio/video to the NDE CE.

Controlled
Copy

Attachment 4 – Training Container Instruction (Continued)

Training

4.0 Provide Attachment 5 to the NDE CE.

NDE CE

5.0 Review the Training Container scan and document discrepancies (accuracy and consistency) in Block 5 of Attachment 5.

6.0 Record in Block 8 of Attachment 5 if the operator passed or failed based on identification of the DQOs.

7.0 Print, Sign, and Date in Block 9, of Attachment 5.

8.0 If the Operator fails to identify an item that is not a DQO, counsel the operator on the item(s) missed.

8.1 If counseling was required, have the operator acknowledge receipt of the counseling in Block 10 of Attachment 5. The acknowledgement can be either with the operator signature, or via Telecon.

9.0 If additional actions are required in response to an operator's performance, the CE will coordinate with Manager Responsible for Training.

10.0 Forward Attachment 5 to Training in accordance with CCP-QP-008.

TRAINING

11.0 Ensure receipt of all required documentation,
THEN update the LOQI and the Training files.

Controlled
Copy

Attachment 5 – Training Container Data & Evaluation Sheet

1. Operator Name:	**2. Demonstration Date:**			
3. Training Container #:	☐ **Box**	☐ **Drum**		
4. Audio/Video Recording Media Label:				
5. Container Inventory (Provide detailed description)				
6. Operator Signature:_____ Date:_____				
7. I have counseled the operator on the following interpretation issues:				
8. I have assigned a grade based on the review above.	**PASS**		**FAIL**	
9. NDE CE Printed Name: _____ **NDE CE Signature:_____ Date:_____**				
10. Acknowledgement by the Operator of Counseling Received (if required): **Operator Printed Name: _____** **Operator Signature:_____ Date:_____**				

Attachment 6 – Annual Record of Eye Examination

Employee Name:		
Examination Date:		
Examined by:		
	Printed Name and Title	
	Signature	
Examination Type:	**Jaeger-near acuity**	
Jaeger Level Tested:	**J-2**	
Results: **(circle one)**	**Pass**	**Fail**
Contrast Proficient: **(circle one)**	**Yes**	**No**

Note:

A visual acuity examination shall be administered to the candidate prior to the initial qualification and annually thereafter.

A professional optometrist, medical doctor, nurse, or personnel designee by procedure shall administer this examination.

The candidates shall have natural or corrected near distance acuity in at least one eye, capable of reading J-2 letters on a standard Jaeger test chart at a distance of not less then 30.5 centimeters (12 inches).

The candidate shall receive a contrast vision examination to verify the capability of distinguishing and differentiating contrast normally used.

Attachment 7 – SPM Appointment Letter

Date:

Subject: Appointment letter for (candidate's name) for the position of (name of position)

Based on (candidate's name) resume and/or personal knowledge of (name's) work history, I have determined (he/she) has suitable education and experience in accordance with CCP-QP-002, *CCP Training and Qualification Plan*, for the position of:

- ☐ Expert Analyst for (insert specific NDA equipment and location)
- ☐ RH Technical Staff
- ☐ (Initial) Subject Matter Expert (SME) for (insert operation or NDA unit).
- ☐ Visual Examination Expert (VEE) for the (name facility and site). This is a (CH or RH) function. I have reviewed (candidate's name) training file for qualification/familiarity to the applicable waste streams, experience handling TRU waste, and VE Operator qualifications.

For Initial SMEs: (Candidate's Name) will assist (assisted) with the set-up of (equipment name) at (site). As the initial SME, (Name) will assist (also assisted) with the development of procedures and a qualification card specific to the (unit/site).

Please initiate, as applicable, the CCP-specific training. (Candidate's name) will not be considered qualified for this(these) position(s) until all applicable/required training is complete, on file with CCP Training, and listed on the applicable LOQI(s).

If you have any questions, please contact me.

Thank you,

(SPM Name)
Site Project Manager

Controlled
Copy

CCP-QP-005

Revision 24

CCP
TRU Nonconforming
Item Reporting and Control

EFFECTIVE DATE: 04/29/2014

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
17	08/27/2008	Revised to include language describing the process the Central Characterization Project (CCP) personnel use when performing open Nonconformance Report (NCR) checks and whether the NCR is "resolved" for a particular container in conjunction with software changes to the Progress Tracking System (PT-S) (NCR status) portion of the CCP Datacenter. Also included additional language with respect to reconciliation of HOLD Tags once the NCR's are cleared for containers and incorporated the directive in Standing Order CCP-SO-30, Clarification of Rework and Reject. This is in response to U.S. Department of Energy-Carlsbad Field Office (DOE/CBFO) Corrective Action Report (CAR) CAR-08-025.
18	08/13/2009	Revised to incorporate freeze file editorial changes, clarify the ability to delete/remove containers from the Batch Data Report (BDR)/Container ID list when revising a nonconformance report (NCR) per CAR-LANL-0001-09, and incorporate Central Rev. Characterization Project (CCP) Standing Order (SO) CCP-SO-024, 1.
19	10/14/2010	Revised to: clarify hold tag application; Carlsbad Field Office (CBFO) notification requirements including responsibility, incorporate CCP-SO-054, 1 and CCP-SO-065, 0; revisions to Attachment 1, CCP Nonconformance Report (NCR); and other minor editorial changes.
20	04/26/2011	Revised to incorporate relevant steps from CCP-QP-004, *CCP Corrective Action Management,* and other editorial changes.
21	03/05/2012	Revised to incorporate clarification of K-trend code designees signature authority and other editorial changes and freeze file items.
22	09/27/2012	Revised to add definitions; to move 2.5.1 to 4.2.1 [F]; to clarify 4.4.15 and Attachment 1, 4.2.10, and Carlsbad Field Office (CBFO) notification in 4.3.1; to add new 4.9.3 to address removal of Hold Tags when voiding a Nonconformance Report (NCR); to incorporate freeze file changes; to modify Attachment 1; to correct some typos and editorial mistakes.

RECORD OF REVISION (CONTINUED)

Revision Number	Date Approved	Description of Revision
23	06/25/2013	Revised to incorporate Nuclear Waste Partnership (NWP) transition changes; ensure chronological order; to change Notes that include action steps to action steps; to remove contradiction with CCP-PO-024, *CCP/INL Interface Document,* in 4.5.10 [A.2]; to add Attachment 2, Instructions for Completing Attachment 1, CCP Nonconformance Report, and Attachment 6, NCR Hold Tag Guidance, incorporating portions of Standing Order CCP-SO-036 and to implement the Permit Modification Request Class 2 approved by New Mexico Environment Department (NMED) dated March 13, 2013.
24	04/29/2014	Revised determination of recurring condition; deleted all references to CCP-QP-029 and internal Corrective Action Reports (CARs) which was obsoleted and replaced with WP 15-GM1002; replaced reference Carlsbad Field Office (CBFO) Quality Assurance Program Description (QAPD) with Nuclear Waste Partnership (NWP) QAPD; rearranged 4.1.6, 4.2.10 and 4.2.11 for better chronological order; revised definitions “Repair” and “Rework”; corrected various editorial mistakes.

Controlled
Copy

TABLE OF CONTENTS

1.0 PURPOSE 6
1.1 Scope 6

2.0 REQUIREMENTS 7
2.1 References 7
2.2 Definitions 8
2.3 Nonconformance Report Module (NCRM) 10

3.0 RESPONSIBILITIES 12
3.1 NCR Originator 12
3.2 QA 12
3.3 QA Designee 12
3.4 Responsible Manager 13
3.5 CCP Site Project Manager (SPM) 13
3.6 Vendor Project Manager (VPM) 14
3.7 NCR Coordinator (Site QA serves as the NCR Coordinator for the assigned site) 14
3.8 CCP Training 14
3.9 Certification Manager 15
3.10 Waste Certification Official (WCO) 15
3.11 Packaging Manager 15

4.0 PROCEDURE 16
4.1 NCR Initiation 16
4.2 NCR Review 21
4.3 NCR Validation 24
4.4 NCR Process 24
4.5 Disposition Determination 26
4.6 NCRM Update 30
4.7 Disposition Completion 30
4.8 Completion Verification and Closeout 31
4.9 Closeout 32
4.10 Voiding the NCR 32
4.11 Attachments 33
4.12 Revisions 34
4.13 NCR Log Reconciliation - CCP Project Office and Host Site 34
4.14 Work Suspension and CBFO Stop Work Orders 35

5.0 RECORDS 37

Controlled
Copy

LIST OF ATTACHMENTS

Attachment 1 – CCP Nonconformance Report (NCR)..... 38
Attachment 2 – Instructions for Completing Attachment 1, Nonconformance Report (NCR)..... 41
Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet..... 44
Attachment 4 – Additional CBFO Notification Details..... 45
Attachment 5 – Trend Codes..... 46
Attachment 6 – NCR Hold Tags Guidance..... 48

Controlled
Copy

1.0 PURPOSE

This procedure establishes the requirements and responsibilities for identifying, documenting, reporting, and dispositioning items and services that do not meet established requirements.

1.1 Scope

1.1.1 This procedure applies to Central Characterization Program (CCP) waste characterization, certification, packaging, and transportation. It establishes the process for identifying, documenting, controlling, evaluating, dispositioning, and verifying completion of dispositioning of nonconforming conditions associated with items, equipment, and Batch Data Reports (BDRs).

1.1.2 Nonconforming items will be controlled to prevent any adverse impact on test, installation, use, waste certification, or waste shipment. Organizations affected by the nonconformance will be notified.

1.1.3 Personnel evaluating and determining the disposition of nonconforming items will have demonstrated competence in the specific area they evaluate, adequate understanding of the requirements, and access to pertinent background information.

Controlled
Copy

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- WP13-1, *Nuclear Waste Partnership, LLC, Quality Assurance Program Description* (QAPD)
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
- CCP-QP-010, *CCP Document Preparation, Approval, and Control*

Referenced Documents

- DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-QP-008, *CCP Records Management*
- CCP-QP-014, *CCP Quality Assurance Trend Analysis and Reporting*
- CCP-QP-019, *CCP Quality Assurance Reporting to Management*
- CCP-TP-001, *CCP Project Level Data Validation and Verification*
- CCP-TP-035, *CCP Container Management*
- CCP-TP-068, *CCP Standardized Container Management*
- CCP-TP-120, *CCP Container Management*
- WP-15-GM1002, *Issues Management Processing of WIPP Forms*
- 10 Code of Federal Regulations (CFR) Part 71, *Packaging and Transportation of Radioactive Material*

Controlled
Copy

2.2 Definitions

As Low As Reasonably Achievable (ALARA)	A principle of all work at the site in the use or handling of radioactive materials in which personnel radiation exposure, including the work force and public, is kept at a level as low as possible by reasonable means.
Condition Adverse to Quality (CAQ)	An all-inclusive term used in reference to any of the following: failures, malfunctions, deficiencies, defective items, nonconformances, and technical inadequacies.
Data Quality Objective (DQO) Process	A strategic planning approach based on the scientific method used to prepare for data collection. The Data Quality Objective (DQO) process provides a systematic procedure for defining the criteria that a data collection design should satisfy, including when and where to collect samples, the tolerable level of decision errors for the study, and how many samples to collect.
Item	An all-inclusive term used in place of any of the following: appurtenance, assembly, component, equipment, material, module, part, structure, subassembly, subsystem, system, unit, support system, or data.
NCRM (Nonconformance Report Module)	Nonconformance Report Module (NCRM), an electronic database that is part of the Integrated Data Center (IDC).
Nonconformance	A deficiency in a characteristic or record that renders the quality of an item or sample unacceptable or indeterminate.
Orphaned Hold Tag	A Hold Tag no longer attached to its associated nonconforming item.

Controlled
Copy

Price-Anderson Amendments Act (PAAA)	Law passed by Congress intended to minimize the risk to workers and the public by ensuring that U.S. Department of Energy (DOE) nuclear work is conducted so that human health and safety and the environment are protected adequately.
Repair	The process of restoring an item to a condition such that the capability of the item to function reliably and safely is unimpaired even though that item still does not conform to the original requirement. In container management, “repair” refers to nonconforming characteristics for which the container(s) must be rerun through characterization and the associated BDR that will be superseded by a new one.
Reject	A disposition for nonconforming items for which no resolution that meets the given requirements is possible, and the item cannot be accepted, requiring discarding, replacement, or recharacterization.
Rework	The process by which an item is restored to original specifications by completion or correction. In container management, “rework” refers to nonconforming characteristics that may be corrected without rerunning the container(s) through characterization and the BDR will be completed or corrected.
Scrap	A disposition for nonconforming items which requires discarding or return to supplier.
Supplier	Any individual or organization who furnishes items or services in accordance with a contract. An all-inclusive term used in place of any of the following: vendor, seller, source, participant, contractor, or subcontractor.

Controlled
Copy

Technical Change	Changes to container or BDR identifications, Interim or Final Dispositions, Actual Conditions, or Requirements.
Traceability	The ability to trace the history, application, and location of an item, data, or sample using documentation. As related to metrology, traceability means the ability to relate individual measurement results through an unbroken chain of calibrations to one or more of the following: • U.S. national standards maintained by National Institute of Standards and Technology (NIST) or the U.S. Naval Observatory • Fundamental or natural physical constants with values assigned or accepted by NIST • National standards of other countries which are correlated with NIST
Use-As-Is	A disposition permitted for a nonconforming item when it can be established that the item is satisfactory for its intended use.
Work	The process of completing a defined task. Examples include research and development, operations, maintenance and repair, administration, software development and use, inspection, safeguards and security, and data collection and analysis.

2.3 Nonconformance Report Module (NCRM)

2.3.1 The NCRM provides the capability for an accurate and timely assessment of the status of all Nonconformance Reports (NCRs).

2.3.2 The NCRM provides the capability to trend NCRs for conditions adverse to quality.

2.3.3 The NCRM provides, as a minimum, the following:

- NCR Number and Revision
- Initiation Date
- NCR Originator

Controlled
Copy

- Responsible Manager
- BDR/Container (as applicable)
- Actual Condition
- Final Disposition
- Trend Code
- Closure Date
- NCR Log

2.3.4 The NCRM is maintained in the CCP Project Office. The NCRM may also be updated by authorized QA personnel at specified Host sites.

Controlled
Copy

3.0 RESPONSIBILITIES

3.1 NCR Originator

3.1.1 CCP personnel who discover conditions adverse to quality are responsible for originating an NCR or ensuring an NCR is initiated.

3.1.2 Applies or ensures application of a CCP HOLD TAG or provides other segregation or control methods.

3.2 QA

3.2.1 Validates the NCR.

3.2.2 Evaluates NCRs in accordance with this procedure.

3.2.3 Approves interim and final dispositions.

3.2.4 Ensures that NCRs are entered into the NCRM.

3.2.5 Verifies interim and final disposition completion and closes NCRs.

3.2.6 Applies, removes, or ensures application or removal of CCP HOLD TAGS (as applicable).

3.2.7 Immediately notifies the SPM or Vendor Project Manager (VPM) when HOLD TAGS DO **NOT** reconcile or when orphaned HOLD TAGS are found in process areas.

3.2.8 Provides CCP Training with a notification of individuals who are designated to validate and approve dispositions for NCRs that are Trend Code K. These individuals will have been briefed and designated for this function by Quality Assurance (QA).

3.2.9 Assists the NCR Originator as needed to determine status of all affected containers associated with NCRs initiated at the Project level.

3.3 QA Designee

3.3.1 Validates Trend Code K NCRs.

3.3.2 Approves interim and final dispositions for Trend Code K NCRs.

3.3.3 Ensures that NCRs are forwarded to the Host site QA NCR Coordinator or the CCP Project Office NCR Coordinator for entry into the NCRM.

Controlled
Copy

3.3.4 Applies, removes, or ensures application or removal of CCP HOLD TAGS (if applicable) for Trend Code K NCRs and delivers removed HOLD TAGS to QA for confirmation of removal.

3.4 Responsible Manager

3.4.1 Provides interim and final dispositions to correct identified deficiencies.

3.4.2 Identifies resolutions to deficiencies and (when applicable) identifies actions to preclude recurrence.

3.4.3 Monitors progress of nonconformance resolution, including completion of dispositions in a timely manner.

3.4.4 Provides for the control of further processing, delivery, installation, or operation of nonconforming items or equipment.

3.5 CCP Site Project Manager (SPM)

3.5.1 Ensures NCR process is followed in accordance with this procedure and is accountable for the implementation of the nonconformance program.

3.5.2 Coordinates Carlsbad Field Office (CBFO) notification between the Certification Manager and the NCR Coordinator.

3.5.3 Prepares interim and final dispositions.

3.5.4 Verifies interim and final disposition completion.

3.5.5 Ensures forwarding of validated and in-process NCRs to the CCP Project Office for NCRM updates, as necessary.

3.5.6 Ensures distribution of completed NCRs as required by applicable interface documents.

3.5.7 Notifies CBFO of nonconformances as required by this procedure.

3.5.8 Monitors to ensure timely completion of NCRs in their area of responsibility, developing a plan to identify and track all nonconformances and reporting this information (approval of this procedure fulfills development of the plan).

3.5.9 Carries out responsibilities of the Responsible Manager, when an NCR so specifies.

3.6 Vendor Project Manager (VPM)

3.6.1 Ensures site personnel evaluating and dispositioning NCRs have demonstrated competence in the specific area they evaluate, have an adequate understanding of the requirements, and have access to pertinent background information.

3.6.2 Monitors to ensure timely completion of NCRs in their area of responsibility.

3.6.3 Carries out responsibilities of the Responsible Manager, when an NCR so specifies.

3.6.4 Concurs with interim and final dispositions (as requested).

3.6.5 Ensures the application of CCP HOLD TAGS and, in coordination with QA, ensures their removal, as required, and will assure removed CCP HOLD TAGS are delivered to QA for verification of removal.

3.6.6 Notifies the Host site representative of drums that are inaccessible with a request to make them available as soon as possible so that the drums may be monitored and tagged as soon as they are available.

3.7 NCR Coordinator (Site QA serves as the NCR Coordinator for the assigned site)

3.7.1 Maintains the NCR Log.

3.7.2 Distributes NCRs in accordance with this procedure.

3.7.3 Submits closed NCRs to CCP Records.

3.7.4 Updates the NCRM.

3.8 CCP Training

3.8.1 Annotates each site-specific List of Qualified Individuals (LOQI) with a qualified statement for individuals who have been designated by QA.

3.8.2 Maintains designation notifications in each individual’s training file.

Controlled
Copy

3.9 Certification Manager

3.9.1 Ensures a consistent review for all NCRs that have the potential to require CBFO notification according to the seven (7) calendar days notification requirement.

3.10 Waste Certification Official (WCO)

3.10.1 Assists the NCR Originator as needed to determine status of all affected containers associated with NCRs initiated at the Project level.

3.11 Packaging Manager

3.11.1 Reviews NCRs whose description is Transportation for 10 CFR, Part 71, *Packaging and Transportation of Radioactive Material,* applicability.

Controlled
Copy

NOTE
Action steps need not be completed in the order given, unless otherwise directed.

4.0 PROCEDURE

4.1 NCR Initiation

QA

4.1.1 Maintain an NCR log (either manual or electronic at the Host site or CCP Project Office), identifying the following as a minimum:

- NCR number
- Initiation date
- NCR Originator

[A] Account for all NCRs issued during a calendar year, including voided NCRs. Number and log NCRs uniquely.

[B] The NCR number is composed of:

NCR-xxxxxx-yyyy-zz, where:

- "NCR" represents "Nonconformance Report"
- "xxxxxx" represents Site Designator (when applicable to remote-handled [RH] waste, include "RH" as a prefix to the site designator [e.g., Savannah River Site remote-handled waste = "RHSRS"])
- "yyyy" represents numerical digits beginning at 0001
- and "zz" represents the final two digits of the calendar year in which the NCR is initiated

Revision control applies.

[C] Examples of NCR Numbers:

- NCR-INL-0001-12, Rev. 0
- NCR-SRS-0361-12, Rev. 1
- NCR-LANL-2841-12, Rev. 2
- NCR-CCP-0015-12, Rev. 0
- NCR-RHLANL-0001-12, Rev. 0

NCR Originator

4.1.2 CCP personnel who discover nonconforming items or processes are responsibile for initiating NCRs or to notify their managers for assistance in ensuring that an NCR is initiated. Personnel are encouraged to suggest improvements. Nonconformances are documented, evaluated, and dispositioned with a no-fault attitude fostered by management at all levels. On identifying a nonconforming item, obtain the current issued revision of Attachment 1, CCP Nonconformance Report (NCR), from the sftp site.

[A] Document nonconforming items by NCR, including those found by CCP personnel at a supplier's facility or during receipt inspection.

4.1.3 Obtain an NCR number from the NCR Coordinator or QA Designee, **AND** enter the number and revision on all pages of Attachment 1.

[A] Complete Blocks 1 through 7, as applicable, of the NCR (see Attachment 2, Instructions for Completing Attachment 1, Nonconformance Report [NCR]; see also 4.1.6 in regard to Block 7d).

[A.1] Enter "N/A" (Not Applicable) for those blocks **NOT** applicable to the NCR. Use Attachment 3, CCP Nonconformance Report (NCR) Continuation Sheet, whenever available space is inadequate.

[B] **IF** the NCR is documented against a container and a BDR, **THEN** ensure that Block 3 correctly identifies the container number and BDR number, matching exactly the identifications (IDs) identified in the BDR (see also 4.2.1[C.1]).

NCR Originator/Waste Certification Official (WCO)/QA

[C] Determine the status of all affected container(s) associated with NCRs initiated at the Project level as follows:

[C.1] **IF** the containers are not in a shipping lot, **THEN** go to 4.1.5.

Controlled
Copy

[C.2] **IF** the containers are in a shipping lot,
THEN it must be determined whether the container is in Waste Data System (WDS).

(a) **IF** the containers are in WDS **AND** the NCR is not data-affecting,
THEN go to 4.1.5.

(b) **IF** the containers are in WDS **AND** the NCR is data-affecting,
THEN the container(s) must be moved into assigned pre-sub certification **OR** removed from WDS before the NCR can be validated by QA.

CCP Training

4.1.4 Maintain a list of personnel designated to validate NCRs and approve Interim and Final Dispositions for Trend Code K NCRs.

[A] Designated CCP personnel may validate and approve Interim and Final Dispositions for these NCRs. Those steps in Section 4.0 that designated CCP personnel may carry out as described above identify the responsible individual as "QA Designee."

[B] However, QA must validate and approve NCRs which are not Trend Code K.

[C] QA SHALL verify disposition completion and closing of **ALL NCRs**.

NCR Originator or QA Designee

4.1.5 Select method(s) to be used to control nonconforming items, but they SHALL **NOT** be solely reliant on a single administrative control to differentiate waste containers that are acceptable for shipment to the Waste Isolation Pilot Plant (WIPP).

[A] DO **NOT** use NCRs as administrative holds (e.g., to stop a shipment when there is **NO** nonconformance). Refer to the container management procedures at the specific sites for more details on the proper use of administrative holds.

4.1.6 Determine whether CCP HOLD TAGS will be applied **OR** whether other methods will be used to control the affected items that do not affect end use, **AND** document in Block 7d of the NCR as applicable. Verify CCP HOLD TAGS by physically placing or confirming tag placement on the container by VPM's or QA Designee's confirmation in writing. If NCRs are initiated at the Project Office, they may be issued with Block 7d incomplete. Once notification is received by QA that NCR Hold Tags have been applied, update the NCR by completing Block 7d. Completion of this block does not require NCR revision.

[A] Apply CCP HOLD TAGS (see Attachment 6, NCR Hold Tag Guidance) UNLESS one or more of the following conditions exist:

- **IF** containers are physically inaccessible, **THEN** inform the VPM to notify the Host site representative of drums that are inaccessible with a request to make them available as soon as possible so that the drums are monitored and tagged as soon as they are available
- Container is an RH container
- Other physical identification methods (i.e., Permanent Reject Labels Not Certifiable to WIPP)
- If Final Disposition is already specified, is "Use-As-Is" with no action pending, and is QA approved

[B] Enter the following minimum information on the CCP HOLD TAG:

- NCR number
- Container or Item number
- BDR number (if applicable)
- Brief description of nonconforming condition
- Name, date, and signature of individual who applies the CCP HOLD TAG
- Any limitations on further processing

Controlled
Copy

[C] When they are applied, the CCP HOLD TAGS SHALL remain on the containers until the nonconforming condition has been resolved and the disposition has been implemented and verified under the QA Program.

[D] Other methods used to control the affected items may include segregation or the use of dual, independent check systems (for noncompliant RH waste packages based on the ALARA principle), which use two separate and distinct processes and data sets for verifying waste packages are acceptable for shipment.

[E] **IF** marking or tagging of a nonconforming item is impractical, **OR** segregation is impractical or impossible because of physical conditions,
THEN employ other precautions to preclude inadvertent use or shipment.

[F] Control nonconforming items to prevent adverse impact on test, installation, use, waste certification, or waste shipment.

[G] Notify organizations affected by the nonconformance.

4.1.7 Complete Blocks 7a, 7b, and 7c of Attachment 1

[A] Check the Transportation box in Block 7a only when issues with TRUPACT-II *TRU Waste Authorized Methods for Payload Control*, TRUPACT-III *TRU Waste Authorized Methods for Payload* Control, TRAMPAC limits, and packaging materials or conditions for shipped containers are identified.

[B] Ensure the 7b Requirement(s) correctly includes the procedure, revision, section, and quoted text, and the 7c Actual Condition is accurate.

[C] Print name, sign, and date Block 8.

4.1.8 Forward the NCR to the QA Engineer or QA Designee (Trend Code K NCRs only).

4.1.9 **IF** the NCR is initiated at the Host site, **AND** there is **NO** SPM, QA Engineer or QA Designee available,
THEN:

[A] Copy the NCR and forward it to the responsible individual at the Host site for NCR Log update, if needed.

[B] Forward the NCR to the NCR Coordinator in the CCP Project Office. The NCR Coordinator will initiate a review by a QA Engineer.

4.2 NCR Review

QA Engineer or QA Designee

4.2.1 Review the NCR for the following, at a minimum:

[A] Verify that the identified condition and requirement meet the criteria for an NCR (i.e., hardware items or BDRs, or both) and do **NOT** represent **a** programmatic or process failure, malfunction, or deficiency as specified in WP 15-GM1002, *Issues Management Processing of WIPP Forms*.

[B] **IF** the nonconformance is determined to meet the criteria for a WIPP Form,
THEN void the NCR in accordance with Section 4.10, **AND** instruct the NCR Originator to initiate a WIPP Form in accordance with WP 15-GM1002.

[B.1] When control of nonconforming items **AND** programmatic issues related to the nonconformance both apply, initiate both an NCR **AND** a WIPP Form.

[C] **IF** the NCR is documented against a container and a BDR, **THEN** verify that Block 3 correctly identifies the container number and BDR number, matching exactly the IDs identified in the BDR.

[C.1] **IF** the IDs do not match,
THEN ensure there is a valid reason for the difference, such as WDS number prefixes, historical ID number differences, etc., OR ensure the numbers in question are captured on the acceptable knowledge (AK) Tracking spreadsheet and show a clear correlation between the two.

[D] Verify that the current revision of Attachment 1 has been used, the NCR number and revision are on all pages of the NCR, **AND** the form is filled out correctly.

[E] Verify that the identified requirement (procedure no., revision no., section, and quoted text) is correct and applies to the actual condition requiring disposition.

[F] Verify the disposition, if already documented in Block 19, was not completed prior to the date of NCR validation.

4.2.2 Resolve any inconsistencies, clarifications, or other concerns identified, with the NCR Originator, who returns to 4.1.2[A] **AND** repeat the process in accordance with Section 4.1.1.

4.2.3 **IF** the NCR is determined to be invalid,
THEN void the NCR in accordance with Section 4.10.

4.2.4 Determine whether the identified condition has the potential to impact AK (i.e., related to waste stream variance, waste matrix code, etc.), and, if so, enter Trend Code L in Block 10. Examples of possible changes to the AK of a waste stream include:

- Incorrect assignment of a waste container to a waste stream (e.g., sludge matrix in a debris container)
- Identification of unanticipated waste material parameters (WMPs) in a container (e.g., metal in a combustibles-only debris container)

4.2.5 Identify the Trend Code using NCR Trend Codes in Attachment 5, **AND** enter the Trend Code in Block 10, if not previously identified in 4.2.4.

4.2.6 Forward NCRs that identify possible changes to the AK of a waste stream (Trend Code L) to the SPM as the Responsible Manager.

[A] **IF** reevaluation is warranted as a result of:

- Inconsistencies noted during the process of comparing AK information to characterization results, **OR**
- The initiation of an NCR identifies potential changes to the AK of a waste stream,

THEN the SPM notifies the AK Expert.

4.2.7 Verify that the Hold Tags have been applied as needed, **AND** complete Block 7d, if not addressed by NCR Originator or QA Designee (see 4.1.6).

Controlled
Copy

4.2.8 Except for Trend Code K and L NCRs, determine whether a Significant Condition Adverse to Quality exists by comparing with the following criteria:

[A] Does the noncompliance adversely impact the capability to characterize, certify, or ship waste?

[B] Is the noncompliance a violation of the Hazardous Waste Facility Permit (HWFP)?

[C] Could the noncompliance have a serious effect on health and safety of employees, the public, or the environment?

4.2.9 Except for Trend Code K and L NCRs, search the NCRM in IDC to determine whether there are previous violations of the same requirement and the Actual Condition is the same or similar, that is, one that involves the same process (nondestructive assay [NDA],real-time radiography [RTR], visual examination [VE], etc.), the same organization or personnel (Operations, AK Support, Transportation, Packaging & Logistics, etc.), elements of the QA Program (measuring and test equipment, inspection, document control, etc.), or individual vendors within a length of time that infers a potential connection.

4.2.10 **IF** a recurring condition is identified,
THEN discuss with the Assurance Programs Manager, who will determine whether the recurring nature of the conditions represents a Significant Condition Adverse to Quality. If directed, initiate a WIPP Form in accordance with WP 15-GM1002, *Issues Management Processing of WIPP Forms,* control as a Significant Condition, cite the NCR number and revision in the WIPP Form, **AND** document the determination in an email to the NCR Coordinator, who will include it as part of the NCR QA record file.

[A] If the determination of a Significant Condition Adverse to Quality is affirmed, check “yes” in NCR Block 12, and enter in the NCRM.

4.2.11 The recurring conditions will be cited in the Semiannual Report required by CCP-QP-019, *CCP Quality Assurance Reporting to Management,* and include any corrective and preventive actions taken as a result.

Controlled
Copy

NOTE

The Responsible Manager determination is based on agreements between the SPM, QA Engineer, and applicable Responsible Managers.

4.2.12 Determine the manager responsible for resolution.

4.2.13 Enter the Responsible Manager's name in Block 11.

4.3 NCR Validation

4.3.1 Before validation (Block 14), line through incorrect technical information and enter correct information, initial, and date.

4.3.2 Correct editorial mistakes (grammar or spelling, renumbering sections, attachments or pagination; transcription errors and date) that DO **NOT** affect technical content by lining through, entering correct data, initialing, and dating at any time during the life cycle of the NCR.

4.4 NCR Process

NCR Coordinator

4.4.1 At receipt of the NCR:

[A] Verify the information in the NCR log matches that on the NCR.

[B] Enter the NCR information in the NCRM.

[C] **IF** the NCR Description in Block 7a is Transportation, **THEN** forward a copy of the NCR to the Packaging Manager or designee for consideration of 10 CFR, Part 71, applicability and request the results of the review.

Packaging Manager

[C.1] Review NCRs whose description is Transportation (in Block 7a) for 10 CFR, Part 71, applicability and email the NCR Coordinator the results of the review.

NCR Coordinator

[D] File a copy of the email from the Packaging Manager with the NCR.

Controlled
Copy

[D.1] **IF** the NCR was generated at or after the SPM signature level,
THEN forward a copy of the project-level NCR to the Certification Manager for review.

Certification Manager

[D.2] Review the project-level NCR to determine whether any nonconformance first identified at or after the SPM signature release level (e.g., CCP-TP-001) does not meet applicable requirements of CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan* or DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan* (i.e., a failure to meet a DQO), and if so,
THEN inform in writing or by email the NCR Coordinator and SPM, the latter of whom notifies the CBFO as required.

SPM

[D.3] Notify the CBFO in accordance with Attachment 4, Additional CBFO Notification Details, and as follows:

- **IF** the Certification Manager determined that the project-level NCR is reportable,
  THEN notify CBFO within seven (7) calendar days of identification of the deficiency.

- Copy the NCR Coordinator on the CBFO notification.

[D.4] **IF** the NCR was unready for submittal when the notification was made,
THEN submit the NCR to DOE CBFO within thirty (30) calendar days of identification of the deficiency.

Certification Manager

[D.5] **IF** the project-level NCR is determined not to be reportable,
THEN the NCR Coordinator receives an IDC notification that the NCR is not reportable.

Controlled
Copy

NCR Coordinator

[D.6] The NCRM is updated automatically. File a copy of the CBFO notification and related e-mails with the NCR.

[E] Forward the NCR to the Responsible Manager.

4.5 Disposition Determination

Responsible Manager

4.5.1 Determine the need for interim disposition, **AND**, if applicable, identify any additional approval requirements.

[A] Use Interim Dispositions only when necessary to determine the Final Disposition.

4.5.2 **IF** Interim Disposition is required,
THEN complete Block 15a and 15b of the NCR, **AND** print name, sign, and date Block 16a.

4.5.3 **IF** interim disposition is **NOT** required,
THEN check “N/A” in Block 15a.

4.5.4 Evaluate the nonconforming condition, **AND** provide a final disposition to correct the identified deficiency(ies).

4.5.5 For Final Dispositions, address all items and deficiencies identified in Block 7c of the NCR. Final Dispositions are limited to Use-As-Is, Reject, Repair, Rework, and Scrap. DO NOT close validated NCRs until completion and verification of the Final Disposition. Limit further processing, delivery, installation, or use of a nonconforming item, pending evaluation and approval of the disposition.

4.5.6 Check the Final Disposition Type in the appropriate box in Block 19. Limit Interim or Final Dispositions to only one type in each NCR.

4.5.7 For Use-as-is dispositions, provide Technical Justification in Block 19a.

Controlled
Copy

4.5.8 For Repair dispositions, provide Technical Justification in Block 19a and instructions for completion in Block 19b.

[A] Items that do not meet original design requirements that are dispositioned Use-As-Is or Repair are subject to design control measures commensurate with those applied to the original design.

4.5.9 For Reject or Scrap dispositions, provide instructions for completion in Block 19b.

[A] **IF** containers that have been characterized are identified on an NCR, and the disposition specifies that the containers are to be returned to the Host site for correction of the nonconforming condition,
THEN the Final Disposition SHALL BE Reject, and include Instructions for Completion "Return to Host site for remediation or repackaging, or both," or similar.

[A.1] DO NOT **CLOSE** the NCR in such a case. The container is returned to the Host site with the CCP HOLD TAG attached to the container (e.g., a container has a prohibited item and requires remediation to bring it into compliance with CCP-PO-001 acceptance criteria). For such containers, DO NOT **REMOVE** CCP HOLD TAGS until nonconforming conditions have been corrected **AND** verified by CCP under the QA Program.

[A.2] There may be circumstances when a nonconforming container is returned to the Host site for remediation or repackaging under the Host site's management system. When the container is removed from the AK tracking spreadsheet for return to the Host site, CCP will follow the Host site Interface Agreement in regard to application and removal of CCP Hold tags. Close the associated NCR(s) and update the NCRM according to this procedure.

4.5.10 Any orphaned tags found SHALL BE presented to QA for action to be taken in accordance with 4.8.5 [A].

Controlled
Copy

4.5.11 **IF** the nonconforming condition is data which requires that the container be rerun through that characterization (e.g., NDA, RTR or VE, Flammable Gas Analysis [FGA], Gas Generation Testing [GGT]),
THEN the NCR will disposition the container Reject.

4.5.12 **IF** the nonconforming condition is data for the container that will be corrected without rerunning the container through characterization,
THEN the NCR will disposition the container Rework.

4.5.13 For Rework dispositions, provide instructions for completion in Block 19b.

[A] In the disposition of an item to be reworked or repaired, include requirements to reexamine, reinspect, retest, or conduct nondestructive examination (NDE) to verify acceptability. Reexamine repaired or reworked items using the original process and acceptance criteria, unless alternative acceptance criteria or methods have been established and approved as part of the nonconforming item disposition.

4.5.14 **IF** changes to the specifying document are required to agree with the as-built condition,
THEN ensure the disposition requires action to change the specifying document to agree with the as-built condition.

4.5.15 **IF** a document or QA record change is required by the disposition,
THEN specify the change in the disposition **AND** ensure that the document or record cites the NCR number.

4.5.16 Evaluate the need for Actions to Prevent Recurrence (Repair or Rework), **AND** document corrective action(s) or “N/A” in Block 19c.

4.5.17 For Reject Dispositions, include instructions for the disposal of the item(s), such as “scrap,” or “return to vendor,” according to applicable procedures.

4.5.18 Identify any additional approval requirement, if applicable, **AND** document in appropriate block(s).

4.5.19 Print name, sign, and date Block 20, **AND** forward the NCR to the QA Engineer or QA Designee.

Controlled
Copy

QA Engineer or QA Designee

4.5.20 Review the NCR and determine the following:

[A] The disposition (Interim or Final) adequately addresses measures to be taken to correct the identified deficiency.

[B] The disposition (Interim or Final) has been completed in accordance with this Section.

[C] Actions to prevent recurrence (as applicable) address adequate measures to control recurrence.

[D] Assure any attachments have been completed as required by Section 4.11.

4.5.21 **IF** disposition is deemed appropriate,
THEN approve by completing Block 16b (Interim) or Block 21 (Final), **AND** GO TO step 4.5.23.

4.5.22 **IF** disposition is deemed to be deficient,
THEN recommend changes, resolve with the Responsible Manager, **AND** reprocess according to Section 4.5.

4.5.23 **IF** the NCR is initiated by the Data Generation Level (DGL) against a container or BDR,
THEN copy the validated and dispositioned NCR, **AND** submit it to the appropriate DGL process to be included in the BDR, **OR,** if an NCR revision, to be submitted with the corrected data as an update to the BDR.

4.5.24 **IF** the NCR is initiated by the CCP Project Office against a container or BDR during CCP-TP-001 review,
THEN copy the validated and dispositioned NCR, **OR,** if an NCR revision, forward a copy to the SPM to be included in the BDR.

4.5.25 **IF** the NCR is initiated by the CCP Project Office against a container or BDR, **AND** the disposition is required to be completed at DGL that corrects data in an existing BDR,
THEN, at DGL, include a copy of the validated and dispositioned NCR, **OR,** if an NCR revision, with the corrected data as an update to the BDR.

4.5.26 Verify the acceptable resolution of the disposition for individual containers and release them for shipment to WIPP by using the “Resolve” or “Return” dispositioning in the NCRM.

Controlled
Copy

4.5.27 Forward the NCR to the NCR Coordinator.

4.6 NCRM Update

NCR Coordinator

4.6.1 At receipt of the NCR:

[A] Enter the NCR in NCRM.

[B] Retain the NCR and any attachments in a working file until NCR closure.

4.7 Disposition Completion

Responsible Manager/VPM/SPM

4.7.1 Monitor disposition completion to assure timely completion.

Responsible Manager

4.7.2 At completion of the required dispositions (Interim or Final), request the original (if necessary) from the NCR Coordinator.

4.7.3 Provide objective evidence of completion of disposition (Interim, Final, and Actions to Prevent Recurrence as applicable) by one or more of the following:

[A] Prepare attachments as required by Section 4.10.

[B] Cite traceable documentation that substantiates completion of dispositions and actions to prevent recurrence.

[C] Sign and date statement(s) of fact or include as attachment.

[D] If desired, discuss with SPM and/or Originator, reviewing the documentation that substantiates completion of dispositions prior to formal submittal to ensure adequacy.

4.7.4 Document in an attachment prepared as required by Section 4.11 that substantiates completion of dispositions (as applicable).

4.7.5 Print name, sign, and date Block 17 (Interim) or Block 22 (Final), or both, **AND** submit original NCR with attachments (as applicable) to the QA Engineer.

4.8 Completion Verification and Closeout

QA Engineer

4.8.1 If desired, allow nonconforming items to continue through the normal process under certain controlled circumstances while their NCR is open, but always implement and verify the approved disposition(s) prior to NCR's closing.

4.8.2 Review the NCR and verify the following:

- Attachments provide traceability to objective evidence substantiating completion of disposition.
- Documentation provides adequate objective evidence of completion of disposition.
- Attachments (if applicable) have been completed as required by Section 4.11.
- Review the NCR and all attachments (if applicable) to assure conformance to applicable requirements.

4.8.3 Document the Attachment number(s) in Block 23 as needed. If no attachments, enter "N/A."

4.8.4 **IF** Interim disposition **AND** other requirements in accordance with 4.8.2 are satisfactorily completed,
THEN print name, sign, and date in Block 18, **OR** continue to 4.8.5 for Final Disposition.

4.8.5 **IF** Final Disposition,
THEN ensure removal of all CCP HOLD TAGS as required, either by removing them personally or in coordination with the VPM or QA Designee. Verification will be so noted by checking the box in Block 24 of Attachment 1 prior to closing the NCR.

[A] **IF** verification identifies missing tags,
THEN immediately notify the SPM or VPM.

4.8.6 Print name, sign, and date Block 25.

4.8.7 **IF** disposition (Interim **OR** Final) **AND** other requirements in accordance with 4.8.2 are **NOT** satisfactorily completed,
THEN return to Responsible Manager (with detailed reasons for return) for correction and resubmittal.

Controlled
Copy

4.8.8 Determine any distribution requirements as identified in applicable interface documents.

4.8.9 Forward the closed NCR and applicable attachments to the NCR Coordinator.

4.9 Closeout

NCR Coordinator

4.9.1 At receipt of the closed NCR:

[A] Update the NCR in the NCRM.

[B] Distribute as required.

[C] Submit the completed NCR with attachments, if applicable, to CCP Records in accordance with CCP-QP-008, *CCP Records Management*.

4.10 Voiding the NCR

NCR Originator or QA Engineer

4.10.1 **IF** an NCR is determined to be invalid during the review in accordance with Section 4.2 (prior to NCR validation), **THEN**:

[A] On the open NCR, document the detailed justification for voiding. Write anywhere on the NCR as long as it does not obliterate existing information, OR use Attachment 3, or create an attachment according to CCP-QP-008.

Ensure that the NCR Originator and the QA Engineer print name, sign, and date.

[B] Forward the NCR to the NCR Coordinator.

[C] GO TO step 4.10.3.

Controlled
Copy

Responsible Manager, SPM, QA Engineer, or NCR Originator

4.10.2 **IF**, after NCR validation when the NCR is still open, the NCR Originator, the SPM, the Responsible Manager, and the QA Engineer agree that it is appropriate to void a validated NCR, **THEN**:

[A] On the NCR, document the technical justification for voiding, **AND** ensure that the NCR Originator, the SPM, the Responsible Manager, and the QA Engineer print name, sign, and date.

[B] Stamp or write “void” on the first page of the NCR, initial, and date.

[C] Forward the NCR to the NCR Coordinator AND copy the SPM.

NCR Coordinator

4.10.3 Verify Block 24 of Attachment 1 (NCR) has been completed.

4.10.4 Update the NCR Log that the NCR is voided, if needed.

4.10.5 Input the NCR into NCRM.

4.10.6 Submit voided NCR to CCP Records in accordance with CCP-QP-008.

4.10.7 Ensure a copy of the NCR is submitted to the appropriate DGL personnel as required by CCP-TP-001.

4.11 Attachments

NCR Originator/SPM/QA Engineer/Responsible Manager

4.11.1 When using attachments to an NCR:

[A] Identify the NCR number and revision number on each page of the attachment.

[B] Identify the attachment number.

Controlled
Copy

[C] Paginate each page of the attachment.

EXAMPLE:
NCR-LANL-0700-12, Rev 0, Attachment 1,
Page 1 of 1

NCR-SRS-0800-12, Rev 1, Attachment 3, Page 1 of 6,
2 of 6, etc.

4.12 Revisions

NCR Originator/SPM/Responsible Manager

4.12.1 After validation of the NCR, change technical content by revising the NCR as follows:

[A] Obtain a blank copy of the current revision of the NCR from the sftp site.

[B] Apply next sequential revision number to all pages of the NCR and all attachments.

[C] Document the reason for revision in Block 7c.

NCR Originator, SPM, Responsible Manager, or NCR Coordinator

[D] Supersede the previous revision by drawing a diagonal line across the first page of the NCR, **AND** adding a statement, "Superseded by Revision # (next sequential revision #)," **AND** initial and date.

[E] Attach the superseded revision to the new revision.

[F] Submit new revision for review and approval in accordance with Section 4.2.

4.13 NCR Log Reconciliation - CCP Project Office and Host Site

NCR Coordinators/QA Engineer

4.13.1 At the end of the calendar year, reconcile NCR numbers issued with NCR logs maintained at Host sites (where applicable), the NCR Log, and the NCRM, as follows:

QA Engineer:

[A] Verify that all NCR numbers issued and that appear in the Host Site Log, are accounted for in the NCRM.

Controlled
Copy

[B] Resolve all discrepancies identified with the NCR Coordinator.

[C] Prepare and submit a report to the CCP Project Office NCR Coordinator that documents the reconciliation effort.

CCP Project Office NCR Coordinator

4.13.2 Reconcile NCR numbers issued to the QA Engineer at Host sites with the NCR Log, based on the report submitted by the QA Engineer.

4.13.3 Note any NCR numbers **NOT** used during the year as "Number Not Used" in the Report.

4.13.4 Submit the NCR Reconciliation Report to CCP Records in accordance with CCP-QP-008.

4.14 Work Suspension and CBFO Stop Work Orders

Personnel Working

4.14.1 During Normal Work

[A] All CCP employees shall be responsible and authorized to suspend work if concerned with employee safety, the safety of the environment, or the quality of the work.

[B] **IF** work CAN **NOT** be carried out as specified in a procedure **OR** continuing work would result in an undesirable situation, a condition adverse to quality or the environment, or an unacceptable safety risk,
THEN suspend work in a safe configuration **AND**, inform the Lead Operator (LO) or VPM.

Lead Operator or Vendor Project Manager

[C] Resolve the concerns of the employee or inform the SPM of the work suspension and the reason it is suspended.

CCP Management

[D] Resolve the concerns prior to resuming operation **OR** initiate actions to correct the condition using existing procedures. In either event, keep the employee who raised the concern informed of actions taken in response.

Controlled
Copy

[E] Initiate the appropriate documentation in accordance with *WP 15-GM1002,* and CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control* as applicable to the situation.

SPM

[F] **WHEN** all corrective actions have been completed and verified,
THEN direct restart of suspended work.

4.14.2 CBFO Stop Work Orders

CCP Personnel

[A] Immediately comply with the terms of any Stop Work Order issued by the CBFO, which is authorized to issue Stop Work Orders for the protection of the environment and health and safety of CCP employees and the public.

CCP Management

[B] Accept direction set forth in CBFO Stop Work Orders and carry out such directives in a safe and responsible manner in accordance with established procedures.

[C] Submit Stop Work Orders and related documentation to CCP Records according to CCP-QP-008.

5.0 RECORDS

5.1 Records generated during implementation of this procedure are maintained and controlled as QA records in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Nonpermanent Records

- Attachment 1, CCP Nonconformance Report (NCR) (including related emails and supporting documentation [if applicable])
  - Attachment 3, CCP Nonconformance Report (NCR) Continuation Sheet (if applicable)
  - CBFO Notifications (if applicable)
- NCR Reconciliation Report
- CCP NCRM Database
- Written Directive to suspend work (e.g., memo, email [if applicable])

Attachment 1 – CCP Nonconformance Report (NCR)

CCP NONCONFORMANCE REPORT (NCR)

(Use NCR Continuation, Attachment 3, if necessary)

NCR No. NCR-		Revision
1. Lot No., Heat No., or Serial No. (if applicable):	2. Process (e.g., NDA, NDE, VE, Other):	3. Batch Data Report #(s):
4. Order/Work Order/Job Control Number (if applicable):	5. PO # (if applicable):	Container #(s):
	6. Supplier (if applicable):	

DESCRIPTION OF NONCONFORMANCE

7a. NCR Description: ☐ < 100 nCi/g ☐ Prohibited Item ☐ E-Flag ☐ Receipt Inspection ☐ Transportation ☐ WWIS/WDS ☐ Other

7b. Requirement(s) (Enter Implementing Procedure No., Revision, Section No., & Quoted Text):

7c. Actual Condition:

7d. Have the CCP HOLD TAGS associated with this NCR been applied? ☐ YES ☐ NO If no is checked, explain:

8. NCR Originator:

printed name _____ signature _____ date _____

9. Does the identified condition have the potential to impact AK? If YES or INDETERMINATE, enter Trend Code L in Block 10. ☐ YES ☐ NO ☐ INDETERMINATE

10. Trend Code:	11. Responsible Manager:
12. Significant Condition? ☐ YES ☐ NO (If Yes, enter WIPP Form No.):	13. Recurring Condition? ☐ YES ☐ NO (If Yes, list NCRs and WIPP Forms):

14. QA Engineer or QA Designee validation:

printed name _____ signature _____ date _____

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- Revision

INTERIM DISPOSITION

15a. Interim Disposition (Check Only One):

☐ N/A (See Final Disposition) ☐ Hold ☐ Conditionally Accept ☐ Conditionally Use

☐ Sort ☐ Reinspect or Retest ☐ Remediate

15b. Instructions for Completion of the Interim Disposition:

INTERIM DISPOSITION APPROVALS

16a. Responsible Manager or Individual:

printed name signature date

16b. QA Engineer or QA Designee:

printed name signature date

Additional Approval:

printed name signature date

Additional Approval:

printed name signature date

COMPLETION OF INTERIM DISPOSITION

17. Interim Disposition Complete – Responsible Manager or Individual:

printed name signature date

18. Interim Disposition Verified – QA Engineer:

printed name signature date

Attachment 1 – CCP Nonconformance Report (NCR) (Continued)

NCR No. NCR- Revision

FINAL DISPOSITION

19. Final Disposition (Check Only One: Use-As-Is, Repair, Reject, Rework, or Scrap):
☐ Use-As-Is ☐ Repair

19a. Technical Justification – Required for Use-As-Is or Repair dispositions. [☐ N/A for Reject, Rework, or Scrap]

☐ Reject ☐ Rework ☐ Scrap

19b. Instructions for Completion – Required for Reject, Repair, Rework, or Scrap [☐ N/A for Use-As-Is]

19c. Corrective Actions (Actions to Prevent Recurrence – For Repair or Rework, if applicable.
[☐ N/A if not applicable, and for Use-As-Is, Reject, and Scrap]

FINAL DISPOSITION APPROVALS

20. Responsible Manager or Individual:

printed name _____ signature _____ date _____

21. QA Engineer or QA Designee:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

Additional Approval:

printed name _____ signature _____ date _____

CLOSURE

22. Final Disposition Complete - Responsible Manager or Individual:

printed name _____ signature _____ date _____

23. Attachments:

24a. HOLD TAG removal has been verified and reconciled for all nonconforming items on the NCR: ☐
24b. If HOLD TAG is not applicable, check: ☐ and explain:

25. Final Disposition Verified – NCR Closed QA Engineer:

printed name _____ signature _____ date _____

Controlled
Copy

Attachment 2 – Instructions for Completing Attachment 1, Nonconformance Report (NCR)

Block	Responsible Individual(s)	Instructions
1	NCR Originator	Enter Heat no., Lot no., or Serial no. (as applicable) of material or item, measuring or test equipment, or item purchased from a supplier. If not applicable, enter "N/A."
2	NCR Originator	Enter kind of process. Choose one or a combination from the following: AK, CRMU Project, DA, Exterior Surface Radiological Survey, FGA, GGTP, HE-RTR, Lot Evaluation, MOVER, NDA, NDE, OSRP, Radiochemistry, Receipt Inspection, RH-DTC, RH-NDE, RH-RTR, RH-Sampling, RH-VE, Solids Analysis, Surface Finish, Testing, Transportation, VE, WCO, WWIS/WDS, Other. If not applicable, enter "N/A."
3	NCR Originator	Enter Batch Data Report number(s) if applicable. If not applicable, enter "N/A." Enter Container number(s) if applicable. If not applicable, enter "N/A."
4	NCR Originator	Enter Order, Work Order, or Job Control Number if applicable. If not applicable, enter "N/A."
5	NCR Originator	Enter Purchase Order number if applicable. If not applicable, enter "N/A."
6	NCR Originator	Enter Supplier if applicable. A Host site is not a supplier. If not applicable, enter "N/A."
7a	NCR Originator	Check applicable box to match NCR Description.
7b	NCR Originator	Enter the requirement that applies to the nonconforming condition. Include implementing procedure number, its revision, the applicable section or paragraph number, and quote the text.
7c	NCR Originator	Enter the actual, nonconforming condition. Provide enough detail so that a disposition can be developed to correct it.
7d	NCR Originator or QA or QA Designee	Check "Yes" if Hold Tags have been applied or "No" if another method has been selected to control the item(s). If Hold Tags were not applied because of the Remote-Handled ALARA principle, enter the following: "Hold Tags will not be applied to items identified on this NCR because of ALARA consideration. Container management will apply through administrative control. In addition, these containers have been identified on the CCP sftp site. Container information from this NCR has been included in the list, which is to alert Mobile Loading Unit personnel as a second method of control of non-tagged containers." If NCR was originated at the Project Office, the site will be advised to apply Hold Tags and confirm when done. At that time, QA or QA Designee may check Block 7d "Yes." The NCR does not require revision as a result.

Controlled
Copy

Attachment 2 – Instructions for Completing Attachment 1, Nonconformance Report (NCR) (Continued)

Block	Responsible Individual(s)	Instructions
8	NCR Originator	Print name, sign, and date.
9	QA or QA Designee	Determine whether the Block 7c Actual Condition impacts or may impact AK. If so, check Block 9 "Yes." If it cannot be determined whether AK is impacted, check "Indeterminate." If not, check "No." If "Yes" or "Indeterminate" was checked, enter Trend Code 'L' in Block 10.
10	QA or QA Designee	If no Trend Code is entered in Block 10, determine the applicable code and enter it.
11	QA or QA Designee	Determine the Responsible Manager and enter (see Note before 4.2.12).
12	QA or QA Designee	After discussion with Assurance Manager, determine whether a Significant Condition Adverse to Quality exists (see 4.2.6) and check box accordingly. If "Yes" is checked, enter applicable WIPP Form number.
13	QA or QA Designee	Determine whether a recurring condition exists (see 4.2.9) and check box accordingly. If "Yes" is checked, enter applicable NCR or WIPP Form numbers.
14	QA or QA Designee	If NCR is determined valid, print name, sign, and date.
15a	Responsible Manager	If Interim Disposition is needed, check one box: "Hold," "Conditionally Accept," "Conditionally Use," "Sort," "Reinspect or Retest," or "Remediate." Proceed to Block 15b. If Interim Disposition is not needed, check "N/A" and proceed to Block 19.
15b	Responsible Manager	Enter instructions for completion of the Interim Disposition.
16a	Responsible Manager or Individual	Print name, sign, and date.
16b	QA Engineer or QA Designee	Print name, sign, and date.
17	Responsible Manager or Individual	When Interim Disposition is to be closed, print name, sign, and date.
18	QA Engineer or QA Designee	If verified adequate, print name, sign, and date.
19 or 19b	Responsible Manager or Individual	Check only one box: "Use-as-is," "Repair," "Reject," "Rework," or "Scrap."
19a	Responsible Manager or Individual	Enter Technical Justification if Disposition is "Use-as-is" or "Repair." If not, enter "N/A," and proceed to 19b.

Controlled
Copy

Attachment 2 – Instructions for Completing Attachment 1, Nonconformance Report (NCR) (Continued)

Block	Responsible Individual(s)	Instructions
19b	Responsible Manager or Individual	Enter Instructions for Completion if Disposition is “Reject,” “Repair,” “Rework,” or “Scrap.”
19c	Responsible Manager or Individual	Enter Action(s) to prevent recurrence, if applicable. Enter “N/A” if not applicable, or for “Use-as-is,” “Reject,” and “Scrap” dispositions.
20	Responsible Manager or Individual	Print name, sign, and date.
21	QA or QA Designee	If Final Disposition is acceptable, print name, sign, and date.
22	Responsible Manager or Individual	When Final Disposition is completed, print name, sign, and date.
23	QA or QA Designee	If there are any Attachments, enter number and title or description of each.
24a	QA or QA Designee	If Hold Tag removal was verified for all nonconforming items on the NCR, check box.
24b	QA or QA Designee	If Hold Tags are not applicable, check box and enter explanation.
25	QA Engineer	When Final Disposition is verified, print name, sign, and date for closure of NCR.

Controlled
Copy

Attachment 3 – CCP Nonconformance Report (NCR) Continuation Sheet

NCR No. NCR-	Revision	Attachment #	Page	of
Continuation from Section Number:				

Controlled
Copy

Attachment 4 – Additional CBFO Notification Details

This attachment details reporting notification requirements for CCP-generated Nonconformance Reports (NCRs) which meet the condition identified in CCP-PO-001, Section C3-13, and 4.4.1[D.5] of this procedure.

WIPP e-mail Address: wipp.notify@wipp.ws

Electronic notification is strongly encouraged. If electronic notification is used, the following criteria are required:

On the subject line, preceding the subject, [ncr]. The term “ncr” in brackets [ ] allows the automatic transfer into the proper folder of the receiving system.

Include the NCR number, description of the deficiency, and the date identified.

CCP must email an NCR containing CCP’s procedurally required information thirty (30) days after the nonconformance was identified.

CCP may choose to transmit the NCR within the required seven (7) days, and satisfy both notification requirements, provided the following information is submitted:

- Site NCR #
- Responsible Organization
- Date initiated
- Individual who identified the NCR
- Deficiency
- Requirement violated
- Actions
- Date closed, if applicable

General Notification

If CCP does not have the capability of transmitting documents by e-mail, or elects not to, hard-copy transmittal may be used instead. Correspondence must be sent to the following address:

[Assigned CBFO Contact]
Carlsbad Field Office
U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88221-3090

Controlled
Copy

Attachment 5 – Trend Codes

Trend Codes	Descriptions	Definitions and Examples
A*	Personnel Error and Failure to Follow Procedure	Personnel wrongly entered data or transposed figures or letters; inattention to detail; lack of understanding; use of superseded or incorrect version of specifying document; used procedure, but before required approval(s); required review missed problem(s); failed to follow procedure(s); deliberate violation.
C	Engineering Deficiency	Inadequate or erroneous engineering design, design input, or design output.
D	Procedure Less Than Adequate	Procedure erred or was vague in specifying requirements; failure to revise procedure when work processes change; no procedure to control QA work.
E	Software Deficiency	Software error resulted in deficient data; unqualified software used to obtain QA data; failure to initiate software qualification process; failure to verify software following software or operating system upgrade.
F	Vendor Deficiency	Deficiencies related to a vendor (i.e., procured item including hardware does not meet a requirement prescribed in the purchase order); wrong or less than adequate vendor documentation.
H	Material or Equipment Control Deficiency	Failure of material, equipment, or items because of damage, failure of a component, inadequate maintenance, etc.

Controlled
Copy

Attachment 5 – Trend Codes (Continued)

Trend Codes	Descriptions	Definitions and Examples
I	Calibration Deficiency	Calibration was inadequate, resulting in nonconforming or indeterminate data; use of out-of-calibration M&TE.
J	Inadequate Documentation	Record is nonconforming: does not include required data; required data are incorrect; record(s) improperly stored.
K	WAP/WAC Deficiency	Noncompliance with a WAP or WAC requirement **(Exempt from trending)**.
L	Acceptable Knowledge Deficiency	Possible changes to the AK of a waste stream (e.g., assignment of waste container to wrong waste stream; identification (ID) of unanticipated waste material parameters in a waste container) **(Exempt from trending)**.
M	Inadequate Communication	Personnel were given ambiguous or incorrect information or instructions to do their work; inadequate or lack of planning.
O	Ineffective Control of Corrective Action	Actions intended to correct deficiencies or preclude recurrence proved ineffective; identification of nonconforming item(s) less than adequate.
P	Inadequate Training	Condition Adverse to Quality resulted from lack of or inadequate indoctrination, training, or qualification; work done before indoctrination, training, or qualification or after qualification expired.
Q	Deficiency Caused by Others	The deficiency was caused by non NWP personnel working to non NWP QA program or none at all.
R	Control of Electronic Data Less Than Adequate	Inadequate security access control; inadequate protection of data; failure to backup data; inadequate traceability of data; failure to verify transferred data.

* Former Trend Code B was combined with A.

Controlled
Copy

Attachment 6 – NCR Hold Tags Guidance

Applicability

This Attachment applies to all CCP personnel applying or removing CCP Nonconformance Report (NCR) Hold Tags.

Vendor Project Manager (VPM) Administrative Hold Tags are addressed in Container Management procedures CCP-TP-035, CCP-TP-068, and CCP-TP-120.

When PLACING an NCR Hold Tag on waste container:

- Use only CCP-provided NCR Hold Tag
- When applying the NCR Hold Tag, enter the information using a Sharpie permanent marker or equivalent
- The NCR Hold Tag when possible should be applied so that the drum number, BDR number, etc. face out
- Place the NCR Hold Tag on the waste container locking ring bolt or lifting handle, using the cable tie in accordance with the following:
    - Use a separate cable tie for each Hold Tag placed on a waste container
    - Ensure the the cable tie locks and does not protrude past the bottom of the device
    - If the wire protrudes past the bottom of the device, wrap the exposed wire with tape

When REMOVING an NCR Hold Tag from a waste container:

- Wrap the area where the cable is to be cut with tape prior to cutting to prevent the cable wires from splaying. Cut the cable tie holding the NCR Hold Tag to the container using CCP-approved cable cutters.
- DO NOT cut or pull the tag off the cable tie
- Return the NCR Hold Tag to the VPM or SPM directing removal of the tag. The VPM or SPM will then turn the tags over to the QA Engineer for tracking with the corresponding NCR.
- DO NOT remove Host site tags or tamper-indicating devices (TID). Immediately report accidental removal of these to the VPM.

Controlled
Copy

Attachment 6 – NCR Hold Tags Guidance (Continued)

When a cable or wire is found on a waste container without an NCR Hold Tag attached, or when an NCR Hold Tag is damaged or faded:

- Treat the container as though it has an NCR Hold Tag applied.
- If the NCR Hold Tag is found damaged or faded, document the container number and any information from the remaining Tag and notify the VPM or SPM.
- If a loose tag is found on a waste container or on the ground, turn the tag over to the VPM or SPM.
- Replace loose, damaged, faded, or missing NCR Hold Tags as directed by the VPM or SPM.

Controlled
Copy

CCP-QP-008

Revision 22

CCP
Records Management

EFFECTIVE DATE: 03/24/2014

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

Controlled
Copy

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
6	03/11/2002	Additions for use of e-QA system
7	06/07/2002	Incorporation of instructions for pagination and removal of text in Attachments.
8	09/04/2002	Added the definition of magnetic tape and incorporated text to clarify the requirements of computer generated electronic records (clarified steps 2.3.7 and 4.8.3). Updated Attachment 2 to reflect new fax machine number. Added new steps regarding duties for the CCP Site Project Manager and the release of records (steps 3.1 and 4.7).
9	08/27/2003	Updated to reflect issuance of Revision 5 of the QAPD. Made other editorial changes. Separated electronically fillable forms and updated references in the procedure.
10	10/15/2004	Clarified CCP Personnel and Facility Records Custodian responsibilities. Editorial changes throughout.
11	08/22/2005	Reorganized sections for improved flow and added clarifications. Deleted Attachments 3 through 6.
12	11/16/2006	Revised to implement the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/Remote-Handled (RH) Permit Modification Request (PMR).
13	04/24/2007	Revised to change title in responsibilities and body of procedure and to add statement (Note) from QAPD and remove verbiage about in-process records.
14	09/19/2007	Revised to address finding from U.S. Department of Energy, Carlsbad Field Office, Corrective Action Report 07-016, Audit A-07-24. Also revised to provide some clarifications within the procedure, added a step to address superseding and voiding of documents (i.e., Batch Data Reports, Nonconformance Reports), and added a note at the beginning of section 4.9 to address computer modeling results methods.
15	10/28/2009	Revised to make personnel title changes and name changes to organizations. Added section 4.7.1[G] for lost records as well as a section for receipt and handling of Official Use Only (OUO) and Unclassified Controlled Nuclear (UCN) documents.
16	07/06/2010	Revised to clarify and address the submittal of historical source documents.

Controlled
Copy

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
17	11/02/2010	Revised to change the submittal process for Acceptable Knowledge (AK) documentation and section on historical source documents.
18	03/30/2011	Revised to support corrective action report (CAR)-LANL-0004-10.
19	08/02/2011	Revised to change the number of the form in the definition of retention period. Change to Section 4.8 for clarification.
20	08/10/2012	Revised to clarify editorial changes, transmitting of records, and destruction of QA records.
21	02/28/2013	Revised to incorporate Nuclear Waste Partnership (NWP) transition changes.
22	03/24/2014	Revised to include steps for the Record Index Module, addresses editorial guidelines for records, and to update records section.

Controlled
Copy

TABLE OF CONTENTS

1.0 PURPOSE 5
1.1 Scope 5

2.0 REQUIREMENTS 6
2.1 References 6
2.2 Training Requirements 6
2.3 Definitions 6

3.0 RESPONSIBILITIES 12
3.1 CCP Manager or Designee 12
3.2 Cognizant Manager 12
3.3 Lead Records Custodian 12
3.4 Records Custodian 13
3.5 Facility Records Custodian 13
3.6 WIPP Records Management Services (WRMS) 14
3.7 Personnel 14

4.0 PROCEDURE 15
4.1 Generation of Records 15
4.2 Legibility 15
4.3 Accuracy 15
4.4 Completeness 16
4.5 Storage, Maintenance, Control, and Protection of QA Records 16
4.6 Records Separation and Availability 18
4.7 Corrections, Additions, Revisions, Supplements, and Lost Records 18
4.8 QA Record Authentication/Validation 21
4.9 Protection, and Preservation of Computer Generated Electronic Records 22
4.10 Transmitting Records 24
4.11 Unclassified Controlled Nuclear Information (UCNI) and Official Use Only (OUO) Documentation 25
4.12 Internal Use Only (IUO) and No Foreign National (NOFORN) 27
4.13 Receiving QA Records 28
4.14 Retrieval of Original Records from CCP Records at the Project Office 29
4.15 Destruction of QA and Non-QA Records 29

5.0 RECORDS 32

LIST OF ATTACHMENTS

Attachment 1 – Written Request for Records Destruction (Example) 33
Attachment 2 – CCP Records Transmittal/Receiving Form 34

Controlled
Copy

1.0 PURPOSE

This document outlines the Central Characterization Program (CCP) Records Management Program. The records program involves CCP Records and interaction with the Waste Isolation Pilot Plant (WIPP) and Records Management Services (WRMS) as outlined in this procedure.

1.1 Scope

This procedure applies to the creation, maintenance, use, and disposition of records generated by the CCP.

Controlled
Copy

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document* (QAPD)

Referenced Documents

- *National Archives and Records Administration (NARA) Approved Record Schedules*
- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-028, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*
- DOE M 471.1-1, *Identification and Protection of Unclassified Controlled Nuclear Information Manual*.
- DOE M 471.3-1, *Manual for Identifying and Protecting Official Use Only Information*.

2.2 Training Requirements

2.2.1 Personnel performing this procedure will be trained and qualified in accordance with CCP-QP-002, *CCP Training and Qualification Plan,* prior to performing this procedure.

2.3 Definitions

2.3.1 **Authentication** - Synonymous with validation.

2.3.2 **Computer System** - A configuration, or working combination, of hardware, software, and data communication devices.

2.3.3 **Destruction** - The physical destruction of records by shredding, incinerating, or other permanent means.

2.3.4 **Disposition** - The action taken regarding records no longer needed for current government business. Actions may include transfer to the Carlsbad Field Office (CBFO) Records Holding Facility or Federal Records Center, transfer from one federal agency to another, transfer of permanent records to the National Archives and

Controlled
Copy

Records Administration (NARA), or destruction of nonpermanent records.

2.3.5 **Electronic Record** - A record in a form that is readable only by a computer. Electronic records are most frequently recorded on media such as disk, diskette, tape, and tape cartridges.

2.3.6 **External Records** - Records generated by the waste generating sites (e.g., procurement records, procedures, radiological surveys, facility operating logs, container packaging records, historical source documents, etc.). These records are not subject to the requirements of this procedure concerning legibility, pagination, accuracy, completeness, or revision.

2.3.7 **Inactive Record** - A record no longer required to conduct government business and therefore dispositioned in accordance with approved records schedules and stored for authorized retention periods.

2.3.8 **Index** - A listing of records and cross-reference information. At a minimum, an index will indicate record location within the record filing and storage system.

2.3.9 **Internal Use Only (IUO)** - A document that has been identified as Internal Use Only (IUO) and is considered proprietary, which is not to be disseminated beyond the organization.

2.3.10 **Legible** - For the purpose of this document, legible means that the characters, letters, and numbers making up data or information contained in a record can be read without difficulty or magnification.

2.3.11 **Lifetime Quality Assurance (QA) Records** - Records that are required to be retained and preserved in an acceptable condition for the operating life of the repository (i.e., until termination of the repository permit). Prior to destruction of any lifetime record, it shall be evaluated for upgrade to a post-closure record.

2.3.12 **Magnetic Tape** - A tape with a magnetizable surface on which data can be stored and retrieved. A tape or ribbon of any material impregnated or coated with magnetic or other material on which information may be placed in the form of magnetically polarized spots.

2.3.13 **Medium** - Refers to the physical form of recorded information such as paper, film, disk, magnetic tape, or other materials on which information can be recorded.

Controlled
Copy

2.3.14 **Microfilming** - A photographic process used to record images of records on a fine-grain, high-resolution film in sizes greatly reduced from the original. Formats in general use are rolls of 16 millimeter (mm) images, pages of 16 mm images called microfiche, and 35 mm images mounted in aperture cards. Microform is a generic term for all microfilm formats.

2.3.15 **Migrate** - In electronic records, the process of moving from one computer system to another.

2.3.16 **National Archives and Records Administration (NARA)** - An independent government agency responsible for establishing policies and procedures for managing the records of the federal government. NARA exercises final authority for approving the disposition of government records.

2.3.17 **Nonpermanent Records** - Records having value for a specific, limited time and authorized by NARA (via approved disposition schedules) to be destroyed after that time. Nonpermanent records are sometimes referred to as temporary records.

2.3.18 **No Foreign National (NOFORN)** - No Foreign National (NOFORN) is a marking that identifies a document is not to be given to a person who is a foreign national – not a United States citizen.

2.3.19 **Nonrecord Material** - Those classes of documentary or other material that fail to meet the general definition of a record or fall under one of the following categories: (a) library or museum material made or acquired for reference or exhibition purposes; (b) extra copies of documents preserved only for convenience of reference on which no action is recorded or taken; (c) stocks of publications or other processed documents that require no action and are not part of a case on which action is taken; (d) routing slips and transmittal sheets adding no information to that contained in the transmitted material (i.e., concurrences or direction on how to proceed or implement); and (e) papers of a private or nonofficial character that pertain to an individual's private affairs.

2.3.20 **Official Use Only (OUO) Information** - Certain unclassified information that may be exempt from public release under the Freedom of Information Act and has the potential to damage governmental, commercial, or private interests if disseminated to persons who do not need to know the information to perform their jobs or other U.S. Department of Energy (DOE) authorized activities.

Controlled
Copy

2.3.21 **Personal Papers** - Materials of a private nature maintained by personnel at their work place that DO **NOT** relate to, or have an effect on, the conduct of business or activities related to the CCP. Personal papers maintained in desks and file drawers in the work place must at all times be segregated and stored separately from records.

2.3.22 **Post-closure Records**

- Records that assist in preventing action that could impair the long-term isolation of the waste.
- Records preserving information that would prevent inadvertent human intrusion, such as the nature and hazard of the waste and locations of the geologic repository operation area, the underground facility, bore holes, shafts, and boundaries of the controlled area.
- Records providing information relevant to post-closure monitoring and assessment of performance of the repository system.
- Records preserving, for future generations, information regarding the geologic setting relevant to mitigation of releases of radioactive materials.
- Records which would be of significant value after decommissioning and closure of the repository.

2.3.23 **Privacy Record** - Any item, collection, or grouping of information about an individual that contains his or her name or other personal identifier.

2.3.24 **Project Participant** - Any DOE site, generator site, or contractor organization that participates in a CBFO program. Subcontractor's records are the responsibility of the participant.

2.3.25 **Project Records** - Records created or received in support of the CCP.

2.3.26 **QA Record** - An authenticated record that provides objective evidence of the quality of items or activities.

2.3.27 **Record Medium** - Refers to the physical form of recorded information such as paper, film, disk, magnetic tape, or other materials on which information can be recorded.

Controlled
Copy

2.3.28 **Records** - Those classes of documentary materials which may be disposed of only after the archival authority is obtained. The statutory definition of records (44 United States Code §3301, Definition of Records), "...includes all books, papers, maps, photographs, machine-readable materials or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States government under federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations or other activities of the government or because of the informational value of the data in them." This definition applies to all departmental records including those created, received, and maintained by contractors pursuant to their contracts. Virtually all recorded information in the custody of the government (including information held by contractors which is considered by contract to be government information) regardless of its' media (hard copy, machine-readable, microform), is considered "government records." For the CCP, information meeting the above criteria is considered to be a record, unless it can be clearly identified as a nonrecord.

2.3.29 **Records Custodian** - An individual identified within an organization who is assigned the responsibility of, and trained for, assisting record originators regarding records management issues.

2.3.30 **WIPP Records Archive (WRA)** - A facility that meets the regulatory requirements for the storage of noncurrent records pending their destruction or transfer to a Federal Records Center or the NARA. The WIPP Records Archive (WRA) is located in Carlsbad, New Mexico.

2.3.31 **Records Inventory and Disposition Schedule (RIDS)** - The DOE form used to indicate the appropriate disposition of records. The purpose and content of the form may be placed in electronic media as long as all the requirements of the form are met.

2.3.32 **Record Series** - File units or documents arranged according to a filing system or kept together because they relate to a particular subject or function; result from the same activity; document a specific kind of transaction; take a particular physical form; or have some other relationship arising out of their creation, receipt, or use, such as restrictions on access and use. A record series may also include related elements physically separated from it such as finding indexes or large documents (also sometimes called a file series). These records are generally handled as a unit for disposition purposes.

Controlled
Copy

2.3.33 **Software Generated** - A form that is generated by controlled software that performs approved calculations.

2.3.34 **Unclassified Controlled Nuclear Information (UCNI)** - Certain unclassified but sensitive Government information concerning nuclear material, weapons, and components whose dissemination is controlled under section 148 of the Atomic Energy Act.

2.3.35 **Record Systems** - A common, integrated set of manual and/or automated activities for creating and identifying; collecting and controlling; processing and organizing; distributing; microfilming; storing and preserving; retrieving; and disposing of records applicable to preparation for storage, as well as the storage of machine readable records such as magnetic tapes, floppy disks, etc.

2.3.36 **Retention Period** - The period of time approved by NARA for records to be retained, whether in the originating office, Records Storage Facility or a Federal Records Center. The retention period is indicated on EA15RM300Z-2-0, *Records Inventory and Disposition Schedules (RIDS)*.

2.3.37 **Uniform File Code (UFC)** - A standard filing system for correspondence records required by the DOE.

2.3.38 **Unscheduled Records** - Records for which no disposition authority has been identified on an approved disposition schedule.

2.3.39 **Validation/Authentication** - An activity that certifies the content of a document as being authentic and complete. This certification is documented by signing (or initialing) and dating the document unless otherwise authenticated. Validation/authentication may be made by the author, assigned reviewers, or individual(s) specifically assigned to review and validate documents.

Controlled
Copy

3.0 RESPONSIBILITIES

3.1 CCP Manager or Designee

3.1.1 CCP Manager has the overall responsibility and authority for the content of records generated.

3.1.2 Verifies that the organization has a current approved RIDS.

3.1.3 Verifies that records are retained in accordance with retention requirements and not inadvertently or prematurely destroyed.

3.1.4 Verifies the timely disposition of records through in-house destruction.

3.1.5 Verifies that personnel are aware of the requirements to retain records according to approved retention requirements.

3.1.6 Provides adequate records management resources in the form of staff, equipment, and dedicated time to verify good record keeping practices.

3.1.7 Obtains written concurrence to destroy records exceeding their retention periods.

3.2 Cognizant Manager

3.2.1 Identifies those documents that become records.

3.2.2 Determines if the work activities are quality-affecting.

3.2.3 Identifies records in the implementing procedures.

3.3 Lead Records Custodian

3.3.1 Acts as the liaison between the CCP and WRMS for records management.

3.3.2 Carries out the records management duties in accordance with approved implementing procedures.

3.3.3 Determines which nonpermanent records series are eligible for destruction.

3.3.4 Informs the CCP Manager or designee of the records that have expired retention periods.

Controlled
Copy

3.3.5 After receiving approved written concurrence, dispositions the Quality Assurance (QA) and/or non-QA records.

3.3.6 Prepares and revises the RIDS in accordance with CCP-QP-028, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning,* and verifies the RIDS remain current.

3.3.7 Identifies records that are eligible for in-house destruction.

3.3.8 Assists personnel with record retrieval from CCP Records as required.

3.3.9 Assists in obtaining approved disposition authorities for unscheduled records from NARA.

3.4 Records Custodian

3.4.1 Carries out the records management duties in accordance with approved implementing procedures.

3.4.2 Transmits completed QA records to the Host (generator/storage) site records centers or WIPP Records Archives (if applicable).

3.4.3 Assists personnel with record retrieval from CCP Records, as required.

3.4.4 Verifies that Records are complete. This includes verifying that there are no missing signatures, the page count is correct, and that the Batch Data Reports (BDRs) contents match their Table of Contents.

3.4.5 Ensure that the Attachment 2, Records Transmittal/Receiving Form, is in agreement with the transmitted record and that it is legible.

3.4.6 Enter all QA records into the Records Index Module.

3.5 Facility Records Custodian

3.5.1 Coordinates the compilation and the transfer of records generated at the Host (generator/storage) sites.

3.5.2 Verifies that records are complete. This includes verifying that there are no missing signatures, the page count is correct, and that the BDRs contents match their Table of Contents.

Controlled
Copy

3.5.3 Ensure that the Attachment 2 is in agreement with the transmitted record and that it is legible.

3.5.4 Enter all QA records into the Records Index Module.

3.5.5 Manages the transfer of completed and in-process records to CCP Records.

3.5.6 Assists personnel with record retrieval from CCP Records where applicable.

3.5.7 Carries out the records management duties in accordance with approved implementing procedures.

3.6 WIPP Records Management Services (WRMS)

3.6.1 Assists in the development and management of the records management system.

3.6.2 Assists with the review and approval of the CCP RIDS.

3.6.3 Assists in obtaining approved disposition authorities for unscheduled records to NARA.

3.7 Personnel

3.7.1 Generates the necessary records that document the activities assigned to them. Each individual who creates records must verify the record(s) are legible, accurate, and complete, appropriate to the work accomplished.

3.7.2 Are aware of, and provide reasonable protection during the generation and processing of records intended to become QA Records.

3.7.3 Ensures that records are legible, accurate and complete, appropriate to the work accomplished, when generating, reviewing and validating records.

3.7.4 Ensures that records are not inadvertently or prematurely destroyed.

3.7.5 Coordinates records issues with the respective Records Custodian(s)/Facility Records Custodian(s).

Controlled
Copy

4.0 PROCEDURE

4.1 Generation of Records

Cognizant Managers

4.1.1 Prior to conducting a work activity:

[A] Identify those documents that become records.

[B] Determine if the work activities are quality-affecting.

[C] Identify records in the implementing procedures.

NOTE

Records may be originals **OR** reproducible copies; however, original documents are preferred.

4.2 Legibility

Personnel

NOTE

Reproducible ink should be used whenever possible to verify maximum contrast on printed records. Records created in black ink typically produce better quality copies than do records printed in other color inks.

NOTE

Highlighter marking pens SHALL **NOT** be used on records. Bolding or underlining text are preferred alternatives to highlighting.

4.2.1 Verify that the records generated are legible and reproducible. If there is doubt, copy the record and then recopy the copied record (copy-a-copy test) to check the copied copy for legibility.

4.3 Accuracy

4.3.1 Verify that records are accurate to the work accomplished.

Controlled
Copy

4.4 Completeness

4.4.1 Verify that records are complete per the following:

[A] Blank spaces are filled in where information is required to be entered making the document complete.

[B] Not Applicable (N/A) is entered in spaces where information is not applicable or as otherwise indicated.

[C] Blank spaces are acceptable when a record is a software generated page/form which performs calculations.

[D] The document's intent is clear, even with some blanks not filled in. If so, the record is acceptable as is. A blank space in a record does not, in itself, make the record incomplete. For example:

Is the indicator light illuminated?
___✓___ YES _____ NO

This is an acceptable method of recording information, even when the NO space is blank.

NOTE

Individuals handling documents intended to become QA Records shall provide reasonable protection for the records from damage or loss until the records are submitted to the records system (this includes documents generated during field operations).

4.5 Storage, Maintenance, Control, and Protection of QA Records

4.5.1 Store, maintain, and protect completed QA records as follows:

[A] In an Underwriter Laboratories-listed one-hour fire rated (or equivalent) container, or a container certified by a person competent in the technical field of fire protection,

OR

[B] Retain a copy in a location sufficiently remote from the original to preclude destruction as a result of a single event such as fire or natural disaster,

ALSO

[C] Provide adequate protection of the QA records within the storage location to minimize the risk of damage or loss from

Controlled
Copy

humidity, natural disasters, adverse weather conditions, mold or infestations of insects or rodents.

[D] DO **NOT** store QA records where they may be exposed to water or heat sources, **OR** where food is kept.

4.5.2 Access

[A] Prevent access to QA records by unauthorized personnel as follows:

NOTE

Authorization must be documented either by signature and date on posted list, **OR** by letter on file. Authorization will be done by the CCP Manager or designee. The authorization list must be kept current.

[A.1] Generate, post, and maintain a list designating the personnel who are authorized and permitted access to the QA records.

NOTE

Provisions for installation of locking mechanisms will be made for storage areas requiring controlled access. Authorized personnel allowed access to the storage areas will be given the lock code **OR** controlled location of the keys.

[A.2] Protect locking mechanisms for storage cabinets/areas that require controlled access.

[A.3] Store all records not currently being used in appropriate storage equipment (e.g., file cabinets, shelving, desks).

[A.4] Lock file cabinets and offices as appropriate when leaving controlled access areas.

Controlled
Copy

4.6 Records Separation and Availability

NOTE
Records will be separated from non-records and personal papers.

4.6.1 Provide a means to retrieve records by indexing with one of the following methods:

[A] Numerically (such as audit case files):

OR

[B] By subject, with guides dividing different subjects.

4.7 Corrections, Additions, Revisions, Supplements, and Lost Records

NOTE
When in-process record/records intended to become QA Records are being generated they shall be maintained (do not remove or destroy) and if corrections are required, then perform this by proper correction, superseding, or voiding as directed in the following sections of this procedure.

4.7.1 Make necessary changes, additions, revisions and supplements in accordance with the following guidelines:

[A] Corrections

[A.1] Correct errors by drawing a single line through the incorrect information (leaving the original text readable), entering the correct information, **AND** initialing and dating each correction made.

[A.2] DO **NOT** use correction fluid (white-out) or correction tape on records.

Controlled
Copy

NOTE

Editorial changes may be made to records without the same level of review and approval as the original record. Editorial changes include ONLY the following:

- Clarification statements that do not affect the purpose of the record;
- Correcting grammar or spelling (the meaning has not changed);
- Renumbering sections, attachments or pagination;
- Date(s) that do **NOT** impact final disposition;
- Transcription errors;
- Sections that require N/A, but were left blank.

[A.3] Provide corrected or changed records (except for editorial changes) that have been validated back to the originating organization for review and revalidation.

NOTE

Original records may not be available for remote personnel to make necessary changes; therefore a printed copy of the scanned image from CCP Records may be used to make the changes. Changes will be transmitted in accordance with step 4.10.1.

[A.4] **IF** the original document is unavailable to the individual making a change to a record,
THEN use a printed copy of the scanned image from CCP Records and make the change. This will then become the original.

[B] Additional Notations

[B.1] **IF** any additional information needs to be added to a record after validation,
THEN enter the notation, **AND** initial and date each notation(s) made.

[C] Revisions, Regeneration, and Supplements

[C.1] **IF** a record needs to be revised due to illegibility or damage,
THEN transcribe **OR** enhance the illegible, or damaged, portion of the record **AND** initial and date each part enhanced or transcribed.

Controlled
Copy

[C.2] **IF** a record must be regenerated due to damage, **THEN** regenerate the record and place a notation at the bottom of the regenerated page, "This record has been regenerated because of damage," sign, and date. Place the regenerated record in front or on top of the original damaged record.

[C.3] **IF** a record has already been sent to CCP Records, **AND** needs a supplement or revision, **THEN** contact CCP Records.

NOTE

The following is a standard way to add new pages to a document, to supersede a page, and to add a corrected page.

[D] Adding Pages to Documents

[D.1] When adding pages to a document, place new pages behind the page within the document that they will follow.

Example: The new pages are to be added right after page 35 within the document. Place the new pages behind page 35, **AND** number the new pages 35A, 35B, 35C.

[D.2] **IF** the pages are added to the end of the document, **THEN** number them in sequential order.

Example: The last page of the document is page 40. Place the new pages after page 40, **AND** number the new pages as 41, 42, 43.

[E] Superseding Pages

[E.1] When superseding a page with a new, corrected page, draw a single, diagonal line through the entire page to be superseded **AND** initial and date.

[E.2] Place the new, corrected page to the front of the superseded page. Using the page number on the now superseded page, number the new, corrected page with the same number, then renumber the superseded page with the same number and an additional character (i.e., A, B, C).

Controlled
Copy

Example: Superseded page was numbered 35. The new, corrected page will now be numbered 35, **AND** the superseded page will change to 35A.

[F] Superseding or Voiding of Whole Documents

[F.1] When superseding or voiding a whole document (not just pages within a document [i.e., BDRs, Nonconformance Reports]) stamp or write "superseded" or "void" on the first page of the document **AND** initial and date.

[G] Lost Records

[G.1] **IF** replacement or restoration of the record is **NOT** practical,
THEN action should be taken to ensure the quality of the items or activities affecting quality, by using re-examination, investigation, or by other means.

4.8 QA Record Authentication/Validation

NOTE

Records become QA records when they are completed and authenticated/validated. Authentication/validation may be by the author, assigned reviewer, individual specifically assigned to review and validate documents, or otherwise authenticated/validated.

NOTE

Individuals who review and authenticate/validate records are responsible for the completeness and accuracy of those records.

[A] Authenticate/validate QA records through one of the following methods:

[A.1] Initial **OR** sign and date hard copy records, unless otherwise authenticated/validated.

[A.2] **IF** the nature of the record precludes signing,
THEN validate the QA record using any reasonable form which clearly indicates that an authorized individual believes the record to be complete and accurate.

Controlled
Copy

4.9 Protection, and Preservation of Computer Generated Electronic Records

NOTE

There are two types of electronic records:

- Electronic records that can be printed in a hard copy format.
- Electronic records that cannot be printed in a hard copy format.

Regardless of type, all electronic records must be managed in accordance with the guidelines contained in this section. Properly performing these steps will ensure that electronic records are in compliance with the applicable requirements.

NOTE

Computer modeling results (e.g., Monte Carlo N Particle [MCNP], Origen2.2) that perform statistical and random computer runs of radionuclide distributions will not be maintained but summarized in the hardcopy calculation packages. The calculation packages document these computer runs and shall define the range of possible values, the methodology for randomly selecting from this range, and a representative example of the input values and output result.

NOTE

Electronic media for historical source documents transmitting Adobe portable document format (PDF) files or electronic databases may be compact discs (CDs) or digital video discs (DVDs).

4.9.1 Protection

[A] To minimize the risk of unauthorized additions, deletions, or alterations to electronic files, use power-on, file passwords, or control lists to control any unauthorized access.

[A.1] Place electronic records, when complete to read/write protection.

[B] Provide access of electronic records to authorized staff.

[C] Provide access in the work area of electronic file index printouts, logs, disk labeling, **OR** other means to facilitate retrieval of active records by authorized users. Indicate the method used (including the directory path, if applicable) to transfer the information, the date compressed (if applicable), and file encryption information.

Controlled
Copy

4.9.2 Preservation

[A] Preserve records for the duration of their authorized retention period to verify their availability and provide verification of work performed by the facility and its supporting agencies.

4.9.3 Storage

[A] Label all electronic media (computer generated) used to store records properly with the following: originating organization, filename, retention period (obtain from Lead Records Custodian), original software used, and the version of the software.

4.9.4 Media Backup

[A] Back up electronic records on a regular basis to safeguard against the loss of information due to equipment malfunctions or human error.

4.9.5 Hardware/Software Changes

[A] Protect records media **AND** migrate information before the media is no longer useful.

[A.1] As software programs change, transfer existing records to the newer software program.

[A.2] As hardware is phased out or upgraded, verify that all existing records can be read utilizing the new hardware.

(a) **IF** new software and hardware will **NOT** read the current electronic record(s),
THEN migrate the records to a more accessible media.

(b) **IF** migration is **NOT** possible,
THEN retain either the old software and hardware **OR** make a printout of the data **AND** file the hard copy.

Controlled
Copy

4.10 Transmitting Records

NOTE
Transmitting completed QA records is for records going from one location or site to another.

NOTE
Records being forwarded within a Host site location or between Project-Office personnel DOES NOT need an Attachment 2. Completed QA Records being sent from one location or site to another will be sent using Attachment 2.

4.10.1 Transmitting Complete QA Records

[A] Send completed QA records (e.g., BDRs) via Attachment 2 to the Records Custodians/Facility Records Custodians.

[B] Before the completed QA record is transmitted, make a copy of Attachment 2 and the record, **AND** retain until receipt acknowledgement is received from the recipient.

NOTE
Transmittal of completed characterization records to the Host (generator/storage) site (when available) is performed according to the site-specific procedure regarding the submittal of characterization records to their records center. These characterization records will be maintained in accordance with their site-specific records procedures.

NOTE
Records that are designated as lifetime records shall be maintained for the life of the waste characterization program at a participating generator/storage site plus six years, or transferred to the WIPP Records Archive facility. Records designated as non-permanent records shall be maintained for 10 years from the date of record/generation at the participating generator/storage site, or at the WIPP Records Archive facility.

Records Custodian

4.10.2 Transmitting of Completed Characterization Records to the Host (generator/storage) Site or WIPP Records Archive (as applicable)

[A] Return characterization records to the Host (generator/storage) site location or WIPP Records Archive (as applicable) either at pre-determined intervals **OR** at that end of the waste characterization process in accordance with approved RIDS.

Controlled
Copy

[B] **IF** the Host (generator/storage) site is closed and will no longer be in operation,
THEN submit the documentation pertaining to that site to CBFO for permanent archiving, **OR** the WIPP Records Archive at the end of the waste characterization process in accordance with approved RIDS.

NOTE

The Waste Confirmation Organization represents the permittees and is required to confirm that waste shipments comply with permit requirements prior to shipment.

4.10.3 Transmitting of Waste Confirmation Video and Audio Media Recording

[A] Transmit one copy of the video and audio recording media to the Waste Confirmation Organization.

4.11 Unclassified Controlled Nuclear Information (UCNI) and Official Use Only (OUO) Documentation

---

NOTE

Transmission of UCNI or OUO documents must be by means that preclude unauthorized disclosure or dissemination.

NOTE

UCNI documentation must include the required release and markings identified in DOE M 471.1-1, *Identification and Protection of Unclassified Controlled Nuclear Information Manual*. OUO documentation must include the required release and markings identified in DOE M 471.3-1, *Manual for Identifying and Protecting Official Use Only Information*.

4.11.1 Transmitting of UCNI and OUO Documents

[A] Documents identified as UCNI must be transmitted to CCP Records with an Attachment 2 and the transmittal must have the following statement placed in the comment section:

Matter transmitted contains Unclassified Controlled Nuclear Information. When separated from enclosures, this transmittal document does not contain UCNI.

Controlled
Copy

[B] Documents identified as OUO must be transmitted to CCP Records with an Attachment 2 and the transmittal must have the following statement placed in the comment section: Document transmitted contains OUO information.

[C] When transmitting externally:

[C.1] The UCNI or OUO matter must be contained in a single opaque envelope or wrapping with the recipient's address, a return address, and the words "To Be Opened by Addressee Only."

[C.2] Must be sent by the following U.S. mail methods: First Class, Express, Certified, or Registered Mail,

OR

[C.3] Any commercial carrier, FedEx is preferred.

[D] When transmitting internally the documents may be hand carried as long as the transmitter can maintain control over access to the document being transmitted.

4.11.2 Access and Protection of UCNI and OUO Documents

NOTE

When giving an authorized individual a copy of an UCNI or OUO document, the requirements they will be expected to perform while the document is in their possession must be made clear to the individual, see requirements below.

NOTE

Only authorized individuals may have access to UCNI or OUO documents (e.g., an individual with an official need to know in connection with the performance of official DOE-authorized activities).

[A] Disseminate UCNI or OUO documentation to only authorized individuals.

[B] Must maintain physical control of UCNI or OUO documentation to preclude unauthorized disclosure; store in locked receptacles, such as file cabinets, desks, or bookcases.

[C] Reproduce only to the minimum extent necessary.

Controlled
Copy

[D] When a copy machine malfunctions during the copying of an UCNI or OUO document the copier must be cleared and all paper paths checked to verify that no UCNI or OUO material remains in the machine.

[E] After its necessary use by an authorized individual, all copies of UCNI or OUO documentation must be destroyed by using strip cut shredders that result in particles of no more than ¼- inch wide strips or if on a CD the shredding of the disc.

[F] Electronic UCNI or OUO documentation (e.g., PDF) maintained by CCP Records will be stored on a protected server and the files will be properly marked as UCNI or OUO.

4.12 Internal Use Only (IUO) and No Foreign National (NOFORN)

4.12.1 Transmitting of IUO and NOFORN Documents

[A] Documents identified as IUO or NOFORN must be transmitted to CCP with an Attachment 2 and the transmittal must have it clearly identified in the Comments section that the document being transmitted is IUO or NOFORN.

4.12.2 Access and Protection of IUO and NOFORN

NOTE

Only individuals within the project may have access to IUO documents. Dissemination outside of the project will not be permitted.

[A] Disseminate IUO to internal project participants only. NOFORN is not to be disseminated to any Foreign National.

[B] Must maintain physical control of IUO or NOFORN to preclude unauthorized disclosure; store in locked receptacles, such as file cabinets, desks, or bookcases.

[C] Reproduce only to the minimum extent necessary.

[D] After its necessary use by an authorized individual, all copies of IUO and NOFORN must be destroyed by a paper shredder or if on a CD the shredding of the disc.

[E] Electronic IUO or NOFORN documentation (e.g., PDF) maintained by the CCP Records will be stored on a protected server and the files will be properly marked as IUO or NOFORN.

Controlled
Copy

4.13 Receiving QA Records

4.13.1 Receipt process provides the following:

[A] Provisions to permit a current and accurate assessment of the status of QA records.

[B] A method for identifying the records required to be included in the records system.

[C] A method for identifying the records that have been received.

[D] Procedures for receipt and inspection of incoming records, including verification that the QA records are received in agreement with the transmittal document and that the records are legible.

[E] Provisions to control and protect the records from damage or loss during the receiving processes.

[F] A method for submittal of completed records to the storage facility without unnecessary delay.

4.13.2 Each Host (generator/storage) site or organization responsible for receipt of QA records, designate the person or organization responsible for receiving records.

4.13.3 Ensure that the Attachment 2 is in agreement with the transmitted record and that it is legible and complete.

[A] **IF NOT**,
THEN notify the sender and perform the following:

[A.1] Work to resolve the issues with the sender.

[A.2] **IF** unable to resolve the issues,
THEN identify the record was rejected on Attachment 2 and return Attachment 2 and record to the sender.

4.13.4 Enter all QA records into the Records Index Module.

Controlled
Copy

NOTE

Once QA records have been received in CCP Records, original records will **NOT** be removed without a specific need for the original record to be released. If an original record is removed from CCP Records, it is to be returned within fourteen (14) calendar days.

4.14 Retrieval of Original Records from CCP Records at the Project Office

4.14.1 Requests for retrieval of **ORIGINAL** records are handled as follows:

[A] Requestor, provide a written request to CCP Records providing the reason for the request and when the record will be returned.

Records Custodian/Facility Records Custodian

4.14.2 Process requests for retrieval of records already placed into CCP Records as follows:

[A] Pull the requested record.

[B] Make a copy of the record or assure that there is a PDF copy of the record.

[C] **IF** there is not a PDF scanned copy of the record, **THEN** place a copy of record into the records file.

[D] Place a completed Check Out Card in the record file.

[E] Notify requestor of availability of the requested record for pick-up **OR** deliver the **ORIGINAL** requested record to the person who made the request.

4.15 Destruction of QA and Non-QA Records

4.15.1 Destruction of QA Records

[A] DO **NOT** destroy QA records until each of the following conditions are met:

[A.1] Expiration of the NARA approved retention, as noted in the CCP RIDS, has occurred.

[A.2] Evaluation of lifetime records for the potential need to upgrade them to post-closure records has been performed by the CCP Manager or designee.

Controlled
Copy

[A.3] CCP Manager or designee determines if regulatory requirements are satisfied, operational status permits the disposal of such records, and the related contractual requirements have been satisfied.

[A.4] In cases of conflicting requirements concerning records retention requirements, the most stringent requirements shall be used in determining the final disposition.

AND

[A.5] CCP Manager or designee determines that there are no enforcement actions against the CCP.

NOTE

QA records that may be relevant to an enforcement action, regardless of disposition, will be maintained until the New Mexico Environment Department (NMED) determines they are no longer needed for enforcement action, and then the records may be dispositioned as directed in step 4.15.2.

[B] **IF** all of the listed conditions are **NOT** met,
THEN DO **NOT** destroy the affected records series, **AND** CCP Manager or designee, follow step 4.15.3.

[C] **IF** all of the listed conditions are met,
THEN CCP Manager or designee complete the Written Request for Records Destruction, (See Attachment 1, Written Request for Records Destruction), for an example **AND** submit to the WRMS Manager before destroying QA records.

[D] Upon receipt of the approved written concurrence, CCP Manager or designee forward the approval to the Lead Records Custodian.

Lead Records Custodian

[E] Receive the approved written concurrence and disposition the QA records.

4.15.2 Destruction of Nonpermanent, Non-QA Records

Lead Records Custodian

[A] Determine which nonpermanent records series are eligible for destruction by reviewing the RIDS to determine the length of time the records series is to be retained.

Controlled
Copy

[B] Inform the CCP Manager or designee of the records which have expired retention periods.

CCP Manager or Designee

[C] **IF** in agreement,
THEN the CCP Manager or designee, completes and forwards Written Request for Records Destruction, including a reference to the current RIDS, to the WRMS Manager before destroying the nonpermanent, non-QA records.

Lead Records Custodian

[D] After receiving the approved written concurrence, disposition identified non-permanent or non-QA records.

4.15.3 Requesting an Extension of the Record Retention Period

[A] **IF** the CCP Manager or designee determines that the approved record retention period needs to be extended,
THEN CCP Manager or designee, perform the following:

[A.1] Send a memorandum to the WRMS Manager with a request and justification of an extension.

[A.2] Maintain the memorandum with the respective RIDS.

[A.3] Take the appropriate action, depending on the response to the memorandum.

Controlled
Copy

5.0 RECORDS

5.1 Records generated during the performance of this procedure are maintained as QA records in accordance with the requirements of this procedure. The records are the following:

5.1.1 Non-QA

[A] Written Request for Records Destruction

[B] Written Request for Retrieval of Original Record

[C] Request for Extension Memorandum

5.1.2 QA/Nonpermanent

[A] Attachment 2 – CCP Records Transmittal/Receiving Form

[B] Records Index Module

Controlled
Copy

Attachment 1 – Written Request for Records Destruction (Example)

TRU SOLUTIONS

John Smith
S.M. Stoller Corporation
2101A South Canal
Carlsbad, NM 88220

SUBJECT: REQUEST FOR CONCURRENCE TO DISPOSE OF RECORDS

Dear Mr. Smith:

This is a request for concurrence to dispose of the following record series according to our current Records Inventory and Disposition Schedule dated April 10, 2004.

RECORD SERIES	RETENTION PERIOD	INCLUSIVE DATES
Landlord Housekeeping Pre-checklists - Item #24	1 year	January, 2003 through July, 2003
Key Inventory Logs - Item #17	2 years	January, 2002 through June, 2002

If you have any questions, please contact Ms. Jane Smith, of my staff, at (575)628- 5810.

Sincerely,

David Doe
Characterization Project Manager

CONCURRENCE:

John Smith, Manager
WIPP Records Management Services (WRMS)

SP: ab

cc: J. Smith, S.M. Stoller Corporation

Controlled
Copy

Attachment 2 – CCP Records Transmittal/Receiving Form

CCP Records / Records Custodian, 4021 National Parks Highway - MS: GSA 212, Carlsbad, New Mexico 88220

Telephone Number: 575-234-7523, 575-234-7431, or 575-234-7095

Fax Number: 575-234-7033

☐ Original Record ☐ Copy
☐ Fax Record
☐ Electronic Record

Attn: _____ From: _____

Ship to: _____ Site: _____

_____ Company: _____

_____ Telephone Number: _____

_____ Date Sent: _____

Telephone Number: _____

Document Number	Title / Description	Record Date	Total Pages

Comments

(When the Record accepted line has been completed, the rest of the page below may be left blank.)
Acceptance/Rejection Signature and Date

Records Accepted ☐ _____ _____ _____
Signature Printed Name Date

Records Rejected ☐ _____ _____ _____
Signature Printed Name Date

Reason for Rejection:

Re-submittal: _____ _____ _____
Signature Printed Name Date

Controlled
Copy

CCP-QP-021

Revision 10

CCP
Surveillance Program

EFFECTIVE DATE: 04/28/2014

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

Controlled
Copy

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
3	06/03/2002	Section 2.0, Requirements (page 2): Change the first paragraph after the bullets to read as follows: "Planned and periodic surveillance will be conducted to measure item and service quality, process effectiveness, and promote improvement. The organization performing the assessments will have sufficient authority and freedom from the activities being assessed to carry out its responsibilities. Persons conducting surveillances will be qualified in accordance with CCP-QP-002, *CCP Training and Qualification Plan*, and knowledgeable of the items and activities being assessed."
4	05/24/2004	Revised Sections 1.1, 2.0, 2.3, 2.4, 4.0, 5.0 and Figure 2.
5	11/16/2006	Reengineered Surveillance Program to make it more comprehensive, to ensure findings are identified and tracked, and to ensure consistency amongst CCP Quality Assurance (QA) personnel, and to implement the Waste Isolation Pilot Plant Hazardous Waste Facility Permit-requirements resulting from the Section 311/Remote-Handled (RH) Permit Modification Request (PMR). Addressed Carlsbad Field Office (CBFO) Document Review Record (DRR) comment.
6	12/10/2008	Revised to delete reference to “assessments” incorporate conditions Corrected During Surveillance (CDS) and clarify training and qualification of surveillance personnel.
7	05/07/2010	General revision to clarify follow-up to observations and provide clarity of text.
8	01/16/2013	Revised to incorporate Nuclear Waste Partnership (NWP) transition changes.

Controlled
Copy

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
9	10/23/2013	General revision: changed notes to action steps, rearranged action steps in chronological order, added definitions, deleted Surveillance Log Attachment Example, added action step for Surveillance Log detail, added Surveillance Checklist Example Attachment, updated titles, improved Surveillance Report format, improved Surveillance Plan format, deleted CCP-QP- 029, *CCP Corrective Action Management,* and CARs, replaced CARs with WIPP Forms, renumbered sections and paragraphs more logically, replaced CCP-QP-002, *CCP Training and Qualification Plan,* with CCP-QP-040, *Support Training,* clarified when notification is required, deleted Surveillance Checklist from Records, made editorial corrections.
10	04/28/2014	Revised to address Carlsbad Field Office (CBFO) Corrective Action Reports (CARs) 14-034 and 14-035. Also added WP 13-QA.04, *Quality Assurance Department Administrative Program*, as an acceptable procedure for qualification of surveillance personnel.

Controlled
Copy

TABLE OF CONTENTS

1.0 PURPOSE 5
1.1 Scope 5
1.2 Definitions 5

2.0 REQUIREMENTS 6
2.1 References 6

3.0 RESPONSIBILITIES 7
3.1 Assurance Programs Manager 7
3.2 Surveillance Lead 7
3.3 Surveillance Team Members 7
3.4 Surveillance Coordinator 8
3.5 Responsible Manager of Area Assessed 8
3.6 CTS Coordinator 8

4.0 PROCEDURE 9
4.1 Schedule the Surveillance 9
4.2 Plan and Conduct the Surveillance 10
4.3 Report the Surveillance 12
4.4 Follow Up the Surveillance 13

5.0 RECORDS 14

LIST OF ATTACHMENTS

Attachment 1 – Surveillance Plan Example 15
Attachment 2 – Surveillance Report Example 16
Attachment 3 – Surveillance Checklist Example 18

Controlled
Copy

1.0 PURPOSE

This procedure specifies the steps for independent quality assurance (QA) surveillances, and establishes the process and responsibilities for planning, conducting, documenting, reporting, and following up surveillances of the Central Characterization Program (CCP).

1.1 Scope

This procedure applies to CCP organizations, facilities, and personnel conducting surveillances of TRU waste characterization. Planned and periodic surveillances will be conducted to measure item and service quality, process effectiveness, and to promote improvement. The organization conducting the surveillance will have sufficient authority and freedom to carry out its responsibilities. Persons conducting surveillances will complete a Quality Assurance Surveillance Personnel Qualification Card prepared and approved in accordance with CCP-QP-040, *Support Training,* or WP 13-QA.04, *Quality Assurance Department Administrative Program,* and be knowledgeable of the items and work assessed.

1.2 Definitions

Corrected During the Surveillance	An isolated condition adverse to quality which can be corrected and verified by review of objective evidence before the surveillance concludes.
Finding	A violation of a quality assurance requirement requiring documentation by Nonconformance Report or Waste Isolation Pilot Plan (WIPP) Form.
Objective Evidence	Any documented statement of fact, other information, or record, either quantitative or qualitative, pertaining to the quality of an item or process, based on observation, measurement, or test which can be verified.
Observation	A condition that, if not addressed, may deteriorate into a finding.
Other Condition Requiring Resolution (OCRR)	A violation of a non-quality assurance requirement that requires documentation and followup by entry in the Commitment Tracking system (CTS).
Recommendation	A suggestion that, if implemented, might improve compliance with the quality assurance program.
Surveillance	Monitoring or observing to verify whether an item or process conforms to specified requirements.

Controlled
Copy

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- WP 13-1, *Nuclear Waste Partnership LLC Quality Assurance Program Description*

Referenced Documents

- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, *CCP Records Management*
- CCP-QP-040, *Support Training*
- WP 13-QA.04, *Quality Assurance Department Administrative Program*
- WP 15-GM1002, *Issues Management Processing of WIPP Forms*

Controlled
Copy

3.0 RESPONSIBILITIES

3.1 Assurance Programs Manager

3.1.1 Ensures implementation of the surveillance program as specified in this procedure.

3.1.2 Approves the surveillance schedule.

3.1.3 Ensures that surveillance personnel have successfully completed a Quality Assurance Surveillance Personnel Qualification Card.

3.1.4 Ensures surveillance personnel have sufficient authority and organizational freedom to carry out their assigned responsibilities.

3.1.5 Assigns Surveillance Lead.

3.1.6 Informs the Nonconformance Report (NCR) Coordinator, CTS Coordinator, and Nuclear and Worker Safety Compliance Coordinator about findings.

3.2 Surveillance Lead

3.2.1 Selects the Surveillance Team Members and ensures they meet qualification requirements.

3.2.2 Informs the surveillance team regarding the Plan, assignments, etc.

3.2.3 Notifies affected organizations of surveillances, when applicable.

3.2.4 Develops the surveillance plan.

3.2.5 Approves surveillance checklists, when used.

3.2.6 Organizes and directs the surveillance.

3.2.7 Reports the surveillance results.

3.2.8 Follows up on observations and findings identified in previous surveillances or other assessments, or NCR or WIPP Form dispositions.

3.3 Surveillance Team Members

3.3.1 Identifies the criteria to be used during the surveillance.

Controlled
Copy

3.3.2 Develops the surveillance checklist(s), when applicable, under the direction of the Surveillance Lead.

3.3.3 Periodically informs the Surveillance Lead of progress and problems with assigned tasks during the surveillance.

3.3.4 Notifies the Responsible Manager and Surveillance Lead when potentially unsafe conditions are identified.

3.4 Surveillance Coordinator

3.4.1 Develops and maintains a surveillance schedule.

3.4.2 Develops and maintains a Surveillance Log.

3.4.3 Develops at least annually and maintains surveillance schedules that document planned surveillances.

3.5 Responsible Manager of Area Assessed

3.5.1 Corrects conditions adverse to quality and tracks and follows up on Observations, and OCRRs identified during the surveillance.

3.6 CTS Coordinator

3.6.1 Enters CTS data into the WIPP CTS for tracking and follow-up when applicable.

Controlled
Copy

4.0 PROCEDURE

4.1 Schedule the Surveillance

Assurance Programs Manager

4.1.1 In coordination with Management, identify work to be assessed by surveillance.

Surveillance Coordinator

4.1.2 Prepare and maintain the surveillance schedule based on QA and Management input.

4.1.3 Assign a unique Surveillance number to each surveillance and document the following in a Surveillance Log:

- Surveillance number
- Item, process, organization, or procedure to be assessed
- Date the surveillance is planned to begin.

[A] The Surveillance number is represented by:

- SUR-xxxxxx-yy-zz, where:
- “SUR” represents the designator for surveillance
- “xxxxxx” represents the facility (CCP, INL, LANL, ORNL, RL, SRS, RHANL, etc.) (when applicable to remote-handled waste, include “RH” as a prefix to the site designator [e.g., Los Alamos National Laboratory remote-handled waste = “RHLANL”])
- “yy” represents a sequential number, beginning “-01-” each calendar year
- and “zz” represents the final two digits of the calendar year in which the surveillance is initiated.

[B] Examples of surveillance numbers:

- SUR-RHINL-01-13
- SUR-SRS-94-13
- SUR-CCP-15-13

Controlled
Copy

4.1.4 Obtain Assurance Programs Manager approval of the schedule.

Assurance Programs Manager

4.1.5 Assign a Surveillance Lead for each scheduled surveillance.

[A] Select personnel who have no direct responsibility for the work to be assessed.

4.1.6 Approve the surveillance schedule.

4.2 Plan and Conduct the Surveillance

Surveillance Lead

4.2.1 Obtain a Surveillance Number from the Surveillance Coordinator.

4.2.2 Select Surveillance Team Members as needed, based on expertise, availability, experience, objectivity, and the scope, complexity, or special nature of the work to be assessed, with the following in mind:

- Surveillance Team Members shall be qualified to conduct surveillances in accordance with CCP-QP-040 or WP 13-QA.04
- Personnel having direct responsibility for work to be assessed shall NOT be involved in the selection of the team
- Surveillance Team Members shall have the authority to conduct surveillances, and shall be independent from the organization to be assessed
- During surveillance, technical specialists may be used to assist with assessment of the adequacy of technical attributes
- The Surveillance Lead will ensure technical specialists are knowledgeable of the technical attributes to be assessed, and that they receive the same instructions as other team members.

4.2.3 Prepare the Surveillance Plan (See Attachment 1, Surveillance Plan Example) to address the following priorities:

- Monitor work in progress

Controlled
Copy

- Document compliance or noncompliance with established requirements and procedures
- Identify actual and potential conditions adverse to quality
- Obtain timely corrective action commitment from responsible managers for identified conditions adverse to quality
- Notify responsible managers of the quality status of work
- Verify effective implementation of corrective action.

4.2.4 Review the Plan with Surveillance Team members, including pertinent background information, previous surveillance or oversight results, applicable procedures, and applicable technical documents to familiarize Surveillance Team members with the work under assessment.

4.2.5 When the organization to be assessed is outside the area of responsibility of the organization conducting the surveillance, notify the organization(s) to be assessed of the surveillance date(s) and its purpose by memorandum, letter, or email.

Surveillance Team Members

4.2.6 When electing to use surveillance checklists, prepare them including the criteria to be assessed. See Attachment 3, Surveillance Checklist Example, for guidance.

4.2.7 Examine objective evidence, work in progress, items (including components, specimens, or equipment, etc.), and interviewing responsible personnel as applicable. Include technical evaluations of the applicable procedures, instructions, work, and items, as applicable.

4.2.8 Review previous corrective actions, when applicable, to assess implementation and effectiveness.

4.2.9 Review applicable documents, standards, and criteria pertaining to the process to be assessed.

4.2.10 Document the results of the surveillance as input to the surveillance report in sufficient detail, including but not limited to objective evidence examined and personnel interviewed to ensure retrieval of records examined is possible.

Controlled
Copy

4.2.11 Inform the Surveillance Lead of progress and problems with assigned tasks during the surveillance.

4.2.12 Notify the Responsible Manager and Surveillance Lead of potentially unsafe conditions.

Surveillance Lead

4.2.13 Notify the Assurance Programs Manager and the management of the assessed organization as soon as practicable if conditions are discovered that could impact prior work, affect work in progress significantly, or if conditions require prompt attention.

4.2.14 If applicable, prepare NCRs in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control* and WIPP Forms in accordance with WP 15-GM1002, *Issues Management Processing of WIPP Forms*.

4.2.15 Brief management of the assessed organization.

4.3 Report the Surveillance

4.3.1 Prepare the surveillance report using Surveillance Report (Example provided as Attachment 2, Surveillance Report) and include the following elements, as applicable:

- Identify conditions adverse to quality in sufficient detail to enable corrective actions to be taken by the assessed organization. Document nonconforming item(s) (i.e., hardware or data) using an NCR and programmatic conditions using a WIPP Form. Cite the requirement(s) applicable to these deficiencies.
- If Observations were identified, state that conditions observed, if not addressed, could deteriorate into a finding.
- If Other Conditions Requiring Resolution were identified, describe them and what requirements were violated.
- When applicable, provide recommendations that could strengthen the existing program or process.
- Include in the report descriptions of all actions taken to resolve conditions adverse to quality, and identify those conditions adverse to quality as corrected during the surveillance (CDS).

Controlled
Copy

- Document each CDS item by WIPP Form solely for trending purposes.

4.3.2 Sign and date and submit the report to the Assurance Programs Manager for review and approval.

Assurance Programs Manager

4.3.3 Review the surveillance report, resolve any issues with the Surveillance Lead, and approve the report.

4.3.4 Issue the surveillance reports to management, Nuclear and Worker Safety Compliance Coordinator, NCR Coordinator, Surveillance Coordinator, National TRU Program Certification (NTPC) Records, the applicable Host Site Subcontract Technical Representative, and the applicable Site Project Manager.

4.3.5 Consider the surveillance closed when issued. The conditions adverse to quality are documented by NCR, WIPP Form, or CTS item, all of which are self-contained systems in which the deficiency documents or items are closed independently.

4.4 Follow Up the Surveillance

CTS Coordinator

4.4.1 Make a separate entry for each finding (NCR or WIPP Form) identified in the report into the Integrated Data Center or the WIPP CTS.

Responsible Manager of Assessed Organization

4.4.2 Ensure timely and effective corrective actions in response to NCRs, WIPP Forms, or Other Conditions Requiring Resolution resulting from the surveillance.

4.4.3 Work with the Surveillance Lead and the Assurance Programs Manager to resolve issues regarding necessary corrective actions.

4.4.4 After completion of corrective actions associated with surveillance, inform the CTS Coordinator.

Controlled
Copy

5.0 RECORDS

5.1 Records generated as a result of implementing this procedure are controlled, maintained, and submitted as QA records in accordance with CCP-QP-008, *CCP Records Management*. The records are the following:

5.1.1 QA/Nonpermanent

[A] Surveillance File, including:

- Surveillance Notification, when applicable
- Surveillance Plan
- Surveillance Report

[B] Surveillance Schedule

Controlled
Copy

Attachment 1 – Surveillance Plan Example

SURVEILLANCE PLAN

[SUBJECT or Organization to be assessed]

Surveillance Number:	[SUR-SRS-01-13]
Organization to be Evaluated:	[CCP Nondestructive Examination]
Location:	[Savannah River Site]
Surveillance Initiation Date:	[1 October 2013]
Surveillance Team Lead:	
Surveillance Team Member(s):	
Scope:	[What will the surveillance team look at?]
Planned Contact(s):	
Objective(s):	[How the surveillance will be done: examine documents, interview personnel, or observe work in progress, etc.]
Applicable Requirements and Documents:	[Procedures, DOE documents, corrective action commitments, recurrence of previous findings, etc.]

Controlled
Copy

Attachment 2 – Surveillance Report Example

SURVEILLANCE REPORT

SUR-xxxxxx-yy-zz

Central Characterization Program

[Nondestructive Assay at (Host site)]

Surveillance Team Lead:	_____	_____	_____
	print name	**signature**	**date**
Assurance Programs Manager:	_____	_____	_____
	print name	**signature**	**date**

Controlled
Copy

Attachment 2 – Surveillance Report Example (continued)

SUMMARY
[a brief sentence or two on surveillance results: when and where the surveillance was conducted, how many WIPP Forms, Observations, OCRRs, Recommendations, etc., and a summary statement on whether the implementation of the QA Program for what was examined was satisfactory]

SCOPE
[e.g., what the surveillance personnel examined]

CRITERIA
[e.g., what requirements the surveillance was based on: such as CCP-QP-002, *CCP Training and Qualification Plan,* revision 35]

PERSONNEL
[surveillance team lead and members; personnel whom the surveillance team contacted or interviewed]

DETAILS
[how the surveillance was conducted: e.g., what objective evidence was reviewed; what work was observed; and the results]

FINDINGS (NCRs and WIPP Forms)

OTHER CONDITIONS REQUIRING RESOLUTION (include CTS nos.)

CORRECTED DURING THE SURVEILLANCE

STATUS OF CONCERNS PREVIOUSLY IDENTIFIED

OBSERVATIONS

RECOMMENDATIONS

NOTEWORTHY PRACTICE

ATTACHMENTS [if applicable]

Attachment 3 – Surveillance Checklist Example

SURVEILLANCE CHECKLIST

Surveillance number: SUR- **Checklist approved by:** **Date:** **Page 1 of 1**

No.	Reference	Criterion	Notes (NCR = Nonconformance Report; WF = WIPP Form; CDS = Corrected During the Surveillance; OBS = Observation; OCRR = Other Condition Requiring Resolution)	SATIS-FACTORY (S); UNSATIS-FACTORY (U); or N/A
1.				
2.				
3.				
4.				
5.				
[etc.]				

Controlled
Copy

CCP-QP-028

Revision 15

CCP
Records Filing, Inventorying, Scheduling, and Dispositioning

EFFECTIVE DATE: 01/22/2013

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
3	08/20/2002	Added steps 4.3.3 through 4.3.6. Added a Table of Contents. Added a Record of Revision. Other editorial changes.
4	10/24/2002	Added new Step 3.1.2 and revised Step 4.2.4.[B] making the Project Manager responsible for signing RIDS; added as result of a comment during the SRS Recertification Audit.
5	09/25/2003	Separated electronically fillable forms and updated references in procedure. Added responsibilities for CCP personnel. Other editorial changes.
6	07/25/2006	Revised to change the CCP Project Manager's responsibility to the CCP Project Support Manager.
7	04/18/2007	Revised to change CCP Project Support Manager responsibilities to the CCP Program Development Manager.
8	09/11/2007	Revised to make minor editorial changes and to replace Attachment 1, Records Inventory and Disposition Schedule with new DOE form, DOE F 1324.10 (06-96).
9	02/24/2009	Revised to incorporate changes to titles of personnel and names for organizations. Also, a step was added to Section 4.2 (step 4.2.5) to complete the process performed. Section 4.4 was deleted since the requirements are not applicable to the CCP scope of work (they are implemented at the RCT level).
10	04/08/2010	Revised to incorporate changes to Attachment 2, Instructions for Filling Out the Records Inventory and Disposition Schedule.
11	05/19/2010	Revised to bring instructions regarding location in Attachment 4, Instructions for Filling Out the Records Inventory and Disposition Schedule, in line with current practice.
12	11/09/2010	Revised to remove examples form and re-number remaining attachments and update Attachment 2.
13	09/09/2011	Revised to correct reference section of the procedure and remove a reference that is no longer active.

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
14	01/16/2012	Revised to bring into line with the Waste Isolation Pilot Plant (WIPP) Inventory Worksheets and general editing of the procedure.
15	01/22/2013	Revised to incorporate Nuclear Waste Partnership (NWP) transition changes.

TABLE OF CONTENTS

1.0 PURPOSE 5
1.1 Scope 5

2.0 REQUIREMENTS 6
2.1 References 6

3.0 RESPONSIBILITIES 7
3.1 CCP Manager or Designee 7
3.2 Lead Records Custodian 7
3.3 WIPP Records Management Services (WRMS) 7

4.0 PROCEDURE 8
4.1 Developing a New Inventory and RIDS 8
4.2 RIDS Review and Approval 8
4.3 Revising and Reviewing the RIDS 9

5.0 RECORDS 10

1.0 PURPOSE

This procedure provides direction and instruction for generating, issuing, and using a Records Inventory and Disposition Schedule (RIDS).

1.1 Scope

The procedure applies to Central Characterization Program (CCP), CCP Manager, and Records Custodians responsible for inventory, scheduling, and disposing of CCP records under their cognizance, regardless of media, in order to document the activities related to the CCP.

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- 44 USC 3301, *Definition of Records*
- DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office* (CBFO) *Quality Assurance Program Document* (QAPD)

Referenced Documents

- EA15RM3002-1, *WIPP Records Inventory Work Sheet*
- EA15RM3002-2, *Records Inventory and Disposition Schedule (RIDS)*
- WP 15-RM3002, *Records Filing, Inventorying, Scheduling, and Dispositioning*
- CCP-QP-008, *CCP Records Management*

3.0 RESPONSIBILITIES

3.1 CCP Manager or Designee

3.1.1 Approves the Records Inventory and Disposition Schedule (RIDS).

3.2 Lead Records Custodian

3.2.1 Develops new RIDS.

3.2.2 Performs annual review and revision of RIDS.

3.3 WIPP Records Management Services (WRMS)

3.3.1 Reviews the RIDS and associated WIPP Records Inventory Worksheets.

3.3.2 Provides final approval signature for the RIDS.

4.0 PROCEDURE

4.1 Developing a New Inventory and RIDS

Lead Records Custodian

NOTE
The Lead Records Custodian may request assistance from WIPP Records Management Services (WRMS) for performance of steps 4.1.1 and 4.1.2.

4.1.1 Complete EA15RM3002-1, *WIPP Records Inventory Work Sheet* for each record and non-record series, using the instructions contained in WP 15-RM3002, *Records Filing, Inventorying, Scheduling, and Dispositioning*.

4.1.2 Complete the RIDS on form EA15RM3002-2, *Records Inventory and Disposition Schedule (RIDS),* using the instructions contained in WP 15-RM3002.

4.2 RIDS Review and Approval

Lead Records Custodian

4.2.1 Forward the draft RIDS and all EA15RM3002-1 to WRMS for review and comments.

4.2.2 **IF** WRMS returns the RIDS with comments,
THEN resolve the comments.

4.2.3 **IF** notified by WRMS that the RIDS is acceptable,
THEN print out a final copy of the RIDS for signatures.

4.2.4 Obtain the required signatures in Block 5, RIDS, as follows:

[A] Prepared by - Signature of the designated trained Lead Records Custodian who prepared the RIDS

[B] Approved by - Signature of the CCP Manager or Designee

[C] Record Liaison Officer - Enter “N/A”

4.2.5 Submit signed RIDS to WRMS for final approval by obtaining WRMS signature.

4.3 Revising and Reviewing the RIDS

Lead Records Custodian

4.3.1 Review files annually, at a minimum.

NOTE
Take into consideration organization changes that may affect record series custodianship, location, or when new record series are created.

4.3.2 Check all record and non-record material on the current RIDS.

4.3.3 **IF** a new series is added,
THEN complete an EA15RM3002-1, with the instructions in WP 15-RM3002, **AND** add the new record series to a draft CCP RIDS.

4.3.4 **IF** a record series is no longer generated and maintained,
THEN complete an EA15RM3002-1, with the instructions in WP 15-RM3002, **AND** delete the item on a draft RIDS.

4.3.5 Forward the draft RIDS, **AND** any new EA15RM3002-1 to the WRMS annually at a minimum.

4.3.6 Follow steps 4.2.2 through 4.2.5.

4.3.7 **IF** an interim RIDS change is needed to make an immediate change of information on the RIDS,
THEN complete an EA15RM3002-1, with the instructions in WP 15-RM3002.

4.3.8 Send copy to WRMS and add changes to a draft RIDS to be submitted in the next RIDS review.

5.0 RECORDS

5.1 Records generated during the performance of this procedure are maintained in accordance with CCP-QP-008, *CCP Records Management.* The records are the following:

Non-Quality Assurance

5.1.1 Records Inventory and Disposition Schedule

5.1.2 WIPP Records Inventory Worksheet

Controlled
Copy

CCP-TP-001

Revision 21

CCP
Project Level
Data Validation and Verification

EFFECTIVE DATE: 06/06/2013

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
4	12/14/2001	Revised to reflect the use of an electronic data management system at some sites. A new Section 4.4 was created; minor changes to Section 4.7; references and records updated, and Attachments 1 through 4 revised.
5	03/08/2002	Minor editorial changes; added a new Section 4.8, and a new Attachments 7 through 11.
6	05/15/2002	Description of Revision: Changes made due to the Revision of DOE/WIPP-02-3122, *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (CH-WAC) and changes to the Permit Modification to be implemented June 1, 2002. Plus planned changes due to process improvement. Multiple section changes as well as Attachment changes.
7	01/13/2003	Updated title of CCP-PO-005. Updated attachments 1 through 12.
8	02/03/2003	Additions to Attachment 4 and Attachment 5, DAC requirements. Resolved CBFO comments.
9	07/10/2003	Text and attachments to include Homogeneous Solid/Soil Waste Sampling and Checklists. Added steps to validate BDRs through P-TS. Separated electronically fillable forms and updated references in procedure.
10	08/28/2003	Revised sections 2.1, 2.6, 3.2, 4.3, and 5.1.
11	03/23/2005	Revised to incorporate LANL Off-Site Source Recovery Project (OSRP) requirements. Deleted Section 4.5, e-QA forms, Attachments 1 through 4 due to closure of Argonne National Laboratory (ANL)-East. Revised CCP Records Custodian and Facility Records Custodian responsibilities and actions.
12	05/25/2006	Revised to address Carlsbad Field Office (CBFO) Document Review Record (DRR) comments.
13	07/21/2006	Revised Attachments 10, 11, 13, 14, and 15 in response to Corrective Action Report (CAR) Number CAR-LANL-0006-06.
14	11/16/2006	Revised to implement the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/Remote-Handled (RH) Permit Modification Request (PMR). Addressed Carlsbad Field Office (CBFO) Document Review Record (DRR) comments.
15	11/22/2006	Minor revision to correct header in Attachment 12.

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
16	04/26/2007	Clarification of note in Section 4.3 for quarterly reports.
17	09/24/2007	Revised to clarify the references in the attachments and to remove the 25%RPD limit for solids/soils co-located cores/samples from Attachments 6, 7, 8 and 9. Revised to remove Visual Examination (VE) Expert decisions and signature and date. Modifications were made to Sections 4.4, 4.5, and Attachments 6 through 9 to discuss the F-test and control charts.
18	08/09/2010	Revised to address Hazardous Waste Facility Permit modification, and other editorial and freeze file changes.
19	12/29/2010	Revised to clarify independent technical reviewer (ITR) Independence and to update references to the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit.*
20	09/27/2012	Revised to remove references to P-TS. Also revised due to CAR-LANL-0005-12 and CBFO CAR 12-033.
21	06/06/2013	Revised to address Class 2 Hazardous Waste Facility Permit Modification, which was approved by New Mexico Environmental Department (NMED) on March 13, 2013.

TABLE OF CONTENTS

1.0 PURPOSE 5
1.1 Scope 5

2.0 REQUIREMENTS 6
2.1 References 6
2.2 Training Requirements 6
2.3 Equipment List 6
2.4 Precautions and Limitations 6
2.5 Prerequisite Actions 6
2.6 Definitions 7
2.7 Project Office Integrated Data Center (IDC) (where available) 7

3.0 RESPONSIBILITIES 8
3.1 SPM 8
3.2 CCP Records Custodian 9
3.3 Facility Records Custodian 9

4.0 PROCEDURE 10
4.1 BDR Receipt 10
4.2 SPM BDR Review 10
4.3 Quarterly Repeat of DGL Data Review, Validation, and Verification 16

5.0 RECORDS 18

LIST OF ATTACHMENTS

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary 19
Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary 23
Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary 26
Attachment 4 – CCP SPM Off-Site Source Recovery Sealed Source Radiological Characterization Project Level Validation Checklist and Summary 30

1.0 PURPOSE

Waste characterization data generated by characterization activities are validated and verified in compliance with CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (QAPjP) and CCP-PO-002, *CCP Transuranic Waste Certification Plan*. The format of CCP-PO-001 parallels that of the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit,* NM 4890139088 TSDF, Attachment C, *Waste Analysis Plan* (WAP). Characterization data requiring review, validation and verification includes Nondestructive Examination (NDE), Nondestructive Assay (NDA), Sealed Sources Radiological Characterization Data, and Visual Examination (VE).

1.1 Scope

NOTE

Remote-handled data review and validation is addressed in the appropriate TP-500 series procedure.

Gas Generation Testing (GGT) data review and validation are not addressed in this procedure. Refer to CCP-PO-016, *CCP Gas Generation Testing Program Quality Assurance Project Plan* for guidance.

This procedure defines the activities required to perform data validation and verification at the Central Characterization Program (CCP) Project Office. This procedure is applicable to all personnel performing data validation and verification. The Site Project Manager (SPM) is responsible for conducting the data validation and verification activities described in this procedure. Compliance with this procedure ensures that each batch data report (BDR) complies with the requirements of the CCP-PO-001 and CCP-PO-002.

2.0 REQUIREMENTS

2.1 References

Referenced Documents

- *Waste Isolation Pilot Plant Hazardous Waste Facility Permit*, NM 4890139088-TSDF, Attachment C, *Waste Analysis Plan*
- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
- CCP-PO-016, *CCP Gas Generation Testing Program Quality Assurance Project Plan*
- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, *CCP Records Management*
- CCP-QP-029, *CCP Corrective Action Management*

2.2 Training Requirements

Personnel performing this procedure will be trained and qualified in accordance with CCP-QP-002, *CCP Training and Qualification Plan* prior to performing this procedure.

2.3 Equipment List

2.3.1 None.

2.4 Precautions and Limitations

2.4.1 None.

2.5 Prerequisite Actions

2.5.1 None.

2.6 Definitions

2.6.1 None.

2.7 Project Office Integrated Data Center (IDC) (where available)

2.7.1 The IDC provides the capability of tracking BDRs for review.

2.7.2 The IDC provides, as a minimum, the following:

[A] Link to a scanned copy of the BDR.

[B] Status of the BDR.

[C] HOLD status of the BDR.

[D] Status of Nonconformance Reports (NCRs).

3.0 RESPONSIBILITIES

NOTE

Implementation of this procedure requires the following positions: Data Generation Level (DGL) Personnel, SPM, CCP Records Custodian, and Facility Records Custodian.

3.1 SPM

3.1.1 Reviews 100 percent of the BDRs generated as a result of waste characterization activities prior to any of the waste associated with the data reviewed being shipped to the Waste Isolation Pilot Plant (WIPP).

3.1.2 Ensures the DGL Independent Technical Reviewer (ITR) reviews, validations, and verifications have been performed by verifying completed review checklists and appropriate signatures.

3.1.3 Ensures BDR review checklists are complete.

3.1.4 Ensures data are within established data assessment criteria and meet all applicable Quality Assurance Objectives (QAOs) as defined by CCP-PO-001.

3.1.5 Ensures BDRs are complete and data are properly reported (e.g., data are reported in the correct units, and correct significant figures).

3.1.6 Prepares the applicable CCP SPM Project Level Data Validation Summary.

3.1.7 Releases, by signature and date, the BDR upon completion of the SPM review.

3.1.8 Generates NCRs in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control* and Corrective Action Reports (CARs) in accordance with CCP-QP-029, *CCP Corrective Action Management* as required.

3.1.9 Reviews NCRs and verifies corrective actions, as needed.

3.1.10 Determines if U.S. Department of Energy (DOE)/Carlsbad Field Office (CBFO) reporting is required for NCRs/CARs generated at the SPM level.

[A] Makes notifications to DOE/CBFO, and ensures actions are completed as required.

3.2 CCP Records Custodian

3.2.1 Receives corrected BDR or BDR pages from the Facility Records Custodian, as necessary, in accordance with CCP-QP-008, *CCP Records Management*.

3.3 Facility Records Custodian

3.3.1 Enters BDR into the IDC.

3.3.2 Receives, processes, and transmits corrected BDR or BDR pages to CCP Records Custodian, when applicable, in accordance with CCP-QP-008.

4.0 PROCEDURE

4.1 BDR Receipt

Facility Records Custodian

4.1.1 Enter BDR into the IDC.

NOTE
Steps in Section 4.2 may be performed in any order.

4.2 SPM BDR Review

NOTE
Section 4.2 must be completed for 100 percent of the BDRs transmitted to the SPM.

The SPM must perform a comprehensive review of the data (e.g., correct units, significant figures, as well as ensuring that data assessment criteria are met).

SPM

4.2.1 Initiate BDR review in the IDC as follows:

[A] Log into the IDC.

[B] Select BDR to review (e.g., the IDC Daily Hot Lists).

[C] Click on START SPM REVIEW.

[D] Compare Container Identifications (IDs) in the BDR to the Container IDs included in the IDC.

[E] **IF** any Container IDs from the BDR are missing from the IDC **OR** DO **NOT** match those entered into the IDC, **THEN** contact the CCP Records Custodian/Facility Records Custodian, **AND** resolve the problem.

[E.1] Place BDR on HOLD by selecting, PLACE BDR ON HOLD, if necessary, **AND** enter reason for HOLD in the Comments/Qualifiers Section by selecting ADD/EDIT COMMENTS.

[E.2] **WHEN** the problem is resolved,
THEN select REMOVE HOLD FROM BDR in the IDC.

[E.3] Compare NCRs included in the BDR to the NCRs in the IDC, if applicable.

[E.4] **IF** any NCRs are missing from the IDC **OR** DO **NOT** match those entered into the IDC for the BDR,
THEN contact the NCR Coordinator, **AND** resolve the problem.

[E.5] Place BDR on HOLD by selecting, PLACE BDR ON HOLD, if necessary, **AND** enter reason for HOLD in the Comments/Qualifiers Section by selecting ADD/EDIT COMMENTS.

[E.6] **WHEN** the problem is resolved,
THEN select REMOVE HOLD FROM BDR in the IDC.

NOTE

Containers for Newly Generated Waste will **NOT** appear in the Acceptable Knowledge (AK) Tracking Spreadsheet on the CCP secure file transfer protocol (sftp) site for VE Technique BDRs. All Newly Generated Waste containers should be listed in the AK Tracking Spreadsheet at the time of validation for all other BDR types.

NOTE

Reports derived from the IDC Search function use the AK Tracking Spreadsheets and can be used to verify Container IDs.

[F] Compare Container IDs in the BDR to the approved AK Tracking Spreadsheet on the CCP sftp site.

[G] **IF** any Container IDs are included in the BDR that are **NOT** on the approved and posted AK Tracking Spreadsheet,
THEN contact the AK Expert.

[G.1] Place BDR on HOLD by selecting, PLACE BDR ON HOLD, if necessary, **AND** enter reason for HOLD in the Comments/Qualifiers Section by selecting ADD/EDIT COMMENTS.

[G.2] **WHEN** the problem is resolved,
THEN select REMOVE HOLD FROM BDR in the IDC.

4.2.2 Select the appropriate SPM checklist for the BDR being reviewed.

4.2.3 Record the BDR Number at the top of the appropriate SPM checklist.

4.2.4 Record the Examination Date(s) at the top of the appropriate SPM checklist.

4.2.5 Verify that the DGL ITR reviews, validations, and verifications have been performed as evidenced by the completed review checklist and appropriate signature release.

4.2.6 Verify the BDR is complete.

4.2.7 Verify that data are within established data assessment criteria and meet all applicable QAOs: Precision, Accuracy, Completeness, Comparability, and Representativeness.

NOTE

To answer questions regarding specific criteria being met, (i.e., QAOs, QCs), the SPM must ensure that the information presented in the BDR meets the requirements identified in CCP-PO-001, CCP-PO-002, and CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*.

4.2.8 Answer each question on the appropriate SPM checklist after verifying that the specific criteria have been met.

NOTE

All containers listed in the BDR will be listed on the SPM checklist.

4.2.9 **IF** any question is answered NO,
THEN evaluate the impact, **AND** perform steps 4.2.11 and 4.2.14, as appropriate.

4.2.10 **IF** any question is answered NA or NO,
THEN provide justification in the Comments/Qualifiers Section of the appropriate SPM checklist, as applicable. If a question includes criteria for “NA,” a comment is not required.

NOTE

Editorial corrections may be made to the BDR by the Operator, ITR, SPM or a Designee as directed by these personnel. The extent of editorial corrections permitted by a Designee is identified in CCP-QP-008. Data affecting changes are ONLY made by DGL personnel. Any data affecting changes made by DGL personnel will require a re-review by the Operator, ITR, and SPM.

4.2.11 **IF** editorial inconsistencies, mistakes, omissions, etc., are noted during the SPM review, that DO **NOT** change the characterization data,
THEN notify DGL personnel of required corrections, **AND** edit the BDR in accordance with CCP-QP-008.

[A] Place BDR on HOLD by selecting, PLACE BDR ON HOLD, if necessary, **AND** enter reason for HOLD in the Comments/Qualifiers Section by selecting ADD/EDIT COMMENTS.

DGL Personnel

[B] Perform editorial corrections, as needed.

[C] Resubmit corrected BDR or BDR pages to the Facility Records Custodian in accordance with CCP-QP-008.

Facility Records Custodian

[D] Receive, process, and transmit or maintain corrected BDR or BDR pages in accordance with CCP-QP-008.

[E] Notify SPM to continue review.

4.2.12 **IF** required changes CAN **NOT** be adequately documented on the SPM checklist,
THEN include additional information on an additional sheet of paper as needed.

4.2.13 **IF** additional information is placed after an SPM checklist,
THEN indicate, on the appropriate SPM checklist, that additional information is being provided, **AND** paginate the inserted documentation to show which checklist it is associated with (e.g., SPM-1).

NOTE

Corrections to BDRs mandated by Project Office NCRs will not proceed until DGL has been provided a copy of the validated and dispositioned Project Office NCR.

4.2.14 **IF** data affecting inconsistencies, mistakes, omissions, etc., are noted during the SPM review, that impact or change the characterization data,
THEN Initiate an NCR in accordance with CCP-QP-005:

[A] Ensure copy of approved Project Office NCR is provided to DGL documenting required changes in the NCR disposition.

DGL Personnel

[B] Correct the deficiency.

[C] ITR Re-review in accordance with the applicable procedure, **AND** resubmit corrected BDR or BDR pages, and copy of the NCR, to CCP Records for processing in accordance with CCP-QP-008.

4.2.15 Record comments in the box at the end of the appropriate SPM checklist or record NA.

4.2.16 Print name, sign, and date the appropriate SPM checklist.

4.2.17 End SPM review in IDC.

4.2.18 Submit completed SPM checklist to CCP Records for processing in accordance with CCP-QP-008.

4.2.19 If SPM re-review is required,

[A] Insert corrections.

[A.1] **IF** revised page contains correction or additional information,
THEN replace the BDR record page with the corrected page.

OR

[A.2] **IF** additional corrected pages are inserted in the numbered section of the BDR,
THEN supercede pages, **AND** properly paginate the inserted documentation in accordance with CCP-QP-008.

[B] Select RE-REVIEW button in the IDC, if necessary.

[C] Perform a re-review of the corrected BDR.

[D] Verify that all criteria have been met and the review is complete.

[E] Select REMOVE HOLD ON BDR in the IDC, if necessary, **AND** complete review in the IDC.

4.2.20 Print name, sign name, enter reason for re-review, and enter date completed on the appropriate SPM checklist in the re-review signature area.

4.2.21 **WHEN** all criteria have been verified, **AND** the review is complete, **THEN** select END SPM BDR REVIEW in the IDC.

NOTE

Additional information is information that is added to the back of the SPM checklist after receipt at the Project Level. Additional information can be in the form of e-mail authorizations for administrative changes, letters or e-mails of clarification to posed questions (This list is not all inclusive).

4.2.22 **IF** additional information is placed after an SPM checklist, **THEN** indicate, on the appropriate SPM checklist, that additional information is being provided, **AND** paginate the inserted documentation to show which checklist it is associated with (e.g., SPM-1).

4.2.23 Forward the completed SPM checklist, and any additional information, to the CCP Records Custodian/Facility Records Custodian.

CCP Records Custodian/Facility Records Custodian

4.2.24 Receive, process, and transmit or maintain in accordance with CCP-QP-008.

4.3 Quarterly Repeat of DGL Data Review, Validation, and Verification

NOTE

The SPM shall ensure that a repeat of the DGL data review, validation, and verification of data generated to meet the requirements of CCP-PO-001 is performed quarterly for a minimum of one randomly chosen waste container. The SPM uses this exercise to document that the DGL data review, validation, and verification is being performed in accordance with applicable procedures.

SPM

4.3.1 Randomly select one waste container for a repeat of the DGL data review, validation, and verification for one RTR and VE BDR generated in the last quarter.

NOTE

The following documents will be included in the quarterly DGL data review, validation, and verification: the original data reported, any nonconformances generated prior to ITR, reviews, and QC Data Sheets. The BDR Batch Narrative will **NOT** be included.

4.3.2 Retrieve a copy of the BDR from CCP Records.

NOTE

When possible, a different ITR will be used for the quarterly DGL data review, validation, and verification of the selected waste container.

4.3.3 Assemble the mini-container package.

4.3.4 Document the container selection and the assignment of the DGL ITR by interoffice memorandum.

4.3.5 Submit a copy of the mini-container package to the Host site for re-review.

NOTE

DGL Personnel will review submitted data and generate new Tables of Contents, BDR Batch Narratives and DGL Checklists. Any discrepancies will be noted in the BDR Batch Narrative.

SPM

4.3.6 Perform a review of the re-submitted data in accordance with Section 4.2.

4.3.7 Compare the original BDR submitted for the selected container with the re-submitted data.

4.3.8 Document the comparison, by interoffice memorandum, to CCP Records.

4.3.9 **IF** discrepancies or problems that affect data quality are noted during the review,
THEN perform the following:

[A] Initiate an NCR in accordance with CCP-QP-005.

[B] Notify the appropriate facility personnel.

4.3.10 Submit the re-reviewed package, associated information, and copy of interoffice memorandum to CCP Records.

Facility Records Custodian/CCP Records Custodian

4.3.11 Receive, process, and transmit the reviewed package, associated information, and copy of interoffice memoradum in accordance with CCP-QP-008.

5.0 RECORDS

5.1 Records generated during the performance of this procedure are maintained as Quality Assurance (QA) records in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Lifetime

[A] Attachment 1, CCP SPM Visual Examination Project Level Validation Checklist and Summary

[B] Attachment 2, CCP SPM Radiography Project Level Validation Checklist and Summary

[C] Attachment 3, CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

[D] Attachment 4, CCP SPM Off-Site Source Recovery Sealed Source Radiological Characterization Project Level Validation Checklist and Summary

[E] Interoffice memorandum for the Quarterly Repeat of DGL Data Review BDR

[F] Container selection and the assignment of the DGL ITR interoffice memoramdum

5.1.2 QA/Nonpermanent

[A] Project Office Integrated Data Center (IDC)

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
1. Is the completed, signed and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**				
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**				
3. Does the BDR include a listing of all container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**				
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers:
5. Is the current implementing procedure and revision number included in the BDR? **Reference Source: CCP-PO-001, Table C3-3**				
6. Is the BDR date included? **Reference Source: CCP-PO-001, Table C3-3**				
7. Is there a reference to or copy of any associated NCRs (if any) in the BDR? **Reference Source: CCP-PO-001, Table C3-3**				
8. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001 C3-4**				
9. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures). **Reference Source: CCP-PO-001 C3-4**				
10. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**				
11. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**				
12. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**				

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
13. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**				
14. Were discrepancies between the Visual Examination operator and the ITR with regards to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**				
15. Are the training requirements met for the VE Expert and VE Operators who have signed the data forms? **Reference Source: CCP-PO-001, C3-8**				
16. Is evidence of a satisfactory audio/video test included in the BDR? NA [not applicable] for VE Method for Newly Generated Waste. **Reference Source: CCP-PO-001, C1-2**				
17. If the VE was not recorded using audio/video media, does the data sheet contain the signature of two qualified operators who observed for themselves the waste being placed into the container? NA if audio/video used. **Reference Source: CCP-PO-001, C1-2**				
18. Are the weights/estimated weights for the 12 waste material parameters reported in kilograms (kg)? **Reference Source: CCP Technical Procedures**				
19. Are the descriptions for each waste material parameter included in the BDR? **Reference Source: CCP-PO-001, C1-2**				
20. Is the gross weight reported (in kg) for each container included in the BDR? **Reference Source: CCP Technical Procedures**				
21. Is the number of layers of confinement recorded? **Reference Source: CCP-PO-001, C1-2**				
22. Is sufficient information included in the BDR to determine the packaging configuration? **Reference Source: CCP-PO-001, C1-2**				

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
23. Is the type and number of filters recorded? **Reference Source: CCP-PO-001, CCP Technical Procedures**				
24. Is the size of the rigid liner vent hole recorded? NA if no liner lid. **Reference Source: CCP-PO-001, CCP Technical Procedures**				
25. For Los Alamos National Laboratory (LANL) Sealed Sources, does the characterized waste container meet the definition of sealed sources per Title 10 Code of Federal Regulations (CFR) 30.4 and Title 10 CFR 835.2 (effective January 1, 2004) evidence of which is assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**				
26. For LANL Sealed Sources, are sealed sources the only non-packaging items in the waste container? **Reference Source: CCP-TP-069, 4.1.4**				
27. For LANL Sealed Sources, are the sealed sources a U.S. Department of Transportation (DOT) Special Form Class 7 (Radioactive Material) per Title 49 CFR 34.27 (effective January 1, 2004) and the certification of which is assembled as part of the AK documentation? **Reference Source: CCP Technical Procedures**				
28. For LANL Sealed Sources, is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of Title 10 CFR 34.27 (effective January 1, 2004), and assembled as part of AK documentation? **Reference Source: CCP Technical Procedures**				

Attachment 1 – CCP SPM Visual Examination Project Level Validation Checklist and Summary (Continued)

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
29. For LANL Sealed Sources, is each sealed source a rigid sealed container less than or equal to 4 L in size or in a rigid sealed container less than or equal to 4 L? **Reference Source: CCP Technical Procedures**				
30. For LANL Sealed Sources, AK documentation does not indicate the use of volatile organic compounds (VOCs) or VOC-bearing materials as constituents of sealed sources? **Reference Source: CCP Technical Procedures**				
31. For LANL Sealed Sources, the outer casing of each sealed source is of a non VOC-bearing material which is verified using the VE technique at the time of packaging? **Reference Source: CCP Technical Procedures**				

Comments:

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

SPM Printed Name Signature Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
1. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-001, C3-4**				
2. Does the BDR contain all items addressed in the BDR Table of Contents? **Reference Source: CCP-PO-001, C3-4**				
3. Does the BDR include a listing of all the container numbers in the batch? **Reference Source: CCP-PO-001, C3-4**				
4. List all containers that have met QAOs. **Reference Source: CCP-PO-001, C3-4**				Container Numbers:
5. Does the BDR identify the current implementing procedure and revision number? **Reference Source: CCP-PO-001, Table C3-3**				
6. Is there a reference to or copy of any associated NCRs (if any) in the BDR? NA if no NCRs. **Reference Source: CCP-PO-001, Table C3-3**				
7. Are there 20 or fewer containers in the batch? **Reference Source: CCP-PO-001, C3-4**				
8. Are the data properly reported (i.e., data are reported in correct units and with correct significant figures)? **Reference Source: CCP-PO-001, C3-4**				
9. Is there evidence of verification that the physical form matches the Waste Matrix Code? **Reference Source: CCP-PO-001, Table C3-3**				

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
10. Is there evidence of verification that the physical form matches the waste stream description? **Reference Source: CCP-PO-001, Table C3-3**				
11. Are prohibited items absent? **Reference Source: CCP-PO-001, Table C3-3**				
12. Does observable liquid, if present, meet the criteria of the TSDF-WAC? **Reference Source: CCP-PO-001, C-1**				
13. Were discrepancies between two operators with regard to identification of waste matrix code, liquids in excess of the TSDF-WAC, or compressed gases through replicate scans and independent observations reconciled? NA if no discrepancies. **Reference Source: CCP-PO-001, C3-2**				
14. Are the training qualifications for all radiography personnel acceptable? **Reference Source: CCP-PO-001, C3-8**				
15. Was evidence of the video/audio check included in the BDR? **Reference Source: CCP-PO-001, C1-1**				
16. Was the Lines-Pair Resolution Test or Sieve Test Check included in the BDR? **Reference Source: CCP Technical Procedures**				
17. Was a replicate scan performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**				
18. Was an independent observation performed once per day, or once per batch, whichever is LESS frequent? **Reference Source: CCP-PO-001, C1-1**				

Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary (Continued)

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
19. Were the replicate scan and independent observation performed on different waste containers? **Reference Source: CCP-PO-001, C1-1**				
20. Were the personnel performing the replicate scan and independent observation different from the individual who performed the original? **Reference Source: CCP-PO-001, C1-1**				
21. Does the BDR include an estimate of each material parameter weight in kg for each container? **Reference Source: CCP Technical Procedures**				
22. Does the BDR include a description of each material parameter for each container? **Reference Source: CCP Technical Procedures**				
23. Is the container gross weight recorded in kilograms (kg) for each container in the BDR? **Reference Source: CCP Technical Procedures**				
24. Was the Scale Weight Calibration Check included in the BDR? **Reference Source: CCP Technical Procedures**				
25. Was the Scale Weight Check included in the BDR? **Reference Source: CCP Technical Procedures**				

Comments:

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by the QAPjP.

SPM Printed Name Signature Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the background measurements performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**				
2. Is the efficiency/energy calibration and resolution check performed and recorded daily and included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**				
3. Were the performance checks and backgrounds done prior to the analysis of the samples? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**				
4. Are the required QC checks specified on the ITR checklist within acceptable limits? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**				
5. Is the matrix drum performed at least once per operational week? **Reference Source: CCP-PO-002, Attachment 1, A.4.2**				
6. List all containers that have met all QC criteria thresholds. **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				Container Numbers:
7. Is there evidence of participation in the PDP program or any relevant approved comparison program? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**				
8. Are the personnel training records acceptable? **Reference Source: CCP-PO-002, Attachment 1, A.4.1**				
9. Is a standard cover sheet included in the BDR? **Reference Source: CCP Technical Procedures**				
10. Is there reference to or copy of associated NCRs included in the BDR? NA if no NCRs associated with BDR. **Reference Source: CCP-QP-005**				

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
11. Is the method used for radioassay identified by the implementing procedure(s) and revision number(s) referenced for each container in the BDR? **Reference Source: CCP Technical Procedures**				
12. Is the current software revision number correct for each container in the BDR? **Reference Source: CCP-QP-022**				
13. Is the completed, signed, and dated Independent Technical Reviewer Checklist included in the BDR, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002, Attachment 1, A.5.1**				
14. Is the correct Waste Matrix Code referenced in the BDR? **Reference Source: CCP Technical Procedures**				
15. Is the method of expressing TMU specified in the BDR? **Reference Source: CCP-PO-002, 3.3.1**				
16. Does the instrument performing TRU/low-level waste measurement have an LLD of 100 nCi/g or less? **Reference Source: CCP-PO-002, Attachment 1, A.3**				
17. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs estimated activities and masses, including their associated TMU reported on each radioassay data sheet? **Reference Source: CCP-PO-002, 3.3.1**				
18. Is 235U (in order to calculate FGE) reported as present or absent on each radioassay data sheet? **Reference Source: CCP-PO-002, Attachment 1, A.3**				
19. If 235U is reported as present, is 234U reported as present? NA, if 235U is not present. **Reference Source: CCP Technical Procedures**				
20. Is the TRU alpha activity concentration and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**				

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
21. Is the TRU alpha activity concentration limit of >100 nCi/g met for containers in the BDR? **Reference Source: CCP-PO-002, 3.3.3**				
22. Is the Total Pu239 FGE (g) and associated TMU reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**				
23. Is the FGE plus two times the TMU less than or equal to the limits for containers in this BDR? 200 FGE for 55-gal drums/325 FGE for SWBs. Note: TMU equals one standard deviation. **Reference Source: CCP-PO-002, Table A-3**				
24. Is the decay heat reported for each container in the BDR? **Reference Source: CCP-PO-002, 3.3.1**				
25. Are all the appropriate QC forms (background, efficiency checks, control charts, and matrix drum) included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				
26. Is the name of the testing facility included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				
27. Is the batch number included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				
28. Is a listing of all container numbers in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				
29. Does the BDR contain a BDR Table of Contents? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				
30. Are the testing report data sheets including the waste container number for each container included in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				
31. Is the title “Radioassay Data Sheet” included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				

Attachment 3 – CCP SPM Nondestructive Assay Project Level Validation Checklist and Summary (Continued)

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
32. Is the date of radioassay included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				
33. Is the operator and reviewer signature release and date included for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				
34. Is the total Pu239 equivalent activity (Ci) reported for each container in the BDR? **Reference Source: CCP-PO-002, Attachment 1, A.5.2**				
35. Are the NDA net weights within 5% of the NDE net weight or the VE net weight, whichever is applicable, for each container in the BDR? **Reference Source: CCP Technical Procedures**				

Comments:

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.

SPM Printed Name Signature Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Attachment 4 – CCP SPM Off-Site Source Recovery Sealed Source Radiological Characterization Project Level Validation Checklist and Summary

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
1. Are the personnel training records acceptable? **Reference Source: Site applicable LOQI**				
2. Does the Batch Data Report (BDR) include the name of the facility? **Reference Source: CCP-PO-002**				
3. Does the BDR include a standard cover sheet? **Reference Source: CCP-PO-002**				
4. Does the BDR include a Table of Contents? **Reference Source: CCP-PO-002**				
5. Does the BDR include a batch number? **Reference Source: CCP-PO-002**				
6. Does the BDR include a listing of all waste container numbers in the batch? **Reference Source: CCP-PO-002**				
7. List all containers. **Reference Source: CCP-PO-002**				Container Numbers:
8. Does the BDR include a Container Characterization Report sheet(s) for each container in the batch? **Reference Source: CCP-PO-002**				
9. Is there a reference to or copy of associated NCRs (if any) in the BDR? NA if no NCRs associated with the BDR. **Reference Source: CCP-PO-002**				
10. Does the BDR include the implementing procedure and revision numbers? **Reference Source: CCP-PO-002**				
11. Does the BDR include a completed, signed, and dated Independent Technical Review Checklist, and the independent technical reviewer was not involved in the generation or recording of the data under review? **Reference Source: CCP-PO-002**				
12. Does the waste meet the definition of sealed sources per 10 CFR 30.4 and 10 CFR 835.2 (effective January 1, 2004) and documentation included with the AK information? **Reference Source: CCP-PO-001, C4-2**				

Attachment 4 – CCP SPM Off-Site Source Recovery Sealed Source Radiological Characterization Project Level Validation Checklist and Summary (Continued)

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met?			Comments/Qualifiers
	YES	NO	NA	
13. Is the sealed source a US DOT Special Form Class 7 (Radioactive Material) per 49 CFR 34.27 (effective January 1, 2004) and is this documented in the AK information? **Reference Source: CCP-PO-001, C4-2**				
14. Is the integrity of each sealed source validated by documented contamination survey results to meet the requirements of 10 CFR 34.27 (effective January 1, 2004), and is assembled as part of AK documentation? **Reference Source: CCP-PO-001, C4-2**				
15. Does the AK information document that no VOC or VOC-bearing material are constituents of the waste? **Reference Source: CCP-PO-001, C4-2**				
16. Does the AK information document that the outer casing of the sealed source is a non-VOC bearing material and is this verified during VE? **Reference Source: CCP-PO-001, C4-2**				
17. Is the Title "Characterization Data Sheet" included on each data sheet? **Reference Source: CCP-PO-002**				
18. Is the waste container number included on each data sheet? **Reference Source: CCP-PO-002**				
19. Is the run date included on each data sheet? **Reference Source: CCP-PO-002**				
20. Is the TRU alpha activity concentration (Ci/g) included on each data sheet? **Reference Source: CCP-PO-002**				
21. Is the Total Pu-239 equivalent activity (PE-Ci) included on each data sheet? **Reference Source: CCP-PO-002**				
22. Is the Total FGE (g) and associated TMU included on each data sheet? **Reference Source: CCP-PO-002**				
23. Is the Decay Heat (W) and associated TMU included on each data sheet? **Reference Source: CCP-PO-002**				
24. Are the activities and/or masses of individual radioisotopes and associated TMUs (curies and/or grams) included on each data sheet? **Reference Source: CCP-PO-002**				

Attachment 4 – CCP SPM Off-Site Source Recovery Sealed Source Radiological Characterization Project Level Validation Checklist and Summary (Continued)

BDR Number: _____ **Examination Date(s):** _____

Description of Criteria Reviewed	Criteria Met? YES	NO	NA	Comments/Qualifiers
25. Is the method of expressing TMU specified? **Reference Source: CCP-PO-002**				
26. Are the ten WIPP tracked radionuclides of 241Am, 238Pu, 239Pu, 240Pu, 242Pu, 233U, 234U, 238U, 90Sr, 137Cs identified and reported as present or absent? **Reference Source: CCP-PO-002**				
27. Is 235U (in order to calculate FGE) reported as present or absent? **Reference Source: CCP-PO-002**				
28. Is the TRU Alpha activity concentration >100 nCi/g? **Reference Source: CCP-PO-002**				
29. Is the Fissile Mass $\leq$ FGE limit? **Reference Source: CCP-PO-002**				
30. If 235U is reported as present, is 234U reported as present? NA if 235U is not present. **Reference Source: CCP-PO-002**				

Comments:

The container QC checks were properly performed and meet the Quality Assurance Objectives (QAOs). Proper procedures were followed during data reduction and analysis. The batch is complete, acceptable, and includes all supporting data and documentation required by CCP-PO-002.

SPM Printed Name Signature Date

Checklist is to be re-signed only when a re-review is performed.

SPM Printed Name	Signature	Reason	Date
SPM Printed Name	Signature	Reason	Date

Controlled
Copy

CCP-TP-002

Revision 26

CCP
Reconciliation of DQOs and Reporting Characterization Data

EFFECTIVE DATE: 06/19/2013

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
18	11/16/2006	Revised to implement the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/Remote-Handled (RH) Permit Modification Request (PMR). Addressed Carlsbad Field Office (CBFO) Document Review Record (DRR) comments.
19	12/22/2006	Revised to clarify Waste Stream Profile Form contents.
20	08/18/2008	Revised Section 4.2.1 to incorporate Central Characterization Project (CCP) Standing Order CCP-SO-32. Updated several document/procedure titles. Minor changes to Section 5.0.
21	08/04/2009	Revised to answer Waste Isolation Pilot Plant (WIPP) Form 09-050, and add changes to Sections 3 and 4 and make any other editorial changes needed.
22	06/30/2010	Revised for Class 2 Modification Request WIPP Hazardous Waste Facility Permit EPA I.D. Number NM4890139088.
23	12/29/2010	Revised to implement the revision of the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit*.
24	12/28/2011	Revised to make editorial changes. Replacing Waste Stream Profile Form (WSPF) change notice with revision to WSPF. Revising instructions for completing WSPF package.
25	02/11/2013	Revised to include timeframe for transmitting the waste stream profile form package to records. Also revised to make editorial changes needed.
26	06/19/2013	Revised to implement the Permit Modification Request Class 2 approved by New Mexico Environment Department (NMED) dated March 13, 2013.

TABLE OF CONTENTS

1.0 PURPOSE 4
1.1 Scope 4

2.0 REQUIREMENTS 5
2.1 References 5
2.2 Training Requirements 6

3.0 RESPONSIBILITIES 7
3.1 Site Project Manager (SPM) 7
3.2 Acceptable Knowledge Expert (AKE) 7
3.3 Host Site Subcontract Technical Representative (STR) 7

4.0 PROCEDURE 8
4.1 Assigning the WSPF Number 8
4.2 Compilation and Evaluation of DQO Parameters 8
4.3 Preparing Waste Stream Profile Form (WSPF) 10
4.4 Completing the Characterization Information Summary (CIS) 10
4.5 Summation of Aspects of the AK Summary 11
4.6 Submitting the WSPF Package to DOE CBFO 12
4.7 Subsequent Data Reconciliation 12
4.8 Completing the Waste Stream Characterization Package 14

5.0 RECORDS 15

LIST OF ATTACHMENTS

Attachment 1 – CCP Reconciliation with Data Quality Objective (Example) 16
Attachment 2 – CCP Waste Stream Profile Form (Example) 20
Attachment 3 – CCP Characterization Information Summary Cover Page (Example) 34
Attachment 4 – CCP Correlation of Container Identification Number to Batch Data Report Numbers (Example) 35
Attachment 5 – CCP RTR/VE Summary of Prohibited Items (Example) 36

1.0 PURPOSE

Upon completion of waste characterization activities, and prior to shipment of waste, the Central Characterization Program (CCP) is required to reconcile the data in accordance with the requirements of CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (QAPjP). Data reconciliation is required in order for the CCP Site Project Manager (SPM) to complete and submit a Waste Stream Profile Form (WSPF) (see Attachment 2, CCP Waste Stream Profile Form, for an example).

1.1 Scope

This procedure provides data reconciliation with the data quality objectives (DQOs) following data validation and verification at the CCP Project Office. This reconciliation is performed at the waste stream or waste stream lot level. This procedure provides the instructions for the completion of the WSPF Package for submittal to the U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) for permittee review and CBFO approval prior to shipment.

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- DOE/WIPP 01-3194, *CH-TRU Waste Content Codes* (*CH-TRUCON*)
- DOE/WIPP 90-045, *RH-TRU Waste Content Codes* (*RH-TRUCON*)
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-003, *CCP Transuranic Authorized Methods For Payload Control* (*CCP CH-TRAMPAC*)
- CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control* (*CCP RH-TRAMPAC*)

Referenced Documents

- *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan*
- DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria For The Waste Isolation Pilot Plan*
- 40 CFR 261, *Identification and Listing of Hazardous Waste,* Subpart C, *Characteristics of Hazardous Waste.*
- 40 CFR 261, *Identification and Listing of Hazardous Waste,* Subpart D, *Lists of Hazardous Wastes*
- DOE/TRU-11-3425, *Annual Transuranic Waste Inventory Report – 2011*
- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, *CCP Records Management*
- CCP-TP-005, *CCP Acceptable Knowledge Documentation*

2.2 Training Requirements

2.2.1 Personnel performing this procedure will be trained and qualified in accordance with CCP-QP-002, *CCP Training and Qualification Plan*, prior to performing this procedure.

3.0 RESPONSIBILITIES

3.1 Site Project Manager (SPM)

3.1.1 Ensures that all data generated and used in decision making meet the DQOs

[A] Assesses whether data of sufficient type, quality, and quantity have been collected.

NOTE

The WSPF Package consists of the WSPF, the Characterization Information Summary (CIS) and the Summation of Aspects of the Acceptable Knowledge (AK) Summary.

3.1.2 Completes and submits the WSPF package and required revisions.

3.1.3 Prepares the Waste Stream Characterization Package per CCP-PO-001, Section C3-6b(3) upon request from the DOE CBFO.

3.2 Acceptable Knowledge Expert (AKE)

NOTE

As the waste stream is characterized, the Acceptable Knowledge Expert (AKE) is responsible for corroborating the AK information with the characterization data collected. For the final data reconciliation (conducted in accordance with this procedure), the AKE provides assistance to the SPM.

3.2.1 Compiles the AK information for the waste stream being characterized.

3.2.2 Creates the AK summary which is used to create the Summation of Aspects of the AK summary.

3.2.3 Assigns a unique waste stream number for each waste stream based on information in the DOE/TRU-11-3425, *Annual Transuranic Waste Inventory Report* (ATWIR) and/or information from the Host site.

3.2.4 Reviews and concurs with the WSPF Package and subsequent revisions.

3.3 Host Site Subcontract Technical Representative (STR)

3.3.1 If required by the site-specific interface document, reviews, and concurs with the WSPF Package.

4.0 PROCEDURE

NOTE
The attachments in this document are examples of the requirements. The examples identify the minimum information required in the final approved report.

NOTE
Steps DO **NOT** need to be followed in sequence.

SPM

4.1 Assigning the WSPF Number

NOTE
The unique number will be limited to a maximum of 20 alpha-numeric characters. The first two characters will be the two letter site designator, and the remaining characters should coincide, to the maximum extent possible, with the title page of the AK Summary Report.

4.1.1 Assign the Waste Stream Number to the WSPF per the AK Summary Report.

NOTE
The Waste Stream Number is recorded on all applicable attachments.

4.2 Compilation and Evaluation of DQO Parameters

4.2.1 For the lot to be processed, select an appropriate number of containers that have completed CCP Project Office verification and validation from the waste stream population.

[A] Ensure that all of the containers selected are from the same waste stream by comparing the container numbers/waste stream identification numbers with the AK Tracking Spreadsheet for the subject site.

[B] Ensure all containers from any waste stream that requires Gas Generation Testing (GGT) meet one of the following requirements:

[B.1] The container is on an approved GGT Batch Data Report (BDR) and that the BDR is the most recent.

[B.2] The container is included in an approved Long Term Objective population.

[C] Ensure all containers from any waste stream that require Flammable Gas Analysis (FGA) for Transportation Sampling are on an approved FGA for transportation BDR and that the BDR is the most recent:

[D] Ensure all data to be used for certification was generated using certified equipment.

[E] Ensure that each of the BDRs chosen to certify the containers is the most recent BDR available for that characterization process (i.e., real-time radiography [RTR] or visual examination [VE], nondestructive assay [NDA], FGA, Dose-to-Curie [DTC]), Radiological Characterization.

4.2.2 Obtain copies of the following documents from CCP Records, as applicable:

- Documentation of Radiological Properties (e.g., NDA BDR), VE, RTR, FGA **AND/OR** an AK Sufficiency Determination
- Previous records of data completion and reconciliation with DQOs (see Attachment 1, CCP Reconciliation with Data Quality Objectives for an example)
- Previously completed CIS submitted to records on interoffice memo

4.2.3 Determine if sufficient data have been collected to determine if program-required waste parameters have been met, by completing the CCP Reconciliation with Data Quality Objective Attachment 1, using the attached instructions.

4.2.4 **IF** sufficient data has been collected,
THEN enter the Waste Stream Number and Lot Number on the CCP Reconciliation with Data Quality Objective.

4.2.5 **IF** data DOES **NOT** meet the criteria on the CCP Reconciliation with Data Quality Objective,
THEN sufficient data has **NOT** been collected to fully characterize the waste stream, therefore, determine the additional waste characterization that needs to be performed **AND** direct the appropriate site facility to collect the additional data.

NOTE

The CCP Reconciliation with Data Quality Objective contains multiple questions for each entry. If there are discrepancies between questions or if entries are Not Applicable (N/A), comments will be added to the form explaining how criteria are met.

4.2.6 Complete the CCP Reconciliation with Data Quality Objective, using the attached questions.

4.2.7 Print name, sign, and date the CCP Reconciliation with Data Quality Objective.

4.2.8 Place the CCP Reconciliation with Data Quality Objective in the holding file.

4.3 Preparing Waste Stream Profile Form (WSPF)

NOTE

The current approved revision of the waste stream AK Summary should be used in preparing or revising the WSPF.

4.3.1 **IF** a WSPF exists for the waste characterization data being reconciled,
THEN GO TO Section 4.7.

4.3.2 Ensure all characterization data obtained from CCP Records for the waste stream in question have gone through project level validation (i.e., signed SPM checklists).

4.3.3 Prepare a CCP WSPF (see CCP Waste Stream Profile Form, for an example) using the instructions included in Attachment 2.

4.3.4 Review, print name, sign, and date the WSPF.

4.4 Completing the Characterization Information Summary (CIS)

4.4.1 Record the Waste Stream Number and Lot Number, including the list of site specific/CCP procedures, revisions, and dates used in characterizing the containers in the lot, on the CCP Characterization Information Summary Cover Page (see Attachment 3, CCP Characterization Information Summary Cover Page for an example).

4.4.2 Complete the cross-reference listing the container numbers to each BDR (see Attachment 4, CCP Correlation of Container Identification Numbers to Batch Data Report Numbers for an example).

[A] For items **NOT** analyzed enter N/A.

[B] Print name, sign, and date the CCP Correlation of Container Identification Numbers to Batch Data Report Numbers.

4.4.3 **IF** the AK Summary for the waste stream identified the U.S. Environmental Protection Agency (EPA) Hazardous Waste Number (HWN) U134 (hydrofluoric acid),
THEN address in CCP RTR/VE Summary of Prohibited Items (see Attachment 5, CCP RTR/VE Summary of Prohibited Items for an example) that any liquid identified is a prohibited item per the applicable operating procedure and is **NOT** acceptable by the Treatment, Storage, and Disposal Facility (TSDF).

4.4.4 Complete the CCP RTR/VE Summary of Prohibited Items to document that prohibited items are **NOT** present in the waste stream or waste stream lot and to verify the physical form of the waste matches the waste stream description as determined by AK.

NOTE
If CBFO approves, VE may be performed on S3000 and S4000 when the material is not removed from the characterized container.

4.4.5 Complete the justification for the selection of radiography and/or VE as the appropriate method for characterizing the waste.

4.4.6 Print name, sign, and date CCP RTR/VE Summary of Prohibited Items.

4.5 Summation of Aspects of the AK Summary

4.5.1 Obtain an approved copy of the AK Summary for the subject waste stream in order to create a summary level version of the AK Summary, entitled the Summation of Aspects of the AK Summary (Summation).

4.5.2 Create the Summation and include the following information: waste stream name and number, point of generation, waste stream volume (current and projected), generation dates, TRUCON codes, Summary Category Group, Waste Matrix Code(s) (WMC) and Waste Matrix Code Group, other ATWIR information, waste stream description, areas of operation, generating processes, Resource Conservation and Recovery Act (RCRA) determinations, radionuclide information, method for determining Waste Material Parameter (WMP) weights per unit of waste contact-handled ([CH] only), all references used to generate the Summation, and any other information required by CCP-PO-001.

4.5.3 Include a list of any approved AK Sufficiency Determinations for the waste stream.

4.6 Submitting the WSPF Package to DOE CBFO

4.6.1 Compile the WSPF Package consisting of the following:

- WSPF
- CIS
- Summation

4.6.2 Forward a copy to the AKE for review and concurrence.

4.6.3 **IF** required by the appropriate site-specific Interface Document, **THEN** forward a copy to the STR for review and concurrence.

4.6.4 **IF** comments are received from the AKE **AND/OR** STR, **THEN** resolve the comments, **AND** forward a copy of the resolution to the reviewer(s) for concurrence.

4.6.5 **AFTER** concurrence(s) is/are received, **THEN** continue with this section.

4.6.6 Transmit the WSPF Package via e-mail to the DOE CBFO electronic mail (email) site at site.documents@wipp.ws for permittee review and CBFO approval.

4.6.7 **IF** comments are received from the permittees, **THEN** repeat steps 4.6.2 through 4.6.6 until comments have been resolved.

4.6.8 Submit approved WSPF Package to CCP Records in accordance with CCP-QP-008, *CCP Records Management,* with an interoffice memo within 30 calendar days of WSPF approval.

4.7 Subsequent Data Reconciliation

4.7.1 Obtain a copy of the WSPF Package from CCP Records.

4.7.2 Perform applicable steps of Sections 4.2 and 4.4.

NOTE
A revision required to the WSPF package that results in the addition of EPA HWNs will require the waste stream to be suspended until DOE approves the revised WSPF.

4.7.3 **IF** the waste DOES **NOT** meet the WSPF Package description, **THEN** revise the WSPF Package, **OR** assign the waste to a new waste stream.

[A] **IF** subsequent data collection reveals discrepancies that identify different EPA HWNs,
THEN the Waste Stream Profile will be revised.

[B] **IF** subsequent data collection reveals discrepancies that indicate the waste belongs to a different waste stream,
THEN initiate a nonconformance report (NCR) in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*.

NOTE
A revision required to the WSPF Package that DOES **NOT** result in addition of EPA HWNs (application of additional TRUCON Content codes, or addition of material parameter weight estimates per unit of waste) will not require the waste stream to be suspended.

[C] **IF** the WSPF Package requires a revision,
THEN make the appropriate changes in accordance with guidance provided in the CCPWSPF, **AND** submit the WSPF revision to CCP Records and DOE CBFO in accordance with the applicable steps in Section 4.6.

[D] **IF** the waste DOES **NOT** match the subject WSPF Package (i.e., have common physical form, contain similar hazardous constituents, and were generated from a single process or activity discrepancies are noted that identify different EPA HWNs or indicate that the waste belongs to a different waste stream),
THEN perform the following:

[D.1] Notify the AKE that the subject waste must be redefined to a separate waste stream in accordance with the applicable steps of CCP-TP-005, *CCP Acceptable Knowledge Documentation*, Section 4.8.

[D.2] Generate a new WSPF Package in accordance with Sections 4.2 through 4.6.

4.7.4 Provide documentation of the waste stream lot data reconciliation to CCP Records that includes the CCP CIS and CCP Reconciliation with Data Quality Objective.

4.8 Completing the Waste Stream Characterization Package

4.8.1 When requested by DOE CBFO, prepare the Waste Stream Characterization Package for the requested waste stream.

4.8.2 Obtain a copy of the subject WSPF Package from CCP Records.

4.8.3 Obtain copies of the subject CISs for each of the waste stream lots associated with the subject waste stream from CCP Records.

4.8.4 Obtain a complete copy of the AK Summary for the subject waste stream from CCP Records.

4.8.5 Obtain copies of the BDRs as requested by DOE CBFO from CCP Records.

4.8.6 Obtain copies of other data requested by DOE CBFO from CCP Records.

4.8.7 Assemble the information, **AND** transmit to DOE CBFO.

5.0 RECORDS

5.1 Records generated during the performance of this procedure are maintained as quality assurance (QA) Records in accordance with CCP-QP-008. The records are the following:

QA/Lifetime

[A] Characterization Information Summary with attached interoffice memorandum

[A.1] Attachment 1 – CCP Reconciliation with Data Quality Objective

[A.2] Attachment 3 – CCP Characterization Information Summary Cover Page

[A.3] Attachment 4 – CCP Correlation of Container Identification Number to Batch Data Report Numbers

[A.4] Attachment 5 – CCP RTR/VE Summary of Prohibited Items

[B] Waste Stream Profile Form Package

[B.1] Attachment 2 – CCP Waste Stream Profile Form – includes Interoffice Memorandum of Submittal from the SPM

[B.2] CIS for the lot addressing the applicable analysis data

[B.3] Summation of Aspects of the AK Summary, if applicable

Attachment 1 – CCP Reconciliation with Data Quality Objective (Example)

Sampling Completeness

RTR:
Number of valid samples: _____ Number of total samples analyzed: _____
Percent Complete: _____ (QAO is 100%)

NDA:
Number of valid samples: _____ Number of total samples analyzed: _____
Percent Complete: _____ (QAO is 100%)

Attachment 1 – CCP Reconciliation with Data Quality Objective (Example) (Continued)

Waste Stream#: _____ Lot #: _____

	Y/N/NA	Reconciliation Parameter			
1.		Waste Matrix Code.			
2.		Waste Material Parameter Weights.			
3.		The transuranic (TRU) activity reported in the BDRs for each container demonstrates with a 95 percent probability that the container of waste contains TRU radioactive waste.			
4.		AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?			
5.		The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 *Code of Federal Regulations* (CFR), Part 261, *Identification and Listing of Hazardous Waste,* Subpart C, *Characteristics of Hazardous Waste*.			
6.		Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, *Lists of Hazardous Wastes*?			
7.		Waste stream can be classified as hazardous or nonhazardous.			
8.		The overall completeness, comparability, and representativeness quality assurance objectives (QAOs) were met for each of the testing procedures as specified in CCP-PO-001Sections C3-1 through C3-2 prior to submittal of a WSPF for a waste steam or waste stream lot.			
			Completeness	**Comparability**	**Representativeness**
		Radiography			
		VE			
Comments					

SPM Printed Name _____ Signature _____ Date _____

Attachment 1 – CCP Reconciliation with Data Quality Objective (Example) (Continued)

Instructions for completing form:

Prior to completing Blocks 1 through 13, the SPM or Designee shall complete the Sampling Completeness portion of Attachment 1.

For each waste container and process, verify that:

- The waste container, by serial number, is included in the BDR shown for each characterization methodology listed in Attachment 4, CCP Correlation of Container Identification Numbers to Batch Data Report Number.
- The BDR has gone through project level validation and verification and has received SPM approval.
- The waste container was not removed from the BDR via NCR.

This information is recorded on Attachment 1 under the Sampling Completeness.

This process confirms that the samples are valid and that there is analysis data in the BDRs to support the determination, by the SPM, of program-required waste parameters for the total number of samples collected.

1. Waste Matrix Code. Is the waste matrix code assigned to the waste stream in the AK Summary Report supported by the radiography and/or VE testing BDRs?
2. Waste Material Parameter Weights. Are the waste material parameters listed in the AK Summary reported in kilograms for each of the waste material parameters identified in the waste stream?
3. TRU Radioactive Waste. Does the TRU activity reported in the BDR for each container demonstrate compliance with CCP-PO-002, *CCP Transuranic Waste Certification Plan*?
4. AK Sufficiency Determinations requested for the waste stream? If the answer is Yes, record request in comments field and document the use of the AK Sufficiency Determination as objective evidence for answering Yes to other DQOs.
5. Toxicity Characteristic. Does the waste exhibit a toxicity characteristic under 40 CFR Part 261, Subpart C?
6. Listed Waste. Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D?
7. Hazardous Waste Determination. Can the waste stream be classified as hazardous or nonhazardous?

Attachment 1 – CCP Reconciliation with Data Quality Objective (Example) (Continued)

8. Completeness, Comparability, and Representativeness. Have the overall completeness, comparability, and representativeness quality assurance objective (QAOs) for each of the testing, processes been met for the waste stream or waste stream lot by answering each of the following questions:

   - Completeness:

     o RTR: Is there an audio/videotape (or equivalent media) of the radiography examination and a validated radiography data form for 100 percent of the containers subject to radiography?

     o VE: A validated VE data form will be obtained for 100 percent of the waste containers subject to VE.

   - Comparability: RTR and VE:

     o Was the correct approved version of the procedure used by qualified operators to acquire, verify, and validate the data?

   - Representativeness: Was the correct approved version of the procedure used to control:

     o RTR: Viewing test image, resolving discrepancies between two operators

     o VE: Reconciling any discrepancies between the operator and the Independent Technical Reviewer

Attachment 2 – CCP Waste Stream Profile Form (Example)

(1) Waste Stream Profile Number:								
(2) Generator site name:							(3) Generator site EPA ID:	
(4) Technical contact:							(5) Technical contact phone number:	
(6) Date of audit report approval by New Mexico Environment Department (NMED):								
(7) Title, version number, and date of documents used for WIPP-WAP Certification:								
(8) Did your facility generate this waste?	YES		NO					
(9) If no, provide the name and EPA ID of the original generator:								
Waste Stream Information								
(10) WIPP ID:							(11) Summary Category Group:	
(12) Waste Matrix Code Group:							(13) Waste Stream Name:	
(14) Description from the ATWIR:								
(15) Defense TRU Waste:	YES		NO					
(16) Check One:	CH		RH					
(17) Number of SWBs (17a) Number of SLB2		(18) Number of Drums					(19) Number of Canisters	
(20) Batch Data Report numbers supporting this waste stream characterization:								
(21) List applicable EPA Hazardous Waste Numbers:								
(22) Applicable TRUCON Content Numbers:								
(23)**Acceptable Knowledge Information**								
(For the following, enter the supporting documentation used [i.e., references and dates])								
Required Program Information								
(23A) Map of site:								
(23B) Facility mission description:								
(23C) Description of operations that generate waste:								
(23D) Waste identification/categorization schemes:								
(23E) Types and quantities of waste generated:								
(23F) Correlation of waste streams generated from the same building and process, as applicable:								
(24) Waste certification procedures:								
(25) Required Waste Stream Information								
(25A) Area(s) and building(s) from which the waste stream was generated:								
(25B) Waste stream volume and time period of generation:								
(25C) Waste generating process description for each building:								
(25D) Waste Process flow diagrams:								
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form:								
(25F) Waste Material Parameter Weight Estimates per unit of waste								
(26) Which Defense Activity generated the waste:								
	Weapons activities including defense inertial confinement fusion							Naval Reactors development
	Verification and control technology							Defense research and development
	Defense nuclear waste and material by products management							Defense nuclear material production
	Defense nuclear waste and materials security and safeguards and security investigations							

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

(27) Supplemental Documentation:	
(27A) Process design documents:	
(27B) Standard operating procedures:	
(27C) Safety Analysis Reports:	
(27D) Waste packaging logs:	
(27E) Test plans/research project reports:	
(27F) Site databases:	
(27G) Information from site personnel:	
(27H) Standard industry documents:	
(27I) Previous analytical data:	
(27J) Material safety data sheets:	
(27K) Sampling and analysis data from comparable/surrogate Waste:	
(27L) Laboratory notebooks:	
Confirmation Information	
For the following, when applicable, enter procedure title(s), number(s) and date(s)	
(28)	Radiography:
	Visual Examination:

(29) Comments: For a list of the waste characterization procedures used and date of respective procedures see the list of procedures on the attached CIS.

Reviewed by AK Expert: **YES** ☐ **Date:** _____

Reviewed by STR (if necessary): **YES** ☐ **N/A** ☐ **Date:** _____

Waste Stream Profile Form Certification:

I hereby certify that I have reviewed the information in this Waste Stream Profile Form, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature of Site Project Manager	Printed Name	Date

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

CCP WASTE STREAM PROFILE PACKAGE

A WSPF Package should be completed as early as possible (once sufficient data has been obtained [e.g., at least one lot]) and submitted to DOE CBFO for approval.

The SPM, in completing the WSPF, should seek the assistance and participation of the AKE in the preparation of the form and attachments.

The WSPF package submitted to DOE CBFO for approval contains three parts. The first part is the WSPF itself. The second part is the CIS Report for the waste stream or waste stream lot used to support the WSPF. The last part is the *Summation of Aspects of the AK Summary Report*, to support the WSPF. The completion of the first and third parts of the package is addressed in these instructions. Completion of the CIS is addressed in CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*, and associated forms.

Instructions for completing the Waste Steam Profile Form:

Obtain an approved copy of the current WSPF Package from CCP Records; for new WSPFs, it will be blank.

Line numbers indicated below refer to the number in the parenthesis on the CCP WSPF.

The brackets [ ] indicate the primary source of the information requested if not otherwise referred to within the instruction.

Line 1:

Assign a site-specific waste stream profile number to each form generated. The number should normally coincide, to the extent possible, as it appears on the title page of the AK Summary Report. The SPM is responsible for selecting the number after referring to the AK Summary Report. The number should start with the applicable two-digit site designator. The number should be limited to 20 alpha-numeric characters maximum. Indicate waste stream lots with a period and sequentially numbered digits added to the waste stream profile number.

Line 2:

Enter the name of the site where the waste is currently stored. [AK Summary Report]

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

Line 3:

Enter the EPA Identification (ID) Number of the site listed in Line 2. The ID number, if not included in the AK Summary Report, can be obtained from the EPA Regional office in which the site is located. The AKE should assist in the acquisition of this information.

Line 4:

Enter the name of the technical contact for this site. This is the individual to be contacted if there are questions concerning the data reported on the form, usually the SPM.

Line 5:

Provide the telephone number of the person identified in Line 4.

Line 6:

Enter the date of the most recently approved audit report approval by NMED. If the site has been audited but an audit report has not yet been approved by DOE CBFO, contact the CCP Project Manager. If DOE CBFO has approved the audit report and is awaiting approval by New Mexico Environmental Department (NMED), submit the WSPF package to DOE CBFO for distribution to the Waste Isolation Pilot Plant (WIPP) Review Team.

Line 7:

List the site-specific waste program documents (such as CCP-PO-001, the CCP-PO-003, Interface, etc.) listing the current revision.

Line 8:

Check the appropriate box. [AK Summary Report]

Line 9:

If the site where the waste is currently stored is not the site where the waste was generated, then provide the name and EPA identification number of the site where the waste was generated. [The AK Summary Report should provide the information as to where the waste was generated. The ID number, if not included in the AK Summary Report, can be obtained from the EPA Regional Office in which the site is located. The AKE should assist in the acquisition of this information.]

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

If the waste was generated at the site where it is currently stored, place an N/A in this box.

Line 10:

Enter the WIPP identification number from the current revision of the Annual Transuranic Waste Inventory Report (ATWIR) that best describes the waste stream being certified. CCP may split or combine ATWIR waste streams for the purposes of defining waste sampling populations. If CCP has split or combined ATWIR waste streams, all contributing ATWIR waste streams listed on the WSPF should also be indicated on the Summation of Aspects of AK Summary Report.

If there is no corresponding WIPP ID number listed in the ATWIR or if the ATWIR information is in error or no longer applies, enter None Available. If there is no corresponding WIPP ID number listed in the ATWIR, contact the AKE for assistance. (A copy of the ATWIR may be found in the WIPP Technical Library in the Skeen Whitlock Building.)

Line 11:

Enter the Summary Category Group identified in the AK Summary Report as representing this waste stream.

Line 12:

Enter the Waste Matrix Code (WMC) Group identified in the AK Summary Report as representing this waste stream. Use only WMC Groups identified in the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan* (WIPP-WAP).

Line 13:

Enter the name of the waste stream from the AK Summary Report.

Line 14:

Enter the waste stream description from the ATWIR (preferred) or AK Summary Report.

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

Line 15:

Check the appropriate box. [AK Summary Report]

If the answer to this question is NO, stop work and notify the CCP Program Manager immediately. This waste can not be disposed of at the WIPP Site.

Line 16:

Check the appropriate box.

CH=contact-handled TRU waste
RH=remote-handled TRU waste

[AK Summary Report for the waste stream identified above.]

Line 17:

Enter the number of standard waste boxes in this waste stream (current and projected). [AK Summary Report] If there are no standard waste boxes in the waste stream, N/A should be entered.

Line 17a:

Enter the number of standard large box 2s (SLB2s) in this waste stream (current and projected). [AK Summary Report] If there are no SLB2s in the waste stream, N/A should be entered.

Line 18:

Enter the total number of drums in the waste stream (current and projected). Enter the number of Ten-Drum Overpacks (TDOPs), 85-gallon drums and 100-gallon drums if applicable (current and projected). [AK Summary Report]

If there are no drums (e.g., only SWBs, SLB2s, or Canisters) in the waste stream, N/A should be entered.

Line 19:

Enter the number of canisters in this waste stream (current and projected). [AK Summary Report]

If there are no canisters in the waste stream, N/A should be entered.

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

Line 20:

List the TRU Waste BDR numbers used to support the completion of this WSPF. This list shall include every container and the associated BDRs from each process in the waste stream OR every container in the waste stream lot and the associated BDRs from each process used in that characterization (for example NDA, RTR, HSG, VE, etc). Reference may be made to the CIS (Attachment 3 and contents) (The CIS for the waste stream, or waste stream lot associated with the WSPF, is submitted as part of the WSPF package to DOE CBFO for approval).

Line 21:

List each EPA HWN that is present in the waste stream. Each EPA HWN must be listed in the WIPP Hazardous Waste Facility Permit, Attachment C, Table C-9, Hazardous Waste Permit Application, Part A. Each EPA HWN must be justified in the Waste stream specific AK Summary Report. The AKE should assist in this determination.

Line 22:

Enter all of the TRUCON Content Numbers, from the current revision of the content codes document applicable to this waste stream. [AK Summary Report]

Line 23: A-F

Reference all of the appropriate sections, figures, or pages in the current revision of the AK Summary Document (including the document title, number, revision number, and effective date) for this waste stream where the listed information can be found in the AK document.

Line 24:

List all of the waste stream certification procedures applicable to this waste stream. Include procedure numbers, revision numbers, titles, and effective date. This list should contain all revisions of a document that were used during the characterization of the waste. References may be made to the CIS, Attachment 3.

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

Line 25 A-F:

Reference all of the appropriate sections, figures, or pages in the current revision of the AK Summary Document (including the document title, number, revision number, and effective date) for this waste stream where information listed can be found in the AK document.

Line 26:

Check all that apply that describes the defense activities that generated the waste.
[AK Summary Report]

Line 27 A-L:

Sites must provide the appropriate references to the site-specific documents that contain documentation that is used to support the use of AK for TRU waste characterization. Items in this section must be given the same level of consideration as the items in the Required Program Information and Required Waste Stream Information sections. This information may either be inserted into the block or referenced as listed on a continuation sheet. The AKE should provide appropriate lists of documents for use in completing Line 27. Only those documents referenced in the AK Source Documents List in the Summation of Aspects should be included in these lists.

Using information from the AK Record or from a document that is traceable to the AK record, provide a reference for the following parameters:

(A) Process design document (e.g., Title II Design).

(B) Standard operating procedures, including procedure date and reference number, that may include a list of raw materials or reagents, a description of the process or experiment generating the waste, and a description of the process or experiment generating the waste, and a description of waste generated and how the wastes are managed at the point of generation.

(C) Preliminary and final safety analysis reports and technical safety requirements.

(D) Waste packaging records.

(E) Test plans or research project reports that describe reagents and other raw materials used in experiments.

(F) Site databases (e.g., chemical inventory database for Superfund Amendments and Reauthorization Act Title III requirements).

(G) Information from site personnel (e.g., documented interviews).

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

(H) Standard industry documents (e.g., vendor information).

(I) Analytical data relevant to the waste stream, including results from fingerprint analyses, spot checks, routine verification sampling, or other processes that collect information pertinent to the waste stream. This may also include new information acquired apart from the confirmatory process, which supplements required information (e.g., visual examination not performed in compliance with the WIPP-WAP, radiography screening for prohibited items).

(J) MSDSs, product labels, or other product package information.

(K) Sampling and analysis data from comparable or surrogate waste streams (e.g., equivalent nonradioactive materials).

(L) Laboratory notebooks that detail the research processes and raw materials used in an experiment.

Line 28:

List the most current revisions of the approved applicable procedure(s) by the title, number, revision number, and effective date in the appropriate block.

Line 29:

For a list of the waste characterization procedures used and date of respective procedures, see the list of procedures on the attached CIS.

Instructions for completing the Summation of Aspects of the AK Summary Report:

This summation should be as succinct as possible and consistent with the AK Summary Report.

Example:

SUMMATION OF ASPECTS OF AK SUMMARY REPORT: WASTE STREAM NTXXXXXXX

Overview

The overview is an executive summary of the summation. It should contain general information about where the waste was generated, where it is stored, reference to the WSPF number and the AK Summary Report from which the information is compiled, etc. In addition, the overview should contain summary level information that the waste stream is derived from defense related activities.

Waste Stream Identification Summary

This section should contain, as a table, the information identified below, if applicable.

Waste Stream Name
Waste Stream Number

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

Dates of Waste Generation
Waste Stream Volume (current and projected by container)
Summary Category Group
Waste Matrix Code Group
Waste Matrix Code
TRUPACT-II Content code (TRUCON)
TRUPACT-III Content Code
ATWIR ID Number

Waste Stream Description and Physical Form

This section should contain information regarding what the waste consists of generally. For instance: the source of the waste - nonline laboratory trash that is heterogeneous debris and includes plastics, rubber, paper, glass, etc.

Point of Generation

Location

Specifically where the waste was generated:
Facility, description of the site, state, area designation, building number, production line, etc.

Area and/or Buildings of Generation

Short summary regarding the buildings or areas or productions lines, etc. that generated the waste.

Generating Processes

Description of Waste Generating Processes

This section should be a more detailed description of where and how the waste is generated. It can be building by building, process line by process line, or any other grouping that makes sense. These descriptions should be complete enough for understanding yet still striving for brevity.

Waste Stream Material and Chemical Inputs

A Table of Chemicals, for which an EPA HWN has been assigned. Include at least one identified use for each chemical.

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

RCRA Determinations

Historical Waste Management

The Historical Waste Management section is used to explain site policies or previous RCRA designation of the waste and how CCP uses those determinations. Explanations of how the site physically managed the waste and discussion of waste tracking or other management programs are optional. Include a discussion of duplicated CBFO approved waste streams generated under other certified programs.

Hazardous Waste Determinations

The AKE should assist in the hazardous waste determination. Include discussions in appropriate section below for instances where EPA HWNs are added as a result of confirmation activities.

The following text should be used to begin the discussions of ignitable, corrosive, and reactive characteristics.

Ignitability, Corrosivity, Reactivity

The waste material in this waste stream does not meet the definition of ignitable, corrosive, and reactive as defined in 40 CFR 261.21.

The waste in this waste stream is not liquid and does not contain unreacted corrosive chemicals; therefore, it does not meet the definition of corrosivity found in 40 CFR 261.22.

The waste material in the waste stream does not meet the definition of reactivity in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change without detonating. The materials will not react violently with water, form potentially explosive mixtures with water, nor generate toxic gases, vapors, or fumes when mixed with water. Include other text such as the absence of sulfides and cyanides as appropriate.

Provide adequate detail to describe the absence of ignitable, corrosive, or reactive waste in the waste stream. Ensure the discussion closes with a statement such as, “The containers in the waste stream will be evaluated in accordance with the WIPP-WAP using radiography (and/or VE) prior to shipment to ensure the waste is not ignitable, reactive, or corrosive.

Ignitable (D001) wastes are prohibited from disposal at WIPP. Any potential D001 wastes in the waste stream must be evaluated and a determination of whether or not to apply the D001 number must be made.

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

Special care must be taken to address items such as metal powders which are not normally thought of as ignitable.

Some chemicals, to which the D001 EPA HWN is applied, may be identified in the AK. The D001 number is applied due to ignitability. The SPM must be able to address the ignitability of these wastes and determine that the characteristic of ignitability does not apply.

If the SPM can not positively state at the conclusion of this section that "The waste number for ignitability (D001) does not apply to this waste stream," contact the CCP Project Manager.

Corrosive (D002) wastes are prohibited from disposal at WIPP. Any potential D002 wastes in the waste stream must be evaluated and a determination of whether or not to apply the D002 number must be made.

If the SPM can not positively state at the conclusion of this section that "The waste number for Corrosivity (D002) does not apply to this waste stream," contact the CCP Project Manager.

Reactive (D003) wastes are prohibited from disposal at WIPP. Any potential D003 wastes in the waste stream must be evaluated and a determination of where or not to apply the D003 number must be made.

If the SPM can not positively state at the conclusion of this section that "The waste number for Reactivity (D003) does not apply to this waste stream," contact the CCP Project Manager.

Toxicity Characteristic

Determine if the waste in this waste stream meets the definition of toxicity as defined in 40 CFR 261.24. For each chemical listed in CFR 261.24, determine if the EPA HWN should be applied to the waste stream.

If it is not possible to identify a specific source of the chemical, but the determination is made to apply the number, state that the number is being applied based on the information available.

Listed Waste

F-Listed Waste

Determine if the waste in this waste stream meets the requirements for listing as an F-Listed (Hazardous Waste from Non-Specific Sources) as defined in 40 CFR 261.31. For each chemical listed in CFR 261.31, determine if the EPA HWN should be applied to the waste stream.

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

If it is not possible to identify a specific reason to apply the number for a chemical, but never the less the determination is made to apply the number, state that the number is being applied based on the information available.

K-Listed Waste

K-Listed wastes (Hazardous Waste from Specific Sources) are unlikely in waste to be shipped to WIPP. If K wastes are included, document as below for P- and U-Listed wastes.

P- and U-Listed Wastes

P- and U-Listed wastes are lists of chemicals that if present in the waste as pure un-used commercial chemical products would require the application of the EPA HWN.

Determine if the waste in this waste stream meets the requirements for listing as a P- or U-Listed as defined in 40 CFR 261.33. For each chemical listed in CFR 261.33, determine if the EPA HWN should be applied to the waste stream.

If it is not possible to identify a specific reason to apply the number for a chemical, but never the less the determination is made to apply the number, state that the number is being applied based on the information available.

Hydrofluoric acid (U134) and Beryllium (P015) are of special interest and must be addressed in every WSPF.

Polychlorinated Biphenyls

Evaluate the presence of Polychlorinated Biphenyls (PCBs) in the waste.

Prohibited Items

Include the appropriate prohibited items discussion from the AK Summary Report including a discussion as to how the prohibited items will be identified and remediated prior to shipment (such as radiography or VE).

Method for Determining Waste Material Parameter Weights per Unit of Waste

Describe the method used for determining waste material parameter weight estimates per unit of waste and include the WMP estimates table.

List of Any AK Sufficiency Determinations Requested for the Waste Stream

List applicable AK sufficiency determinations.

Attachment 2 – CCP Waste Stream Profile Form (Example) (Continued)

Transportation

Briefly discuss DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria For The Waste Isolation Pilot Plant* (WIPP-WAC) transportation requirements as they pertain to identified TRUCON codes as dictated by the waste stream.

Beryllium

Address the WIPP-WAC requirements for beryllium.

Radionuclide Information

Present the two most prevalent isotopes expected from the waste stream (CH only). Insert radionuclide table from the AK Summary Report.

Include a brief discussion on payload management per the WIPP-WAC, Appendix E.

Source Documents

Insert reference list from AK Summary Report.

Revision to the Waste Stream Profile Form Package

If a revision to the WSPF Package is needed, a revised WSPF is created. Reasons for revising the WSPF Package include:

- Addition of EPA HWNs
- Application of additional TRUCON Content codes
- Addition of material parameter weight estimates per unit of waste

Attachment 3 – CCP Characterization Information Summary Cover Page (Example)

Waste Stream: #: _____ Lot #: _____

AK Expert Review: _____ Date: _____

SPM Review: _____ Date: _____

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Controlled
Copy

Attachment 4 – CCP Correlation of Container Identification Number to Batch Data Report Numbers (Example)

Waste Stream #: ______________________________ Lot #: __________

Container ID Number	NDA BDR	RTR BDR	VE BDR	Payload Management/ Overpack Yes

______________________________ ______________________________ ______________
Signature of Site Project Manager Printed Name Date

Attachment 5 – CCP RTR/VE Summary of Prohibited Items (Example)

CCP RTR/VE Summary of Prohibited Items

Waste Stream Number: _____ Lot(s)#: _____

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
a. See Batch Data Reports b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF)			
Justification for the selection of RTR and/or VE:			

Site Project Manager Signature Printed Name Date

Controlled
Copy

CCP-TP-005

Revision 26

CCP
Acceptable Knowledge Documentation

EFFECTIVE DATE: 08/12/2013

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
4	01/17/2002	Revised to delete the requirement for signing the AK Summary and other minor changes. Added cis & trans-1,2-Dichloroethylene, Attachment 5.
5	01/24/2002	Minor change to Attachment 14 due to the following: Signature lines were struck and approved by all levels of review in previous revision. When preparing document to be issued signature lines were inadvertently left in and must now be removed. Printed name and "approved for use" are being inserted to reflect the CCP Procedure format.
6	07/23/2002	Revised document to: • Comments based on CH-WAC revision • Accommodate comments from an assessment at SRS Document Review Record for Technical and Quality Assurance • Comments from a Program Evaluation at ANL-E
7	09/06/2002	Revised document to: • Minor editorial changes to 2.1, 4.2, 4.3, and 4.4 Changes to 4.4.17 to comply with WAP requirements and Program Evaluation Changes to 4.4.26 to comply with Program Evaluations for NTS.
8	09/19/2002	Revised document based on comments from the ANLE Certification Audit and a CBFO Adequacy Review; revised Sections 3.1, 4.2, 4.3, 4.4, 4.5 and Attachments 7, 10, and 11.
9	09/26/2002	Revised document based on comments from the NTS Certification Audit; revised Sections 4.3, 4.4, 4.5, and 4.6.
10	10/24/2002	Revised step 3.2.13; added Section 3.6 and steps 4.7.18 and 4.7.19; and revised Attachment 10 based on comments from the SRS Recertification Audit.
11	02/05/2003	Revised document to address CAR #02-087 and CAR # 02-088 from the ANL-E Certification Audit. Revised steps 4.4.1 and added NOTE. Revised steps 4.4.17, 4.4.20, 4.4.24, 4.4.26, and 4.5.1 [D.2]

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
12	03/26/2003	Revised step 4.4.8 and preceding NOTE.
13	11/18/2003	Revised document to: - Perform minor editorial changes throughout document. Clarify that Attachments are example forms. Remove Attachments 11 and 12 to create electronically fillable forms of these attachments. Add Section 3.7 to include responsibility of Nondestructive Assay (NDA) Subject Matter Expert (SME) to perform assessment with the Acceptable Knowledge Expert. Update steps 4.4.17 and 4.4.18 to require that the uses and limitations of the radionuclide Acceptable Knowledge information is reviewed by the NDA SME. Add Section 4.9 to address CAR-SRS-006-03 for the process used to document the addition of containers to existing waste streams. Added a new Section 4.3.3 identifying the use of Memorandum to CCP Central Records. Added a new Section 4.6.3 to incorporate preparation of a letter/memorandum to Site Project Manager summarizing AK information; revision of Sections 4.6.4 and 5.1.1[J] to incorporate the addition of 4.6.3. Deleted Section 4.1.3 Process Equipment Description from the AK Summary Report Content Guide. - Modified Attachment 5.
14	11/19/2004	Revised document to: - Perform minor editorial changes and technical clarifications throughout document. - Revised procedure to address WIPP WAC Revision 1 and 2 changes relating to beryllium, payload container management, high plutonium content waste/material, and PCB requirements (Sections 1.0 and 4.4.24). - Revised Section 4.8.1 to allow for resolution of discrepancies within the AK Summary Report. - Deleted redundant records management requirement to attach copies of the AK Source Document Discrepancy reports to all affected sources. - Deleted step 4.4.8[B].

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
15	03/31/2005	Revised document to incorporate WIPP WAP AK requirements for LANL sealed sources. Addressed CBFO comments.
16	02/27/2006	Revised document to: Incorporate minor editorial changes and technical clarifications throughout the document. Add Sections 4.10 and 4.11 to address creation and maintenance of the Container Tracking Spreadsheet on the FTP (CAR-INL-0003-05). Replace revised Attachments 5 and 10 based on recent audit discussions.
17	06/05/2006	Revised to allow the use of attachments to this procedure during the management of Remote-Handled (RH) Acceptable Knowledge (AK) in accordance with DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan* (WCPIP). Revised Attachment 6, Waste Form, Waste Material Parameters, Prohibited Items, and Packaging – Example Form per Los Alamos National Laboratory (LANL) Certification Audit A-06-11.
18	11/16/2006	Revised to implement the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/Remote-Handled (RH) Permit Modification Request (PMR). Addressed Carlsbad Field Office (CBFO) Document Review Record (DRR) comments.
19	07/06/2010	Revised document to address the Waste Isolation Pilot Plant (WIPP) Form WF09-171 from an internal Central Characterization Project (CCP) audit and to incorporate minor editorial changes and technical clarifications noted as a result of various Acceptable Knowledge audits.
20	11/01/2010	Revised to allow new and updated attachments and source documents to be submitted anytime after the initial submittal.
21	12/29/2010	Revised to implement the revision of the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit*.
22	04/21/2011	Revised to address changes in Revision 2 of the *Remote-Handled Tru Waste Characterization Program Implementation Plan* (WCPIP). Incorporated editorial changes and technical clarifications throughout procedure.
23	06/30/2011	Revised to clarify what constitutes a record as part of the resolution to resolve CBFO CAR11-043.

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
24	11/28/2011	Revised to address comments from inspectors during U.S. Environmental Protection Agency (EPA) Baseline Inspection EPA-SNL-CCP-RH-06.11-8 (June 6/8, 2011). Also revised to incorporated lessons learned from Carlsbad Field Office (CBFO) records surveillance.
25	06/19/2013	Revised to incorporate Nuclear Waste Partnership (NWP) transition changes and to implement the Permit Modification Request Class 2 approved by New Mexico Environment Department (NMED) dated March 13, 2013.
26	08/12/2013	To clarify the evaluation of nondestructive assay (NDA) results by the site project manager (SPM) and acceptable knowledge expert (AKE). Also, to incorporate changes as a result of CAR-LANL-0003-13.

TABLE OF CONTENTS

1.0 PURPOSE 8
1.1 Scope 8

2.0 REQUIREMENTS 11
2.1 References 11
2.2 Training Requirements 12

3.0 RESPONSIBILITIES 13
3.1 Site Project Manager (SPM) 13
3.2 CCP Inventory and AK Support Manager 13
3.3 AK Expert (AKE) 13
3.4 Off-Site Source Recovery (OSR) Program 14
3.5 Nondestructive Assay (NDA) Expert Analyst (EA) 14

4.0 PROCEDURE 15
4.1 AK Documentation Management 15
4.2 Compiling AK Documentation 15
4.3 Recording AK Documentation 18
4.4 Review and Submittal of AK Documentation 20
4.5 Waste Stream Characterization 30
4.6 Determining AK Documentation Accuracy 32
4.7 AK Sufficiency Determination 33
4.8 Re-evaluating AK Documentation 35
4.9 Resolving AK Discrepancies 37
4.10 Updating AK for Additional Waste Stream Containers 41
4.11 Container Tracking Spreadsheet Development 42
4.12 Container Tracking Spreadsheet Maintenance 42

5.0 RECORDS 43

LIST OF ATTACHMENTS

Attachment 1 – Acceptable Knowledge Documentation Checklist - Example Form 45
Attachment 2 – Record of Communication – Example Form 50
Attachment 3 – Acceptable Knowledge Source Document Summary – Example Form 51
Attachment 4 – Acceptable Knowledge Information List – Example Form 52
Attachment 5 – Hazardous Constituents – Example Form 53
Attachment 6 – Waste Form, Waste Material Parameters, Prohibited Items, and Packaging – Example Form 58
Attachment 7 – Radionuclides – Example Form 60
Attachment 8 – Waste Containers List – Example Form 61
Attachment 9 – Attachment 9 is no longer required and Attachment number is reserved for future use 62
Attachment 10 – Acceptable Knowledge Re-evaluation Checklist – Example Form 63
Attachment 11 – Acceptable Knowledge Source Document Discrepancy Resolution – Example Form 64
Attachment 12 – Example Form and Content Guide for AK Summary Reports 65
Attachment 13 – CCP Waste Stream Characterization Checklist – Example Form 78
Attachment 14 – CCP Acceptable Knowledge Accuracy Report – Example Form 80
Attachment 15 – CCP TRU Waste Correlation and Surrogate Summary Form – Example Form 81

1.0 PURPOSE

The *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan* (WIPP-WAP), authorizes the use of acceptable knowledge (AK) in appropriate circumstances to delineate waste streams and to characterize hazardous waste. WIPP WAP AK requirements are addressed in CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*, and implemented through this procedure. DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP-WAC), AK requirements are addressed in CCP-PO-002, *CCP Transuranic Waste Certification Plan*. Additionally, implementation of this procedure will generate information required by CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control* (*CCP CH-TRAMPAC*) and CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control* (*CCP RH-TRAMPAC*). This procedure applies to Central Characterization Program (CCP) personnel who perform AK activities for retrievably stored and newly generated transuranic (TRU) waste streams that may be eligible for disposal at Waste Isolation Pilot Plant (WIPP).

1.1 Scope

This procedure describes the processes the CCP uses to compile, review, evaluate, update, and report AK documentation. The procedure also describes how the CCP determines AK Sufficiency, AK accuracy; re-evaluates AK documentation when necessary; resolves AK documentation discrepancies, and uses AK to delineate waste streams and determine whether the waste is hazardous. A waste stream is defined as waste materials that have common physical form, that contain similar hazardous constituents (similar radiological properties for DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan* [WCPIP] compliance), and that are generated from a single process or activity.

Only CCP personnel trained in accordance with CCP-QP-002, *CCP Training and Qualification Plan,* will compile, evaluate, and document AK information in accordance with this procedure. Sites hosting the CCP may assist CCP personnel in the collection of AK information; however, this procedure will be used by the CCP to generate the required AK in accordance with CCP-PO-001, CCP-PO-002, CCP-PO-003, and CCP-PO-505.

AK includes any documentation that describes or verifies site history, mission, and operations, in addition to waste stream-specific information used to define the generating process, waste matrix, waste quantities and contaminants (radiological and chemical).

The information acquired in the performance of this procedure is used to prepare an AK Summary Report or an AK Sufficiency Determination.

This information is provided in the following attachments:

- Attachment 1 – Acceptable Knowledge Documentation Checklist – Example Form
- Attachment 2 – Record of Communication – Example Form
- Attachment 3 – Acceptable Knowledge Source Document Summary – Example Form
- Attachment 4 – Acceptable Knowledge Information List – Example Form
- Attachment 5 – Hazardous Constituents – Example Form
- Attachment 6 – Waste Form, Waste Material Parameters, Prohibited Items, and Packaging
- Attachment 7 – Radionuclides – Example Form (CH only)
- Attachment 8 – Waste Containers List – Example Form
- Attachment 9 – Attachment 9 is no longer required and Attachment number is reserved for future use.
- Attachment 10 – Acceptable Knowledge Re-evaluation Checklist – Example Form
- Attachment 11 – Acceptable Knowledge Source Document Discrepancy Resolution – Example Form
- Attachment 12 – Example Form and Content Guide for AK Summary Reports
- Attachment 13 – CCP Waste Stream Characterization Checklist – Example Form
- Attachment 14 – CCP Acceptable Knowledge Accuracy Report – Example Form
- Attachment 15 – CCP TRU Waste Correlation and Surrogate Summary Form – Example Form

The attached forms are provided as examples for the required AK information to be prepared for CCP Records. The forms identify the minimum information that will be prepared to document the AK collection and review process described in this procedure. Attachment 4, Acceptable Knowledge Information List – Example Form, lists all of the information that was collected and considered during the preparation of an AK Summary Report. Only those sources of information that are referenced in the AK Summary Report are considered source documents and submitted to CCP Records.

Remote-Handled (RH) TRU AK management will be performed in accordance with WCPIP to address U.S. Environmental Protection Agency (EPA) requirements; and CCP-PO-001 to address WIPP-WAP requirements. The attachments for AK management in this procedure were reviewed and determined to meet or exceed the information requirements described for AK management in the WCPIP, and will be used, as appropriate, during the compilation, review, evaluation, and reporting associated with RH AK information.

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- DOE/WIPP 89-004, *TRUPACT-II Content Codes* (TRUCON)

Referenced Documents

- DOE/LLW-217, *DOE Waste Treatability Group Guidance. Idaho Falls*, Idaho, INEL-Lockheed Idaho Technologies
- DOE/TRU-12-3425, *Annual Transuranic Waste Inventory Report – 2012,* (or current revision), Carlsbad, New Mexico, U.S. DOE Carlsbad Field Office
- DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria For the Waste Isolation Pilot Plant*
- DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
- 20 NMAC 4.1, New Mexico Administrative Code
- 40 CFR Part 261, *Identification and Listing of Hazardous Waste*
- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control* (*CCP CH-TRAMPAC*)
- CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control* (*CCP RH-TRAMPAC*)
- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, *CCP Records Management*
- CCP-QP-010, *CCP Document Preparation, Approval, and Control*
- CCP-QP-029, *CCP Corrective Action Management*

- CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*
- CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*
- CCP-TP-101, *CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization*
- 42 U.S.C. 10101, *Nuclear Waste Policy Act of 1982*, U.S. Congress
- 40 CFR part 761*, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions,* U.S. EPA

2.2 Training Requirements

2.2.1 All personnel performing this procedure will be trained and qualified in accordance with CCP-QP-002*,* prior to performing this procedure.

3.0 RESPONSIBILITIES

3.1 Site Project Manager (SPM)

3.1.1 Ensures that trained AK Experts (AKE) are available to implement this procedure in coordination with the Host site.

3.1.2 Approves, resolves, and requests re-evaluation of AK as necessary.

3.1.3 Makes final waste stream determinations, EPA Hazardous Waste Number assignments, and compares, confirms, and approves the AK documentation.

3.1.4 Prepares the AK Accuracy Report.

3.1.5 Confirms the chemical compatibility to the assigned TRUCON code and reviews the characterization data for each waste stream.

3.2 CCP Inventory and AK Support Manager

3.2.1 Manage and direct AKEs to ensure qualified individuals are performing tasks specified.

3.2.2 Coordinate between AKE and SPM for development of AK Summary Reports and Waste Stream Profile Forms.

3.2.3 Provide site-by-site tracking of AK development to allocate AK resources as needed.

3.3 AK Expert (AKE)

3.3.1 Identifies, locates, compiles, documents, summarizes, and evaluates required AK information.

3.3.2 Delineates waste streams and assigns waste stream numbers.

3.3.3 Recommends hazardous waste determinations to the SPM.

3.3.4 Prepares and revises AK Summary Reports.

3.3.5 Collects, reviews, prepares, and submits source documents as necessary.

3.3.6 Prepares and revises the AK Sufficiency Determination Request.

3.3.7 Documents and resolves discrepancies with AK information.

3.3.8 Records meetings, telecommunications, interviews and other communications.

3.3.9 Completes and maintains document summaries and information lists.

3.3.10 Reviews and verifies AK information.

3.3.11 Develops waste stream descriptions.

3.3.12 Assigns Summary Category Groups and Waste Matrix Codes, and estimates waste material parameter (WMP) weights.

3.3.13 Prepares auditable file of AK information.

3.3.14 Re-evaluates and updates AK as needed.

3.3.15 Reviews and concurs on the Waste Stream Profile Form (WSPF).

3.3.16 Supports the development of the AK qualification method(s) and compliance with the applicable Data Quality Objectives (DQOs) for RH wastes streams in accordance with the WCPIP.

3.4 Off-Site Source Recovery (OSR) Program

3.4.1 For Los Alamos National Laboratory (LANL) sealed sources, assists the AKE in preparing the Nondestructive Assay (NDA) Memorandum discussed in step 4.4.24.

3.5 Nondestructive Assay (NDA) Expert Analyst (EA)

3.5.1 Performs the assessment for the NDA Memorandum discussed in step 4.4.24 with the AKE.

4.0 PROCEDURE

NOTE

The data collection, documentation, and AK preparation steps can be performed in any sequence as long as the AK data collection requirements found in CCP-PO-001 are met.

NOTE

The attached forms referenced in this section are provided as examples for the required AK information to be prepared for CCP Records. The forms identify the minimum information that will be prepared to document the AK collection and review process described in this procedure. All attachments submitted must contain a header with the procedure number, revision number, procedure title, effective date, and page number as displayed in the Example Attachments. Attachments must also contain the Attachment number and title immediately following the header, as shown on the Example Attachments.

4.1 AK Documentation Management

AKE

4.1.1 As they are collected, maintain the compiled AK documents with reasonable care (protection from damage or loss).

4.1.2 Assign a unique tracking number to each document collected as AK information using the Acceptable Knowledge Information List (see Attachment 4 for an example), for each waste stream. Describe the specific convention used to assign the unique identifiers to the source documents in the AK Summary Report. Examples of source document categories are as follows:

(EXAMPLE)

C – Correspondence
D – Documents
M – Miscellaneous
P – Procedures and Published Documents
DR – Discrepancy Resolution
U – Unpublished Documents

4.2 Compiling AK Documentation

AKE

4.2.1 Locate and obtain source documents with assistance of the Host site for documents with reference sections, as applicable.

4.2.2 Compile (i.e., gather) source documents that identify TRU waste management program information in the Acceptable Knowledge Documentation Checklist , AK #s PR1-PR8 (see Attachment 1, Acceptable Knowledge Documentation Checklist - Example Form, for facilities that generated the waste stream.

NOTE

Information collected must be sufficient to accurately characterize the waste stream.

NOTE

Source documents may include published or unpublished documents, correspondence, databases, quality assurance (QA) protocols, operating procedures, work instructions, waste storage/disposal records, waste certification summaries, process flow diagrams, analytical and testing data packages from previous waste characterization activities, and other sources of information descriptive of elements on the Checklist.

4.2.3 Apply a unique waste stream number based on the information in DOE/TRU-12-3425, *Annual Transuranic Waste Inventory Report* (ATWIR), and/or information from the Host site for each waste stream (Refer to CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*, for appropriate numbering format).

4.2.4 Compile and record source documents that identify TRU waste stream-specific information specified in the Acceptable Knowledge Documentation Checklist, AK #s WS1-WS12 for each waste stream.

4.2.5 Compile and record source documents that identify additional AK documentation specified in the Acceptable Knowledge Documentation Checklist, AK #s S1-S16.

[A] Obtain additional AK information as appropriate to augment required information and provide any other information obtained to further characterize the waste stream.

[B] All additional specific, relevant AK documentation assembled and used in the AK process, whether it supports or contradicts any required AK documentation, shall be identified and an explanation provided for its use (e.g., identification of a toxicity characteristic).

[C] Additional documentation may be used to further document the rationale for the hazardous characterization results. If discrepancies exist between additional information and the required information, assess and evaluate the information to determine the appropriate hazardous waste numbers consistent with RCRA requirements. Document the resolution of RCRA hazardous waste number assignment discrepancies on an Acceptable Knowledge Source Document Discrepancy Resolution (see Attachment 11, Acceptable Knowledge Source Document Discrepancy Resolution - Example Form), or in the AK Summary Report.

4.2.6 For LANL sealed sources, compile source documents that identify OSR-specific documentation specified in the Acceptable Knowledge Documentation Checklist, AK #s O1-O16.

[A] If source markings are needed to support radiological characterization, the SPM must verify that they have been documented in accordance with CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging.*

NOTE

For RH waste streams, the documentation collected and compiled in Sections 4.1 and 4.2 may not be sufficient to meet the DQOs established for the selected parameters in accordance with the WCPIP. If there is insufficient AK information to address each of the DQOs, then either additional AK will be collected and/or the characterization methods described in the WCPIP will be initiated. A combination of AK and other characterization methods may be used to meet the WCPIP DQO requirements.

4.2.7 For RH waste, review the documentation compiled and determine which of the WCPIP DQOs that can be met using the AK information collected.

4.2.8 Collect additional AK documentation and/or identify the characterization method(s) recommended to meet the DQO in accordance with the WCPIP (see step 4.4.33[O]).

4.3 Recording AK Documentation

AKE

NOTE

There are two categories of source documents used to document AK for a waste stream. Documentation generated by CCP and documents and/or other media supplied by the generator site. Generator site provided documents and/or other media are external records created by the waste generator sites and are identified in this procedure as "historical source documents."

4.3.1 Copy the document or the pertinent information from the document that defines source document contents, including cover sheets, executive summaries, introductions, and table of contents, if available **AND** maintain this information in the working files.

NOTE

Classified material CAN **NOT** be copied. If source documents are classified, an unclassified summary will need to be provided by the Host site or the document will be developed and summarized on an Acceptable Knowledge Source Document Summary (see Attachment 3, Acceptable Knowledge Source Document Summary - Example Form), by the AKE **AND** reviewed by the Site's Authorized Derivative Classifier for release.

4.3.2 Record meetings, telecommunications, interviews, and other communication on a Record of Communication (see Attachment 2, Record of Communication - Example Form), including a detailed summary of the content of the communication and data limitations.

NOTE

To avoid redundancy, a Record of Communication form may **NOT** be required if the information is already provided on an interview-related source document.

4.3.3 As necessary, prepare a memorandum or letter to CCP Records and Record of Communication, as appropriate, documenting the method used by the AKE to review AK sources for the purpose of evaluating required AK parameters such as radionuclides, Waste Matrix Codes, assignment of EPA Hazardous Waste Numbers, estimating waste material parameter weights, etc. The memorandum must identify the sources of AK used during the evaluation and clearly document the AKE assumptions and conclusions.

NOTE

Collection and review of AK source documents is an ongoing activity. It is conducted initially during the development of the AK Summary Report and continues as additional information becomes available during subsequent waste stream characterization and management activities. Completion of the Acceptable Knowledge Source Document Summary (see Attachment 3 for an example), for the source documents is an iterative process performed during these activities.

If the source document is a collection of information (i.e., container data sheets, material safety data sheets [MSDS] sheets, etc.) provide a description in the Title field of the Attachment 3 and ensure that it matches the Title field in the AK Source Document section of the AK Summary Report.

Information documents collected but not referenced in the AK Summary Report are not required to be summarized on an Attachment 3.

4.3.4 Initiate an Acceptable Knowledge Source Document Summary for each source document that includes detail sufficient to justify the use of the information. The Acceptable Knowledge Source Document Summary must be completed by the time the associated AK Summary Report is finalized for all AK source documents referenced within the report. Identify the specific waste stream or streams that correspond to the source document in the Waste Stream Number field on Attachment 3. If a comprehensive library is used for all streams at the site, note this in this field.

[A] Source documents referenced in the AK Summary Report and their applicable attachments must be submitted to CCP Records on or before the date of issuance of the AK Summary Report as final.

4.3.5 **IF** the summary consists of multiple pages,
THEN provide the unique source document tracking number on each page **AND** paginate the number of pages (e.g., 2 of 6 pages).

4.3.6 Print name, sign, and date the Acceptable Knowledge Source Document Summary before submitting to CCP Records.

4.3.7 For source documents that CAN **NOT** be reproduced or removed from the source (e.g., classified documents or databases), indicate on the Acceptable Knowledge Source Document Summary that a copy of the source document is **NOT** available, and state the reason.

4.3.8 Include a note on the limitations of the information (e.g., if a document covers a specific period of time) on the Acceptable Knowledge Source Document Summary.

NOTE

Attachment 4 is a listing of relevant documents collected during the investigative process. Documents collected must be categorized in accordance with Step 4.1.2.

4.3.9 Create and maintain an Acceptable Knowledge Information List that includes the following:

- Site, waste stream number, and waste stream description
- Source document tracking number
- Source document title or description
- Name of author
- Original document number, or publisher's document number (if available)
- Revision number and document date (if applicable)

4.3.10 Print name, sign, and date the Acceptable Knowledge Information List before submitting to CCP Records.

4.4 Review and Submittal of AK Documentation

AKE

4.4.1 Evaluate the waste stream to verify that the waste materials do not meet the definition of spent nuclear fuel or high-level waste as defined in the in Section 10101(3) of the *Nuclear Waste Policy Act of 1982.*

4.4.2 Evaluate the waste stream to verify that the waste materials meet the definition of defense waste defined in CCP-PO-002.

NOTE

According to CCP-PO-002, a TRU waste is eligible for disposal at WIPP if it has been generated in whole or in part by one or more of the following functions:

- Naval reactors development
- Weapons activities including defense inertial confinement fusion
- Verification and control technology
- Defense nuclear materials production
- Defense nuclear waste and materials by-products management
- Defense nuclear materials security and safeguards and security investigations
- Defense research and development

4.4.3 **IF** there is no information linking the waste stream to defense related activities or commingled with defense materials, **OR** if the waste contains spent nuclear fuel or high-level waste,
THEN notify the SPM.

4.4.4 Document the defense determination, high-level waste and spent nuclear fuel assessments in the AK Summary Report.

4.4.5 Verify that 100 percent of the information specified in Acceptable Knowledge Documentation Checklist from AK #s PR1 through PR8 and WS1 through WS12 has been compiled.

4.4.6 **IF** 100 percent of this information is **NOT** available for a particular waste stream,
THEN notify the SPM that waste is **NOT** eligible for disposal at WIPP without the collection of additional information to augment the existing AK.

4.4.7 For LANL sealed sources waste containers, verify that the information on Acceptable Knowledge Documentation Checklist, AK #s O1-O16 has been compiled.

4.4.8 Review all AK information compiled in Section 4.2 of this procedure.

4.4.9 Document and resolve discrepancies regarding AK information among AK source documents as described in Section 4.9 of this procedure.

4.4.10 Print name, sign, and date the Acceptable Knowledge Documentation Checklist once the collection and review of the required AK information has been completed.

NOTE

A waste stream is defined as waste materials that have common physical form, that contain similar hazardous constituents (similar radiological properties for WCPIP compliance), and that are generated from a single process or activity. This definition will be used to obtain information for the waste stream specific description to be written in step 4.4.34.

4.4.11 Using the definition of a waste stream from above, the waste stream-specific documentation from the Acceptable Knowledge Documentation Checklist, and, if applicable, the description from the ATWIR, define the waste stream represented by the compiled AK information, **AND** provide this description in the AK Summary Report (see Attachment 12, Example Form and Content Guide for AK Summary Reports, for a format and content guide to be used when preparing the AK Summary Report). Provide a discussion to justify combining previously identified (i.e., ATWIR or site designations), TRU mixed waste and TRU non-mixed waste streams.

NOTE

A Waste Matrix Code will be assigned based on the physical form of the waste. DOE/LLW-217, *DOE Waste Treatability Group Guidance*, describes the convention for assignment of Waste Matrix Codes for low-level waste treatability groups, and can be used as the basis for the assignment of Waste Matrix Codes that bound the waste stream.

4.4.12 Assign and describe the Waste Matrix Code assigned to each waste stream identified.

NOTE

The Waste Matrix Code Groups identified in CCP-PO-001 are:

- Solidified inorganics
- Solidified organics
- Salt waste
- Soils
- Lead/cadmium metal
- Inorganic nonmetal waste
- Combustive waste
- Graphite
- Filters
- Heterogeneous debris waste
- Uncategorized metals

4.4.13 Assign the waste stream to the appropriate Waste Matrix Code Group.

4.4.14 Assign the waste stream to the appropriate Summary Category Group as defined below:

- S3000 Homogeneous Solids – Homogeneous solids are defined as solid material, excluding soil, that does not meet the New Mexico Environment Department (NMED) criteria for classification as debris (20.4.1.800 New Mexico Administrative Code [NMAC] [incorporating 40 CFR §268.2(g) and (h)]). Included in the series of homogeneous solids are inorganic process residues, inorganic sludges, salt waste, and pyrochemical salt waste. Other waste streams are included in this Summary Category Group based on the specific waste stream types and final waste form. This Summary Category Group is expected to contain toxic metal and spent solvents. This category includes wastes that are at least 50 percent by volume homogeneous solids.

- S4000 Soil/Gravel – This Summary Category Group includes S4000 waste streams that are at least 50 percent by volume soil/gravel. This Summary Category Group is expected to contain toxic metals.

- S5000 Debris Wastes – This Summary Category Group includes heterogeneous waste that is at least 50 percent by volume material that meets the criteria specified in 20.4.1.800 NMAC (incorporating 40 CFR §268.2[g]). Debris means solid material exceeding a 2.36 inch (60 millimeter) particle size that is intended for disposal and that is a manufactured object, plant or animal matter, or natural geologic material. Particles smaller than 2.36 inches in size may be considered debris if the debris

is a manufactured object and if it is **NOT** a particle of S3000 or S4000 material.

4.4.15 **IF** waste DOES **NOT** include at least 50 percent of any given Summary Category Group by volume,
THEN assign the Summary Category Group constituting the greatest volume of waste for that waste stream.

4.4.16 Review the AK information to determine if the waste is listed under 20 NMAC 4.1.200 (incorporating 40 CFR 261.30), Subpart D. If so, assign the appropriate HWNs.

4.4.17 Review the AK information to determine if a toxicity characteristic 20 NMAC 4.1.200 (incorporating 40 CFR 261.20), Subpart C contaminant is identified and has **NOT** been assigned a listed HWN from step 4.4.16. Evaluate the available data and assign the toxicity characteristic HWN consistent with RCRA requirements.

4.4.18 Compare the HWNs assigned from steps 4.4.16 and 4.4.17 to the HWNs listed in CCP-PO-001, Table C-9.

4.4.19 **IF** any HWNs are **NOT** included in CCP-PO-001, Table C-9,
THEN notify the SPM.

4.4.20 Include the justification and basis for steps 4.4.16 and 4.4.17 in the TRU waste stream-specific description of AK Summary Report,
AND complete the Attachment 5.

4.4.21 Print name, sign, and date Hazardous Constituents form.

4.4.22 Assess available AK radionuclide data.

NOTE

For LANL sealed sources, the SPM must confirm sufficient radionuclide data is available in accordance with CCP-TP-101, *CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization.*

4.4.23 For contact-handled (CH) waste streams and RH waste streams characterized using NDA techniques, review all source documents to determine the two most prevalent radionuclides for the waste stream, and estimated isotopic ratios for the following 10 WIPP-required radionuclides: Sr-90; Cs-137; U-233; U-234; U-238; Pu-238; Pu-239; Pu-240; Pu-242; and Am-241.

4.4.24 Prepare an NDA Memorandum to CCP Records (CH waste only), evaluating the radionuclide characterization of the waste stream. The NDA Memorandum must include a section for an assessment written with the NDA EA determining how the AK will be applied

during assay. For LANL sealed sources waste, the NDA Memorandum must be written with input from the OSR group. This assessment should include a discussion of the limitations of the radiological characterization in the AK document and a description of the required assay methods, if any. Any NDA issues for both measured and calculated radionuclides should be discussed and resolved.

4.4.25 **IF** AK is intended as the sole basis for meeting the radiological characterization requirements in CCP-PO-002,
THEN state so in the AK Summary Report.

4.4.26 Prepare a Waste Material Parameter Evaluation Memorandum to CCP Records that estimates the waste material parameter weights for the waste stream. The expected weight percent for each waste material parameter will be calculated using historical waste generator information for the materials in the waste stream or industry documentation for similar waste inventories. This evaluation should include the technical assumptions, justification, and limitations for the estimated weight percentages.

NOTE

The WIPP-WAP allows the generator to utilize visual examination (VE) and real-time radiography (RTR), if there is insufficient AK to estimate for the waste material parameter weight percentages.

4.4.27 Complete the following forms as appropriate:

[A] See Attachment 6, Waste Form, Waste Material Parameters, Prohibited Items, and Packaging - Example Form for an example. Include the Waste Material Parameter Evaluation Memorandum described in step 4.4.26 as an addendum to Waste Form, Waste Material Parameters, Prohibited Items, and Packaging.

[B] See Attachment 7, Radionuclides - Example Form (CH only), for an example. Include the NDA Memorandum (signed by the AKE and NDA EA) described in step 4.4.24 as an addendum to Radionuclides.

[C] See Attachment 8, Waste Containers List – Example Form, (or an equivalent form, e.g., spreadsheet). Prepare or update the Container Tracking Spreadsheet as described in Section 4.11 for the containers identified in Waste Containers List and corresponding Waste Stream Container Evaluation Memorandum prepared in steps 4.10.3 and 4.10.4.

4.4.28 Print name, sign, and date all forms generated in step 4.4.27.

4.4.29 Review the waste management program AK documentation specified on the Acceptable Knowledge Documentation Checklist, **AND** write a TRU Waste Management Program Description that addresses AK #s PR1-PR8 in Acceptable Knowledge Documentation Checklist. Include the following:

- Correlation to the waste stream identification and description found in the ATWIR or indication that the waste stream was not included in the ATWIR.
- Determination of whether the TRU waste materials were generated as a result of, or mixed with materials from, defense-related activities as specified in CCP-PO-002.

4.4.30 **IF** prohibited items or incompatible materials are listed on the Waste Form, Waste Material Parameters, Prohibited Items, and Packaging,
THEN perform the following:

[A] Notify the SPM.

SPM

[B] Notify the Host site as directed in the Interface Document between CCP and that site.

AKE

4.4.31 Correlate TRU waste management program information (AK #s PR1 - PR8) and TRU waste stream-specific information (AK #s WS1 - WS12) with regard to the time of generation, waste generation processes, rate and quantity of newly generated waste (when appropriate), and areas and building or facility where the waste stream was generated (Acceptable Knowledge Documentation Checklist).

4.4.32 Identify AK source document tracking numbers, as applicable, in the TRU waste management program description and TRU waste stream-specific description.

4.4.33 Review the waste stream-specific AK documentation specified on the Acceptable Knowledge Documentation Checklist and information developed in steps 4.4.11 through 4.4.32), **AND** describe the waste stream in the AK Summary Report, including the following:

[A] Waste stream description and waste stream number. The waste stream number is limited to 20 alpha-numeric characters.

[B] Explain the selection of the Waste Matrix Code in the TRU waste stream-specific description of the AK Summary Report.

[C] Ensure the description of the waste stream is sufficient to allow the radiography and VE Operators to determine whether the waste in individual containers is included in the waste stream and the physical form of the waste matches the waste stream description.

[D] Include the justification and basis for determination of waste material parameters weights expected in the waste stream.

[E] Include the justification and basis for the method by which the radionuclide AK has been compiled.

[F] For waste streams characterized using NDA, state the method for determination of the (2) most prevalent radionuclides (see CCP-PO-002).

[G] Include the following assessment information:

- Waste identification and categorization schemes relevant to the isotopic composition of the waste
- Description of the isotopic composition of waste streams
- Physical/chemical composition that could affect isotopic distributions
- Numerical adjustments (e.g., scaling factors, decay/ingrowth corrections and secular equilibrium consideration) applied to derive isotopic compositions
- Specification of the isotopic ratios for the 10 WIPP - tracked radionuclides

- Radionuclides other than the ten WIPP-tracked radionuclides that contribute to 95 percent of the radioactive hazard for a payload container

[H] Provide justification for the assumption that the waste stream is TRU waste (i.e., it contains more than 100 nanocuries [nCi] of alpha-emitting radionuclides with half-lives greater than 20 years per gram of waste), as specified in CCP-PO-002.

[I] For waste streams with containers selected for payload management, include an assessment estimating the percentage of the TRU waste stream volume above and below 100 nanocuries per gram (nCi/g) in accordance with CCP-PO-002. The AK Summary Report must demonstrate that the waste stream has been historically managed as TRU waste, as applicable for payload management.

[J] Provide justification for determining the estimated concentration (less than or equal to 1 percent or greater than 1 percent by weight) of beryllium (metal and oxides) for each payload container within the waste stream as required in CCP-PO-002.

[K] Provide justification for determining that prohibited items are not present in the waste stream or describe the potential prohibited items and how they will be identified and remediated. Identify process controls associated with the management of prohibited items, physical form, and hazardous waste content.

[L] Provide justification for determining if any waste in the waste stream contains polychlorinated biphenyls (PCBs) in concentrations equal to or greater than 50 parts per million (ppm). Identify the type of waste containing PCB contamination (e.g., remediation, bulk product), **AND** provide justification for determining that the waste stream will **NOT** contain residual PCB liquids as defined in CCP-PO-002.

[M] For waste streams assigned the EPA Hazardous Waste Number U134 for hydrofluoric acid, provide information demonstrating neutralization of this acid, if available, as required by CCP-PO-001.

[N] **IF** correlating or surrogate information from similar materials or waste streams generated at the same site or other sites is used to support the characterization of the waste stream, **THEN** complete the CCP TRU Waste Correlation and

Surrogate Summary Form (see Attachment 15, CCP TRU Waste Correlation and Surrogate Summary Form – Example Form) **AND** describe the use of the information in the AK Summary Report.

[O] For RH waste streams, identify the AK and/or characterization methods to be used to meet the DQOs. Identify how each DQO will be met and describe the qualification method(s) selected for AK used solely to meet a specific DQO in the AK Summary Report.

4.4.34 Summarize the waste stream-specific description in Section 2.0 of the AK Summary Report. Provide a physical, chemical, and radiological description of the waste stream in Section 5.0 of the AK Summary Report (see Attachment 12 for an example format and content guide to be used when preparing the AK Summary Report). This description may be abbreviated for use on attachments as needed.

NOTE

Use the Example Form and Content Guide for AK Summary Reports in Attachment 12 to prepare the AK Summary Report. This guide provides the recommended format for preparation of the reports. However, the format of the report and content of the sections may vary, as long as the required AK elements are presented.

4.4.35 Prepare the AK Summary Report by combining the TRU waste management program description and each of the completed TRU waste stream-specific descriptions, as well as the information from forms 1-8 and Acceptable Knowledge Source Document Discrepancy Resolution (see Attachment 11 for an example), if applicable.

4.4.36 Submit the AK Summary Report to Document Services to initiate the review and approval process in accordance to CCP-QP-010, *CCP Document Preparation, Approval, and Control.*

NOTE

Electronic media for historical source documents shall be managed in accordance with CCP-QP-008, *CCP Records Management*.

4.4.37 Submit records identified in Section 5.0 to CCP Records in accordance with CCP-QP-008.

NOTE

As the AK Summary Report is revised, resubmit report to CCP Document Services.

4.5 Waste Stream Characterization

NOTE

The following comparison may be performed for a waste stream or a waste stream lot.

SPM

4.5.1 Ensure that audit and other internal and external surveillance reports relating to CCP characterization programs are available.

4.5.2 **IF** any AK Sufficiency Determination Request has been approved by Carlsbad Field Office (CBFO) for any characterization parameter (see Section 4.7),
THEN note the approval for that parameter on the CCP Waste Stream Characterization Checklist (see Attachment 13, CCP Waste Stream Characterization Checklist - Example Form).

4.5.3 Compare the testing results from VE and Radiography, and NDA characterization activities to the waste stream AK by completing a CCP Waste Stream Characterization Checklist, to certify a waste stream (or lot) for disposal at WIPP.

[A] Radiography and VE Data

[A.1] Compare Radiography and VE results (obtained from CCP Records) in VE Data Forms, and Radiography Data Sheets to AK information in Waste Form, Waste Material Parameters, Prohibited Items, and Packaging of this procedure to verify the physical form of the waste stream and absence of prohibited items.

[A.2] **IF** AK information CAN **NOT** be resolved upon completion of these comparisons,
THEN note any inconsistencies on CCP Waste Stream Characterization Checklist, **AND** proceed with Section 4.8 of this procedure.

[B] NDA Data – CH Waste

[B.1] Compare radionuclides reported on Attachment 7 by Weight percent, Activity, or other parameters justified in the AK Summary Report with NDA Radioassay results.

[B.2] Compare the two most prevalent radionuclides in AK with those identified in the NDA results for the waste stream and waste stream lot.

[B.3] Compare the radionuclides identified by the AK as expected to be present with those reported in the NDA results.

[B.4] Report the differences between NDA results and those expected from AK in the Comments section of the CCP Waste Stream Characterization Checklist.

[B.5] Provide rationale in the Comment section of CCP Waste Stream Characterization Checklist, if any of these conditions were anticipated based on AK.

[B.6] Attach applicable data and description to CCP Waste Stream Characterization Checklist.

[B.7] **IF** AK information CAN **NOT** be resolved upon completion of these comparisons,
THEN note any inconsistencies on CCP Waste Stream Characterization Checklist, **AND** proceed with Section 4.8 of this procedure.

[C] Radiological Characterization – RH Waste

[C.1] Identify the characterization method (e.g., Dose-to-Curie) on the CCP Waste Characterization Checklist.

[C.2] Identify the drums in which the radiological characterization differ from that expected; provide rationale in the Comments section of the CCP Waste Stream Characterization Checklist, if this condition was anticipate, otherwise notify the AKE to perform a re-evaluation as described in Section 4.8 of this procedure.

[C.3] Attach data and applicable description to CCP Waste Stream Characterization Checklist.

4.5.4 **IF** AK information can be resolved upon completion of the comparisons with the testing results,
THEN print name, sign, and date CCP Waste Stream Characterization Checklist, **AND** forward it to the AKE for signature **AND** submit to CCP Records.

4.6 Determining AK Documentation Accuracy

NOTE
The quality assurance objectives (QAOs) and their applicability to AK are discussed in CCP-PO-001. Calculation of the accuracy of AK documentation is required and is performed as follows.

SPM

4.6.1 Obtain a copy of the completed CCP Waste Stream Characterization Checklist, **AND** any Acceptable Knowledge Re-evaluation Checklists (see Attachment 10, CCP Waste Stream Characterization Checklist), applicable to the waste stream or waste stream lot, and any necessary supporting documentation from CCP Records.

NOTE
The Acceptable Knowledge Accuracy Report is used to determine the percentage of containers reassigned to a new Waste Matrix Code, designated with a hazardous waste number assignment different from AK, or inconsistent with anticipated radionuclide composition determined from AK.

NOTE
For AK Accuracy Reports that are prepared for waste stream lots within a waste stream, updates to AK accuracy shall be issued periodically. Although there is no specified timeframe for AK accuracy updates, they should typically be issued annually.

4.6.2 Complete the CCP Acceptable Knowledge Accuracy Report (see Attachment 14, CCP Acceptable Knowledge Accuracy Report - Example Form), after characterization has been completed for a subset of containers in the subject waste stream or waste stream lot.

4.6.3 Prepare an AK Accuracy Memorandum summarizing the following AK accuracy information:

[A] Purpose

[B] Methodology

[C] Results of accuracy determination

[D] Other considerations, if applicable

[E] Summary

4.6.4 For RH waste, **IF** the AK accuracy falls below 90 percent for assigning containers to a Summary Category Group, **THEN** CBFO shall be notified of this significant condition adverse to quality, **AND** appropriate corrective actions implemented before proceeding with further characterization activities on the affected waste stream, in accordance with CCP-QP-029, *CCP Corrective Action Management*.

NOTE

For RH waste, significant discrepancies between the radionuclide information in the AK record and measured values will be assessed during preparation of the Acceptable Knowledge Accuracy Report. What constitutes a significant discrepancy will depend on site- and waste stream-specific considerations for each waste stream.

4.6.5 For RH waste, describe any significant discrepancies between the radionuclide information in the AK record and measured values in the Acceptable Knowledge Accuracy Report.

4.6.6 Review, print name, sign, and date **AND** submit CCP Acceptable Knowledge Accuracy Report to CCP Records. At the option of the SPM, CCP Acceptable Knowledge Accuracy Report may list only the containers with accuracy issues, as long as the complete list of containers represented by the accuracy report is included by attachment to, or referenced in, the cover memorandum or letter.

4.7 AK Sufficiency Determination

SPM/AKE

NOTE

An AK Sufficiency Determination Request to meet all or part of the waste characterization requirements may be used if AK information available for a waste stream permits.

4.7.1 Evaluate the AK information available for a waste stream to determine if an AK Sufficiency Determination is possible or desirable.

4.7.2 Prepare an AK Sufficiency Determination Request that includes the following information:

[A] An introduction that briefly describes the waste stream, the type of AK Information available, whether AK alone can be used to meet the characterization requirements.

[B] Identification of any mandatory requirements supported only by upper tier documents (i.e., there is insufficient supporting data).

[C] Description demonstrating that the AK process described in CCP-PO-001 was followed (for example, AK personnel were appropriately trained; discrepancies were documented, etc.).

[D] Information demonstrating that CCP has assessed the AK process (e.g., internal audits).

4.7.3 Obtain copies of the following information from CCP Records and attach to the AK Sufficiency Determination Request:

[A] AK Summary Report for the waste stream;

[B] Acceptable Knowledge Documentation Checklist providing an AK roadmap and cross reference between mandatory programmatic and waste stream information with references supporting these requirements.

[C] Acceptable Knowledge Information List, providing a complete reference list including all mandatory and additional AK documentation.

[D] Current revision of this procedure to demonstrate that CCP has developed a written procedure for compiling AK information and assigning hazardous waste numbers.

[E] Relevant additional information for the required programmatic and waste stream data addressed in the AK Summary Report, as applicable or if requested by CBFO.

4.7.4 Submit the AK Sufficiency Determination Request and attachments to the SPM for approval and submittal to CBFO.

4.7.5 **IF** comments are received from CBFO,
THEN address the comments and resubmit the AK Sufficiency Determination Request.

4.8 Re-evaluating AK Documentation

NOTE

Differences in Waste Matrix Codes, state and EPA Hazardous Waste Numbers, and NDA results may exist between those previously assigned in the AK documentation and those indicated as a result of waste characterization activities performed to certify waste for disposal at the WIPP or during the confirmation performed by the Permittee. Under these circumstances, the AK information is re-evaluated and the required AK information associated with the new designation is documented. Characterization data associated with the waste is re-evaluated and changes in AK resulting from the re-evaluation are documented.

SPM

4.8.1 **IF** re-evaluation is warranted as a result of 1) inconsistencies noted during the process of comparing AK information to characterization results **OR** 2) the initiation of an nonconformance report (NCRs) that identifies potential changes to the AK of a waste stream (including NCRs generated as a result of discrepancies identified during confirmation performed by the Permittee),
THEN notify the AKE.

AKE

4.8.2 Retrieve copies of applicable characterization data and AK information from CCP Records.

4.8.3 **IF** a waste must be assigned to a different Waste Matrix Code (i.e., different waste stream or waste stream lot) based on Radiography or VE,
THEN perform the following:

[A] Review existing information based on the waste container identification number and document all differences in EPA HWN assignments. Consider all generator specific waste streams and hazardous waste number assignments; original site-specific permit requirements; and other state-enforced agreements in this analysis.

[B] **IF** differences exist in the EPA Hazardous Waste Numbers that were assigned,
THEN reassess **AND** document required applicable AK information associated with the new designation.

[C] Reassess **AND** document applicable testing data associated with the waste.

[D] Verify **AND** document that waste with a reassigned Waste Matrix Code was generated within the specified time period, area buildings and waste generating process; and that the process material inputs are consistent with the waste material parameters identified during Radiography or VE.

[E] Record all changes to the AK records on the appropriate forms and resubmit to CCP Records.

[F] **IF** unresolved discrepancies exist in the AK information for the reassigned Waste Matrix Code, EPA Hazardous Waste Numbers, or radionuclides,
THEN document the segregation of this container, **AND** define the actions necessary to fully characterize the waste.

4.8.4 **IF** testing results indicate that additional or different EPA Hazardous Waste Numbers may apply to the waste,
THEN review the existing AK and characterization information,
AND perform the following:

[A] **IF** a hazardous waste, not originally identified by AK, has been identified during testing (lead items, circuit boards, etc.),
THEN assign the applicable state and EPA Hazardous Waste Numbers unless an alternative assignment can be justified or representative quantitative data are available to preclude the assignment.

4.8.5 **IF** NDA results indicate the presence of additional radionuclides or different prevalent radionuclides in the waste,
THEN review existing AK and characterization information.

4.8.6 **IF** changes are required,
THEN document the need for changes in the appropriate comment section of the Acceptable Knowledge Re-evaluation Checklist.

4.8.7 Resolve all AK documentation discrepancies, if applicable, as described in Section 4.9 of this procedure.

4.8.8 Modify the AK Summary Report as appropriate.

4.8.9 Forward the completed Acceptable Knowledge Re-evaluation Checklist **AND** the revised AK Summary Report to the SPM for review and approval.

4.8.10 Submit changes to the Document Writers for distribution and approval.

SPM

4.8.11 Review the Acceptable Knowledge Re-evaluation Checklist and the revised AK Summary Report.

4.8.12 **IF** the AK Summary Report requires correction,
THEN return to AKE.

4.8.13 **IF** no correction is required,
THEN approve the Acceptable Knowledge Re-evaluation Checklist by printing name, signing, and dating the checklist.

4.8.14 Approve the revised AK Summary Report.

4.8.15 Review the WSPF to see if the change to the AK Summary Report affects the WSPF.

4.8.16 **IF** the WSPF requires change,
THEN revise the WSPF in accordance with CCP-TP-002.

4.8.17 Submit the Acceptable Knowledge Re-evaluation Checklist and revised AK Summary Report to CCP Records.

[A] Any new source documents referenced in the revised AK Summary Report and the applicable attachments must be submitted to CCP Records on or before the date of issuance of the revised AK Summary Report as final.

4.8.18 Once the re-evaluation is approved, complete the CCP Waste Stream Characterization Checklist, as described in step 4.5.3.

4.9 Resolving AK Discrepancies

NOTE
AK discrepancies may be identified during AK source document compilation, review, characterization, confirmation, and re-evaluation activities.

AKE

4.9.1 Document the nature of the discrepancy **AND** identify the documents involved for the particular waste stream or waste container on the Acceptable Knowledge Source Document Discrepancy Resolution or in the appropriate section of the AK Summary Report.

4.9.2 Use information from interviews, telephone contacts, or other correspondence or other supporting information to resolve the discrepancy.

4.9.3 Record interviews, telephone conversations, and correspondence needed to resolve discrepancy issues on a Record of Communication.

4.9.4 Print name, sign, and date a Record of Communication.

4.9.5 Complete an Acceptable Knowledge Source Document Summary for each Record of Communication form.

4.9.6 Print name, sign, and date Acceptable Knowledge Source Document Summary, attach to the Record of Communication form, **AND** submit to CCP Records.

4.9.7 Verify that process inputs (hazardous constituents and waste material parameters) are consistent with waste material parameters identified during Radiography and VE.

4.9.8 Assign **OR** revise the AK identified waste material parameters, as necessary, and document the change and the assumptions made on the Acceptable Knowledge Source Document Discrepancy Resolution.

4.9.9 Assign **OR** reassign Waste Matrix Codes, as necessary, using guidance specified in the DOE/LLW-217, **AND** document the assignment and assumptions made on the Acceptable Knowledge Source Document Discrepancy Resolution.

4.9.10 Evaluate the sources of discrepancies among sources of isotopic distribution data to determine whether the sources are credible. Identify limitations of data **AND**, if the data is **NOT** used, provide a justification on the Acceptable Knowledge Source Document Discrepancy Resolution. Otherwise, describe data limitations in the AK Summary Report, as applicable.

4.9.11 Assign or revise the identified radionuclides present, as necessary, **AND** document the change and the assumptions made on the Acceptable Knowledge Source Document Discrepancy Resolution.

4.9.12 Assign or revise state and EPA Hazardous Waste Number, as necessary. Assign the Hazardous Waste Numbers consistent with RCRA requirements. Document the assignment and the assumptions and justifications made on the Acceptable Knowledge Source Document Discrepancy Resolution.

4.9.13 Obtain the affected AK source documentation, as necessary.

4.9.14 Make necessary changes to Acceptable Knowledge Source Document Summary, as appropriate.

4.9.15 Complete, print name, sign, and date the Acceptable Knowledge Source Document Discrepancy Resolution documenting final disposition of the discrepancy.

4.9.16 Complete, print name, sign, and date an Acceptable Knowledge Source Document Summary for each Acceptable Knowledge Source Document Discrepancy Resolution.

4.9.17 Attach the Acceptable Knowledge Source Document Summary to the Acceptable Knowledge Source Document Discrepancy Resolution.

4.9.18 **IF** the form consists of multiple pages,
THEN add a footer identifying the page number and total number of pages.

4.9.19 Forward the form and supporting documentation (if requested) to the SPM for review and concurrence.

SPM

4.9.20 Review the Acceptable Knowledge Source Document Discrepancy Resolution and supporting documentation, as applicable, print name, sign, and date the form if the discrepancy has been resolved, **AND** forward the completed form to the AKE.

AKE

4.9.21 Confirm that the Acceptable Knowledge Source Document Discrepancy Resolution is signed and dated by the SPM.

4.9.22 Submit the original Acceptable Knowledge Source Document Discrepancy Resolution and supporting documentation, as applicable, to CCP Records.

4.9.23 Revise the AK Summary Report as needed.

NOTE

Discrepancies which CAN **NOT** be resolved by CCP will result in the container being returned to the Host site. If the discrepancy is **NOT** container-specific, containers from the subject waste stream will **NOT** be shipped to WIPP until such time as the discrepancy has been resolved. If the discrepancy is related to radiological characterization, notify the SPM that direct measurements of the impacted waste population may be required.

SPM

4.9.24 **IF** the discrepancy CAN **NOT** be resolved,
THEN issue an NCR (if not already identified in an NCR) and manage corrective actions in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*, CCP-QP-029, *CCP Corrective Action Management*, and the CCP/site interface document.

4.9.25 Record the NCR number on the Acceptable Knowledge Source Document Discrepancy Resolution.

4.9.26 Coordinate with the Host site to place a hold tag on, **AND** segregate waste containers associated with the NCR, if applicable, in accordance with applicable procedures.

4.9.27 Assess the potential timeframe of the noncompliance, the potentially affected waste populations, and the reassessment and recertification of the waste, if applicable.

4.9.28 Coordinate resolution of the nonconforming condition with the AKE.

4.9.29 Document information identified during the corrective action process as described in CCP-QP-005.

4.9.30 Once the discrepancy is resolved, applicable NCR(s) closed, and corrective action is completed, sign and date the Acceptable Knowledge Source Document Discrepancy Resolution **AND** forward the form to the AKE.

AKE

4.9.31 **WHEN** discrepancies are resolved, applicable NCRs are closed, **AND** corrective actions completed,
THEN review the discrepancy form, document any supporting AK information generated, assign the appropriate waste material parameters, Waste Matrix Code, radionuclides or hazardous waste numbers as applicable, **OR** justify the use of alternates and confirm that it has been signed.

4.9.32 Submit the original Acceptable Knowledge Source Document Discrepancy Resolution to CCP Records.

4.10 Updating AK for Additional Waste Stream Containers

NOTE

The following process is followed when the SPM identifies additional containers to be included in a waste stream defined in an existing AK Summary Report. The Waste Containers List identifies the AK source document number(s) designated for the Waste Stream Container Evaluation Memorandum, adding containers, if applicable.

SPM

4.10.1 Provide the AKE with a list of containers to be assessed for inclusion in an existing waste stream.

AKE

4.10.2 Collect container-specific documentation and evaluate the following information for each container:

- Waste generation location and process
- Time period of generation
- Physical form compared to the assigned Waste Material Parameters and Waste Matrix Code
- Chemical content
- Prohibited items
- Radionuclides

4.10.3 **IF** the containers are bounded by the existing AK Summary Report for the waste stream,
THEN notify the SPM **AND** submit a Waste Stream Container Evaluation Memorandum documenting the evaluation to CCP Records.

4.10.4 **IF** the containers are **NOT** bounded by the existing AK Summary Report, but should be included in the waste stream,
THEN revise the AK Summary Report; update the Waste Containers List; notify the SPM, **AND** revise and submit the updated Waste Containers List and Waste Stream Container Evaluation Memorandum documenting the evaluation to CCP Records.

4.11 Container Tracking Spreadsheet Development

AKE or Designee

4.11.1 Develop a spreadsheet which identifies the following minimum criterion for each container listed on Waste Containers List:

- Container I.D.
- Waste Stream I.D.
- Generation Date
- Vent Date
- Associated Defense Determination (required for OSRP containers only)
- Change Reason
- New Closure Date
- New Vent Date
- Container Type

4.11.2 Post the copy of the Container Tracking Spreadsheet to the secure file transfer protocol (sftp) site.

4.12 Container Tracking Spreadsheet Maintenance

AKE or Designee

4.12.1 **WHEN** notified of a change to the status of a container(s) identified by the SPM, CCP personnel, Host site personnel, or during the addition of containers to the waste stream inventory,
THEN evaluate the change based on the data provided.

[A] **IF** the change is routine and DOES **NOT** adversely affect data,
THEN GO TO step 4.12.2.

[B] **IF** the change is non-routine or adversely affects data,
THEN notify the SPM to take the appropriate actions prior to proceeding to step 4.12.2.

4.12.2 Update the Container Tracking Spreadsheet and post the change to the sftp site.

4.12.3 Notify the SPM of the change.

5.0 RECORDS

5.1 Records generated during the performance of this procedure in Section 5.1.1 are maintained as QA records. The following records will be maintained in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Lifetime Records

[A] Acceptable Knowledge Documentation Checklist

[B] Records of Communication

[C] Acceptable Knowledge Source Document Summary forms, and when applicable attached CCP generated source documents

[D] Acceptable Knowledge Information List

[E] Hazardous Constituents forms

[F] Waste Form, Waste Material Parameters, Prohibited Items, and Packaging forms

- Waste Material Parameter Evaluation Memorandum

[G] Radionuclides forms

- NDA Memorandum

[H] Waste Containers List

[I] Acceptable Knowledge Re-evaluation Checklist

[J] Acceptable Knowledge Source Document Discrepancy Resolution, which include Acceptable Knowledge Source Document Summary forms as attachments

[K] CCP Waste Stream Characterization Checklist

[L] CCP Acceptable Knowledge Accuracy Report, including cover memorandum or letter

- AK Accuracy Memorandum

[M] CCP TRU Waste Correlation and Surrogate Summary Form

[N] AK Summary Reports

[O] AK Sufficiency Determination Request

[P] SPM Notifications (emails, letters, memorandums, etc.), as applicable

[Q] AK Container Tracking Spreadsheet (submitted to CCP Records after notification by the site SPM that waste shipments to WIPP have been completed)

5.1.2 Non-QA

[A] Historical Source Documents

Attachment 1 – Acceptable Knowledge Documentation Checklist - Example Form

Site(s): _____

Waste Stream Description:_____

Waste Stream Number(s): _____

Acceptable Knowledge Information	[1]AK#	Compiled? (Y/N)	Source Document Tracking Number
Mandatory generator site TRU waste program (PR) information:			
Map of the generator site that identifies TRU waste generation, treatment, and storage areas.	PR1		
Generator site mission descriptions related to TRU waste generation and management identifying defense and non-defense operations.	PR2		
Overview of the generator site and generator site TRU waste management operations in the context of the facility's mission.	PR3		
Descriptions of historical and current TRU waste generating operations, including how waste is tracked and managed and/or how operations relative to isotopic composition were tracked.	PR4		
Waste identification and/or categorization schemes and terminology used at the generator site, including codes correlating to specific isotopic distributions.	PR5		
Types and quantities of TRU waste generated, including historical generation through future projections.	PR6		
Correlation of waste streams and description of time of generation, waste generating processes, and area and building/facility where each waste stream was generated.	PR7		
Certification procedures for waste to be sent to the WIPP facility (i.e., procedures to ensure that prohibited items are documented and managed in accordance with site-specific certification plans).	PR8		
Mandatory generator site TRU waste stream (WS)-specific information:			
Waste stream designation	WS1		
Area(s) and building(s) from which the waste stream was or is generated.	WS2		
Waste stream volume and time period of generation	WS3		
Waste generating process (describe for each building) including processes associated with U134 waste generation, if applicable.	WS4		

Attachment 1 – Acceptable Knowledge Documentation Checklist - Example Form (Continued)

Waste Stream Number(s): _____

Acceptable Knowledge Information	(1)AK#	Compiled? (Y/N)	Source Document Tracking Number
Process flow diagrams. For research/development, analytical laboratory waste, or other similar processes where process flow diagrams cannot be created, a description of the waste generating processes, rather than a formal process flow diagram, may be included, if justified.	WS5		
Summary of basis and rationale for delineating each waste stream including justification for combining waste historically managed separately as TRU mixed and TRU non-mixed waste streams into a single waste stream, that is traceable to referenced documents.	WS6		
Generator site mission descriptions related to TRU waste generation and management identifying defense and non-defense operations.	WS7		
Material inputs or other information that identified the chemical contents of the waste and the stream. Includes events or processes that may have modified the chemical properties of the waste stream after generation.	WS8		
Physical waste form (e.g., glovebox materials and chemicals handled during glovebox operations, if applicable), assigned Summary Category Group, Waste Matrix Code and materials inputs, including waste material parameters present in the waste stream. Includes events or processes that may have modified the physical properties of the waste stream after generation.	WS9		
Waste identifiers assigned by the generator site (e.g., item description code, packaging identification numbers).	WS10		
Specification of the isotopic ratios for the ten WIPP-tracked radionuclides and all radionuclides other than the ten WIPP-tracked radionuclides that contribute to 95 percent of the radioactive hazard for a payload container. Chemical and physical information that could affect the waste isotopic distribution, as well as calculations used to derive the isotopic distribution.	WS11		

Attachment 1 – Acceptable Knowledge Documentation Checklist - Example Form (Continued)

Waste Stream Number(s): _____

Acceptable Knowledge Information	[1]AK#	Compiled? (Y/N)	Source Document Tracking Number
State and EPA hazardous waste constituents in the waste stream and state and EPA Hazardous Waste Numbers assigned, including documentation regarding how the site has historically managed the waste, including the historical regulatory status of the waste (i.e., TRU mixed versus TRU non-mixed waste).	WS12		
Additional acceptable knowledge documentation (briefly describe):			
Process design documents (e.g., Title II Design)	S1		
Standard operating procedures that may include a list of raw materials or reagents, a description of the process or experiment generating the waste, and a description of the waste generated and how the wastes are managed at the point of generation	S2		
Preliminary and Final Safety Analysis Reports and technical safety requirements	S3		
Waste Packaging records	S4		
Test plans or research project reports that describe the reagents, radionuclides, and other raw materials used in experiments	S5		
Site databases (e.g., chemical inventory database for SARA Title III requirements, SNM or nuclear material databases)	S6		
Information from site personnel (e.g., documented interviews)	S7		
Standard industry documents (e.g., industry specification sheets, handbooks, reference materials, or other vendor information)	S8		
Analytical data relevant to the waste stream, including results from fingerprint analyses, spot checks, routine verification sampling or other processes that collected information pertinent to the waste stream. This may include new information (or previously collected data) which augments required information (e.g., visual examination not performed in compliance with CCP-PO-001, radiography screening for prohibited items).	S9		
Material Safety Data Sheets, product labels, or other product information	S10		
Laboratory notebooks that detail the research processes and raw materials used in an experiment	S11		
Comparable or surrogate sampling and analysis data	S12		
Other (describe)	S13		

Attachment 1 – Acceptable Knowledge Documentation Checklist - Example Form (Continued)

Waste Stream Number(s): _____

Acceptable Knowledge Information	(1)AK#	Compiled? (Y/N)	Source Document Tracking Number	
Safeguards and security, Materials Control and Accountability, and other nuclear material control system data Reports of nuclear safety or criticality accidents involving special nuclear materials (SNM)	S14			
NMMA logs or inventory records or waste disposal logs providing SNM or nuclear material information	S15			
Packaging	S16			
OSR-Specific Information (Applies only to sealed sources)				
Evidence that the waste meets the definition of a sealed source reference 10CFR30.4 and 10CFR835.2	O1			
Documentation that sources are Special Form, such as certificates DOT Special Form Class 7 per 49CFR173.403	O2			
Contamination survey results for each source reference requirements of 10CFR34.27	O3			
Source manufacturer's sales catalogues	O4			
Source purchase records	O5			
Manufacturer fabrication documents	O6			
Manufacturer drawings	O7			
Fuel capsule assembly reports	O8			
Manufacturer's operational procedures for meeting cleanliness requirements	O9			
Manufacturer's shipping documents or records	O10			
Manufacturer welding records	O11			
TRU batch material records	O12			
National database radiological information (e.g., NMMSS, NRC Device Registry)	O13			
NRC or agreement state regulatory licensing information	O14			
Documentation of physical markings on the outer source casing or labels attached to devices housing sources	O15			
Unique physical description attributed to specific source models	O16			

Attachment 1 – Acceptable Knowledge Documentation Checklist - Example Form (Continued)

Waste Stream Number(s): _____

Acceptable Knowledge Information	(1)AK#	Compiled? (Y/N)	Source Document Tracking Number
Acceptable knowledge information regarding waste generated off-site or from similar process:			
(1) AK#s are used as identifiers for program, waste stream-specific and supporting elements. The identifiers are to be used in the Acceptable Knowledge Source Document Summary and Acceptable Knowledge Information List to aid in the page location of program and waste stream-specific elements within a given document. N/A means that item is not applicable.			

Additional comments:

_____
_____
_____
_____
_____

All required AK information has been compiled and source document tracking numbers assigned.

Acceptable Knowledge Expert: _____ / _____ Date: _____
Print Sign

Attachment 2 – Record of Communication – Example Form

Corresponding Source Document Tracking No:		
Interviewer:	Date:	Time:
Interviewee:	Group/Organization: Job Title:	Phone: E-mail:
Subject:		
Summary:		
Data Limitations:		

Acceptable Knowledge Expert: _____ / _____ Date: _____
Print Sign

Attachment 3 – Acceptable Knowledge Source Document Summary – Example Form

Site(s):	Source Document Tracking Number:
Waste Stream Number: (Applicable only when site library is not in use)	
Acceptable Knowledge Documentation Type: ☐ TRU Waste Management Program Information ☐ Waste Stream-Specific Information ☐ Additional Information	Category: ☐ C - Correspondence ☐ D - Documents ☐ M - Miscellaneous ☐ P - Procedure ☐ DR - Discrepancy Resolution ☐ U - Unpublished Documents
Title or Description of Source Document [a]:	
Source Document Reference Information (author(s), document and revision number, date, publisher):	

AK #[b]	Source Doc. Page #[c]	AK Information Summary

Source Document Data Limitations (if any):

Acceptable Knowledge Expert:

_____/_____ Date: _____
Print Sign

[a] Provide description for non-titled information (i.e., container paperwork, MSDS sheets, etc)
[b] Obtain from Acceptable Knowledge Documentation Checklist
[c] For microfilm or microfiche, identify box, tape, reel number and location.

Controlled
Copy

Attachment 4 – Acceptable Knowledge Information List – Example Form

Site(s): _____

Waste Stream Number(s): _____

Waste Stream Description: _____

Source Document Tracking Number[a/c]	Title or Description [a]	Author	Document #[b]	Document Revision # and Date

[a] From Acceptable Knowledge Source Document Summaries (Attachments 3)
[b] Or publisher's document number if available
[c] In the case where an AK Summary Report has been revised based on information in Attachment 11 - Acceptable Knowledge Source Document Discrepancy Resolution form, identify the tracking number.

Acceptable Knowledge Expert: _____ / _____ Date: _____
Print Sign

Attachment 5 – Hazardous Constituents – Example Form

Site(s): _____

Waste Stream Description: _____

Compound	Suspected Present? (Y/N)	Used as a solvent? [a] (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Toxicity Characteristic Metal Compounds (40 CFR Part 261)								
Arsenic		N/A		D004	N/A	N/A		
Barium		N/A		D005	N/A	N/A		
Cadmium		N/A		D006	N/A	N/A		
Chromium		N/A		D007	N/A	N/A		
Lead		N/A		D008	N/A	N/A		
Mercury		N/A		D009	N/A	U151		
Selenium		N/A		D010	N/A	N/A		
Silver		N/A		D011	N/A	N/A		
Volatile Organic Compounds (40 CFR Part 261)								
1,1,1-Trichloroethane			N/A	N/A	F001/F002	U226		
1,1,2,2-Tetrachloroethane		N/A	N/A	N/A	N/A	U209		
1,1,2-Trichloro-1,2,2-trifluoroethane			N/A	N/A	F001/F002	N/A		
1,1,2-Trichloroethane			N/A	N/A	F002	U227 [c]		
1,1-Dichloroethylene		N/A		D029	N/A	U078		
1,2-Dichlorobenzene			N/A	N/A	F002	U070		
1,2-Dichloroethane		N/A		D028	N/A	U077 [c]		
1,4-Dichlorobenzene		N/A		D027	N/A	U072		
1, 4-Dioxane		N/A	N/A	N/A	N/A	U108		
2-Ethoxyethanol			N/A	N/A	F005	U359 [c]		
2-Nitropropane			N/A	N/A	F005	U171 [c]		
Acetone			N/A	N/A	F003	U002		

Attachment 5 – Hazardous Constituents – Example Form (Continued)

Compound	Suspected Present? (Y/N)	Used as a solvent? [a] (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Volatile Organic Compounds (continued)								
Acetonitrile		N/A	N/A	N/A	N/A	U003		
Benzene				D018	F005	U019		
Butanol (n-Butyl alcohol)			N/A	N/A	F003	U031 [c]		
Carbon disulfide			N/A	N/A	F005	P022 [c]		
Carbon tetrachloride				D019	F001	U211 [c]		
Chlorobenzene				D021	F002	U037		
Chloroform		N/A		D022	N/A	U044		
Cyclohexanone			N/A	N/A	F003	U057 [c]		
Ethyl acetate			N/A	N/A	F003	U112 [c]		
Ethyl benzene			N/A	N/A	F003	N/A		
Ethyl ether			N/A	N/A	F003	U117 [c]		
Formaldehyde		N/A	N/A	N/A	N/A	U122		
Hydrazine		N/A	N/A	N/A	N/A	U133		
Isobutanol			N/A	N/A	F005	U140 [c]		
Methanol			N/A	N/A	F003	U154		
Methyl ethyl ketone				D035	F005	U159		
Methyl isobutyl ketone			N/A	N/A	F003	U161 [c]		
Methylene chloride			N/A	N/A	F001/F002	U080 [c]		
Pyridine				D038	F005	U196		
Tetrachloroethylene				D039	F001/F002	U210		
Toluene			N/A	N/A	F005	U220		
trans-1,2-Dichloroethylene		N/A	N/A	N/A	N/A	U079		
Trichloroethylene				D040	F001/F002	U228		
Trichlorofluoromethane			N/A	N/A	F001/F002	U121 [c]		
Vinyl Chloride		N/A		D043	N/A	U043		
Xylenes			N/A	N/A	F003	U239		

Attachment 5 – Hazardous Constituents – Example Form (Continued)

Compound	Suspected Present? (Y/N)	Used as a solvent? [a] (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Semivolatile Organic Compound (40 CFR Part 261)								
2,4-Dinitrotoluene		N/A		D030	N/A	U105		
Cresols				D026	F004	U052		
Dimethyl sulfate		N/A	N/A	N/A	N/A	U103		
Hexachlorobenzene		N/A		D032	N/A	U127 [c]		
Hexachlorobutadiene		N/A		D033	N/A	U128 [c]		
Hexachloroethane		N/A		D034	N/A	U131 [c]		
Nitrobenzene				D036	F004	U169 [c]		
Pentachlorophenol		N/A		D037	F027 [c]	N/A		

Attachment 5 – Hazardous Constituents – Example Form (Continued)

Compound	Suspected Present? (Y/N)	Used as a solvent? [a] (Y/N/NA)	TC constituent concentration less than regulatory level? [a] (Y/N/NA)	TC Hazardous Waste Number [a]	F-Listed Hazardous Waste Number [a]	U- or P-Listed Hazardous Waste Number [a]	EPA Hazardous Waste Number Assigned (N/Specify HWN)	State Hazardous Waste Number [b]
Other Constituents								
Wastewater treatment sludges from electroplating operations		N/A	N/A	N/A	F006	N/A		
Spent cyanide plating bath solutions from electroplating operations		N/A	N/A	N/A	F007	N/A		
Spent cyanides stripping and cleaning bath solutions from electroplating operations		N/A	N/A	N/A	F009	N/A		
Beryllium powder		N/A	N/A	N/A	N/A	P015		
Cyanide (soluble cyanide salts)		N/A	N/A	N/A	N/A	P030		
Potassium cyanide		N/A	N/A	N/A	N/A	P098		
Potassium silver cyanide		N/A	N/A	N/A	N/A	P099		
Sodium cyanide		N/A	N/A	N/A	N/A	P106		
Vanadium pentoxide		N/A	N/A	N/A	N/A	P120		
Hydrofluoric acid		N/A	N/A	N/A	N/A	U134		
Total PCB Concentration [d]		N/A	N/A	N/A	N/A	N/A	N/A	
Additional EPA Hazardous Constituents (List)								
Additional State Hazardous Constituents [b] (List) [e]								
Potentially Flammable VOCs (List) [e,f]		N/A						

Attachment 5 – Hazardous Constituents – Example Form (Continued)

a. Source: Title 40 Code of Federal Regulations Part 261, Identification and Listing of Hazardous Waste
b. Source: Cite applicable state regulation
c. This EPA Hazardous Waste Number is not permitted for WIPP disposal.
d. Source: Title 40 Code of Federal Regulation Part 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.
e. Add rows or attach additional sheets as necessary
f. Flammable VOCs included in the CH-TRAMPAC

NOTE: If any of the information requested on this form is not available or not applicable, enter N/A in the appropriate box.

Acceptable Knowledge Expert: _____ / _____ Date: _____
Print Sign

Attachment 6 – Waste Form, Waste Material Parameters, Prohibited Items, and Packaging – Example Form

Site(s): _____

Waste Stream Description: _____

Container ID Numbers: _____

Waste Stream Number:	
Physical Waste Form (e.g., debris, solidified waste)	
Summary Category Group[a]	
Waste Matrix Code Group[a]	
Waste Matrix Code[b]	
Waste Material Parameter Weights[c]	Estimated Waste Stream Weight Percent Average (attach evaluation justifying percentages)
Iron-based metals/alloys	
Aluminum-based metals/alloys	
Other metals	
Other inorganic materials	
Cellulosics	
Rubber	
Plastics (waste materials)	
Organic matrix	
Inorganic matrix	
Soils/Gravels	
Packaging materials	Present (Y/N)?
Steel	
Plastics	
Prohibited Wastes[d, e, f, g]	Present (Y/N)?
Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of RTR or VE. Observable liquid shall be no more than 60 milliliters or 3 percent by volume, whichever is greater, in an internal container. Observable liquid shall not be present in a container with EPA HWN U134 assigned.	
Non-radionuclide pyrophoric materials	

Attachment 6 – Waste Form, Waste Material Parameters, Prohibited Items, and Packaging – Example Form (Continued)

Sealed containers > 4 liters	
Hazardous waste not occurring as co-contaminants with TRU mixed waste (non-mixed hazardous waste)	

Waste Stream Number: _____

Explosives	
Compressed gases	
Residual hydrofluoric acid (if U134 assigned to stream)	
Residual PCB liquids[j]	
Ignitables (EPA Hazardous Waste Number D001)	
Corrosives (EPA Hazardous Waste Number D002)	
Reactives (EPA Hazardous Waste Number D003)	
Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes[h]	
Spent Nuclear fuel or high-level waste[i]	
Any unvented plastic bags > 4 liters that have been heat-sealed	
Additional Information (if available)	
Packaging	
Waste container type?	
Liner type?	
Is liner punctured?	
Is filter vent installed?	
Maximum number of confinement layers	

a. Source: *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (CCP-PO-001) Introduction.
b. Source: *Transuranic Waste Baseline Inventory Report* (DOE/CAO-95-1121) or DOE Waste Treatability Group Guidance (DOE/LLW-217). Note: the Waste Matrix Code should not be assigned at the Summary Category Group level.
c. Source: CCP-PO-001 - Table C3-1. Attach the Waste Material Parameter Evaluation Memorandum used to estimate values include in this Table (see Section 4.4.26).
d. Source: CCP-PO-001 - Section C-1c.
e. Source: *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC)(DOE/WIPP-02-3122), Section 3
f. Source: *TRUPACT-II Content Codes* (TRUCON) (DOE/WIPP 89-004)
g. Source: *TRUPACT-II Authorized Methods for Payload Control (TRAMPAC),* Nuclear Waste Partnership, LLC
h. This waste has been approved for disposal at the WIPP by the Permittee as documented by Appendix C1 of the WIPP RCRA Part B Permit Application and the Permittee's approval and assignment of the applicable TRUCON Codes for this waste stream.
i. Source: *Nuclear Waste Policy Act of 1982* (42 U.S.C. 10101)
j. Source: Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution and Commerce, and Use Prohibitions (40 CFR Part 761)

Acceptable Knowledge Expert: _____ / _____ Date: _____
Print Sign

Attachment 7 – Radionuclides – Example Form

*Attach current Radiological Characterization or NDA Memorandum

Site(s): _____

Waste Stream Number(s): _____

Waste Stream Description: _____

Radionuclide	Wt %[b]	Ci[b]	Suspected Present (Yes/No)
From CCP-PO-002			
Sr-90			
Cs-137			
U-233			
U-234			
U-238			
Pu-238			
Pu-239			
Pu-240			
Pu-242			
Am-241			
Other Radionuclides (List)			
[a]Source: *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC) (DOE/WIPP-02-3122), Section 3 [b]If available			

Acceptable Knowledge Expert: _____ / _____ Date: _____
Print Sign

Attachment 8 – Waste Containers List – Example Form

(This attachment may be provided in a different format)

Site(s): _____

Waste Stream Number(s): _____

Waste Stream Description: _____

Number of Waste Containers in Waste Stream: _____

Total Existing Volume (m^3): _____

Is waste expected to be generated in the future?: _____

If yes, Estimated Future Volume (m^3): _____

Assumptions: _____

Waste Stream Container Evaluation Memo(s) for Added Containers: _____

Container Identification Number	Generation Date	Generation Point

Acceptable Knowledge Expert: _____ / _____ Date: _____
Print Sign

Attachment 9 – Attachment 9 is no longer required and Attachment number is reserved for future use

This page intentionally left blank

Attachment 10 – Acceptable Knowledge Re-evaluation Checklist – Example Form

Site(s): _____
Waste Stream Number(s): _____
Waste Stream Description: _____
NCR numbers(s) if applicable: _____
Inconsistency between waste characterization and acceptable knowledge information (describe): _____
_____

Requirements	Completed? Yes/No	Additional Documentation [a]
Review existing information based on the container identification number and document all differences in EPA Hazardous Waste Number assignments. [c]		
If differences exist in the EPA Hazardous Waste Numbers that were assigned, reassess and document all required AK information associated with the new designation. [b,c]		
Reassess and document all testing data associated with the waste. [c]		
Verify and document that the reassigned Waste Matrix Code was generated within the specified time period, area and buildings, waste generating process, and that the process material inputs are consistent with the waste material parameters identified during RTR or VE.		
If NDA results indicate the presence of additional or different radionuclides in the waste, reassess and document AK and characterization information associated with the new information. [c]		
Record all changes to the AK records on the appropriate Attachments and resubmit to the CCP Facility Records Custodian.		
If unresolved discrepancies exist in the AK information for the reassigned Waste Matrix Code, EPA Hazardous Waste Numbers, or radionuclides, document the segregation of this container, and define the actions necessary to fully characterize the waste.		

a. Cite the source document, nonconformance report number, attachment, or other documentation used to support a change or no change.
b. If a toxicity characteristic contaminant is identified, it is not included as a listed waste, and analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Number is applied.
c. Not applicable for LANL sealed source waste stream.

Acceptable Knowledge Expert:

_____ Date: _____
Print Sign

Site Project Manager:

_____ Date: _____
Print Sign

Attachment 11 – Acceptable Knowledge Source Document Discrepancy Resolution – Example Form

Waste Stream Number(s): _____

Waste Stream Description: _____

AK Source Document Discrepancy Form Tracking Number:

Tracking #		Title	Document/Rev#	Author	Date		Page #

Nature of Discrepancy:

Resolution:

Discrepancy Resolved: [ ] Yes [ ] No

Acceptable Knowledge Expert: _____ / _____ Date: _____
Print Sign

Site Project Manager: _____ / _____ Date: _____
Print Sign

Attachment 12 – Example Form and Content Guide for AK Summary Reports

CCP-AK-SITE-XXX

Central Characterization Program
Acceptable Knowledge Summary Report
For

NAME OF THE SITE
NAME OF THE PROCESS

REVISION NUMBER
DATE

Printed Name

APPROVED FOR USE

Attachment 12 – Example Form and Content Guide for AK Summary Reports (Continued)

TABLE OF CONTENTS
LIST OF TABLES
LIST OF FIGURES
LIST OF ATTACHMENTS
LIST OF ACRONYMS AND ABBREVIATIONS

Attachment 12 – Example Form and Content Guide for AK Summary Reports (Continued)

1.0 EXECUTIVE SUMMARY

This Acceptable Knowledge (AK) Summary Report has been prepared for the Central Characterization Program (CCP) for Contact-Handled (CH) (Remote-Handled [RH]) Transuranic (TRU) waste generated and managed by *(NAME THE SITE[s])*. The waste described in this report was generated by (Building/Facility), (and the waste will be repackaged in [Building/Facility]). This report was prepared in accordance with CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1), to implement the AK requirements of (**RH only** -DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan* [WCPIP] [Reference __]); *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan* (WIPP-WAP) (Reference __); and DOE/WIPP-02-3122, Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WIPP-WAC) (References __).

The WIPP WAP AK requirements are addressed in CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (Reference __). The WIPP-WAC AK requirements are addressed in CCP-PO-002, *CCP Transuranic Waste Certification Plan* (Reference __). Additionally, this report provides the AK information required by (**CH only** - CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control [*CCP CH-TRAMPAC] [Reference __]) **OR** (**RH only -** CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control* [CCP RH-TRAMPAC] [Reference __]).

The CCP is tasked with certification of TRU waste for transportation to and disposal at the Waste Isolation Pilot Plant (WIPP). This report was developed in accordance with CCP-TP-005 (Reference 1) and describes how AK is collected, reviewed, and managed by the CCP. The CCP is responsible for collection, review, and management of AK documentation in accordance CCP-TP-005 and reviews and approves this AK Summary Report. CCP maintains responsibility for this AK Summary Report and all CCP-TP-005 generated forms and records as quality assurance (QA) records. In addition, CCP maintains a copy of the “historical source documents” as non-QA records.

(Brief description of the waste stream, facility[ies], and generating process/activity).

Attachment 12 – Example Form and Content Guide for AK Summary Reports (Continued)

This AK Summary Report, along with referenced supporting documents, provides a defensible and auditable record of AK for designated waste streams from the *NAME THE (FACILITY/PROCESS/ACTIVITY)*. The references and AK source documents used to prepare this report are listed in Sections 7.0 (8.0 for RH) and 8.0 (9.0 for RH). The source documents cited throughout this report are identified by alphanumeric designations corresponding to a unique Source Document Tracking Number (i.e., C001, D001, DR001, M001, P001, and U001 (as applicable to match Section 3).

This AK report includes information relating to the facility's history, mission, process operations, waste identification, characterization, and waste management practices. Information contained in this report was obtained from numerous sources, including facility safety basis documentation, historical document archives, generator and storage facility waste records and documents, and interviews with cognizant personnel.

This report and supporting source documentation provide the mandatory waste program and waste stream-specific information required by the WIPP-WAP (Reference 3). (**RH only -** This report also compiles data relevant to the applicable U.S. Environmental Protection Agency [EPA] requirements and presents the documentation necessary to satisfy each WCPIP data quality objective [DQO] and quality assurance objective [QAO] for RH TRU waste streams [Reference 2]).

Attachment 12 – Example Form and Content Guide for AK Summary Reports (Continued)

2.0 WASTE STREAM IDENTIFICATION SUMMARY

Site Where TRU Waste Was Generated and Stored: *SITE ADDRESS and EPA ID*

Facility Where TRU Waste Was Generated: *NAME OF FACILITY*

Facility Mission: *DESCRIBE THE MISSION AND HOW THE WASTE WAS GENERATED*

2.1 Waste Stream #1 (Identifier and Name)

2.2 Waste Stream #2 (Identifier and Name) (repeat following for each waste stream)

Summary Category Group: (Assign per Section 4.4.11)

Waste Matrix Code Group: (Assign per Section 4.4.10)

Waste Matrix Code: (Assign per section 4.4.9)

TRUPACT-II Content Code (TRUCON): (Obtain TRUCON Code(s) from SPM

TRUPACT-III Content Code (TRUCON): (Obtain TRUCON Code(s) from SPM

Waste Stream Description:

As described in Section 5.4.1, waste stream (number) is comprised primarily of (describe type of waste).

(Describe any other specific waste items in the waste stream, equipment, items not included above, secondary waste/chemicals introduced during packaging/repackaging.)

This waste stream was determined to contain Resource Conservation and Recovery Act (RCRA)-regulated constituents and is assigned the following EPA hazardous waste numbers (HWNs): (list HWNs) (Refer to Section 5.4.3).

(Identify the two predominant radionuclides by mass and activity for waste characterized using NDA techniques) (Refer to Section 5.4.2)

(Identify potential prohibited items and characterization method[s] selected to ensure the absence of these items in the final packaging) (Refer to Section 5.4.5).

(Describe waste packaging/repackaging and final waste container configuration) (Refer to Section 5.5).

Attachment 12 – Example Form and Content Guide for AK Summary Reports (Continued)

For CH - Waste Stream (number) meets the WIPP-WAP waste stream definition. The waste stream consists of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity.

For RH - Waste Stream (number) meets the WIPP-WAP and the WCPIP waste stream definitions. The waste is similar in material, physical form, hazardous constituents, and radiological properties and generated from a single process or activity.

3.0 ACCEPTABLE KNOWLEDGE DATA and INFORMATION

TRU waste destined for disposal at the WIPP must be characterized prior to shipment. Development of knowledge of the waste materials and processes that generate and control the waste is required to provide a clear and convincing argument about the characteristics of each waste stream. The AK characterization documented herein complies with the requirements of the WIPP-WAP (Reference__) (**RH only** - and the WCPIP [Reference 1]) and was developed in accordance with of CCP-PO-001, (Reference ___), and CCP-TP-005 (Reference 1).

RH only - The WCPIP identifies waste characterization requirements and methods to satisfy requirements in:

- 40 Code of Federal Regulations (CFR) Part 191, *Environmental Radiation Protection Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes* (Reference __).
- 40 CFR Part 194, *Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR 191 Disposal Regulations* (Reference __).
- *Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations: Certification Decision* (Reference __).

Public Law 102-579, *The WIPP Land Withdrawal Act (LWA)* (Reference __).

[Include a summary of the types and sources of AK information used].

Attachment 12 – Example Form and Content Guide for AK Summary Reports (Continued)

The references and AK sources used to prepare this report are listed in Sections 7.0 (8.0 for RH) and 8.0 (9.0 for RH), respectively. The AK sources referenced within this report by alphanumeric designations (e.g., C001, D001, DR001, M001, P001, and U001) correspond to the Source Document Tracking Number using the following convention: (include as applicable)

- C – Correspondence
- D – Documents
- DR – Discrepancy resolution
- M – Miscellaneous
- P – Procedures and Published documents
- U – Unpublished documents

Attachment 12 – Example Form and Content Guide for AK Summary Reports (Continued)

4.0 REQUIRED PROGRAM INFORMATION

This section presents the mandatory TRU waste program information required by the WIPP-WAP and the WCPIP for waste stream (number)(References __ and __). This section provides a description of the facility and operations associated with the generation of (facility/building/operation) TRU waste. Included is a description of the (facility/building/operation), summary of the mission, defense determination, and descriptions of (other operations including D&D, maintenance, repackaging, etc.) operations associated with the generation of waste stream (number) are provided.

4.1 Facility Location
4.2 Facility Description
4.3 Facility Mission
4.4 Defense Waste Assessment
4.5 High-Level Waste and Spent Nuclear Fuel Assessment
4.6 TRU Waste Management
4.6.1 Types and Quantity of TRU Waste Generated
4.6.2 Correlation of Waste Streams Generated from the Same Building and Process
4.6.3 Waste Stream Identification, Categorization, and Delineation
4.7 Description of Waste Generating Process

4.8 Waste Certification Procedures

5.0 REQUIRED WASTE STREAM INFORMATION
(Repeat the following information in additional waste stream sections, as needed)

This section presents the mandatory TRU waste stream specific information required by the WIPP-WAP (**RH only -** and the WCPIP) for waste stream (number) (References __ and __). The area of generation, waste stream volume, period of generation, prohibited items, waste packaging, and the physical, chemical, and radiological composition of the waste stream are described.

5.1 Area and Building of Generation

5.2 Waste Stream Volume and Period of Generation

5.3 Waste Generating Activities

Attachment 12 – Example Form and Content Guide for AK Summary Reports (Continued)

5.4 Type of Waste Generated
5.4.1 Materials Related to Physical Form
5.4.1.1Waste Matrix Code
5.4.1.2Waste Material Parameters
5.4.2 Radiological Characterization
5.4.3 Chemical Content Identification - Hazardous Constituents
5.4.3.1F-Listed Constituents
5.4.3.2Toxicity Characteristic Constituents
5.4.3.3U- and P-Listed Constituents
5.4.3.4K-Listed Constituents
5.4.3.5Ignitables, Reactives, and Corrosives
5.4.3.6State Hazardous Waste Code or Number Assignment (if applicable)
5.4.4 Polychlorinated Biphenyls
5.4.5 Prohibited Items
5.5 Waste Packaging

6.0 QUALIFICATION OF AK – (**RH Only)**

As stated in CCP-PO-002, *CCP Waste Certification Plan,* (Reference __), this AK Summary Report provides a description of the characterization of this RH waste stream. CCP-AK-ORNL-XXX, *CCP RH TRU Waste Certification Plan for 40 CFR 194 Compliance and Confirmation Test Plan for Waste Stream (number)* (Reference __), describes how each DQO and QAO is met along with the rationale for selection of the AK qualification methods used. As required by the WCPIP (Reference __), the description of waste stream (number) is provided in Sections 4.0 and 5.0. The description of the confirmatory testing process, the percentage of containers that are subjected to the process, a discussion of why the process is considered representative of the waste stream, and quantitative acceptance criteria is presented in CCP-AK-ORNL-XXX (Reference __).

The CCP intends to use a combination of methods to qualify the AK information associated with the [site/facility/building] waste stream because this will make the best use of the information available (such as existing sampling and analytical data). Table XX, Waste Stream (number) Determination Summary, lists the DQOs to be addressed using AK associated with waste stream [number] relating to the defense waste, radiological, and physical waste stream determinations. The location (page number, section, etc.) of the relevant information is identified in the AK source identified in Table XX.

Table XX. Waste Stream (number) DQO Determination Summary
(Provide a summary of the AK and identify the AK sources and the characterization method for each WCPIP DQO).

Attachment 12 – Example Form and Content Guide for AK Summary Reports (Continued)

6.0 CONTAINER-SPECIFIC INFORMATION **(Section 7.0 for RH)**

(Provide a summary of the AK documentation reviewed, including a list of the container-specific information).

In accordance with procedure CCP-TP-005 (Reference 1), a CCP Waste Containers List (Attachment 8 of the procedure) is completed and maintained as a quality record for waste tracking purposes. Information tracked includes container identification number, waste stream number, and the closure date for each container.

Attachment 12 – Example Form and Content Guide for AK Summary Reports
(Continued)

7.0 REFERENCE INFORMATION **[Section 8.0 for RH]**

1. CCP-TP-005, *CCP Acceptable Knowledge Documentation,* Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

2. DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*, Carlsbad, New Mexico, U.S. DOE Carlsbad Field Office

3. *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan,* New Mexico Environment Department, Santa Fe, New Mexico

4. DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria For the Waste Isolation Pilot Plant,* Carlsbad, New Mexico, U.S. DOE Carlsbad Field Office

5. CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan,* Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

6. CCP-PO-002, *CCP Transuranic Waste Certification Plan,* Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

7. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC),* Carlsbad, New Mexico, Nuclear Waste Partnership, LLC.

8. CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC),* Carlsbad, New Mexico, Nuclear Waste Partnerhsip, LLC.

10. DOE/LLW-217, *DOE Waste Treatability Group Guidance*, Idaho Falls, Idaho, INEL-Lockheed Idaho Technologies

11. 40 CFR Part 191, *Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes*, Washington, D.C., U.S. EPA

12. 40 CFR Part 194, *Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations*, Washington, D.C., U.S. EPA

Attachment 12 – Example Form and Content Guide for AK Summary Reports (Continued)

13. *Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations: Certification Decision*, Washington, D.C., U.S. EPA

14. Public Law 102-579, *The Waste Isolation Pilot Plant Land Withdrawal Act*, October 30, 1992 as amended by Public Law 104-201

15. 42 U.S.C 10101, *Nuclear Waste Policy Act of 1982*, U.S. Congress

Attachment 12 – Example Form and Content Guide for AK Summary Reports
(Continued)

8.0 AK SOURCE DOCUMENTS **[Section 9.0 for RH]**

Document Number	Title

[INSERT ALL REFERENCED FIGURES]

Attachment 13 – CCP Waste Stream Characterization Checklist – Example Form

CCP Waste Stream Characterization Checklist

Site(s):

Waste Stream Number: Lot # (if applicable)

Waste Stream Description:

Acceptable Knowledge Information or other data points[a]	Characterization Method(s)	Acceptable Knowledge Re-evaluation Required? Yes/No[b]?	Comments[c]
Physical waste form/description			
Waste material parameters weights			
Waste percent volume consistent with nondestructive examination or visual examination data and audio/video tapes or equivalent media			
Summary Category Group assignment			
Waste Matrix Code assignment			
Absence of prohibited items			
EPA Hazardous Waste Number assignment[d]			
Toxicity characteristic code assignment			
VOCs from packaging materials or radiolysis present			
State Hazardous Waste Number assignment			
Radionuclides present			
Other radiological parameters: (specify)			

Controlled
Copy

Attachment 13 – CCP Waste Stream Characterization Checklist – Example Form (Continued)

CCP Waste Stream Characterization Checklist

Additional Comments:_____

a. Identified in the AK Summary Report or included in the in-process record documentation (e.g., BDR's)
b. If "yes," AKE completes an *Acceptable Knowledge Re-evaluation Checklist.*
c. Identify the source of the waste testing information (e.g., VE or RTR batch data reports). Note if an AK Sufficiency Determination has been approved to meet any characterization parameter.
d. Ensure that, if a toxicity characteristic contaminant is identified, it is not included as a listed waste, and if analytical data regarding the concentration are not available, the corresponding EPA Hazardous Waste Number is applied.

Site Project Manager:

Date:

Print Sign

Acceptable Knowledge Expert:

Date:

Print Sign

Attachment 14 – CCP Acceptable Knowledge Accuracy Report – Example Form

CCP Acceptable Knowledge Accuracy Report

Site(s):_____

Waste Stream Number(s):_____

Waste Stream Description:_____

Waste Containers:	Waste Matrix Code Reassigned? (Y/N)	EPA Hazardous Waste Number Reassigned? (Y/N)	Radiological Data Consistent with AK? (Y/N)

Total containers in this report:_____
Total containers consistent with AK: _____
Percent containers consistent with AK:_____

Site Project Manager:
_____/_____ Date:_____
Print Sign

Controlled
Copy

Attachment 15 – CCP TRU Waste Correlation and Surrogate Summary Form – Example Form

CCP TRU Waste Correlation and Surrogate Summary Form

Generator/Storage Site(s): _____

Waste Stream(s): _____

Waste Used to Correlate: _____

Waste Used as Surrogate: _____

Information	Y/N	Source of Information
Is physical form identified?		
Are chemicals identified?		
Is the absence of prohibited items confirmed?		
Are radiological data described?		

Explain/Justify the Use of Correlating/Surrogate Waste Stream Information:
(Attach additional supporting information, as applicable)

Controlled
Copy

CCP-TP-028

Revision 9

CCP
Radiographic Test Drum and Training Container Construction

EFFECTIVE DATE: 06/16/2014

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
2	02/04/2004	In response to CAR No: CAR-CCP-010-03, revision change to create electronically fillable form and update references. Change FQAO to CCP Training and add Facility Records Custodian in Responsibilities section of procedure. Minor editorial corrections throughout procedure. Revision to Waste codes on Attachment 1 and fillable form.
3	01/19/2006	Revised procedure steps and Attachment 1, CCP NDE Test Drum Inventory Sheet to allow for multiple Summary Category Groups to be represented in a test/training drum. Revised Drum Contents section of Attachment 1 to include WAP-required items and other non-WAP items.
4	05/26/2010	Revised to clarify the difference between a Test Drum and a Training Drum and how they are to be constructed.
5	07/27/2010	Revised to correct editorial errors.
6	12/29/2010	Revised to incorporate training containers in place of training drums. Also revised training container assembly procedures to meet the requirements of the revised *Waste Isolation Pilot Plant Hazardous Waste Facility Permit.*
7	07/13/2012	Revised to allow Vendor Project Manager (VPM) to assemble Training Containers.
8	06/17/2013	Revised to include section 4.3 Reconfiguration of Previously Assembled Training Containers.
9	06/16/2014	Revised to add steps to check boxes to indicate whether a training container inventory is for a standard waste box or a drum.

TABLE OF CONTENTS

1.0 PURPOSE 4
1.1 Scope 4

2.0 REQUIREMENTS 5
2.1 References 5

3.0 RESPONSIBILITIES 6
3.1 Vendor Project Manager (VPM) or Cognizant Engineer (CE) 6
3.2 CCP Training 6

4.0 PROCEDURE 7
4.1 Test Drum Assembly 7
4.2 Reconfiguration of Previously Assembled Test Drums 9
4.3 Assembling Training Containers 9
4.4 Reconfiguration of Previously Assembled Training Containers 10

5.0 RECORDS 12

LIST OF ATTACHMENTS

Attachment 1 – CCP NDE Test Drum Inventory Sheet 13
Attachment 2 – CCP NDE Training Container Inventory Sheet 14

1.0 PURPOSE

The purpose of this procedure is to provide the requirements for the assembly of nondestructive examination (NDE) test drums and training containers, required by CCP-PO-002*, CCP Transuranic Waste Certification Plan* and training containers, required by CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan,* and the *CH-TRU Payload Appendices* which are used to qualify Radiography Operators in accordance with CCP-QP-002, *CCP Training and Qualification Plan.*

1.1 Scope

This procedure provides the instruction for assembling test drums and training containers. Test drums are representative of the Waste Matrix Codes (WMC) for which the Waste Stream Profile Form approval is being sought. Training containers are required to be scanned semi-annually.

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- *CH-TRU Payload Appendices*

Referenced Documents

- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-008, *CCP Records Management*

3.0 RESPONSIBILITIES

3.1 Vendor Project Manager (VPM) or Cognizant Engineer (CE)

3.1.1 Ensures that test drums and training containers are constructed in accordance with the requirements of this procedure.

3.1.2 Completes Attachment 1, CCP NDE Test Drum Inventory Sheet, and Attachment 2, CCP NDE Training Container Inventory Sheet.

3.2 CCP Training

3.2.1 Tracks the use of test drums and training containers to ensure that testing and evaluation of NDE Operators are conducted on test drums and training containers, as specified in CCP-QP-002.

4.0 PROCEDURE

4.1 Test Drum Assembly

NOTE

Test Drums are to be assembled representing all three Summary Category Groups, with the bottom ¼ being sludge, a spacer (e.g., cardboard), next ¼ being naturally occurring soil, and the top half containing debris using the listed required items and other material representing all the waste material parameters for debris.

VPM

4.1.1 Identify **AND** obtain the items needed to match the WMCs (items common to the waste streams to be characterized).

4.1.2 Obtain the following required items for each drum to be constructed:

[A] US Department of Transportation Type A 55-gallon drum

[B] Aerosol can with puncture

[C] Horsetail bag (Liner Bag)

[D] Pair of coveralls

[E] Empty bottle

[F] Irregular-shaped pieces of wood

[G] Empty one-gallon paint can

[H] Full container

[I] Aerosol can with fluid

[J] One-gallon bottle with three tablespoons of fluid

[K] One-gallon bottle with one cup of fluid

[L] Leaded glove or leaded apron

[M] Wrench

4.1.3 Construct the test drum(s) as follows:

NOTE
NDE test drum identification number format is NDE-TEST-01, NDE-TEST-02.

[A] Label the test drum with a unique identification number obtained from Central Characterization Program (CCP) Training.

[B] Record the test drum identification number and date on Attachment 1.

[C] Place sludge and spacer in drum.

[D] Place soil in drum.

NOTE
The one-gallon bottle with one cup of fluid (step [K]) MUST be placed upside down in the test drum. In addition, the test drum will be divided into layers with varying densities to represent different situations that may occur during radiography examinations.

[E] Place the remaining items listed in Section 4.1.2 (steps [B] through [M]), along with items common to the waste stream(s) (step 4.1.1), in the test drum.

[F] Record the placement of items (step 4.1.3[E]) on Attachment 1.

[G] Secure the lid to the test drum using the outside ring.

[H] Place a tamper indicating device/lock on the test drum.

[I] Complete Attachment 1, print name, sign, **AND** date on Attachment 1.

4.1.4 Repeat steps in Section 4.1.3 for each NDE test drum constructed.

4.1.5 Submit Attachment 1, in accordance with CCP-QP-008, *CCP Records Management*.

4.2 Reconfiguration of Previously Assembled Test Drums

VPM

4.2.1 Obtain the following for each container to be reconfigured:

- Test Drum to be reconfigured
- Current inventory sheet for Test Drum
- Any additional items common to the waste stream to be added to the Test Drum

4.2.2 Remove all items from the Test Drum EXCEPT the soil and sludge.

4.2.3 Label the Test Drum with a unique identification number obtained from the CCP Training department.

4.2.4 Ensure required inner containers with liquid have the correct amount of liquid.

4.2.5 Place the remaining items listed in Section 4.1.2 (steps 4.1.2[B] through 4.1.2[M]), along with items common to the waste stream(s) (step 4.1.1), in the test drum.

4.2.6 Record the placement of items (step 4.2.5) on Attachment 1.

4.2.7 Secure the lid to the test drum using the outside ring.

4.2.8 Place a tamper indicating device/lock on the test drum.

4.2.9 Complete Attachment 1, print name, sign, AND date on Attachment 1.

4.2.10 Repeat steps in Section 4.1.3 for each NDE test drum constructed.

4.2.11 Submit Attachment 1, in accordance with CCP-QP-008.

4.3 Assembling Training Containers

CE or VPM

4.3.1 Obtain the following items for each training container to be constructed:

- Container type regularly examined, for example a 55-gallon drum or standard waste box

- Items which can be identified by real-time radiography, items that are representative of the physical properties of the waste based on acceptable knowledge documentation reviewed (including internal containers of various sizes with various amounts of liquid), and prohibited items (for example, liquids in excess of one percent)

NOTE
NDE Training container identification number format is NDE-TRAINING-01.

4.3.2 Label the training container with a unique identification number obtained from the training department.

4.3.3 Place the items in the containers.

4.3.4 Record training container identification number on Attachment 2.

4.3.5 Record date of construction on Attachment 2.

4.3.6 Record if it is a box or drum on Attachment 2.

4.3.7 Record the inventory of the items on Attachment 2.

4.3.8 Install the container lid.

4.3.9 Install tamper indicating device/lock on the training container.

4.3.10 Print name, sign, and date Attachment 2.

4.3.11 Repeat steps in Section 4.2 for each NDE training container constructed.

4.3.12 Forward Attachment 2 to CCP Training.

4.4 Reconfiguration of Previously Assembled Training Containers

CE or VPM

4.4.1 Obtain the following items for each container to be reconfigured.

- Container to be reconfigured
- Current inventory list of the container
- New waste stream specific items listed in the site's AK documents

4.4.2 Empty contents of the training container EXCEPT for the soil and sludge.

4.4.3 Label the training container with a unique identification number obtained from the training department.

4.4.4 Empty liquid from internal containers.

4.4.5 Refill internal containers with an amount of liquid different than previous inventory sheet indicates with some being prohibited amounts.

4.4.6 Place items back into the container EXCEPT any waste stream specific items previously included on the inventory.

4.4.7 Place new waste stream specific items in the container.

4.4.8 Record training container identification number on Attachment 2.

4.4.9 Record date of construction on Attachment 2.

4.4.10 Record if it is a box or drum on Attachment 2.

4.4.11 Record the inventory of the items on Attachment 2.

4.4.12 Install the container lid.

4.4.13 Install tamper indicating device/lock on the training container.

4.4.14 Print name, sign, and date Attachment 2.

4.4.15 Forward Attachment 2 to CCP Training.

5.0 RECORDS

5.1 Records generated during the performance of this procedure are maintained as quality assurance records in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Nonpermanent Records

[A] Attachment 1 – CCP NDE Test Drum Inventory Sheet

[B] Attachment 2 – CCP NDE Training Container Inventory Sheet

Attachment 1 – CCP NDE Test Drum Inventory Sheet

Test Drum Identification Number:	**Date:**
Drum Contents:	
CCP-PO-002 Required Items	**Other Items**
1. Aerosol can with puncture	1.
2. Horsetail bag (Liner Bag)	2.
3. Pair of coveralls	3.
4. Empty bottle	4.
5. Irregular-shaped pieces of wood	5.
6. Empty one-gallon paint can	6.
7. Full container	7.
8. Aerosol can with fluid	8.
9. One-gallon bottle with three (3) tablespoons of fluid	9.
10. One-gallon bottle with one (1) cup of fluid (upside down)	10.
11. Leaded glove or leaded apron (circle one)	11.
12. Wrench	12.
Comments:	
VPM Printed Name: _____ **Date:** _____ **VPM Signature:** _____	

Attachment 2 – CCP NDE Training Container Inventory Sheet

Training Container Identification Number:	**Date:**
Container Contents:	Box ☐ Drum ☐
1.	14.
2.	15.
3.	16.
4.	17.
5.	18.
6.	19.
7.	20.
8.	21.
9.	22.
10.	23.
11.	24.
12.	25.
13.	26.
Comments:	
CE or VPM Printed Name: _____ **Date:** _____ **CE or VPM Signature:** _____	

Controlled
Copy

CCP-TP-030

Revision 33

CCP
CH TRU Waste Certification and WWIS/WDS Data Entry

EFFECTIVE DATE: 11/19/2013

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

Controlled
Copy

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
24	08/20/2008	Revised in response to Central Characterization Project Corrective Active Report CAR 08-025, deleted Characterization Data System Waste Certification Official review form, and made editorial changes.
25	01/22/2009	Revised to update data sources for the Waste Isolation Pilot Plant (WIPP) Waste Information System (WWIS) Data Spreadsheet (SS). Also made minor editorial changes.
26	05/27/2009	Revised to implement changes made to the *Contact-Handled Transuranic Waste Authorized Methods for Payload Control* (CH-TRAMPAC).
27	12/14/2009	Revised to allow use of the Waste Data System (WDS).
28	05/12/2010	Revised to include steps for direct load 100-Gallon drums that require characterization prior to placement in a direct load Standard Waste Box (SWB) and for minor editorial changes.
29	04/26/2011	Revised Attachment 2, WCO Waste Certification Requirements, to include Standard Large Box 2 (SLB2) Waste Certification Official (WCO) Waste Certification Requirements. Also revised Sections 3.1.6, 4.2.6, and Attachment 1 of the Data Sources for the WDS Master Template.
30	05/21/2012	Revise Table 1, Data Sources for the WDS Master Template, to include the acceptable knowledge (AK) Tracking Spreadsheet (SS) for another source for Layers of Confinement; added the reference for the Transuranic Package Transporter (TRUPACT)-III; added new records section for waste data system (WDS) flammable gas analysis (FGA) Certification.
31	11/19/2012	Revised to address CAR-CCP-0003-12 and various editorial changes. Also revised to better streamline the nonconformance report (NCR)/Corrective Action Report (CAR) quality assurance (QA) request.
32	06/20/2013	Revised to implement the Permit Modification Request Class 2 approved by New Mexico Environment Department (NMED) dated March 13, 2013 and *Contact-Handled Transuranic Waste Authorized Methods for Payload Control* (CH-TRAMPAC) changes.

Controlled
Copy

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
33	11/19/2013	Revised to implement Shielded Container Assembly information and various editorial changes. Also revised to change the (WDS) Master Template to WDS Spreadsheet. Revised Attachment 2, WCO Waste Certification Requirements to include more acceptable container types, as well as more detail within the entire attachment. Also revised to implement a corrective action from WF13-245.

Controlled
Copy

TABLE OF CONTENTS

1.0 PURPOSE 5
1.1 Scope 5

2.0 REQUIREMENTS 6
2.1 References 6
2.2 Training Requirements 7
2.3 Equipment List 7
2.4 Software 7
2.5 Precautions and Limitations 7
2.6 Prerequisite Actions 7
2.7 Definitions 7

3.0 RESPONSIBILITIES 8
3.1 Site Project Manager (SPM) or Designee 8
3.2 Quality Assurance (QA) 8
3.3 Waste Certification Official (WCO) or Designee 8
3.4 Waste Certification Assistant (WCA) 9

4.0 PROCEDURE 10
4.1 Obtaining and Changing Access to the WWIS/WDS 10
4.2 Verifying WSPF in WWIS/WDS Tables and Listing Associated Containers 10
4.3 Entering and Verifying Characterization Data Using the WDS Spreadsheet 11
4.4 Waste Certification (By Container of Waste) 16
4.5 Waste Certification Data Submittal 18
4.6 Data Entry into the WWIS/WDS of FGA Data Generated by CCP for Non-CCP Waste Containers 20
4.7 Container Selection and certification for Overpacks/Load Management Containers using the WWIS/WDS 24
4.8 Waste Certification (For Site-to-Site Shipments Only) 26
4.9 Waste Certification Data Submittal for Site-To-Site Shipments 29

5.0 RECORDS 31

LIST OF TABLES

Table 1. Data Sources for the WDS Spreadsheet 14

LIST OF ATTACHMENTS

Attachment 1 – Entering of Content Code and Shipping Category into the WWIS/WDS . 32
Attachment 2 – WCO Waste Certification Requirements 33

Controlled
Copy

1.0 PURPOSE

The purpose of this procedure is to describe the steps the Central Characterization Program (CCP) uses for certifying contact-handled (CH) transuranic (TRU) waste for disposal at the Waste Isolation Pilot Plant (WIPP). This procedure also describes the process for entering data into the WIPP Waste Information System (WWIS)/Waste Data System (WDS) and reporting data on containers for disposal at the WIPP.

In addition, this procedure may be used to enter data into the WWIS/WDS for site-to-site waste shipments using Transuranic Package Transporter (TRUPACT)-IIs, TRUPACT-IIIs, or HalfPACTs. Site-to-site waste shipments are defined as shipments with destinations to sites other than the WIPP for storage, characterization, or treatment, and are distinct from site-to-WIPP waste shipments for disposal.

1.1 Scope

This procedure defines the parameters necessary for certification of CH TRU waste for disposal at the WIPP. This procedure includes the records that are generated to document that the CCP Waste Certification Official (WCO) has performed the necessary verifications and has certified the waste for disposal.

This procedure also describes how to obtain access and enter data into the WWIS/WDS for containers to be certified for disposal at the WIPP.

This procedure also describes the steps for entering data into the WWIS/WDS for site-to-site waste shipments. Site-to-site waste shipments are shipments of waste destined for sites other than the WIPP.

Controlled
Copy

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- CCP-TP-035, *CCP Container Management*
- CCP-TP-068, *CCP Standardized Container Management*
- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-050, *CCP TRUPACT-III TRU Waste Authorized Methods for Payload Control (CCP TRUPACT-III TRAMPAC)*
- *CH-TRU Payload Appendices*

Referenced Documents

- DOE/WIPP-09-3427*, Waste Data System User's Manual*
- DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*
- DOE/WIPP-01-3194, *CH-TRU Waste Content Codes (CH-TRUCON)*
- DOE/WIPP-11-3458, *TRUPACT-III CONTENT CODES (TRUCON-III)*
- CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, *CCP Records Management*
- CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*
- CCP-TP-120, *CCP Container Management*

Controlled
Copy

2.2 Training Requirements

2.2.1 Personnel who use this procedure to certify waste will be trained and qualified to the requirements for the WCO in accordance with CCP-QP-002, *CCP Training and Qualification Plan*.

2.2.2 Personnel who use this procedure to enter data will be trained and qualified to the requirements for the Waste Certification Assistant (WCA) in accordance with CCP-QP-002*.*

2.2.3 Personnel who use this procedure to enter data into the WWIS/WDS will refer to DOE/WIPP-09-3427, *Waste Data System User's Manual.*

2.3 Equipment List

2.3.1 None.

2.4 Software

2.4.1 WDS Master Template.XLS

2.4.2 IDC WDS Spreadsheet (controlled by IDC)

2.4.3 concat_wds_files.bat

2.4.4 clean_container_files.bat

2.4.5 WDS FGA Template.XLSM

2.4.6 IDC WDS FGA Spreadsheet (controlled by IDC)

2.5 Precautions and Limitations

2.5.1 None.

2.6 Prerequisite Actions

2.6.1 None.

2.7 Definitions

2.7.1 None.

Controlled
Copy

NOTE
The Data Administrator (DA) in this document refers to the WWIS/WDS DA.

3.0 RESPONSIBILITIES

3.1 Site Project Manager (SPM) or Designee

3.1.1 Confirms that personnel performing this procedure are trained and qualified in accordance with applicable requirements in CCP-QP-002.

3.1.2 Prepares a list of candidate containers for certification and submits to the WCO and WCA.

3.1.3 Notifies the WCO and WCA of approved Waste Stream Profile Form (WSPF).

3.1.4 Notifies the WCO and WCA of completed Lot Characterization Information Summary (CIS).

3.1.5 Serves as focal point for resolution of data issues.

3.2 Quality Assurance (QA)

3.2.1 Provides assistance in verifying data, completing documentation, and reviewing requirements and provides status of applicable Nonconformance Reports (NCRs).

3.2.2 Confirms, individually and with an independent verification (does not have to be Quality Assurance [QA]), that there are no unresolved NCRs for containers to be certified when requested by the WCA or WCO.

3.3 Waste Certification Official (WCO) or Designee

3.3.1 Confirms that WCOs and WCAs are granted access to the WWIS/WDS.

3.3.2 Obtains a copy of the approved WSPF for applicable containers to be certified.

3.3.3 Certifies the data for the container to be certified as identified on the WDS Spreadsheet.

Controlled
Copy

3.4 Waste Certification Assistant (WCA)

3.4.1 Works with the WCO to obtain access to the WWIS/WDS.

3.4.2 Obtains copies of data for each container from CCP Records, IDC or the Site Project Manager (SPM) that show data to be entered into the WDS Spreadsheet.

3.4.3 Generates the WDS Spreadsheet and has a second WCA confirm the data are transferred correctly to the WDS Spreadsheet. The second data entry person verifies the information and places initials and date in the WDS Spreadsheet prior to certification by the WCO.

3.4.4 Forwards the WDS Spreadsheet to the WCO for certification.

3.4.5 Requests that QA confirm that NCRs associated with containers to be certified have been resolved, as appropriate, via electronic mail (E-mail).

3.4.6 Submits the container data from the WDS Spreadsheet to the WWIS/WDS, as applicable.

3.4.7 Submits data package to CCP Records Custodian in accordance with CCP-QP-008, *CCP Records Management.*

Controlled
Copy

NOTE

Throughout the procedure, "WDS Spreadsheet" is a generic term used to refer to both the "IDC WDS Spreadsheet" (primary) and the "WDS Master Template" (backup). Similarly, "WDS FGA Spreadsheet" refers to both the "IDC WDS FGA Spreadsheet" (primary) and the "WDS FGA Template" (backup). The primary and backup software perform identical functions; the backups are for use when the IDC is unavailable.

4.0 PROCEDURE

4.1 Obtaining and Changing Access to the WWIS/WDS

WCO

4.1.1 Determine which personnel need access to the WWIS/WDS (see Section 0 of DOE/WIPP-09-3427).

4.1.2 Request WWIS/WDS access for each person by filling out a WIPP/WDS access request form and submitting it to a DA.

4.1.3 Notify the DA when personnel who have received WWIS/WDS access:

[A] Leave the project;

[B] No longer need WWIS/WDS access; **OR**

[C] Need to change the type of WWIS/WDS access.

CCP Personnel

4.1.4 Once the DA has been notified by the WCO that access is to be granted, contact the DA to receive WWIS/WDS training and a WWIS/WDS username in accordance with the DOE/WIPP-09-3427.

4.2 Verifying WSPF in WWIS/WDS Tables and Listing Associated Containers

SPM

4.2.1 Obtain the WSPF Number in accordance with CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*.

4.2.2 Request the DA establish the WSPF Number in the WWIS/WDS.

Controlled
Copy

4.2.3 Confirm that the WSPF Number is correct in the WWIS/WDS Reference Table upon notification that the DA has added the WSPF Number to the WWIS/WDS.

4.2.4 Notify the WCO and WCA of the WSPF.

4.2.5 Develop a list of containers for certification under the appropriate WSPF.

4.2.6 Review the list of containers for certification, revise as necessary, **AND** submit the list to the WCO and WCA when the CIS is complete.

4.3 Entering and Verifying Characterization Data Using the WDS Spreadsheet

WCA

4.3.1 Obtain, from CCP Records, IDC or the SPM, a copy of the appropriate WSPF, Batch Data Reports (BDRs), Packaging Records, Acceptable Knowledge (AK) Summary Report, AK Tracking Spreadsheet, and radiological survey data as applicable.

4.3.2 Use copies of appropriate BDRs or other data source, from CCP Records, IDC or the SPM, as listed in Table 1, Data Sources for the WDS Spreadsheet, to enter characterization data for each container record used to support the WSPF.

NOTE

Section 4.3.3 is for data entry of waste that requires characterization prior to placement in a direct loaded Standard Waste Box (SWB).

4.3.3 Standard Waste Box(es) (SWBs) Direct Loaded

[A] **IF** the container is **NOT** an SWB direct loaded, **THEN** proceed to step 4.3.4.

[B] Add up the Waste Material Parameters (WMPs) from the real-time radiography (RTR) or visual examination (VE) data sheets for the drums loaded in the SWB, **AND** enter on the WDS Spreadsheet as single values for the SWB.

[C] Add up the drum weights, **AND** enter the value as steel waste by adding the value to the WMP for the steel waste on the WDS Spreadsheet.

Controlled
Copy

[D] Add up the drum liner weights, **AND** enter the value as plastic waste by adding the value to the WMP for plastic waste on the WDS Spreadsheet.

[E] **IF** the drums to be direct-loaded require gas generation testing (GGT) data,
THEN add up the GGT values for each drum and enter a single value for the SWB on the WDS Spreadsheet, **AND** report the oldest GGT completion date of the drums.

[F] **IF** the drums to be direct loaded are from a Polychlorinated Biphenyl (PCB) Waste Stream,
THEN assign the earliest closure date or the earliest Out-of-Service date on the AK tracking Spreadsheet of the direct-loaded drums as the Out-of-Service date for the PCB waste in the SWB.

[G] **IF** a flammable gas test is run on the SWB,
THEN use the results.

[H] **IF** SWB does not have flammable gas results,
THEN proceed to step 4.3.3[I].

NOTE

Use a flammable gas analysis (FGA) sample date one day after the closure and vent.

[I] The Volatile Organic Compound (VOC) concentration values for each 55-gallon drum packaged in the SWB shall be compared, and the highest single value for each flammable VOC shall be selected for reporting as the SWB values on the WDS Spreadsheet.

4.3.4 Enter DOE/WIPP-01-3194, *CH TRU Waste Content Codes* (CH-TRUCON) or DOE/WIPP-11-3458, *TRUPACT-III Content Codes (TRUCON-III)* as described in Attachment 1, Entering of Content Code and Shipping Category into the WWIS/WDS, as applicable.

4.3.5 Enter shipping categories as described in Attachment 1, if necessary.

4.3.6 Enter initials and submit the completed WDS Spreadsheet to a second WCA for verification.

Controlled
Copy

WCA (Verifier)

4.3.7 Confirm the data entered into the WDS Spreadsheet for each container record by checking the data to confirm the accuracy and completeness.

4.3.8 **IF** there are any discrepancies,
THEN the correction must be made by a WCA.

4.3.9 **IF** the discrepancies **CANNOT** be resolved,
THEN provide the WDS Spreadsheet to the WCO or SPM for resolution.

4.3.10 **WHEN** the WDS Spreadsheet is complete and verified,
THEN enter initials and date verified in the Spreadsheet, print the WDS Spreadsheet, **AND** submit to the WCO.

Table 1. Data Sources for the WDS Spreadsheet

Field Label	Source
Characterization, Certification, and Shipping Data	
Shipper Site ID or Site ID Location ID Destination Program ID Shipping Purpose	WDS reference table
Waste Stream Profile	AK Summary Report
Container Number	Completed CIS (Add "BN" to front of ID Number for the Advanced Mixed Waste Treatment Project [AMWTP] containers not being Overpacked); AK Tracking Spreadsheet
Container Type	Packaging records; visual inspection; AK Summary Report; or designate for Overpacking, AK Tracking Spreadsheet
Waste Acceptance Criteria (WAC) Rev #	DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*
Cert Site	WDS reference table
Cert Date	Date WCO certifies payload container
Waste Handling Code	CH Radioassay BDR; Radiological Characterization BDR; WSPF
Waste Type Code	WSPF or AK Summary Report (TRU or mixed transuranic (waste) [MTRU]) (if no Hazardous Waste Numbers, enter TRU)
Waste Stream Baseline Inventory Report (BIR) ID	WSPF or AK Summary Report
Generator Site ID Item Description Code (IDC) Code Matrix Code	WSPF or AK Summary Report AK Summary Report (not applicable [NA] if no IDC available) WDS reference table
TRUCON Code	AK Summary Report, WSPF. See Attachment 1 and the CH-TRUCON or TRUCON-III.
Shipping Category	CH-TRUCON or TRUCON-III
TRU Alpha Act TRU Alpha Act Uncertainty TRU Alpha Act Concentration (conc.) Pu-239 Fissile Gram Equivalent Pu-239 Fissile Gram Equivalent Uncertainty Pu-239 eq. act. Decay Heat Decay Heat Uncertainty	Radioassay BDR, Radiological Characterization BDR Note – Nondestructive Assay (NDA) uncertainties must be reported to the WWIS/WDS at 1-sigma. Verify the data to be submitted to WWIS/WDS is at 1-sigma.
Field Label	Source
Layers of Packaging	VE BDR, RTR BDR, AK Tracking Spreadsheet or AK Summary Report
Fill Factor	VE BDR, RTR BDR or AK Summary Report
Liner Type or Liner Exists	VE BDR, RTR BDR or AK Summary Report
Liner Lid Present	VE BDR, RTR BDR or AK Summary Report

Table 1. Data Sources for the WDS Spreadsheet (Continued)

Liner Punctured, Liner Hole Size	VE BDR, RTR BDR, or AK Summary Report. No liner lid indicates liner is vented with default hole size of 478 mm for a 55-gallon drum
PCB Waste PCB Concentration PCB Mass PCB Out-Of-Service Date	WSPF or AK Summary Report VE BDR, RTR BDR, or AK Tracking Spreadsheet
Aqueous Material Beryllium (Be) less than or equal to 100 kg Be less than or equal to 1% Be Present Machine Compacted	AK Tracking Spreadsheet or AK Summary Report
Closure Date	AK Tracking Spreadsheet, Remediated Drum Spreadsheet, IDC, FGA BDR
Vent Date	AK Tracking Spreadsheet, Remediated Drum Spreadsheet, IDC, FGA BDR
Filter Install Date Filter Manufacturer Filter Model Number Number of Filters Installed	FGA BDR, VE BDR, AK Tracking Spreadsheet, Remediated Drum Sheet, Drum Filter Change Out Form, or Container Inspection Report, SLB2 Vent Configuration Sheet
Waste Gen Date Filter Reduction Date Reduced Filter Model	AK Tracking Spreadsheet
Aspiration Method ID	AK Tracking Spreadsheet, Remediated Drum Spreadsheet, AK Summary Report, FGA BDR, Off-site Sealed Source Recovery (OSR) Project AK Summary Report
Gas Generation Rate Hydrogen/Methane Gen. Rate Generation Completion Date	GGT BDR, Long Term Objective (LTO) as applicable
Gross Weight	VE BDR, Radiography BDR, CCP-TP-120, *CCP Container Management* (OSR only),
Gross Weight Uncertainty	2.3 kg for drums, 16.3 kg for SWBs, and 90.7 kg for SLB2s may be entered as the bounding case where actual measurement data are not readily available
Field Label	Source
Alpha Surf Cont Beta/Gamma Surf Cont Neutron Dose Rate Beta/Gamma Dose Rate	Radiological Control Technician (RCT) Report
Radionuclide Data Radionuclide Activity (curie [Ci] Activity Uncertainty (Ci) **Assay Method Data** Radioassay Method Data Package Number Assay Date (actual assay date)	Radioassay BDR, Radiological Characterization BDR Note – NDA uncertainties must be reported to the WWIS/WDS at 1-sigma. Verify the data to be submitted to WWIS/WDS is at 1-sigma. Certification Letters or Certified Equipment List, Radioassay BDR, Radiological Characterization BDR
Material Parameter Data WMP Weight of Material Parameter	VE BDR or Radiography BDR, AK Summary Report
Characterization Method Data Charz Method ID Data Package Number Charz Method Date	RTR, VE BDR, Certification Letters or Certified Equipment List

Controlled
Copy

Table 1. Data Sources for the WDS Spreadsheet (Continued)

Hazardous Waste Numbers Data Hazardous Waste Numbers	WSPF or AK Summary Report
Sample Type Layer No. Sampled Date Sampled Method ID Data Package Number	FGA BDR, OSR AK Summary Report, Certification Letter, Certification Equipment List
Analyte	FGA BDR, OSR AK Summary Report, Certification Letters, or Certified Equipment List Analytical BDR
Concentration (% volume [vol.], milligram/kilogram [mg/kg], parts per million [ppm]) Date Analyzed	FGA BDR, OSR AK Summary Report
Reporting Flag D Reporting Flag U Reporting Flag N/A	FGA BDR, OSR AK Summary Report

4.4 Waste Certification (By Container of Waste)

NOTE
Steps 4.4.1 through 4.4.13 can be performed in any order.

WCO

4.4.1 Verify the appropriate WDS Spreadsheet is being used.

NOTE
For waste streams that are approved for load management, TRU alpha activity concentrations of less than 100 nanocuries per gram (nCi/g) are allowed, if containers meet step 4.4.7, and must be assigned an overpack status.

4.4.2 Confirm that the TRU alpha activity concentration is greater than 100 nCi/g for each payload container.

4.4.3 Confirm that the WDS Spreadsheet contains accurate and complete information for the container by checking that the WCA has completed their input and review.

4.4.4 **IF** there are any open NCRs,
THEN verify that each container certified has no unresolved NCRs.

Controlled
Copy

4.4.5 Review the waste stream information against the applicable Content Code and data sources to confirm the waste is **NOT** an incompatible waste.

4.4.6 Verify that the WDS Spreadsheet contains the correct WSPF Number for that container as listed in the AK Tracking Spreadsheet.

4.4.7 Verify at least one TRU isotope is greater than the lower limit of detection (LLD) for waste containers.

4.4.8 Confirm the criteria on Attachment 2, WCO Waste Certification Requirements, have been met.

4.4.9 **IF** the Methane concentration is greater than or equal to 1,250 ppm,
THEN the container is **NOT** eligible for certification.

4.4.10 **IF** the Methane concentration is less than the minimum detectable limit (MDL) as indicated by a "U" flag,
THEN adjust the Methane concentration to 2.5 percent of the Hydrogen concentration, as appropriate.

4.4.11 **IF** GGT is indicated for the waste container,
THEN ensure that the shipping period of the selected Shipping Category is valid for the testing period of GGT.

NOTE

The designator "BN" must be added to the beginning of the Container number for all data sets for waste containers from AMWTP waste streams and containers **NOT** designated to be overpacked. This designator is only required to be applied to the Container ID for submittal to the WWIS/WDS.

WCO

4.4.12 **IF** the container is certifiable,
THEN sign and date the WDS Spreadsheet, **AND** forward to WCA for submittal to WWIS/WDS.

4.4.13 **IF** container is **NOT** certifiable,
THEN attempt to resolve issue with SPM.

4.4.14 **IF** a deficiency in data is identified after a Container Data Folder is created and before submittal to the WWIS/WDS,
THEN perform the following:

Controlled
Copy

[A] Write a description of the deficiency near the top of Page 1 of the WDS Spreadsheet.

[B] Initiate an NCR in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control,* as necessary.

4.4.15 **IF** a container does not have an approved/proper TRUCON code, **THEN** have the container put on an electronic exclusion in the Integrated Data Center (IDC) database.

4.5 Waste Certification Data Submittal

WCA

4.5.1 Request that QA confirms that each container certified and entered into the WDS Spreadsheet has **NO** unresolved NCRs, if applicable.

QA

4.5.2 Prepare a report verifying that each container certified has **NO** unresolved NCRs.

4.5.3 Forward report to WCA.

NOTE

The WCA uses a macro (CreateTmpTables) and ancillary worksheets that are part of the WDS Spreadsheet.

WCA

4.5.4 Generate tab-delimited files from the electronic WDS Spreadsheet corresponding to the WWIS/WDS Database Tables.

4.5.5 OPEN TempTables Folder to run batch programs, **AND** run concat_wds_files to copy all containers into upload files readable by WWIS/WDS.

4.5.6 LOGON to the WWIS/WDS.

[A] Select Data Upload Function.

[B] Select Browse to open Temp Tables Folder.

[C] Select the text file to be uploaded.

Controlled
Copy

[D] Select Certification or Characterization based on whether or not the waste stream is approved.

[E] Select perform evaluations as applicable.

[F] Select upload containers.

[G] **IF** container upload is successful,
THEN GO TO step 4.5.7.

[H] **IF** container upload fails,
THEN select view exit codes or print error messages on screen as applicable.

[I] **IF** container transfer error(s) can be fixed,
THEN fix errors, **AND** repeat steps 4.5.6[A] through 4.5.6[I] until successful, **OR** container errors **CANNOT** be fixed.

[J] **IF** container transfer **CANNOT** be fixed,
THEN exit the system, **AND** RETURN Container Data Folder to WCO.

4.5.7 **WHEN** complete,
THEN Open the TempTables Folder and RUN clean_container_files to clear the TempTables Folder of all uploaded file data.

WCO

[A] Write a description of the deficiency near the top of Page 1 of the WDS Spreadsheet.

[B] Initiate an NCR in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*, as necessary.

4.5.8 **IF** a deficiency is identified after the container data is submitted to the WWIS/WDS,
THEN:

[A] Request in writing CCP management approval for the WCO to reject the container from the WWIS/WDS, if applicable, **AND;**

[B] Obtain confirmation that the container is rejected, if applicable.

Controlled
Copy

[C] Initiate an NCR in accordance with CCP-QP-005, as necessary.

WCA

4.5.9 Compile the following items used in the submission of data to the WWIS/WDS, **AND** submit to CCP Records:

[A] The completed WDS Spreadsheet for each CH Packaging Payload Container submitted to and approved by the WWIS/WDS.

[B] NCR check from QA E-mail.

[C] Any correspondence (e.g., memorandum/E-mail notifications) associated.

WCO or WCA

4.6 Data Entry into the WWIS/WDS of FGA Data Generated by CCP for Non-CCP Waste Containers

4.6.1 Obtain List of Non-CCP Waste Containers that require CCP-Generated FGA Data from Ad Hoc Query from WWIS/WDS.

4.6.2 Enter and Verify FGA Data for Non-CCP Waste Containers using the WDS FGA Spreadsheet.

WCA

[A] Obtain, from CCP Records, IDC or the WCO, a copy of the FGA BDRs.

[B] Use copies of FGA BDRs from CCP Records, IDC or a WCO as listed in Table 1 to enter FGA data into the appropriate WDS FGA Spreadsheet for each waste container.

[C] Enter initials **AND** submit the completed WDS FGA Spreadsheet to a WCA for verification.

Controlled
Copy

NOTE
Section 4.6.2[D] is for data entry of waste that requires characterization prior to placement in a direct loaded SWB.

NOTE
Use a FGA sample date one day after the closure and vent.

[D] For SWBs Direct Loaded, the VOC concentration values for each 100-gallon drum packaged in the SWB shall be compared and the highest single value for each flammable VOC shall be selected for reporting as the SWB values on the WDS FGA Spreadsheet.

WCA (Verifier)

[E] Confirm the data entered into the WDS FGA Spreadsheet for each container record by checking the data to confirm the accuracy of the data.

[E.1] **IF** there are any discrepancies,
THEN forward to WCA for correction.

[E.2] **IF** the discrepancies **CANNOT** be resolved,
THEN provide the WDS FGA Spreadsheet to a WCO for resolution.

[E.3] **WHEN** the WDS FGA Spreadsheet is complete **AND** verified,
THEN enter initials and date verified on the WDS FGA Spreadsheet, **AND** submit to a WCO.

4.6.3 Waste Certification of Non-CCP Waste Containers with CCP-Generated FGA Data

WCO/WCA

[A] Request that QA confirms that each container certified and entered into the WDS Spreadsheet has **NO** unresolved NCRs, if applicable.

QA

[B] Prepare report verifying that each non-CCP waste container being certified has **NO** unresolved NCRs.

Controlled
Copy

[C] Forward report to WCA and WCO.

WCO

[D] Verify the appropriate WDS FGA Spreadsheet is being used.

[E] Confirm that the WDS FGA Spreadsheet contains accurate information for the non-CCP waste container by checking that the appropriate review and input has been completed.

NOTE

Steps [F] and [G] shall only be performed for 100-gallon drums containing 55-gallon puck drums.

[F] **IF** the hydrogen/methane concentration is greater than 5,883 ppm, but less than 17,150 ppm,
THEN designate the container for a 10-day controlled shipment.

[G] **IF** the hydrogen/methane concentration is greater than or equal to 17,150 ppm,
THEN place the non-CCP waste container on hold, **AND** initiate an NCR in accordance with CCP-QP-005.

[H] **IF** the Methane concentration is less than the MDL as indicated by a “U” flag,
THEN adjust the Methane concentration to 2.5 percent of the Hydrogen concentration, as appropriate.

[I] Select and enter appropriate shipping category for non-CCP waste container.

[J] **IF** a deficiency in data is identified after a WDS FGA Spreadsheet is created and before copying data to the WWIS/WDS,
THEN place the waste container on hold, **AND** initiate an NCR in accordance with CCP-QP-005, as necessary.

[K] **IF** the container is certifiable,
THEN submit the WDS FGA Spreadsheet to WWIS/WDS.

Controlled
Copy

WCA/WCO

[L] Generate tab-delimited files from the electronic WDS FGA Spreadsheet corresponding to the WWIS/WDS container record.

[M] Open TempTables Folder to run batch programs, **AND** RUN concat_wds_files.to copy all containers into upload files readable by the WWIS/WDS.

[N] LOGON to the WWIS/WDS.

[A.1] Select Data Upload Function.

[A.2] Select Browse to find upload file.

[A.3] Select Certification.

[A.4] Select upload containers.

[O] **IF** container upload is successful,
THEN go to step 4.6.3[S].

[P] **IF** container upload fails,
THEN select view exit codes or print error messages on screen as applicable.

[Q] **IF** container transfer error(s) can be fixed,
THEN fix errors, **AND** repeat steps 4.6.3[N] through 4.6.3[Q] until successful, **OR** container errors **CANNOT** be fixed.

[R] **IF** container transfer error(s) **CANNOT** be fixed,
THEN exit the system, **AND** initiate an NCR in accordance with CCP-QP-005, if applicable.

WCO

[S] Go to Container Certification Data Submittal.

[T] Open the Container in the WWIS/WDS container certification date submittal, **AND** enter all data that was not part of the WDS FGA Spreadsheet flat files.

[U] Perform eTRAMPAC evaluation.

Controlled
Copy

[V] **IF** non-CCP waste container fails the eTRAMPAC evaluation,
THEN initiate an NCR in accordance with CCP-QP-005, if applicable.

[W] **IF** non-CCP waste container passes the eTRAMPAC evaluation,
THEN open the TempTables Folder AND run clean_container_files to clear the TempTables Folder of all unused data that is **NOT** in useable WWIS/WDS format.

[X] Exit the WWIS/WDS.

WCO (Verifier)

[Y] Confirm the data entered into the WWIS/WDS by checking the WDS FGA Spreadsheet to confirm the the data is accurate and complete.

[Z] **WHEN** data are accurate and complete,
THEN both WCO and WCO Verifier sign and date the WDS FGA Spreadsheet.

NOTE

The WWIS/WDS Overpack Data Entry Module utilizes edit limit checks when data are entered and selected. The WWIS/WDS steps in the following section may be repeated until Overpack compliance is satisfied. Default data may be used to generate the build list for the Transportation Certification Officials (TCOs).

WCO

4.7 Container Selection and certification for Overpacks/Load Management Containers using the WWIS/WDS

4.7.1 LOGON to the WWIS/WDS.

4.7.2 Enter the Overpack Planning and Completion Module.

4.7.3 Select New.

4.7.4 Enter the data for the Overpack information and select search.

[A] Select Overpack Configuration

Controlled
Copy

[B] Select Certification Program ID

[C] Select Current Location

[D] Select Destination Site ID

[E] Select Shipping Program

[F] Select Waste Stream Profile Code

[G] Select Search

4.7.5 Select the Containers for the Overpack.

4.7.6 Enter filter model number, number of filters, and date of filter installation and add as applicable.

4.7.7 Perform evaluation checks.

4.7.8 Select Accept and Enter Overpack number.

NOTE

To have the WWIS/WDS perform the edit and limit checks on the Overpack/Load Management Container without submitting the Overpack/Load Management Container for approval as in step 4.7.21, the WCO can select all evaluations as applicable and select execute checks.

4.7.9 Enter Beta/Gamma and Neutron dose rate, if applicable.

4.7.10 Enter Shipping Purpose.

4.7.11 Enter the Closure and Vent Date of the Overpack/Load Management Container, if applicable.

4.7.12 Enter the WAC revision number.

4.7.13 Enter Alpha Surface and Beta/Gamma Surface Contamination, if applicable.

4.7.14 Enter filter model number, number of filters, and date of filter installation, and add as applicable.

4.7.15 Select all evaluation checkbox, select execute checks, **AND**
IF fail,
THEN repeat steps 4.7.4 through 4.7.14 as applicable.

Controlled
Copy

4.7.16 Generate Overpack Build List.

4.7.17 Send Overpack Build List to applicable TCO's.

4.7.18 Receive the Loading Form from the TCO and enter the required certification data, **AND** enter certification date.

4.7.19 For the ten-drum overpacks (TDOPs), verify that the heavier drums are on the bottom layer and the lighter drums are on the top layer.

4.7.20 Submit the Overpack/Load Management Container for approval.

4.7.21 After successful submittal for approval, print the Overpack data report and print title, sign, and date the cover page of the report.

4.7.22 Compile the following items used in the submission of data to the WWIS/WDS, **AND** submit to CCP Records in accordance with CCP-QP-008:

[A] Copies of the data containing the Overpack/Load Management Container, radiological survey, and filter information used to enter data above.

[B] The completed Waste Container Data Report for the data submitted.

[C] Correspondence (e.g., memorandum/E-mail notifications).

4.8 Waste Certification (For Site-to-Site Shipments Only)

NOTE

The following section is only to be used for containers to be shipped to destinations other than WIPP. These containers are CCP containers that will be sent to a destination site other than WIPP for additional processing as needed. The steps that follow are for transportation only of the container to the site for additional processing and the return shipment from the additional processing location back to the original site. Only CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP-CH-TRAMPAC),* parameters are required to be entered.

WCA

4.8.1 Obtain, from CCP Records, IDC or the SPM, a copy of the appropriate WSPF, BDRs, Packaging Records, AK Summary

Controlled
Copy

Report, AK Tracking Spreadsheet, and radiological survey data as applicable.

4.8.2 Use copies of appropriate BDRs or other data sources, from CCP Records, IDC or the SPM, as listed in Table 1, to enter characterization data into the appropriate WDS Spreadsheet for each container record being used to support the WSPF.

WCA (Verifier)

4.8.3 Confirm the data entered into the WDS Spreadsheet for each container record by checking the data to confirm accuracy and completeness.

4.8.4 **IF** there are any discrepancies,
THEN the correction must be made by a WCA.

4.8.5 **IF** the discrepancies **CANNOT** be resolved,
THEN provide the WDS Spreadsheet to the WCO or SPM for resolution.

4.8.6 **WHEN** the WDS Spreadsheet is complete **AND** verified,
THEN enter initials and date verified in the Spreadsheet, print WDS Spreadsheet, **AND** submit to the WCO.

WCO

4.8.7 Verify the appropriate WDS Spreadsheet is being used.

4.8.8 Confirm that the WDS Spreadsheet contains accurate and complete information for the container by checking that the WCA has completed their input and review.

4.8.9 **IF** there are any open NCRs,
THEN verify that each container certified has no unresolved NCRs.

4.8.10 Review the waste stream information against the applicable Content Code and data sources to confirm the waste is **NOT** an incompatible waste.

4.8.11 Verify that the WDS Spreadsheet contains the correct WSPF Number, if applicable, for that container as listed in the AK Tracking Spreadsheet.

4.8.12 Verify at least one TRU isotope is greater than the LLD for waste containers.

Controlled
Copy

4.8.13 Confirm the criteria on Attachment 2, have been met.

4.8.14 **IF** the Methane concentration is greater than or equal to 1,250 ppm,
THEN the container is NOT eligible for certification.

4.8.15 **IF** the Methane concentration is less than the MDL as indicated by a "U" flag,
THEN adjust the Methane concentration to 2.5 percent of the Hydrogen concentration, as appropriate.

4.8.16 **IF** GGT is indicated for the waste container,
THEN ensure that the shipping period of the selected Shipping Category is valid for the testing period of GGT.

NOTE

A secondary visual check on the use of appropriate content codes will be completed by another WCO prior to submitting containers to WDS.

4.8.17 **IF** the container can be shipped,
THEN sign and date the WDS Spreadsheet, **AND** forward to WCA for submittal to WWIS/WDS.

4.8.18 **IF** container can NOT be shipped,
THEN proceed to step 4.8.19.

WCO

4.8.19 **IF** there is an issue with data,
THEN attempt to resolve issue with SPM.

4.8.20 **IF** a deficiency in data is identified after a Container Data Folder is created and before submittal to the WWIS/WDS,
THEN perform the following:

[A] Write a description of the deficiency near the top of Page 1 of the WDS Spreadsheet.

[B] Initiate an NCR in accordance with CCP-QP-005, as necessary.

Controlled
Copy

4.9 Waste Certification Data Submittal for Site-To-Site Shipments

WCA

NOTE
The WCA uses a macro (CreateTempTables) and ancillary worksheets that are part of the WDS Spreadsheet.

4.9.1 Request that QA confirms that each container being entered into the WDS Spreadsheet has NO unresolved NCRs, if applicable.

QA

4.9.2 Prepare a report verifying that each container has NO unresolved NCRs.

4.9.3 Forward report to WCA.

WCA

4.9.4 Generate tab-delimited files from the electronic WDS Spreadsheet corresponding to the WWIS Database Tables/WDS by selecting the Create Temp Tables button.

4.9.5 OPEN TempTables Folder to run batch programs, **AND** run concat_wds_files to copy all containers into upload files readable by WWIS/WDS.

4.9.6 LOG ON to the WWIS/WDS.

[A] Select Data Upload Function.

[B] Select Browse button to open Temp Tables folder.

[C] Select the text files to be uploaded.

[D] Select Intersite Shipping Module.

[E] Select perform evaluations and do not save if fail, as applicable.

[F] Select upload containers.

[G] **IF** container upload is successful,
THEN GO TO step 4.9.7.

Controlled
Copy

[H] **IF** container upload fails,
THEN select view exit codes or print error messages on screen, as applicable.

[I] **IF** container transfer error(s) can be fixed,
THEN fix errors, **AND** repeat step 1.1.1[A] through 1.1.1[I] until successful, **OR** container errors **CANNOT** be fixed.

[J] **IF** container transfer **CANNOT** be fixed,
THEN exit the system, **AND** return Container Data Folder to WCO.

4.9.7 **WHEN** complete,
THEN Open the TempTables Folder and RUN clean_container_files to clear the TempTables Folder of all upload file data.

WCO

4.9.8 **IF** a deficiency is identified after the container data are submitted to the WWIS/WDS,
THEN:

[A] Request in writing CCP management approval to reject the container from the WWIS/WDS, if applicable, **AND;**

[B] Initiate an NCR in accordance with CCP-QP-005, as necessary.

WCA

4.9.9 Compile the following items used in the submission of data to the WWIS/WDS, **AND** submit to CCP Records in accordance with CCP-QP-008:

[A] The completed WDS Spreadsheet for each CH Packaging Payload Container submitted to and approved by the WWIS/WDS.

[B] NCR check from QA E-mail.

[C] Any correspondence (e.g., memorandum/E-mail notifications) associated.

Controlled
Copy

5.0 RECORDS

5.1 Records generated during the performance of this procedure are maintained as QA records in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Lifetime

[A] Container Certification:

[A.1] WDS Spreadsheet

[A.2] Correspondence (memorandum/E-mail notifications)

[A.3] Radiological Survey Information, if applicable

[B] Overpack Certification:

[B.1] Overpack Data Report (for Overpacks only, e.g., TDOP, SWB)

[B.2] Radiological Survey Information, if applicable

[B.3] Correspondence (memorandum/E-mail notifications)

[C] WDS FGA Certification

[C.1] WDS FGA Spreadsheet

[C.2] Correspondence (memorandum/E-mail notifications)

Controlled
Copy

Attachment 1 – Entering of Content Code and Shipping Category into the WWIS/WDS

1. INTRODUCTION

This attachment describes the steps used to enter assigned Content Codes into the WDS Spreadsheet using various sources of characterization data. Entering the Content Code is performed by the waste certification staff based on the waste material contents and the layers of packaging used for each container. Content Code assignment is reviewed and approved by the WCO during container certification.

2. ASSIGNING THE NUMERIC VALUE

Assign the Content Code based on the container waste stream assignment. The Content Code identified in AK will be confirmed by RTR and VE when performed, and to confirm the absence of incompatible waste in the waste stream. Enter the Content Code in WDS Spreadsheet.

3. ASSIGNING A LETTER DESIGNATOR FOR LEGACY WASTE

For retrievably-stored waste, the letter designator of the Content Code is assigned using packaging information from the following sources which are listed in order of priority of usage:

- VE BDRs, if available
- If RTR information is undetermined, use the default assignment given in (or determined from) the AK Summary Report for the applicable waste stream

4. OTHER

For waste packaged under a DOE CBFO audited and approved certification program (newly generated waste exempted from RTR), use the Content Code assigned in the packaging documents.

5. SHIPPING CATEGORY

After selection of appropriate Content Code using the CH-TRUCON or TRUCON-III, assign the Shipping Category number and document on the WDS Spreadsheet.

Controlled
Copy

Attachment 2 – WCO Waste Certification Requirements

Acceptable Container 55-gallon drums 85-gallon drums 100-gallon drums S100 POC S200 POC S300 POC SWB TDOP Standard Large Box 2 (SLB2) Shielded Container Assembly (SCA)
Gross Weight Limit 55-, 85- and 100-gallon drum – 1000lbs (453.6kg) 6" pipe POC- 328lbs (148.7kg) 12" pipe POC and gamma neutron shielded 12" pipe - 547lbs (248.7kg) S100 POC- neutron shielded 6" pipe - 550lbs (249.4kg) S200, S200B and S300 POC-547lbs (248kg) SWB – 4000lbs (1814.1kg) TDOP – 6700lbs (3038.5kg) SLB2 – 10500lbs (4761.9kg) SCA-2260lbs (1024.9kg)
Surface Contamination <20 (dpm)/100 cm^2 alpha & <200 dpm/100 cm^2 beta-gamma
Liner (if present) punctured filtered
Properly aspirated/ filter vents See CH-TRUCON document for all container types except SLB2 See TRUCON-III document for SLB2
Ten Required Isotopes AM-241; PU-238, -239, -240, -242; U-233, -234, -238; Sr-90; Cs-137. -1 value for LLD if expected. 0 value for LLD if not expected.
Pu-239 FGE + 2X error (Be ≤ 1 wt. %) ≤ 200 55-(excluding pipe overpacks), 85-, 100-gallon drum or SCA ≤ 325 SWB, TDOP, SLB2 ≤ 5 Kg Be & ≤ 200 55-gallon drum pipe overpack See WAC for machine compacted limits
Pu-239 FGE + 2X error (Be > 1 wt. %) ≤ 100 55- (excluding pipe overpacks), 85-, 100-gallon drum (up to 100kg) ≤ 100 SWB, TDOP, SLB2 (Be from AK) ≤ 140 Pipe overpacks (S100, S200 or S300 pipe overpack) See WAC for machine compacted limits
Be prohibited > 100 Kg/55-gallon Be > 18.14kg SWB, TDOP, SLB2 (Be from AK) >1% by weight SCA
Pu-239 Equiv. Activity (PE-Ci) ≤ 80 Drum (55-, 85-. and 100-gallon), Shielded Container ≤ 560 (SWB, SLB2 direct load) < 800 (TDOP Direct Load) ≤ 1100 (good 55-gallon drum overpacked into 85-gallon drum) ≤ 1200 (good SWB into TDOP) ≤ 1200 (overpacked 55, 85 undamaged into SWB, TDOP) ≤ 1800 (pipe overpacks, S100, S200, S300) ≤ 1800 all solidified/vitrified waste

Controlled
Copy

Attachment 2 – WCO Waste Certification Requirements (Continued)

Radiation Dose Equivalent < 200 millirem per hour (mrem/hr) contact <179 mrem/hr S100 pipe overpack <155 mrem/hr S300 pipe
Pyrophorics ≤1 % by weight (Radioactive) Non-radioactive pyrophorics – prohibited
Hazardous Waste Codes permitted for disposal at WIPP D001, D002 or D003 are not acceptable at WIPP
No explosives
No corrosives
No pressurized containers
PCBs Not all sites approved removed service date (Out-of-Service date), mass, type of waste (remediated or bulk)

Controlled
Copy

CCP-TP-053

Revision 14

CCP
Standard Real-Time Radiography (RTR) Inspection Procedure

EFFECTIVE DATE: 09/25/2013

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
9	09/30/2010	Revised to incorporate another test image type.
10	03/04/2011	Revised to address Carlsbad Field Office (CBFO) Corrective Action Report (CAR)-11-015. Deleted requirement to identify locations of dense waste material, sharp/heavy objects. Deleted requirement of identification of block and/or bracing of sharp/heavy objects and heterogeneity of the waste (e.g., DO **NOT** just list plastic, describe it as small plastic bottles, plastic tubing, plastic sheeting, or plastic coveralls etc.). Deleted requirement of recording of liquid amounts on attachments. All prohibited conditions will be addressed in the Nonconformance Report (NCR) process. Added the ability to use procedure to Real-Time Radiography (RTR) Remote-Handled (RH) waste.
11	07/20/2011	Revised to add checklist question based on agreement with New Mexico Environmental Department (NMED).
12	08/22/2012	Revised to change format of attachments. Clarified format of container weights and clarified steps for documenting nonconformance reports (NCRs) on Attachment 2, CCP Radiography Data Sheet (Example).
13	05/14/2013	Revised to incorporate Nuclear Waste Partnership (NWP) transition changes, to add software used, and other editorial changes.
14	09/25/2013	Revised to address Carlsbad Field Office (CBFO) CAR 13-034, CBFO CAR 13-051, and Central Characterization Program (CCP) CAR-SRS-0001-13.

TABLE OF CONTENTS

1.0 PURPOSE 5
1.1 Scope 5

2.0 REQUIREMENTS 5
2.1 References 5
2.2 Training Requirements 6
2.3 Equipment List 6
2.4 Software 6
2.5 Precautions and Limitations 6
2.6 Prerequisite Actions 6
2.7 Definitions 7

3.0 RESPONSIBILITIES 8
3.1 RTR Operator 8
3.2 Independent Technical Reviewer (ITR) 8
3.3 Lead Operator (LO) 8
3.4 Records Custodian 9

4.0 PROCEDURE 10
4.1 Waste Container Preparation 10
4.2 RTR System Startup 10
4.3 Video/Audio Recorded Media System Startup/Image Test 10
4.4 RTR System Operation 12
4.5 Replicate Scan 17
4.6 Independent Observations 18
4.7 RTR System Shutdown 18
4.8 Video/Audio Recording Media System Shutdown 19
4.9 Batch Data Report Preparation 19
4.10 RTR Independent Technical Review 20

5.0 RECORDS 22

LIST OF TABLES

Table 1. Prohibited Items 23
Table 2. Waste Material Parameters 24
Table 3. Waste Item Weights 25

LIST OF ATTACHMENTS

Attachment 1 – CCP RTR Measurement Control Report 27
Attachment 2 – CCP Radiography Data Sheet (Example) 28
Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist 31
Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative 33
Attachment 5 – CCP Radiography Batch Data Report Cover Sheet 34

1.0 PURPOSE

Real-time radiography (RTR) inspection is used to verify that the physical form matches the waste stream description and that the Waste Matrix Code (WMC) assigned to the waste container is consistent with acceptable knowledge (AK) of the waste. The system is also used to estimate Waste Material Parameter (WMP) weights and identify prohibited items within a waste container.

This procedure contains the requirements for the collection of data and the generation level review of data from the RTR process.

1.1 Scope

This procedure applies to S3000 homogeneous solids, S4000 soils/gravel and S5000 debris transuranic (TRU) waste streams that require nondestructive examination (NDE). This procedure specifies instructions for performing NDE of waste containers using a RTR system. It also specifies methods for documenting the examination results as required by CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*, CCP-PO-002*, CCP Transuranic Waste Certification Plan*, DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*, and CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)*.

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*

Referenced Documents

- DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
- CCP-PO-001*, CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)*

- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-005, CCP *TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, *CCP Records Management*

2.2 Training Requirements

2.2.1 Personnel performing this procedure will be trained and qualified in accordance with CCP-QP-002, *CCP Training and Qualification Plan,* prior to performing this procedure.

2.3 Equipment List

2.3.1 Test Image

2.4 Software

2.4.1 RTR Data Sheet.xls

2.5 Precautions and Limitations

2.5.1 If this procedure CAN **NOT** be implemented as written, RTR personnel shall notify appropriate supervisors. If it is determined that a portion of the work CAN **NOT** be accomplished as described in this procedure, or would result in an undesirable situation, work shall be STOPPED. Work will **NOT** be resumed until this procedure is modified or replaced by a new document that reflects the current work practice.

2.5.2 Workers who will be working in a radiation area must have met the Host site requirements prior to entering the area.

2.5.3 Review the Job Hazards Analysis.

2.6 Prerequisite Actions

2.6.1 None

2.7 Definitions

2.7.1 **Internal Container** – A container inside the outermost container examined during radiography or visual examination (VE). Drum liners, liner bags, plastic bags used for contamination control, capillary-type labware, and debris not designed to hold liquid at the time of original waste packaging are not internal containers.

2.7.2 **Observable Liquid** – Liquid that is observable using radiography or VE as specified in the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit.

3.0 RESPONSIBILITIES

3.1 RTR Operator

3.1.1 Operates the RTR system to determine the waste content attributes within a waste container.

3.1.2 Produces video/audio recorded media and a written record of the x-ray scan of the waste containers.

3.1.3 Performs the initial review of the data generated.

3.1.4 A second and independent qualified RTR Operator performs a Replicate Scan on one waste container. A BDR completed in one calendar day shall contain a Replicate Scan. BDRs that span over more than one day shall contain a separate Replicate Scan. In this context, independence means the individual did not perform, nor review the original work.

3.1.5 A second and independent qualified RTR Operator other than any RTR Operator involved in the original scan of the container selected performs an Independent Observation (IO) on a waste container, from a radiography video/audio recorded media. A BDR completed in one calendar day shall contain an IO. BDRs that span over more than one day shall contain a separate IO.

3.1.6 Assembles the Batch Data Report (BDR).

3.2 Independent Technical Reviewer (ITR)

NOTE
The Independent Technical Reviewer (ITR) will be a third and independent qualified RTR Operator.

3.2.1 Reviews the raw data (e.g., Attachment 2, CCP Radiography Data Sheet [Example]).

3.2.2 Completes Attachment 3, CCP Radiography Independent Technical Reviewer Checklist.

3.3 Lead Operator (LO)

3.3.1 Provides supervision of the overall operation of the RTR system.

3.4 Records Custodian

3.4.1 Receives, processes, and transmits records generated by this procedure in accordance with CCP-QP-008, *CCP Records Management*.

4.0 PROCEDURE

NOTE

All steps within this procedure will be performed by the RTR Operator unless otherwise specified.

4.1 Waste Container Preparation

4.1.1 Prepare the waste containers for examination in accordance with Host site and/or Central Characterization Program (CCP) procedures.

4.1.2 Install the Image Test device as applicable.

4.2 RTR System Startup

4.2.1 Startup the RTR system for operation in accordance with the CCP procedure.

4.3 Video/Audio Recorded Media System Startup/Image Test

NOTE

Video/audio recording of the RTR examination **MUST** be produced for all waste containers. The Image Test is performed once per day.

Attachments are found on the CCP secure file transfer protocol (sftp) site.

4.3.1 Record the following on Attachment 1, CCP RTR Measurement Control Report :

[A] Site.

[B] BDR Number.

[C] Examination Date.

4.3.2 Prepare the video/audio media recording systems for operation in accordance with the manufacturer's instructions.

[A] Verify/Turn ON all the video/audio media system components and monitors.

[B] Label each video/audio media with the following information:

[B.1] For the primary video/audio recording media, record the BDR Number followed by a unique identifier (e.g., LA-RTR1-060004A).

[B.2] **IF** additional recording media is required to complete a BDR,
THEN label the additional media with the BDR number followed by another unique identifier as described in step 4.3.2[B.1].

4.3.3 Perform a video/audio recorded media system check by recording the results of the Image Test on Attachment 1 as follows:

[A] Perform the Image Test.

[A.1] **IF** the test image is correctly observed (Minimum acceptable is five lines-pair/centimeters [cm] or the #6 sieve is viewable),
THEN record the results of the test, **AND** mark SAT on Attachment 1.

[A.2] **IF** the test image is **NOT** correctly observed,
THEN record the results of the test **AND** mark UNSAT on Attachment 1, STOP WORK **AND** notify the Lead Operator (LO) and Vendor Project Manager (VPM).

[B] Replay the video/audio recording media, **AND** verify the video/audio recording media check are satisfactory.

[B.1] **IF** the results of the video/audio recording media check are satisfactory,
THEN mark SAT on Attachment 1.

[B.2] **IF** the results of the video/audio recording media checks are **NOT** satisfactory,
THEN record the results of the test **AND** mark UNSAT on Attachment 1, STOP WORK, **AND** notify the LO and VPM.

4.3.4 Remove the Image Test device when it is conducive to operations.

4.3.5 Record comments if necessary, print name, sign, and date Attachment 1.

4.3.6 Place in holding file.

4.4 RTR System Operation

4.4.1 Waste Container Scanning

NOTE

Waste Container Identification (ID) Numbers shall be obtained by direct visual observation. An Attachment 2 must be completed for all waste containers examined.

[A] Enter the appropriate scan information (e.g., Container ID No., Date) on the video display.

[B] Start recording the examination scan **AND** record verbally the information for the waste container being examined.

[C] Manipulate the container and x-ray controls such that 100 percent of the container volume is examined.

[D] Scan the waste container.

[E] Record the results verbally **AND** in Section 3, Container Inventory and Comments of Attachment 2.

4.4.2 Data Entry

NOTE

The data required by steps [A.1] through [A.8], and [D.1] through [D.5](a), may be entered on Attachment 2 at any time after the waste container is loaded to the RTR unit. The remaining data required to be entered on Attachment 2 may be entered as the operator determines it during the scan.

All fractional weights will be recorded to 1/10 of a kilogram (kg).

Attachments are found on the CCP sftp site.

[A] Record the following data in Section 1 of Attachment 2:

[A.1] Check "√" the applicable type of RTR examination.

[A.2] Site ID.

[A.3] Batch Number.

[A.4] Examination Date.

[A.5] Waste Container ID.

[A.6] Waste Container ID at the top of Page 2 and Page 3 of Attachment 2.

[A.7] Video/Audio Recorded Media Number.

[A.8] Procedure and Revision No.

[A.9] Check "√" yes or no for NCR and if yes is checked record the NCR number.

[B] **IF** a container is identified in the S5000 summary category group that CAN **NOT** be penetrated by the RTR method because of the presence of lead, or other shielding, **THEN** initiate a nonconformance report (NCR) in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*.

[C] **IF** a container is identified in the S3000 or S4000 summary category group, **AND** RTR is **NOT** capable of penetrating the container so that any liquid present on the top, sides, or bottom of the waste form is identifiable, **THEN** initiate a NCR in accordance with CCP-QP-005.

[D] Ensure the following data is recorded in Section 2, Waste Container Data, of Attachment 2:

[D.1] Container Type.

[D.2] Content (TRUCON) Code.

[D.3] Waste Matrix Code.

[D.4] Waste Stream ID.

[D.5] Waste Container Weights (kg).

(a) Gross Weight (from the CCP Container Traveler or obtain the weight in accordance with the Host site Interface Document).

(b) Tare Weight (Total Packaging Weight from Section 4: Packaging Material and Waste Material Parameters, of Attachment 2).

(c) Net Weight (subtract Tare Weight from Gross Weight).

[D.6] Rigid Liner and Liner Vent Description.

(a) Check appropriate box for Liner or No Liner, Lid or No Lid, Liner Type, Vented or Not Vented, and Venting Method.

[D.7] Estimated number of Layers of Confinement.

NOTE

The fill percent of the container is based on the highest level of the bulk of the waste. Items (e.g., pipe, scrap angle, plastic bags) that protrude above the bulk of the waste are not to be included in the fill percent determination. The fill percent is to be recorded in five percent increments (e.g., 35%, 40%, 45%).

[D.8] Record the estimated Volume Utilization Percentage (VUP).

[E] Complete an itemized description of the waste inventory in the container in Section 3.

NOTE

Additional weight information for items commonly found in waste streams at each site may be provided in accordance with a controlled Operator Aid.

[F] Using packaging weight information provided by the Host site, record the estimated weight (kg) for the packaging materials in Section 4: Packaging Material and Waste Material Parameters, of Attachment 2.

[G] Using Table 2, Waste Material Parameters, Table 3, Waste Item Weights, and additional item weight information provided by the Host site, record the estimated weight for each WMP in Section 3 and sum all WMPs and record the total WMP weight in Section 4 of Attachment 2.

NOTE

The potential exists for prohibited items to be present in the waste container based upon shapes seen in the image and the RTR Operator's knowledge of the waste stream. For example; if the AK for the waste stream DOES **NOT** indicate the presence of Polychlorinated Biphenyl (PCB) free light ballasts, and a ballast is present in the container, the RTR Operator will have reason to believe that PCBs are present.

Internal containers (e.g., bottles, cans, etc.) shall have no more than 60 milliliters or 3 percent by volume, whichever is greater, observable liquid **AND** in no case, shall the total observable liquid volume (i.e., the sum of all internal and/or outermost container volumes) exceed >1%.

[H] Using Table 1, Prohibited Items, as a reference, complete the checklist in Section 5: RTR Summary, of Attachment 2, to confirm there are **NO** prohibited items in the waste container.

NOTE

Potential hazardous wastes identifiable by radiography include:

- Batteries
- Circuit Boards (may be contained in electrical equipment)
- Cathode Ray Tube (CRT)-based computer monitors or televisions
- Lead
- Mercury, mercury containing equipment (e.g., barometers, switches, thermometers, thermostats)
- Light Bulbs (both incandescent and fluorescent)

[H.1] **IF** any hazardous waste(s) **NOT** identified in the AK Summary Report(s) for the waste stream being characterized **OR** any nonconforming/prohibited items are noted during the RTR examination, **THEN** perform the following:

(a) Initiate an NCR in accordance with CCP-QP-005 **AND** record the NCR number in Section 1 and in the comments block of Attachment 2.

NOTE

The physical waste form requirements and waste stream descriptions for the waste stream being evaluated are found in the AK Summary Report. The AK Summary will be available in the work area and referenced as needed.

[H.2] **IF** the waste form DOES **NOT** match the Waste Stream description and/or the Waste Matrix Code, **THEN** initiate an NCR in accordance with CCP-QP-005, **AND** record NCR number in Section 1 and in the comments block of Attachment 2.

[I] Review Attachment 2 for completeness and accuracy.

NOTE

Data changes shall be made by the individual who originally collected the data or an equally qualified individual authorized to change the data.

[I.1] Ensure changes to the data have been initialed and dated with a justification, as necessary, provided in the Comments block of Attachment 2.

[J] Print name, sign, and date Attachment 2.

[K] Place in holding file.

[L] **IF** the waste container constitutes the last container of the batch or day,
THEN STOP, remove the video/audio recording media from the recording components, **AND** properly store the media.

[M] Repeat steps 4.4.1 through 4.4.2 until all containers in the batch have been examined.

4.5 Replicate Scan

NOTE

A BDR completed in one calendar day shall contain a Replicate Scan. BDRs that span over more than one day shall contain a separate Replicate Scan. The Replicate Scan is performed by a second and independent qualified RTR Operator who was not involved in the original scan of the waste container. The Replicate Scan will be performed under the same uniform conditions as a routine scan of a waste container in Section 4.4.

Second RTR Operator

4.5.1 Prior to reviewing the initial, Attachment 2, scan the replicate waste container per Section 4.4, **AND** record the results on a new Attachment 2.

4.5.2 Review the original Attachment 2, **AND** compare the results with the second Attachment 2.

4.5.3 Perform the following when identification of the waste matrix code, liquids in excess of Treatment, Storage, Disposal Facility (TSDF)-Waste Acceptance Criteria (WAC) limits, and compressed gases differ between the two operators:

[A] Reconcile the results with the initial RTR Operator as follows:

[A.1] Jointly perform a real-time review of the Attachment 2(s).

[A.2] Jointly review the video/audio recording media **OR** re-scan the container, **AND** make corrections, as required, to the Attachment 2(s).

[B] **IF** the results CAN **NOT** be reconciled, **THEN** STOP WORK **AND** notify the LO.

4.6 Independent Observations

NOTE

A BDR completed in one calendar day shall contain an IO. BDRs that span over more than one day shall contain a separate IO. The IO will be performed by a second and independent qualified RTR Operator who was not involved in the original scan of the waste container. The IO will be performed by observing the video recording of the original scan with no audio.

Second RTR Operator

4.6.1 Review the video/audio recording media of the original scan, **AND** complete a second Attachment 2.

4.6.2 Review the original Attachment 2 for the subject container, **AND** compare the results with the IO Attachment 2.

4.6.3 Perform the following when identification of the waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases differ between the two operators.

[A] Reconcile the results with the initial RTR Operator as follows:

[A.1] Jointly perform a real-time review of Attachment 2(s).

[A.2] Jointly review the video/audio recording media, **OR** re-scan the container, **AND** make corrections, as required, to the Attachment 2(s).

[B] **IF** the results CAN **NOT** be reconciled, **THEN** STOP WORK **AND** notify the LO.

4.7 RTR System Shutdown

4.7.1 Shutdown the RTR system in accordance with CCP procedure.

4.8 Video/Audio Recording Media System Shutdown

4.8.1 Verify all video/audio recording media have been finalized if necessary and removed from the recording components.

4.8.2 Turn OFF the video/audio media recording systems in accordance with the manufacturer's instructions.

4.9 Batch Data Report Preparation

NOTE

Attachment 5, CCP Radiography Batch Data Report Cover Sheet may be filled out at any time after the container is loaded and the remaining data may be entered during the BDR assembly.

RTR Operator

4.9.1 Assemble Attachment 2(s) for up to 20 waste containers (regardless of matrix) that have been processed from a single RTR unit.

4.9.2 Complete Attachment 5, **AND** record the following:

[A] BDR No.

[B] Contact-handled (CH) or remote-handled (RH) waste.

[C] Date.

[D] Waste Container ID Numbers.

[E] Record which containers are by designation, Replicate Scan and Independent Observation.

[F] Site ID

[G] Print name, sign, and date.

4.9.3 Assemble the following data for the BDR:

[A] Attachment 5, CCP Radiography Batch Data Report Cover Sheet

[B] Attachment 4, CCP Radiography Batch Data Report Table Of Contents and Batch Narrative

[C] Attachment 1, CCP RTR Measurement Control Report

[D] Attachment 2, CCP Radiography Data Sheet

[E] Copy of NCRs, if applicable.

[F] Attachment 3, CCP Radiography Independent Technical Reviewer Checklist

[G] Paginate the BDR.

[H] Two sets of Audio/Video Media.

4.9.4 Forward the BDR package to the ITR.

4.10 RTR Independent Technical Review

NOTE

The independent technical review is conducted by a third and independent qualified RTR Operator who was not involved in the generation or recording of the data under review. The ITR CAN **NOT** review his/her own work.

Attachments are found on the CCP sftp site.

ITR

4.10.1 Review Attachment 1, Attachment 2s, and associated video/audio media recordings, **AND** resolve any comments with the RTR Operator(s).

4.10.2 Review the BDR to the criteria in the checklist of Attachment 3, **AND** document the results.

4.10.3 Print name, sign, and date Attachment 3 and Attachment 5 and any additional Attachments to be inserted in the BDR.

4.10.4 Insert completed Attachment 3 into the BDR.

4.10.5 Insert any additional attachments generated during ITR into the BDR.

4.10.6 Forward the BDR package to the Records Custodian.

Records Custodian

[A] Receive, process, and transmit records in accordance with CCP-QP-008.

5.0 RECORDS

5.1 Records generated during the performance of this procedure are maintained as QA records in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Lifetime

[A] Batch Data Report (BDR):

- Attachment 1, CCP RTR Measurement Control Report
- Attachment 2, CCP Radiography Data Sheet
- Attachment 3, CCP Radiography Independent Technical Reviewer Checklist
- Attachment 4, CCP Radiography Batch Data Report Table of Contents and Batch Narrative
- Attachment 5, CCP Radiography Batch Data Report Cover Sheet
- Copies of NCRs, if applicable

5.1.2 QA/Non-permanent

[A] Two sets RTR media VHS or DVD

Table 1. Prohibited Items

LIST OF PROHIBITED ITEMS
Liquid waste - Observable liquid shall be no more than 1 percent by volume of the outermost container. - Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. - Containers with Hazardous Waste Number U134 assigned shall have no observable liquid.
Nonradioactive pyrophorics
Non-mixed hazardous waste
Incompatible wastes (Wastes that are incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, and/or other wastes).
Explosives
Compressed Gases/Pressurized containers (e.g., aerosol cans)
PCB liquids
Ignitables
Corrosives
Reactive waste
Sealed containers greater than 4 liters
Heat Sealed Bags (unvented) with surface area less than 390 square inches and greater than 4 liters, or heat sealed bags not authorized in the RH TRUCON Code.
Sharp or heavy objects, that could reasonably be expected to cause a breach of the container during transport because it is not adequately blocked, braced, or packaged.

Table 2. Waste Material Parameters

Waste Material Parameter	Description
Iron-based metals/alloys (IM)	Iron and steel alloys in the waste; does not include the waste container materials
Aluminum-based metals/alloys (AM)	Aluminum or aluminum-based alloys in the waste materials
Other metals (OM)	All other metals found in the waste materials (e.g., lead, lead blankets)
Other inorganic materials (OI)	Nonmetallic inorganic waste, including concrete, glass, firebrick, ceramics, sand, and inorganic sorbents
Cellulosics (C)	Materials generally derived from high polymer plant carbohydrates (e.g., paper, cardboard, wood, cloth)
Rubber (R)	Natural or man-made elastic Latex materials (e.g., surgeon's gloves, leaded rubber gloves)
Plastics (waste materials) (XPM)	Generally man-made materials, often derived from petroleum feedstock (e.g., polyethylene, polyvinylchloride)
Organic matrix (OR)	Cemented organic resins, solidified organic liquids, and sludges
Inorganic matrix (IN)	Any homogeneous materials consisting of sludge, or aqueous-based liquids which are solidified with cement, calcium silicate, or other solidification agents (e.g., waste water treatment sludge, cemented aqueous liquids, and inorganic particulate)
Soils (S)	Generally consists of naturally occurring soils which have been contaminated with inorganic waste materials
Steel (packaging materials) (ST)	Steel Drums (55- and 85- Gallon)
Plastics (packaging materials) (PP)	90-mil polyethylene drum liner and plastic bags

Table 3. Waste Item Weights[a] Page 1 of 2

ITEM	WEIGHT
Electric Drill Motor	2.2 kg
Electric 4” Side Grinder	2.5 kg
Plastic bag for waste	0.6 kg
Fiber pack	13.0 kg
Fiber pack lead-lined	66.0 kg
Lead brick (5.1 x 10 x 20 cm)	12.0 kg
Leaded Rubber Glove	2.5 kg
Aluminum Sphincter Can	0.2 kg
Leaded Rubber Apron	2.4 kg
Vermiculite	0.1 kg/liter
Oil-Dry	0.4 kg/liter
Poly Bottles (1 gallon)	2.2 kg
Poly Bottles (1 liter)	0.5 kg
Metal Can (for salt wastes)	1.1 kg
Metal Can	0.2 kg
Uncured Portland Cement	2.9 kg/liter
Setup Portland Cement	1.1 kg/liter
High-Efficiency Particulate Air (HEPA) Filter (8 x 8 3-1/16)	1.0 kg
HEPA Filter (8 x 8 x 5-7/8)	1.9 kg
HEPA Filter (12 x 12 x 5-7/8)	2.5 kg
HEPA Filter (24 x 24 x 5- 7/8)	7.2 kg
HEPA Filter (24 x 24 x 11-1/2)	14.1 kg
10’ Tape Measure	0.1 kg
13 Oz. Aerosol Can ¼ Full	0.2 kg
17 Oz. Aerosol Can Full of Liquid	0.5 kg
17" Section of 1" Electrical Conduit	0.5 kg
17" Section of 1" Sch 40 S/s Pipe	1.1 kg
2-Gallon Car-boy ½ Full of Water	5.8 kg
2’ X 4’ Board 20" long	0.7 kg
25’ Plastic Suit Hose	2.3 kg
3" Roll of Duct Tape	0.7 kg
3" Roll of Masking Tape	0.4 kg
5-Gallon Metal Bucket	1.3 kg
50’ Plastic Suit Hose	5.0 kg
6-Gallon Car-boy ½ Full of Water	14.0 kg

Table 3. Waste Items Weights[a] (Continued) Page 2 of 2

ITEM	WEIGHT
Channel Lock Pliers	0.3 kg
Coveralls	0.9 kg
Crescent Wrench	0.2 kg
Empty 2-Gallon Car-boy	0.7 kg
Empty 6-Gallon Car-boy	2.0 kg
Flashlight with Batteries	0.5 kg
Flashlight Without Batteries	0.1 kg
Flat File	0.4 kg
Hacksaw with Blade	0.5 kg
Hammer	0.6 kg
Large Open End Wrench	0.5 kg
Plastic Suit Top and Pants	2.3 kg
Razor Knife	0.1 kg
Sand Bag ½ Full of Gravel	12.7 kg
Scissors	0.2 kg
Vice Grip Pliers	0.5 kg
Welder's Chipping Hammer	0.4 kg
Wire Brush	0.1 kg
Wooden Folding Ruler	0.2 kg
Wooden Wedge	0.2 kg
Liner Bags – Large	0.5 kg
Rad Bags – Medium and Small	0.1 kg

[a]The weights for waste packaging and containers will use the nominal values except where identified by the program. Additional Host site/AK specification weights for waste items shall be provided in accordance with an approved Operator Aid.

Attachment 1 – CCP RTR Measurement Control Report

Site ID:		
Batch Data Report No.:		
Examination Date:		
Control Checks		
Video/Audio Recorded Media System Check	☐ SAT	☐ UNSAT
Image Test : _____ (Minimum acceptable is 5 lines-pair/cm or #6 Sieve is viewable)	☐ SAT	☐ UNSAT
Comments:		
RTR Operator:		
Printed Name	Signature	Date

Attachment 2 – CCP Radiography Data Sheet (Example)

Section 1: General Information	
☐ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	
Batch Number:	
Examination Date:	
Waste Container ID:	
Video/Audio Recorded Media Number:	
Procedure and Revision No.:	Rev.
NCR(s) associated with the container? (e.g., Prohibited Items)	☐ NO ☐ YES NCR No.: _____ NCR No.:
Section 2: Waste Container Data	
Container Type:	
TRUCON Code:	
Waste Matrix Code:	
Waste Stream I.D.:	
Waste Container Weights:	Gross Wt.: _____ kg Tare Wt.: _____ kg Net Wt.: kg
Rigid Liner and Liner Vent Description:	Liner Present: ☐ NO ☐ YES Lid: ☐ NO ☐ YES Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil Vented: ☐ NO ☐ YES Fiberboard: ☐ NO ☐ YES
Number of Layers of Confinement:	
Volume Utilization Percentage:	

Attachment 2 – CCP Radiography Data Sheet (Example) (Continued)

Waste Container ID:

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN:
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	
Plastics (PP):	
Others:	
Total Packaging Weight	
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI):	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	

Attachment 2 – CCP Radiography Data Sheet (Example) (Continued)

Waste Container ID:

Section 5: RTR Summary (Questions answered "YES" will be explained in the Comments block)		
Is there observable liquid?	☐ YES	☐ NO
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐ YES	☐ NO
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐ YES	☐ NO
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134??	☐ YES	☐ NO
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐ YES	☐ NO
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐ YES	☐ NO
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐ YES	☐ NO
Is there an indication of wastes containing explosives or compressed gases?	☐ YES	☐ NO
Is there an indication of PCBs liquids?	☐ YES	☐ NO
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐ YES	☐ NO
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ YES	☐ NO
CH or RH TRAMPAC		
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ YES	☐ NO
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ YES	☐ NO
Are there sealed containers GREATER than 4 liters?	☐ YES	☐ NO
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ YES	☐ NO
Comments:		
RTR Operator		
Print Name	Signature	Date

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist

Batch Data Report No.:_____

Description				
1.	Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☐ YES	
2.	Was the correct revision of the procedure used? Procedure: Rev.:	☐ NO	☐ YES	
3.	Are the WMPs entered correctly?	☐ NO	☐ YES	
4.	Do the estimated weights in Section 4 of Attachment 2 equal the container gross weight?	☐ NO	☐ YES	
5.	Is the data reported in the proper units with the correct number of significant figures (e.g., one tenth of a kilogram)?	☐ NO	☐ YES	
6.	Has the data been verified for transcription errors?	☐ NO	☐ YES	☐ N/A
7.	Does the Testing Batch Report include radiography for up to 20 containers?	☐ NO	☐ YES	
8.	BDR contents are complete and match the CCP Waste RTR Batch Data Report Table of Contents?	☐ NO	☐ YES	
9.	Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☐ YES	
10.	Is all data recorded clearly, legibly, and accurately?	☐ NO	☐ YES	
11.	All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☐ N/A
12.	Was justification made for changing the original data?	☐ NO	☐ YES	☐ N/A
13.	Were data changes made by the individual who originally collected the data?	☐ NO	☐ YES	☐ N/A
14.	Does the waste match the Waste Matrix Code and Waste Stream description?	☐ NO	☐ YES	
15.	Are the RTR Operator's decisions regarding the Radiography documented?	☐ NO	☐ YES	
16.	Is there an adequate written description of the contents of each item?	☐ NO	☐ YES	
17.	Was the video/audio recording media properly prepared and labeled for each waste container?	☐ NO	☐ YES	
18.	Was the video/audio recording media check performed satisfactorily and recorded on Attachment 1?	☐ NO	☐ YES	

Attachment 3 – CCP Radiography Independent Technical Reviewer Checklist (Continued)

Batch Data Report No.:_____

Description				
19.	Was the Image Test performed satisfactorily and recorded on Attachment 1?	☐ NO	☐ YES	
20.	Was the Replicate Scan performed and recorded on an Attachment 2?	☐ NO	☐ YES	
21.	Was the Replicate Scan RTR Operator different from the first RTR Operator?	☐ NO	☐ YES	
22.	Did the Replicate Scan RTR Operator and the first RTR Operator agree on the results?	☐ NO	☐ YES	
23.	Was the Independent Observation performed and recorded on an Attachment 2?	☐ NO	☐ YES	
24.	Was the Independent Observation RTR Operator different from the first RTR Operator?	☐ NO	☐ YES	
25.	Did the Independent Observation RTR Operator and the first RTR Operator agree on the results?	☐ NO	☐ YES	
26.	Was the data collection performed by qualified individuals?	☐ NO	☐ YES	
27.	Are the NCR(s) associated with the RTR examination included in the BDR?	☐ NO	☐ YES	☐ N/A
28.	QAOs (precision, accuracy, completeness, representativeness) have been met?	☐ NO	☐ YES	

Comments:

I have reviewed 100% of the container specific and batch data in this report and find it acceptable.

Independent Technical Reviewer:

Printed Name	Signature	Date

Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative

Batch Data Report No.:_____ Date:_____

Table Of Contents		
Item	Description	Page No.
1	CCP Radiography Batch Data Report Cover Sheet	
2	CCP Radiography Batch Data Report Table Of Contents	
3	CCP RTR Measurement Control Report	
4	CCP Radiography Data Sheets	
5	Copy of NCRs (NA, If Not Applicable)	
6	CCP Independent Technical Reviewer Checklist	

Batch Narrative

RTR Operator _____ Signature _____ Date

Attachment 5 – CCP Radiography Batch Data Report Cover Sheet

Site ID:_____

Batch Data Report No.:_____ ☐ CH ☐ RH _____ Date:_____

Waste Container ID Numbers	
Replicate Scan:	
Independent Observation:	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

RTR Operator:

Printed Name	Signature	Date

Independent Technical Reviewer:

Printed Name	Signature	Date

Controlled
Copy

CCP-TP-069

Revision 6

CCP
Sealed Source Visual Examination and Packaging

EFFECTIVE DATE: 06/06/2013

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	03/03/2005	Initial Issue.
1	04/05/2005	Revised to address Carlsbad Field Office (CBFO) Document Review Record (DRR) comments.
2	05/11/2005	Revised to address Carlsbad Field Office (CBFO) Document Review Record (DRR) adequacy review comments.
3	12/07/2005	Revised to add capability to package waste in containers other than pipe overpacks.
4	11/16/2006	Revised to implement the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/Remote-Handled (RH) Permit Modification Request (PMR).
5	11/09/2010	Revised to clarify the specification of dunnage used in the payload area of a Standard Pipe Overpack Component (POC) and Standard 55-gallon drum, expand the weights in Attachment 2, Weights for Standardized OSRP POC Packaging Configurations, and includes other minor corrections.
6	06/06/2013	Revised to clarify Visual Examination (VE) process and paperwork.

TABLE OF CONTENTS

1.0 PURPOSE 4
1.1 Scope 4

2.0 REQUIREMENTS 4
2.1 References 4
2.2 Training Requirements 5
2.3 Precautions and Limitations 5
2.4 Prerequisite Actions 5
2.5 Definitions 6

3.0 RESPONSIBILITIES 7
3.1 VE Expert 7
3.2 VE Operator 7
3.3 VE Packager 7
3.4 VE Recorder 7
3.5 Independent Technical Reviewer (ITR) 7
3.6 Facility Records Custodian 8

4.0 PROCEDURE 9
4.1 VE and Packaging of OSRP Sealed Sources 9
4.2 VE BDR Preparation 13
4.3 VE Independent Technical Review 14
4.4 VE BDR Submittal 14

5.0 RECORDS 16

LIST OF ATTACHMENTS

Attachment 1 – Waste Material Parameters (WMPs) and Descriptions 17
Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations 18
Attachment 3 – POC Assembly Top View Cross-Pattern Torque Sequences 19
Attachment 4 – Container Packaging and Visual Examination Data Record 20
Attachment 5 – Visual Examination Batch Data Report Cover Page 23
Attachment 6 – Visual Examination Batch Data Report Table of Contents 24
Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist 25

1.0 PURPOSE

The purpose of this procedure is to describe how to perform the Sealed Source Visual Examination (VE) Technique, identify sealed sources, package sealed sources, and prepare and review Batch Data Reports (BDRs) generated from the Sealed Source VE process.

This procedure is designed to be performed in conjunction with Los Alamos National Laboratory (LANL) Off-site Source Recovery Project (OSRP) operating procedures that address the recovery of sources. This procedure provides the actions for the collection of VE data and information required by CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan* and CCP-PO-002, CCP *Transuranic Waste Certification Plan*.

1.1 Scope

Sealed Source VE is performed to identify sealed sources and their weights, verify the physical form of the sealed sources, verify the absence of prohibited items, and confirm the waste stream based on acceptable knowledge (AK). The VE results are recorded on data forms associated with this procedure.

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- *Waste Isolation Pilot Plant Hazardous Waste Facility Permit,* NM4890139088-TSDF, Attachment B*, Waste Analysis Plan* (WAP)
- DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*
- NRC Docket 71-9218, *TRUPACT-II Safety Analysis Report*

Referenced Documents

- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*

- CCP-QP-008, *CCP Records Management*
- CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources*

2.2 Training Requirements

2.2.1 Personnel performing this procedure to characterize sealed sources will be trained and qualified in accordance with CCP-QP-002, *CCP Training and Qualification Plan.*

2.3 Precautions and Limitations

2.3.1 Facility Requirements

[A] This procedure augments, but DOES **NOT** supersede applicable requirements of the facilities in which the activities are conducted.

[B] This procedure DOES **NOT** address radiological protection requirements. All activities described shall be conducted in accordance with work plans, procedures, or other process controls generated by the facility where the work is performed.

2.3.2 Safety Precautions

[A] If workers observe a hazardous condition while conducting work according to this procedure, they must discontinue work, notify their immediate supervisor, group leader or other management representative, and follow instructions in accordance with the OSRP procedures required by LANL.

2.3.3 Conditions Adverse to Quality

[A] If a worker identifies a nonconforming item or process, the individual(s) identifying the condition shall initiate a nonconformance report (NCR) in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*.

2.4 Prerequisite Actions

2.4.1 VE Operator, verify the torque wrench is calibrated.

2.5 Definitions

2.5.1 **Sealed Source** – Any radioactive material that is physically encased in a capsule, rod, element, etc. that prevents the leakage or escape of the special nuclear material and that prevents removal of the radioactive material without penetration of the casing.

2.5.2 **Regulatory Definitions**

[A] 10 Code of Federal Regulations (CFR) § 30.4: Sealed source means any byproduct material that is encased in a capsule designed to prevent leakage or escape of the byproduct material.

[B] 10 CFR § 835.2: Sealed radioactive source means a radioactive source manufactured, obtained, or retained for the purpose of utilizing the emitted radiation. The sealed radioactive source consists of a known or estimated quantity of radioactive material contained within a sealed capsule, sealed between layer(s) of non-radioactive material, or firmly fixed to a non-radioactive surface by electroplating or other means intended to prevent leakage or escape of the radioactive material. Sealed radioactive sources do not include reactor fuel elements, nuclear explosive devices, and radioisotope thermoelectric generators.

3.0 RESPONSIBILITIES

3.1 VE Expert

3.1.1 Responsible for overall direction and implementation of the VE Operations.

3.2 VE Operator

3.2.1 Performs VE operations as either the VE Packager or the VE Recorder.

3.2.2 Prepares and paginates the BDR.

3.3 VE Packager

- Visually inspects OSRP sealed sources.
- Places OSRP sealed sources into containers.
- Verifies entries made by the VE Recorder on Attachment 4, Container Packaging and Visual Examination Data Record.

3.4 VE Recorder

- Acts as the second VE Operator during VE, and placement of sealed sources into payload containers.
- Verifies the VE Packager's observations by reviewing the contents of the container to ensure correct reporting.
- Documents Sealed Source VE operation data on Attachment 4.

3.5 Independent Technical Reviewer (ITR)

NOTE

Independent Technical Reviewer (ITR) review is performed by a qualified individual other than the VE Operators who performed the initial work and who was not involved in the generation or recording of the data under review.

3.5.1 Reviews the BDR and completes Attachment 7, Visual Examination Independent Technical Reviewer Review Checklist.

3.5.2 Reconciles possible errors with VE Operator(s) as necessary.

3.6 Facility Records Custodian

3.6.1 Receives, process, and transmits the VE BDR in accordance with CCP-QP-008, *CCP Records Management*.

4.0 PROCEDURE

NOTE
The steps outlined in Section 4.1 DO **NOT** have to be performed in sequence to maintain worker doses as low as reasonably achievable (ALARA).

4.1 VE and Packaging of OSRP Sealed Sources

VE Operator

4.1.1 Enter the Container Identifier (on all applicable pages of Attachment 4), name of the VE Packager, and name of the VE Recorder.

4.1.2 Indicate the container configuration used on Attachment 4, Page 1.

4.1.3 Record the drum lid filter and Pipe Overpack Component (POC) filter information, if applicable, on Attachment 4, Page 1. If a POC is not used, then record NA in the applicable POC-related sections.

4.1.4 For all items being loaded into the container, visually examine and verify by checking the box using Attachment 4, Page 1:

- The sealed source(s) meets a regulatory definition.
- The outer casing is made of non-Volatile Organic Compound (VOC) bearing material.
- That each sealed source is, or is contained in, a rigid sealed container less than or equal to 4 liters in size.
- That the items match the waste stream description, the waste matrix code, and physical form/summary category group provided by AK.
- That there are no non-packaging items placed in the container other than the source(s).
- Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources.*
- If POC lid and body have visible serial numbers, ensure those serial numbers match. If POC body serial number is not visible, enter NA in Attachment 4, Page 1.

4.1.5 For each item being loaded into the container, visually examine and record the following information on Attachment 4, Page 2:

- Sealed Source Description and Identifier (i.e., item identifier and isotope[s]).
- The waste material parameter (WMP) category (Attachment 1, Waste Material Parameters [WMPs] and Descriptions). If more than one waste material parameter is associated with an item, use as many lines as needed. Sealed source WMP category is "OM" for other metal.

NOTE

Data are reported with the correct number of significant figures (one decimal place).

- Estimated item weight in grams.
- Any comments.
- Line through unused item boxes or enter "NA" in each unused item boxes.

4.1.6 Load source(s) into container.

4.1.7 Indicate by checking the appropriate box, if prohibited hazardous items or conditions are present or not present for each item on Attachment 4, Page 3.

4.1.8 Sum and record the estimated weights in kilograms for all items on Attachment 4, Page 2.

4.1.9 For standard pipe overpack (12" pipe component) or standard 55-gallon drum (no POC), if additional internal dunnage was used to center and secure the sources, record the estimated weight for dunnage, the description, and WMP on Attachment 4, Page 2. Choose "None" if no additional dunnage was used. For S100, S200A, S200B, and S300 containers choose "NA".

4.1.10 Record the container total weight for the packaging configuration from Attachment 2, Weights for Standardized OSRP Packaging Configurations, on Attachment 4, Page 2.

4.1.11 Record the total estimated weight of the loaded container.

4.1.12 Record the container percent full on Attachment 4, Page 2.

4.1.13 Enter sealed source waste matrix code S5100 on Attachment 4, Page 1.

4.1.14 **IF** a POC is **NOT** used,
THEN GO TO step4.1.21, **AND** record NA in the applicable POC-related sections of Attachment 4, Page 1.

4.1.15 Carefully align the POC lid and lower the lid onto the POC O-ring and flange (guide pins may be used).

4.1.16 After lid is in contact with O-ring and flange face, minimize any lateral or rotary movement of the lid across the mating flange face to avoid unseating O-ring from groove, or damaging the O-ring.

NOTE
If there is a problem threading the bolt, the appropriate tap in the instrument kit will be used to clean out the threads.

4.1.17 Insert bolts into all lid bolt holes and snug bolts by hand, speed wrench, or a low speed, low torque driver to facilitate initial installation of all bolts.

4.1.18 Using a cross pattern sequence as indicated in the diagram in Attachment 3, POC Assembly Top View Cross-Pattern Torque Sequence, torque all POC bolts using a calibrated torque wrench.

[A] Torque the 12” POC to 65 ft-lb (± 5 ft-lb)

[B] Torque the 6” POC to 40 ft-lb (±4 ft-lb)

4.1.19 Re-torque each closure bolts using a circular bolt to bolt torquing sequence, ensure all bolts are properly torqued.

4.1.20 Record torque value, torque wrench identification number, and calibration due date in POC Bolt Torque section of Attachment 4, Page 1.

4.1.21 **IF** any plastic liner bags are used,
THEN CLOSE them using a “horsetail” or “twist and tape” method.

4.1.22 Replace the packing materials as follows:

[A] Replace fiberboard packing top (i.e., lid) matching pipe bolt heads, hoist ring, and filter with cutouts in fiberboard top.

[B] Install spacer(s) on top of fiberboard liner top, if applicable.

[C] Install rigid liner lid.

[D] Ensure the vertical distance between the bottom of the rigid liner lid (i.e., inner surface) and the upper surface (i.e., the top) of the top fiberboard shim is less than or equal to 0.5 inches.

[D.1] **IF** the distance exceeds 0.5 inches,
THEN remove the rigid liner lid, **AND** add a sufficient number of shims to bring the distance within range.

4.1.23 CLOSE the drum as follows:

[A] Install drum lid.

[B] Install closure ring as follows:

[B.1] Orient bolt closure ends downward and over the drum seam.

[B.2] Ensure that ring is properly seated on drum.

[C] Ensure that drum closure bolt is positioned through the unthreaded drum closure ring lug and that the locking nut is positioned between the two ring lugs.

[D] Thread drum closure bolt through the threaded drum closure ring lug.

[E] Lightly tighten drum closure bolt, ensuring that locking nut continues to turn freely.

[E.1] **IF** there is a problem threading the bolt,
THEN use the appropriate tap to clean out the threads.

[F] Torque the drum closure bolt as specified in the drum manufacture's closure instructions using a calibrated torque wrench, while tapping around circumference of drum closure ring with a soft-headed hammer or equivalent tool.

NOTE
For example, Myers Drums may be torqued to 40ft-lbs (± 4ft-lb) whereas Skolink drums may be torqued to 55 ft-lbs (± 5 ft-lb).

[G] Ensure that ends of drum ring DO **NOT** contact each other.

[H] Record torque value, torque wrench identification number, and calibration due date in Closure Ring Torque section of Attachment 4, Page 1.

[I] Tighten the lock nut against the unthreaded drum closure ring lug.

[I.1] **IF** lock nut cannot be tightened against unthreaded drum closure ring lug,
THEN tighten lock nut against threaded drum closure ring lug.

[J] Apply Tamper Indication Device (TID) to drum.

4.1.24 Both VE Operators (the VE Packager and the VE Recorder), shall review information recorded, include comments as appropriate, **AND** print name, sign, and date the appropriate lines on Attachment 4, Page 3.

4.2 VE BDR Preparation

VE Operator

4.2.1 Assemble the VE BDR using the following forms, as needed:

- Visual Examination Batch Data Report Cover Page (Attachment 5)
- Visual Examination Batch Data Report Table of Contents (Attachment 6)
- Independent Technical Reviewer Review Checklist (Attachment 7)
- Container Packaging and Visual Examination Data Record (Attachment 4)
- Weights for Standardized OSRP POC Packaging Configurations (Attachment 2)
- List of Acceptable Knowledge Identifier(s) (Documentation and/or Source Markings)
- List of Sources in Special Form Capsules
- Copy of Radiological Contamination Surveys
- List of Special Form Documentation

- Copy of NCRs, if applicable
- Other information, if applicable

4.2.2 Assign a unique BDR tracking number using the format LAyy-OSR-VE-nnn, where yy are the last two numbers of the current year (e.g., 13 for 2013) and nnn is a sequential number starting at 001 for the first BDR of each year, **AND** record on Attachment 5, and other attachments, as applicable.

4.2.3 Record the waste stream name and number and the Container Type on Attachment 5.

4.2.4 Record the container identification numbers for each container included in the VE BDR on Attachment 5.

NOTE

Attachment 6 and pagination will **NOT** be completed until the data generation level reviews are complete.

4.2.5 Provide the VE BDR to the VE ITR.

4.3 VE Independent Technical Review

NOTE

VE ITR review is performed by a qualified individual other than the VE Operators who performed the initial work.

4.3.1 Complete the review checklist, by checking the appropriate box, Yes, No, or NA, for each item on Attachment 7, **AND** print name, sign, and date Attachment 7 for the VE BDR.

4.3.2 Reconcile possible errors with VE Operator(s) as needed to ensure precision is maintained.

4.3.3 Accept the VE BDR by printing name, signing, and dating Attachment 5.

4.3.4 Return the VE BDR to a VE Operator for pagination.

4.4 VE BDR Submittal

4.4.1 Paginate the VE BDR.

4.4.2 Complete Attachment 6.

4.4.3 Submit the completed VE BDR to the Facility Records Custodian.

Facility Records Custodian

4.4.4 Receive, process, and transmit all records in accordance with CCP-QP-008.

5.0 RECORDS

5.1 Records generated during the performance of this procedure are maintained as Quality Assurance (QA) records in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Lifetime

[A] VE BDR

[A.1] Attachment 5 – Visual Examination Batch Data Report Cover Page

[A.2] Attachment 6 – Visual Examination Batch Data Report Table of Contents

[A.3] Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist

[A.4] Attachment 4 – Container Packaging and Visual Examination Data Record

[A.5] Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

[A.6] List of Acceptable Knowledge Documentation Identifier(s)

[A.7] List of Sources in Special Form Capsules

[A.8] Copy of Radiological Contamination Surveys

[A.9] List of Special Form Documentation

[A.10] Copy of NCRs, if applicable

[A.11] Other information, if applicable

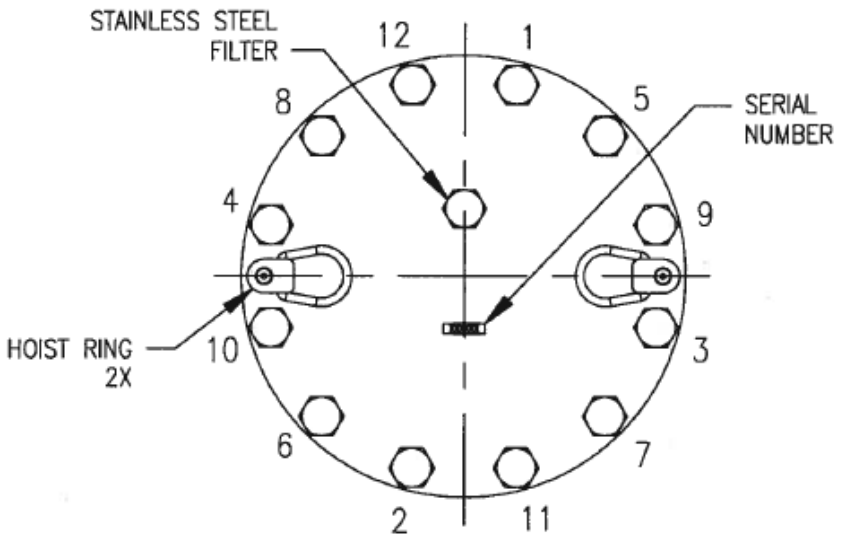
Attachment 1 – Waste Material Parameters (WMPs) and Descriptions

Waste Material Parameter (WMP)	Acronym	Description
Iron-based metals/alloys	IM	Iron and steel alloys in the waste; does not include the container materials
Aluminum-based metals/alloys	AM	Aluminum or aluminum-based alloys in the waste materials
Other metals	OM	All other metals found in the waste materials
Other inorganic materials	OI	Nonmetallic inorganic waste including concrete, glass, firebrick, ceramics, sand, and inorganic sorbents
Cellulosics	C	Materials generally derived from high-polymer plant carbohydrates; (e.g., paper, cardboard, wood, and cloth)
Rubber	R	Natural or man-made elastic latex materials; (e.g., surgeons' gloves, and leaded rubber gloves)
Plastics (waste materials)	PW	Generally man-made materials, often derived from petroleum feedstock; (e.g., polyethylene and polyvinylchloride)
Organic matrix	OR	Cemented organic resins, solidified organic liquids and sludges
Inorganic matrix	IN	Any homogeneous materials consisting of sludge or aqueous-based liquids that are solidified with cement, calcium silicate, or other solidification agents; (e.g., wastewater treatment sludge, cemented aqueous liquids, and inorganic particulates)
Soils/gravel	S	Generally consists of naturally occurring soils that have been contaminated with inorganic waste materials
Steel (packaging materials)	ST	55-gal (208-L) drums
Plastics (packaging materials)	PP	110-mil polyethylene drum liner and plastic bags

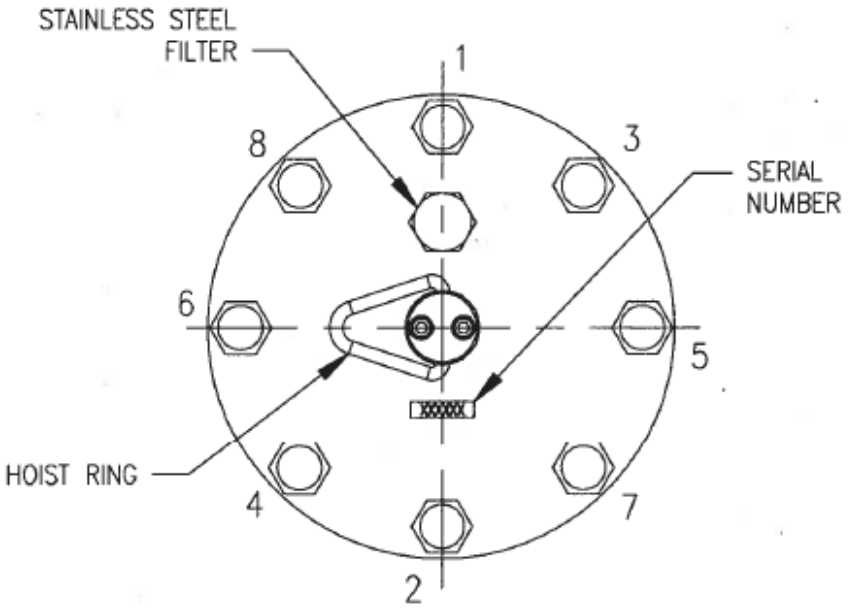
Attachment 2 – Weights for Standardized OSRP POC Packaging Configurations

Component		Estimated Component(s) Weight (kg)						
	WMP	Std. 55-gallon drum	Std. Pipe Overpack (12" pipe component)	S100 (6" pipe component plus end shield plugs and sleeve)	S200-A (12" pipe component plus 1" thick shielding insert)	S200-B (12" pipe component plus 0.6" thick shielding insert)	S300 (12" pipe component)
Std. 55-gallon drum	ST	27.7	27.7	27.7	27.7	27.7	27.7
Pipe component	ST	NA	82.0	39.2	82.0	82.0	82.0
110 mil rigid liner and liner lid with 7/8 inch hole	PP	NA	7.6	7.6	7.6	7.6	7.6
Outer cane fiberboard	C	NA	35.1	8.2	35.1	35.1	35.1
Internal POC insert (shield insert body and lid)	PP	NA	NA	9.9	NA	NA	39.2
	OM	NA	NA	NA	79.7	70.3	NA
Shield insert dunnage (Neutron Shielding, Water-Extended Polymer or equivalent)	PP	NA	NA	126.6	8.1	6.8	NA
TOTALS (kg)		27.7	152.4	219.2	240.2	229.5	191.6

Attachment 3 – POC Assembly Top View Cross-Pattern Torque Sequences



12 IN. PIPE
BOLT TORQUE SEQUENCE DIAGRAM
CROSS–PATTERN



6 IN. PIPE
BOLT TORQUE SEQUENCE DIAGRAM
CROSS–PATTERN

Attachment 4 – Container Packaging and Visual Examination Data Record

BDR #_____ Page 1 of 3

Container Identifier	
Printed name of VE Packager	
Printed name of VE Recorder	

Step	Requirement
1	Indicate the container configuration used (refer to Attachment 2 for configuration types. *(check one)*: ___ Standard Pipe Overpack (12" pipe component) ___ S100 ___ S200 A ___ S200 B ___ S300 ___ Standard 55-gallon drum (no POC)
2	• Drum lid filter model: _____ • Drum lid filter serial number: _____ • Drum lid filter manufacture date: _____ • POC lid filter model: _____ • POC lid filter serial number: _____ • POC lid filter manufacture date: _____
3	Verify based on VE: Verified • The item(s) meet a sealed source regulatory definition. Yes☐ No☐ • The outer casing is made of non-VOC bearing material, as the sources are placed in the container Yes☐ No☐ • That each sealed source/item is, or is contained in, a rigid sealed container less than or equal to 4 liters in size. Yes☐ No☐ • That the items match the waste stream description, the waste matrix code, physical form/summary category group provided by AK. Yes☐ No☐ • That there are no non-packaging items placed in the container other than the source(s). Yes☐ No☐ • Layers of confinement do not exceed those specified in CCP-AK-LANL-008, *Central Characterization Program Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources* Yes☐ No☐ • If POC lid and body have visible serial numbers, ensure the serial numbers match Yes☐ No☐ NA ☐
4	Enter the Waste Matrix Code for the sealed sources, based on VE: _____
5	POC Bolt Torque • POC bolts tightened to _____ft-lbs • Torque Wrench ID # _____ • Calibration due date of torque wrench _____
6	Closure Ring Torque • Drum ring bolts tightened to _____ ft-lbs • Torque Wrench ID # _____ • Calibration due date of torque wrench _____

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #_____ Page 2 of 3

Container Identifier

Record or verify the requested information for each sealed source as it is loaded into the container.

Item #	Sealed Source Description and Identifier	WMP*	Estimated Weight (indicate grams)	Comments (if any)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Total estimated weight (kg) for each WMP listed for above items.	kg		
Total estimated weight, description, and WMP for dunnage used within the payload area of the Standard POC or Standard 55-gallon durm, if any.	NA ☐ None ☐ kg	Description	WMP
Total estimated weight for packaging configuration (using appropriate drum weight from Attachment 2).	kg		
Total estimated weight (kg) for loaded container.	kg		
Container percent full.	%		

If the list of items is continued on additional pages, attach and number added pages appropriately.* WMP categories are listed in Attachment 1 of CCP-TP-069; WMP should be OM for OSRP sealed sources. If a source is comprised of mixed WMPs, each WMP will be entered on a separate line.
† Conversion factors: 0.002205 pounds per gram; 453.59 grams per pound

Attachment 4 – Container Packaging and Visual Examination Data Record (Continued)

BDR #_____ Page 3 of 3

Container Identifier

Present	Not Present	Prohibited Hazardous Items or Conditions
☐	☐	1. Liquid waste. Observable liquid shall be no more than 1 percent by volume of the outermost container at the time of radiography or visual examination. Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. Containers with HWN U134 shall have no observable liquid.
☐	☐	2. Non-radionuclide pyrophoric material.
☐	☐	3. Hazardous waste not occurring as co-contaminates with TRU mixed wastes.
☐	☐	4. Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes.
☐	☐	5. Explosives.
☐	☐	6. Compressed gas or potentially pressurized containers.
☐	☐	7. Wastes with Polychlorinated Biphenyl (PCB) compounds not authorized under an EPA PCB Waste Disposal Authorization.
☐	☐	8. Wastes exhibiting the characteristic of ignitability.
☐	☐	9. Wastes exhibiting the characteristic of reactivity.
☐	☐	10. Wastes exhibiting the characteristic of corrosivity.
☐	☐	11. Radioactive pyrophorics greater than or equal to 1% by weight of the container that have not been rendered nonreactive.
☐	☐	12. Inadequately blocked or braced sharp or heavy items.
☐	☐	13. Sealed containers greater than 4 liters.

Comments, including the identifiers of any relevant NCRs.

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

_____ _____ _____
Printed Name VE Packager Signature Date

I certify that I have visually examined each item loaded into this container, and that the above information is correct. I also verify that no items other than those listed on this form have been placed into this container.

_____ _____ _____
Printed Name VE Recorder Signature Date

Attachment 5 – Visual Examination Batch Data Report Cover Page

VE BDR Number:	
Waste stream number:	Container Type:

Container Identifiers included in this VE BDR			
1		11	
2		12	
3		13	
4		14	
5		15	
6		16	
7		17	
8		18	
9		19	
10		20	

VE Independent Technical Reviewer

_____	_____	_____
(Printed Name)	(Signature)	(Date)

Attachment 6 – Visual Examination Batch Data Report Table of Contents

VE BDR _____

Table of Contents		
Item	Description	Page No.
1	Visual Examination Batch Data Report Cover Page (Attachment 5)	
2	Visual Examination Batch Data Report Table of Contents (Attachment 6)	
3	Visual Examination Independent Technical Reviewer Review Checklist (Attachment 7)	
4	Container Packaging and Visual Examination Data Record(s) (Attachment 4)	
5	Weights for Standardized OSRP Packaging Configurations (Attachment 2)	
6	List of Acceptable Knowledge Documentation Identifier	
7	List of Sources in Special Form Capsules	
8	Copy of Radiological Contamination Surveys	
9	List of Special Form Documentation	
10	Copy of NCRs, if applicable	
11	Other information (if any; otherwise enter NA for page number)	

Attachment 7 – Visual Examination Independent Technical Reviewer Review Checklist

VE BDR _____

This review verifies that all quality assurance and quality control requirements are met at the data generation level as stated in this procedure.

Criteria Met?	Required Criterion
☐**Yes** ☐**No**	1. The correct revision of CCP-TP-069 was used? Note revision number, R____.
☐**Yes** ☐**No** ☐**NA**	2. Deviations, if any, have been documented. (Choose NA if there were no deviations.)
☐**Yes** ☐**No**	3. The weight data were reported in the correct units. (Note: Total weight must be reported in kilograms (Kg) and the weights of individual sealed sources are reported in grams.) Data are reported with the correct number of significant figures (one decimal place).
☐**Yes** ☐**No**	4. The WMPs identified during VE are consistent with those assigned to these materials based on AK.
☐**Yes** ☐**No**	5. The Waste Matrix Code is consistent with the AK.
☐**Yes** ☐**No**	6. Data generation and reduction were conducted in a technically correct manner in accordance with CCP-TP-069**,** as evidenced by checks of items 1-5.
☐**Yes** ☐**No**	7. Calibration data for torque wrenches are recorded and within the calibration period.
☐**Yes** ☐**No**	8. Calculations have been verified by 100% check of all hand calculations. • Sum or waste material parameter weights • Estimated POC or waste weight
☐**Yes** ☐**No**	9. The data were reviewed for transcription errors and the data recorded is legible, accurate, and include any identifier numbers.
☐**Yes** ☐**No**	10. The forms in the VE BDR are complete and match the Table of Contents (Attachment 6).
☐**Yes** ☐**No** ☐**NA**	11. All NCRs relevant to the packaging of the loaded sealed sources were initiated and entered on the VE BDR. (Choose NA if there were no NCRs.)
☐**Yes** ☐**No**	12. Precision: Precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases? (Enter Yes if there were no unresolved discrepancies.)
☐**Yes** ☐**No**	13. Accuracy and Comparability: Accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (e.g. operators on LOQI)?
☐**Yes** ☐**No**	14. Completeness: There is a completed VE data form for each waste container in the BDR?
Comments, if "No" is checked for any criterion above:	

Independent Technical Review conducted by:

VE Independent Technical Reviewer (Printed Name)	(Signature)	(Date)

Controlled
Copy

CCP-TP-113

Revision 18

CCP
Standard Contact-Handled Waste Visual Examination

EFFECTIVE DATE: 09/25/2013

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

Controlled
Copy

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	03/26/2004	Initial Issue.
1	04/02/2004	Incorporated Facility Oversight Review Committee Comment resolutions, from Los Alamos National Laboratory, into Sections 1.0, 2.0 and 4.0.
2	07/15/2004	Revised in response to CBFO CAR #04-026. The change in this document involved addition of a note for clarification and implementation on percent fill of a drum. As such, this change is data quality affecting.
3	01/25/2005	Made corrections to procedure per LANL, to comply with the MSA review.
4	12/22/2005	Revised Table 4 to add the weight of an 85- and 110-Gallon Drum as well as a 55-Gallon 12-mil. Plastic Bag. Revised responsibility for pagination of the BDR.
5	08/28/2006	Revised to address CAR LANL-0006-06.
6	11/16/2006	Revised to implement changes to the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/RH PMR.
7	03/19/2007	Revised to clarify notes and procedural steps. Revised to record Output Drum information in Section 4 of Attachment 1. Revised to record Waste Container ID on each page of Attachment 1.
8	09/04/2007	Revised to separate and clarify each Visual Examination (VE) process. Revised Attachment 1, CCP Waste Visual Examination Data Form and Attachment 2, CCP Waste VE Independent Technical Reviewer Checklist, to support the changes. Added new Section 4.11, Newly Generated Waste Container Data Submission, and Attachment 5, CCP Newly Generated Waste Container Data, to assist in container tracking. Incorporated additional editorial changes.
9	03/05/2008	Revised to add a step to Section 2.4 for use of Host site procedures for anomalous conditions. Attachment 1, Section 5, Prohibited Items revised to be consistent with Central Characterization Project (CCP) Nondestructive Examination (NDE) procedures and made additional editorial changes.

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
10	07/09/2008	Revised to address U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) Corrective Action Request (CAR) Number CAR-08-021 and New Mexico Environmental Department (NMED) Observer Inquiry from Audit A-08-16. Also, revised to maintain control of internal package/items so that payload containers are surveyed at <200 millirem per hour (mrem/hr).
11	11/12/2008	Revised to incorporate concurrent use with CCP-TP-163, *CCP Standard Visual Examination of Records*.
12	12/01/2008	Minor revision to add notes for clarification of visual examination (VE) of record.
13	03/11/2009	Revised to address the U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) Corrective Action Report (CAR) Number 09-015 and Environmental Protection Agency (EPA) Issue Numbers INL-CCP-RH-VE-T1-002CR, 003CR, and 007CR.
14	06/30/2010	Revised to incorporate modifications to Hazardous Waste Facility Permit. Revised to address CBFO Corrective Action Report (CAR) 10-019. Revised to address procedural steps, to accommodate the visual examination (VE) process for newly generated waste and to make additional editorial changes.
15	12/29/2010	Revised to clarify independent technical reviewer (ITR) independence.
16	04/25/2011	Revised to remove recording location and clarify transportation packaging requirements.
17	06/04/2013	Revised to incorporate the Nuclear Waste Partnership (NWP) transition changes.
18	09/25/2013	Revised to address Carlsbad Field Office (CBFO) Corrective Action Report (CAR) 13-051.

Controlled
Copy

TABLE OF CONTENTS

1.0 PURPOSE 6
1.1 Scope 6

2.0 REQUIREMENTS 7
2.1 References 7
2.2 Training Requirements 7
2.3 Equipment List 7
2.4 Precautions and Limitations 7
2.5 Prerequisite Actions 8
2.6 Definitions 8

3.0 RESPONSIBILITIES 10
3.1 Site Project Manager (SPM) 10
3.2 Visual Examination Expert (VEE) 10
3.3 Visual Examination Operator (VEO) 10
3.4 Independent Technical Reviewer (ITR) 10
3.5 Vendor Project Manager (VPM) 10

4.0 PROCEDURE 11
4.1 General Information and Performance Checks 11
4.2 Previously Packaged Input Waste Container Preparation. 15
4.3 Output Waste Container Verification 16
4.4 Visual Examination (VE) 18
4.5 Container Lid Installation and Closure Verification 25
4.6 Batch Data Report Preparation 26
4.7 VE Independent Technical Review 27
4.8 Newly Generated Waste Container Data Submission 27

5.0 RECORDS 28

Controlled
Copy

LIST OF TABLES

Table 1. Prohibited Items 29
Table 2. Layers of Confinement 30
Table 3. Waste Material Parameters 31
Table 4. Waste Item Weights and Weighing Codes 32

LIST OF ATTACHMENTS

Attachment 1 – CCP Waste Visual Examination General Information Form 35
Attachment 2 – CCP Waste Visual Examination Data Form 36
Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist 41
Attachment 4 – CCP Waste VE Batch Data Report Table of Contents 43
Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet 44
Attachment 6 – CCP Newly Generated Waste Container Data 45

Controlled
Copy

1.0 PURPOSE

CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*, Section C-3c, requires that containers be examined to verify the physical form of the waste and to identify items that are prohibited from disposal at the Waste Isolation Pilot Plant (WIPP). This procedure establishes how to perform visual examination (VE) of contact-handled (CH) transuranic (TRU) waste containers, which may include the removal of prohibited items; and how to prepare and review Batch Data Reports (BDRs) generated from the VE process. This procedure is designed to be accomplished in conjunction with Host site facility operating procedures that address the use of those facilities for VE. All Host site requirements for health, safety, and operations in the work place will be addressed in a Host site procedure.

1.1 Scope

This procedure applies to retrievably stored and newly generated S3000 homogeneous solids, S4000 soils/gravel, and S5000 debris waste streams. VE will be used when necessary to examine a waste container to verify its physical form and to detect and remediate items that are prohibited from disposal at the WIPP.

VE cannot identify prohibited items imbedded in forms, such as S3000 and S4000, when the material is not removed from the characterized container.

VE may be performed on S3000 or S4000 when the material is not removed from the characterized container if Carlsbad Field Office (CBFO) approves the method for the specific waste form, typically from a surveillance.

There are two methods allowed for performing a VE process. Method 1 uses one VE Operator (VEO) with audio/video recording of the process, and Method 2 uses two VEOs (without audio/video recording of the process).

Full use of this procedure is **NOT** currently authorized at Los Alamos National Laboratory (LANL), in that processing of a prohibited item(s) found during VE of homogeneous solid waste containers is **NOT** authorized at this time.

Controlled
Copy

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*

Referenced Documents

- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, *CCP Records Management*

2.2 Training Requirements

2.2.1 Personnel performing this procedure will be trained and qualified in accordance with CCP-QP-002, *CCP Training and Qualification Plan*, prior to performing this procedure.

2.3 Equipment List

2.3.1 Torque Wrenches

2.3.2 Certified VE Scale, as needed

2.3.3 Certified Container Scale

2.3.4 Certified Weights

2.4 Precautions and Limitations

2.4.1 Processing of prohibited item(s) found during VE of homogeneous solid waste containers is **NOT** authorized at LANL at this time.

2.4.2 Containers with a total dose rate >200 millirem per hour (mrem/hr) at surface SHALL **NOT** be processed under this procedure.

2.4.3 Host site procedures may be used in conjunction with this procedure in order to handle anomalous conditions, as necessary.

2.5 Prerequisite Actions

2.5.1 Prepare containers for VE in accordance with Host site procedures.

2.5.2 Ensure **NO** hold tags that would prevent the performance of VE are on the containers before proceeding.

2.5.3 Review the radiation levels of the containers before proceeding.

2.5.4 Ensure Method 1 or Method 2 for performing the VE has been determined by the Site Project Manager (SPM).

2.5.5 Ensure Input Waste Container(s) is on the Acceptable Knowledge (AK) Tracking Spreadsheet (if applicable).

2.5.6 For Newly Generated waste processing, confirm that waste is described in an approved AK Summary Report.

2.6 Definitions

2.6.1 **Calibration Due Date** – The date recorded on a tool's or scale's sticker/label that indicates the last date the tool or scale is in calibration.

2.6.2 **Method 1** – One VEO with audio/video recording of the process created during VE.

2.6.3 **Method 2** – Two VEOs (without audio/video recording of the process) performing VE. Each VEO shall observe for themselves the waste being placed in the waste container or the contents within the examined waste container when the waste is not removed.

2.6.4 **Outermost Container** – Outer container that holds waste at time of VE.

2.6.5 **Internal Container** – A container inside the outermost container examined during visual examination. Drum liners, liner bag, plastic bags used for contamination control, capillary-type labware, and debris not designed to hold liquid at the time of original waste packaging are not internal containers.

2.6.6 **Observable Liquid** – Liquid that is observable by a qualified operator performing VE of the waste.

Controlled
Copy

2.6.7 **Field Records** – Records which are generated in the field under adverse conditions (i.e., personnel are wearing Anti Cs), which need to be transcribed into a final format for legibility. Field records shall be obtained using the forms from this procedure to ensure the required information is obtained. The field record shall be signed and dated by the operator(s) performing the task. Field records that are transcribed will be included in the BDRs to ensure the absence of transcription errors.

2.6.8 **Tamper Indicating Device (TID)** – A device with a unique identifier that is used when a package is uncontrolled.

Controlled
Copy

3.0 RESPONSIBILITIES

3.1 Site Project Manager (SPM)

3.1.1 Determines the use of Method 1 or Method 2 for performing a VE process.

3.2 Visual Examination Expert (VEE)

3.2.1 Responsible for the overall direction and implementation of the VE operations.

3.3 Visual Examination Operator (VEO)

3.3.1 Performs the VE.

3.3.2 Assembles, paginates, and reviews the BDR.

3.4 Independent Technical Reviewer (ITR)

NOTE

The Independent Technical Reviewer (ITR) will be someone, other than the VEO, who is qualified to have performed the work and who was not involved in the generation or recording of the data under review.

3.4.1 Reviews the BDR.

3.5 Vendor Project Manager (VPM)

3.5.1 Ensures the safe operation of the VE process.

3.5.2 Ensures all personnel maintain proficiency and identifies any additional training that may be required.

3.5.3 Coordinates remediation of prohibited items with the Host site.

3.5.4 Facilitates container tracking and management.

4.0 PROCEDURE

NOTE

Weights will be recorded in kilograms (kg) out to one tenth of a kg.

A Testing Batch includes all data pertaining to VE for up to 20 waste containers without regard to waste matrix.

If, during the performance of VE, multiple Input Waste Containers are used to produce an Output Waste Container or multiple Output Waste Containers are generated from an Input Waste Container, separate data sections shall be completed for each waste container, as applicable.

N/A shall be marked in all fields of the Attachments that are not applicable.

The sections of this procedure may be performed independently and concurrently to accommodate the VE process; however, the internal steps should be performed in order. The internal steps in this procedure may only be performed in a different order than specified when required by Host site facility-specific operation procedures or as otherwise directed in that section.

For VE of Newly Generated Waste, Section 4.2 is not performed.

Remediation of prohibited items (e.g., removal, absorption, etc.) may be performed in unison with Waste Material Parameter (WMP) identification (ID).

Prohibited items are listed in Table 1, Prohibited Items, are remediated per Host site procedures, as necessary.

Any liquid in non-transparent internal containers, detected from shaking the internal container, will be handled by assuming that the internal container is filled with liquid.

Data changes and requisite approvals SHALL be made by the individual or individuals who originally collected the data, **OR** by an equally-qualified individual or individuals authorized to change data.

VEO

4.1 General Information and Performance Checks

4.1.1 Record Batch Data Report No. on Attachment 1, CCP Waste Visual Examination General Information Form, and Attachment 2, CCP Waste Visual Examination Data Form, (xxVEzzyyyy - where xx is the Site Identifier [e.g., LA for LANL], zz is the VE area identifier, and yyyy is a sequential number for that site).

Controlled
Copy

[A] Record the following information on Attachment 1:

[A.1] Mark applicable VE process to be performed.

[A.2] Mark VE Method used.

[A.3] Site ID

[A.4] Examination Date

[A.5] Procedure No.

[A.6] Revision No.

4.1.2 Camera(s) Check (Method 1)

NOTE

If the VE continues for more than one day, a camera check will be conducted prior to continuing the VE for the new day. The results of the second camera check will be recorded on the audio/video media and noted in the Comments block on Attachment 1. The audio/video camera will be checked prior to each VE BDR to ensure proper operation of the camera. The test image segment SHALL remain intact without being erased or recorded over.

[A] **IF** audio/video recording will **NOT** be created,
THEN mark N/A on Attachment 1, **AND** GO TO step 4.1.3.

[B] Record the Date, Container ID Number(s), BDR Number, and the Audio/Video Media Recording Number on the Audio/Video Media Label.

[C] Ensure the audio/video media is at its beginning or at the point where recording was stopped the previous day.

[D] Start the camera(s).

[E] Record a test image and narrative.

[F] Review the test segment by playing the audio/video media, **AND** verify the image is in focus and the narration is clear.

Controlled
Copy

[G] Save the test recording (i.e., stop the audio/video media at the end of the playback).

[G.1] **IF** the results are UNSAT,
THEN notify the Visual Examination Expert (VEE) and Vendor Project Manager (VPM).

(a) **WHEN** the camera/audio/video media recording system is operational,
THEN repeat steps 4.1.2[D] through 4.1.2[H].

[H] Record the results of the camera/audio/video media recording check as SAT on Attachment 1.

4.1.3 Scale Operational Check

NOTE

If the VE continues for more than one day, a scale operational check will be conducted prior to continuing the VE for the new day. The results will be recorded in the Comments block on Attachment 1.

The VEE will determine when the VE Scale or the Container Scale will not be used. This section will be performed when scales are used in the performance of the VE process.

[A] VE Scale

[A.1] **IF** VE Scale is **NOT** used,
THEN mark N/A on Attachment 1, **AND** GO TO step 4.1.3[B].

[A.2] Start the camera(s) in the record mode for the Scale Operational Check, as applicable.

[A.3] Verbally record the Scale Serial/ID Number and the Calibration Due Date on the audio/video media, if in use, **AND** record the data on Attachment 1.

[A.4] Place test weight(s) on the scale to verify the scale's operability.

(a) **IF** the reading is within the scales calibration tolerance,
THEN record as SAT on Attachment 1.

(b) **IF** the reading is **NOT** within the scales calibration tolerance,
THEN STOP WORK, **AND** notify the VPM,
AND record as UNSAT on Attachment 1.

Controlled
Copy

[A.5] Record the following Test Weight Information data on Attachment 1:

(a) Test Weight Serial/ID Number and Calibration Due Date for each weight used.

(b) Test Weight Total placed on the scale.

(c) Tray Weight, as required.

[A.6] With the tray placed on the scale, set the Tare to zero, as required.

[B] Container Scale

[B.1] Record the Scale Serial/ID Number and the Calibration Due Date on Attachment 1.

[B.2] Perform an operational check of the scale as follows:

(a) Place a known check weight(s) on the scale, **AND** verify the scale reads within 1.0 percent of the check weight used.

(a.1) **IF** the scale reads within the operational range,
THEN record SAT on Attachment 1.

(a.2) **IF** the scale reads outside of the operational range,
THEN, SUSPEND WORK, **AND** notify the VPM **AND** record as UNSAT on Attachment 1.

4.1.4 Record the following on Attachment 1:

[A] Method 1

VEO 1

[A.1] Print name, sign, and date.

[A.2] Mark VEO 2 as N/A.

[B] Method 2

VEO 1

[B.1] Print name, sign, and date.

VEO 2

[B.2] Print name, sign, and date.

4.2 Previously Packaged Input Waste Container Preparation.

NOTE
Section 4.2 is not performed for VE of Newly Generated Waste.

4.2.1 Record the Input Waste Container ID in Section 1, Output Waste Container Data, of Attachment 2.

NOTE
When performing Method 1, audio/video media recording is created to document activities that manipulate waste during the VE. It is expected that recording will be halted whenever VE is suspended. If recording is suspended, the reason is verbally documented on the audio/video media.

4.2.2 Position the camera(s) to record the VE of the Input Waste Container and its contents, **AND** start the camera(s) (if using Method 1).

4.2.3 Record verbally the Input Waste Container ID (if using Method 1).

NOTE
The Radiological Control Technician (RCT) SHALL be present to conduct radiological surveys in accordance with the Host site Interface Document and Host site procedures.

4.2.4 Remove/verify removal of the input waste container lid in accordance with Host site procedures.

[A] **IF** a rigid liner lid is present, **AND** the rigid liner lid is **NOT** vented (>0.3 in.) or filtered,
SUSPEND WORK, **AND** notify the VPM

[B] Remove the rigid liner lid, if applicable, in accordance with Host site procedures.

Controlled
Copy

NOTE

VE on large or heavy packages/items SHALL be performed as they are removed from the container.

Waste from the Input Waste Container may be segregated for VE as determined by the VEO.

4.2.5 Remove/verify removal of the waste from the Input Waste Container, as appropriate.

4.2.6 Open/verify opening of waste package/items, as appropriate.

4.3 Output Waste Container Verification

4.3.1 Record the following data for the Output Waste Container in Section 1 of Attachment 2:

[A] Output Waste Container ID

[B] Waste Stream ID

[C] Container Type (e.g., 55-gallon drum)

[D] TRUCON Code

[E] Waste Matrix Code

[F] Audio/Video Media Recording Number (if applicable)

NOTE

The RCT SHALL be present to conduct radiological surveys in accordance with the Host site Interface Document and Host site procedures.

4.3.2 Perform the following, **AND** record the applicable data for the Output Waste Container in Section 1 of Attachment 2:

[A] Record Output Waste Container Tare Weight.

[B] Remove the container lid in accordance with Host site procedures, as applicable.

[C] **IF** a rigid liner is **NOT** present,
THEN perform the following:

[C.1] Record NO, Rigid Liner Present?

Controlled
Copy

[C.2] Record NO, Rigid Liner Lid Present?

[C.3] Record N/A, Rigid Liner Lid is Vented (>0.3 in.), Filtered, and Serial No.?

[C.4] GO TO step 4.3.2[G].

[D] **IF** a rigid liner is present,
THEN record YES, the Type of Liner, and Thickness.

[E] **IF** a rigid liner lid is NOT present,
THEN record NO **AND** perform the following**:**

[E.1] Record N/A, Rigid Liner Lid is Vented (>0.3 in.) or Filtered?

[E.2] GO TO step 4.3.2[G].

[F] **IF** a rigid liner lid is present,
THEN record YES, **AND** perform the following**:**

[F.1] **IF** the rigid liner lid is vented (punctured) **AND** the puncture is >0.3 inches,
THEN record Vented, **AND** measure and record the Hole Size.

[F.2] **IF** the rigid liner lid is filtered,
THEN record Filtered, **AND** the Model No. and Serial No.

[F.3] Remove the rigid liner lid, if applicable, in accordance with Host site procedures.

[G] **IF** a bag liner is used,
THEN record YES.

[H] **IF** NO bag liner is used,
THEN record NO.

Controlled
Copy

4.4 Visual Examination (VE)

NOTE

Steps 4.4.1 through 4.4.8 may be repeated, as necessary, until loading of the Output Waste Container is complete.

Waste container(s) SHALL be closed and have a TID applied when access to the container is uncontrolled.

A new Section 2 of Attachment 2 SHALL be used each time the waste container is opened, the TID is removed, and waste is added.

Steps 4.4.1 through 4.4.5 may be performed in any order to accommodate the process.

Individual package/item(s) may be inspected and have a Section 2 of Attachment 2 completed for each, prior to bag out. A TID may be applied to these package/item(s) for verification purposes.

4.4.1 **IF** a container TID is applied to the waste container,
THEN remove TID in accordance with Host site procedures, **AND** record Removed Container TID Number in Section 2 of Attachment 2, as required.

4.4.2 Remove lid in accordance with Host site procedures, as required.

4.4.3 Position that camera(s) to record the VE of the Output Waste Container and its contents, **AND** start the camera(s), as applicable.

4.4.4 Record verbally the Output Waste Container ID, as applicable.

NOTE

When performing Method 1, the camera(s) may require repositioning to record (audio/video) the weighing and final weight of each package from the container.

Controlled
Copy

NOTE

Potential hazardous wastes identified by visual examination include:

- Batteries
- Circuit Boards (may be contained in electrical equipment)
- Cathode Ray Tube (CRT)-based computer monitors or televisions
- Lead
- Mercury, mercury containing equipment (e.g., barometers, switches, thermometers, thermostats)
- Light Bulbs (both incandescent and fluorescent)

4.4.5 Examine the waste, **AND** record the applicable data in Section 2 of Attachment 2:

[A] Date.

[B] Record Package Number, as applicable.

[C] Record Package TID Number, as applicable.

NOTE

VEE will make determination on the disposition of waste > 200 mrem/hr at the surface.

[D] **IF** the waste is > 200 mrem/hr at the surface, **AND** is going to be placed into the Output Drum,
THEN perform the following:

(a) **WHEN** loading the waste,
THEN position as close as reasonably achievable to the side of the output container.

(b) **IF** the waste is a can with material in it,
THEN document it in the Comments block of Section 1 of Attachment 2.

[E] Record Waste Description.

Controlled
Copy

[F] Determine the contents by WMP category per Table 3, **AND** document as follows:

[F.1] Ensure that there are no prohibited items present in the waste package/item.

NOTE

WMP weight and the method used to determine the weight of the WMP from Table 4, Waste Item Weights and Weighing Codes, may be recorded in Steps 4.4.5[F.2] **OR** 4.4.9 **OR** 4.4.14[A] to accommodate the process.

[F.2] Weight of each WMP and the method used to determine the weight of the WMP from Table 4, as required.

[G] Place a TID on the package/item **AND** record the number, as required

[H] Place the package/item into the Output Waste Container as needed.

[I]

IF package/item(s) are not to be direct loaded,
THEN record the following in Section 2 of Attachment 2:

VEO 1

[I.1] Print name, sign, and date to annotate VE of package/item(s) is complete, **AND** NO Prohibited Items, listed in Table 1, are present.

(a) **IF** Method 1 is being performed,
THEN mark VEO 2 as N/A.

VEO 2

[I.2] **IF** Method 2 is being performed,
THEN print name, sign, and date to annotate VE of package/item(s) is complete, **AND** NO Prohibited Items, listed in Table 1, are present.

Controlled
Copy

4.4.6 **IF** loading an Output Waste Container(s) with package/items(s) that were previously inspected,
THEN obtain appropriate Section 2(s) for items being loaded **AND** verify the information recorded on the Section 2(s) matches the package/items.

[A] **IF** package/item information recorded DOES **NOT** match the package/item,
THEN SUSPEND work and notify VPM.

4.4.7 Record Output Waste Container ID in Section 2 of Attachment 2.

4.4.8 Place the package/item into the Output Waste Container, as needed.

4.4.9 Record the weight of each WMP and the method used to determine the weight of the WMP from Table 4 in Section 2 of Attachment 2, as required.

4.4.10 **IF** additional waste packages/item(s) are to be added at a later time and access to the waste container is going to be left uncontrolled,
THEN perform the following:

[A] Apply the container TID to the waste container in accordance with Host site procedures, **AND** record the applied TID Number on Section 2 of Attachment 2, as required.

VEO

4.4.11 **IF** loading an Output Waste Container(s) with package/item(s) that were previously inspected, AND the loading is completed for the day,
THEN record the following on Section 2 of Attachment 2:

VEO 1

[A.1] Print name, sign, and date to annotate loading of Output Waste Container is complete.

(a) **IF** Method 1 is being performed,
THEN mark VEO 2 as N/A.

VEO 2

[A.2] **IF** Method 2 is being performed,
THEN print name, sign and date.

Controlled
Copy

4.4.12 **WHEN** loading of the Output Waste Container is complete,
THEN perform the following:

[A] Paginate page(s) of Section 2 of Attachment 2.

[B] Record the data listed below for the Output Waste Container in Section 1 of Attachment 2 as follows:

NOTE

The Volume Utilization Percentage (VUP) of the container is based on the highest level of the bulk of the waste. Items (e.g., pipe, scrap angle, plastic bags) which protrude above the bulk of the waste are **NOT** to be included in the fill percent determination. The fill percent is to be recorded in five percent increments (e.g., 35%, 40%, 45%).

[B.1] Estimate the VUP.

[B.2] Record NO or YES, to indicate whether the waste is consistent with the assigned Waste Stream Description and Waste Matrix Code.

(a) **IF** NO,
THEN initiate a Nonconformance Report (NCR) in accordance with CCP-QP-005, **AND** record the NCR No. in Section 1 of Attachment 2.

[B.3] Record Closure Method for layers of confinement, if applicable (see Table 2, Layers of Confinement).

[B.4] Using Table 2, determine the number and record the Number of Layers of Confinement, as applicable.

[C] GO TO Section 4.5 for Output Waste Container Lid Installation and Closure Verification.

4.4.13 Apply the TID to the waste container **AND** record the applied TID Number on Section 2 of Attachment 2, as required.

4.4.14 Record the Gross Weight by weighing the Output Waste Container after it is released to be moved to its staging area, in Section 1 of Attachment 2.

[A] Record the weight of each WMP and the method used to determine the weight of the WMP from Table 4 in Section 2 of Attachment 2, as required.

Controlled
Copy

4.4.15 Perform the following, **AND** record the data in Section 3 of Attachment 2:

[A] Record Output container ID.

[B] Weigh or use Table 4 to estimate the weight of the Packaging Materials of the Output Waste Container, **AND** Total Packaging Weight.

[C] Weights of the WMPs by reviewing the WMPs listed in Section 2(s) of Attachment 2, **AND** combine all consistent WMPs.

[D] Total the WMPs, **AND** record the Total WMP Weight.

[E] Ensure the total of the WMP weights (Section 3, Attachment 2) is within five percent of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight (Section 1, Attachment 2).

4.4.16 Record the following information in Section 4, Prohibited Item(s) Summary, of Attachment 2:

[A] Output Waste Container ID.

[B] **IF** Section 2(s) of Attachment 2 were completed for individual package/items(s),
THEN verify signatures in Section 2(s) of Attachment 2, answer questions in Section 4 of Attachment 2 NO **OR** NA, as applicable.

[C] **IF** packaged/item(s) were direct loaded into Output Waste Container,
THEN answer NO, YES, or N/A appropriately, to the questions in Section 4 with all explanations annotated in the Comments block of Section 4 of Attachment 2.

[C.1] **IF** YES is marked in Section 4,
THEN initiate an NCR in accordance with CCP-QP-005, **AND** record the NCR No. in Section 1 of Attachment 2.

Controlled
Copy

4.4.17 Determine (e.g., via Radiological Label or Dose Rate Survey) if the total dose rate of the waste container is >200 mrem/hr at the surface, **AND** record YES or NO in Section 1 of Attachment 2.

[A] **IF** the total dose rate is >200 mrem/hr at the surface, **THEN** initiate an NCR in accordance with CCP-QP-005, **AND** record NCR No. in Section 1 of Attachment 2.

4.4.18 STOP the camera(s) recording when VE is complete, as applicable.

4.4.19 Ensure YES or NO is recorded in Section 1 of Attachment 2 to indicate if any NCRs are associated with the applicable waste container.

[A] **IF** YES,
THEN ensure the appropriate NCR number(s) are recorded.

NOTE

All areas in the attachments that DO **NOT** have completed information SHALL be marked N/A.

4.4.20 Record the following in Section 5, Approvals, of Attachment 2:

[A] Method 1

VEO 1

[A.1] Print name, sign, and date to annotate that the VE process has been completed.

[A.2] Mark VEO 2 as N/A.

[A.3] Prepare two (2) audio/video media recordings.

[B] Method 2

VEO 1

[B.1] Print name, sign, and date to annotate that the VE process has been completed.

VEO 2

[B.2] Print name, sign, and date to annotate that the VE process has been completed.

Controlled
Copy

VEO

4.4.21 Affix new CCP Container Traveler(s) (Labels) to the Output Waste Container(s) in accordance with appropriate CCP Site Container Management procedure, as necessary.

4.4.22 **WHEN** all containers for a batch are complete,
THEN GO TO Section 4.6.

4.5 Container Lid Installation and Closure Verification

NOTE

Steps 4.5.1[A], [B], [C], [D], and [E] may be performed at any time during or after, Output Waste Container setup.

4.5.1 Perform the following, **AND** record the applicable data, for the Output Waste Container, in Section 1 of Attachment 2:

[A] Verify the Filter and Lid Ring/Bolt Torque Wrenches to be used are in calibration.

[B] Filter Torque Wrench Serial/ID Number and Calibration Due Date.

[C] Container Filter Model(s) and Serial Number(s).

[D] Ensure the filter is installed in accordance with the manufacturer's instructions.

[E] Torque the filter to the manufacturer's specifications, **AND** record the Torque Value.

[F] Ensure the container lid is installed in accordance with the manufacturer's instructions.

[G] Lid Ring/Bolt Torque Wrench Serial/ID Number and Calibration Due Date.

[H] Torque the Container Lid Ring/Bolt(s) to the manufacturer's specifications, **AND** record the Torque Value.

4.5.2 GO TO step 4.4.13 as applicable.

Controlled
Copy

VEO

4.6 Batch Data Report Preparation

4.6.1 Verify Field Records have been transcribed into the appropriate forms.

4.6.2 Assemble the following data for the BDR ensuring that the BDR number and, Examination Date, and Output Waste Container ID(s), as needed, are recorded on each Attachment:

[A] Attachment 5, CCP Waste VE Batch Data Report Cover Sheet

[B] Attachment 4, CCP Waste VE Batch Data Report Table of Contents

[C] Attachment 1, CCP Waste VE General Information Form

[D] Attachment 2, CCP Waste Visual Examination Data Form

[E] Attachment 3, CCP Waste VE Independent Technical Reviewer Checklist

[F] Copies of NCRs, if applicable

[G] Field Records, if applicable

4.6.3 Paginate the BDR.

4.6.4 Complete Attachment 4.

4.6.5 Forward the BDR package and the audio/video media, if applicable, to the ITR.

Controlled
Copy

4.7 VE Independent Technical Review

NOTE

The independent technical review is conducted by an individual who is qualified to have performed the initial work, but who is **NOT** directly responsible for performing the work. The ITR can **NOT** review his/her own work.

If any item on Attachment 3 is marked NO and the condition **CAN NOT** be mitigated, an NCR will be initiated, per CCP-QP-005, **AND** only as a single NCR that identifies all deficiencies.

Independent Technical Reviewer (ITR)

4.7.1 Review the BDR to the criteria in Attachment 3, **AND** document.

4.7.2 Items marked NO require explanation in the Comments block, **AND** items marked NA may require explanation in the Comments block, as necessary to clarify.

4.7.3 Print, sign, and date Attachment 3 and Attachment 5.

4.7.4 Submit the BDR and the audio/video media, if applicable, to CCP Records in accordance with CCP-QP-008, *CCP Records Management*.

4.8 Newly Generated Waste Container Data Submission

VPM/Designee

4.8.1 Complete Attachment 6, CCP Newly Generated Waste Container Data, for newly generated waste containers generated during the performance of VE for the BDR.

4.8.2 Print name, sign, and date Attachment 6.

4.8.3 Submit the Attachment 6 to CCP records in accordance with CCP-QP-008. Transmit a copy of Attachment 6 to the cognizant Acceptable Knowledge Expert (AKE).

Controlled
Copy

5.0 RECORDS

5.1 Records generated during the performance of this procedure are maintained as Quality Assurance (QA) records in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Lifetime

[A] Batch Data Report (BDR)

[A.1] Attachment 1 – CCP Waste Visual Examination General Information Form

[A.2] Attachment 2 – CCP Waste Visual Examination Data Form

[A.3] Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

[A.4] Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

[A.5] Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

[A.6] Copies of NCRs, if applicable

[A.7] Field Records, if applicable

[B] Attachment 6 – CCP Newly Generated Waste Container Data

5.1.2 QA/Nonpermanent

[A] Two (2) Audio/Video Media Recordings (VHS Tape or DVD), if applicable

Table 1. Prohibited Items

LIST OF PROHIBITED ITEMS
Liquid waste is not acceptable at WIPP - Observable liquid shall be no more than 1 percent by volume of the outermost container. - Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited. - Containers with Hazardous Waste Number U134 assigned shall have no observable liquid. - Overpacking the outermost container that was examined or redistributing untreated liquid within the container shall not be used to meet the liquid volume limits.
Non-Radionuclide Pyrophorics
Non-mixed hazardous waste
Incompatible wastes (Wastes that are incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, and/or other wastes.)
Explosives
Compressed Gases/Pressurized containers (e.g., aerosol cans)
Polychlorinated Biphenyl (PCB) Liquids
Ignitables
Corrosives
Reactive waste
Sealed containers greater than 4 liters
Heat-sealed bags (unvented) with a surface area <390 square inches
Sharp or heavy objects (Large, bulky dense objects with sharp and obtrusive members or components with dispersible Form 1 and 2) (e.g., steel or concrete boxes, steel plate, electric motors, steel pipe, or concrete blocks) not adequately blocked, braced, or packaged.
Waste that has ever been managed as high-level waste and waste from tanks specified in Table C-8 of CCP-PO-001.

Controlled
Copy

Table 2. Layers of Confinement

Container [a]		Plastic Bags		Metal Cans	
Twist and Tape	CTT/STT	Twist and Tape	TT	Sealed	C
Fold and Tape	CFT/SFT	Fold and Tape	FT		
Other Closure	COC/SOC	Other Closure	OC		
Vented	(add) F	Vented	(add) F	Vented	(add) F

[a] Container: "C" - Container
"S" - Standard Waste Box (SWB)

Liner lids and packaging layers are distinguished as follows:

Layers of confinement are defined, per Section 3.8 of the CH-TRU Payload Appendices, as any boundary that restricts, but does not prohibit, the release of hydrogen gas across the boundary.

Examples of confinement layers are plastic bags (smaller inner bags or larger container liner bags) with the allowable closure methods described below and metal containers fitted with filter vents.

- Fold and tape closure
- Twist and tape closure
- Heat-seal closure or twist and tape closure with a minimum of one filter vent

NOTE

Punctured plastic bags, liner bags open at the end, pieces of plastic sheeting wrapped around the waste for handling, and metal containers with lid closures that allow free hydrogen release are not considered as confinement layers.

Controlled
Copy

Table 3. Waste Material Parameters

Waste Material Parameter	Description
Iron-based metals/alloys (IM)	Iron and steel alloys in the waste; does not include the waste container materials
Aluminum-based metals/alloys (AM)	Aluminum or aluminum-based alloys in the waste materials
Other metals (OM)	All other metals found in the waste materials
Other inorganic materials (OI)	Nonmetallic inorganic waste, including concrete, glass, firebrick, ceramics, sand, and inorganic sorbents
Cellulosics (C)	Materials generally derived from high polymer plant carbohydrates (e.g., paper, cardboard, wood, cloth)
Rubber (R)	Natural or man-made elastic Latex materials (e.g., surgeon's gloves, leaded rubber gloves)
Plastics (waste materials) (PW)	Generally man-made materials, often derived from petroleum feedstock (e.g., polyethylene, polyvinylchloride)
Organic matrix (OR)	Cemented organic resins, solidified organic liquids, and sludges
Inorganic matrix (IN)	Any homogeneous materials consisting of sludge, or aqueous-based liquids which are solidified with cement, calcium silicate, or other solidification agents (e.g., waste water treatment sludge, cemented aqueous liquids, and inorganic particulate)
Soils (S)	Generally consists of naturally occurring soils which have been contaminated with inorganic waste materials
Steel (packaging materials) (ST)	Container (e.g., 208-liter [55-gal.] drums)
Plastics (packaging materials) (PP)	Liner (e.g., 90-mil polyethylene drum liner and plastic bags)

Table 4. Waste Item Weights and Weighing Codes Page 1 of 3

ITEM	WEIGHT
3" Roll of Duct Tape	0.7 kg
3" Roll of Masking Tape	0.4 kg
10’ Tape Measure	0.1 kg
Channel Lock Pliers	0.3 kg
Crescent Wrench	0.2 kg
Flashlight With Batteries	0.5 kg
Flashlight Without Batteries	0.1 kg
Flat File	0.4 kg
Hacksaw With Blade	0.5 kg
Hammer	0.6 kg
Large Open-End Wrench	0.5 kg
Razor Knife	0.1kg
Scissors	0.2 kg
Vice Grip Pliers	0.5 kg
Welder’s Chipping Hammer	0.4 kg
Wire Brush	0.1 kg
Wooden Folding Ruler	0.2 kg
Wooden Wedge	0.2 kg
13 oz. Aerosol Can ¼ Full	0.2 kg
17 oz. Aerosol Can Full of Liquid	0.5 kg
17" Section of 1" Electrical Conduit	0.5 kg
17" Section of 1" Sch 40 S/s Pipe	1.1 kg
2’ X 4’ Board 20" long	0.7 kg
Empty 2-Gallon Car-boy	0.7 kg
Empty 6-Gallon Car-boy	2.0 kg
Empty POC (Black Poly Liner)	154.2 kg
Empty POC (White Poly Liner)	145.1 kg
Empty SWB	290.3 kg
2-Gallon Car-boy ½ Full of Water	5.8 kg
6-Gallon Car-boy ½ Full of Water	14.0 kg
5-Gallon Metal Bucket	1.3 kg
Metal Can	0.2 kg
Metal Can (for salt wastes)	1.1 kg
Aluminum Sphincter Can	0.2 kg
Sand Bag ½ Full of Gravel	12.7 kg
Plastic Bag for Waste	0.6 kg
Liner Bags – Large	0.5 kg
Rad Bags – Medium and Small	0.1 kg
55-Gallon 10-mil Plastic Bag (each)	1.8 kg
55-Gallon 5-mil Plastic Bag (each)	0.3 kg
55-Gallon 12-mil Plastic Bag (each)	2.1 kg
O-ring Plastic Bag (e.g., sludge, organic setups)	9.0 kg

Table 4. Waste Item Weights and Weighing Codes (Continued) Page 2 of 3

ITEM	WEIGHT
55-Gallon Drum PVC O-ring Bag (60.96 x 213.36 cm)	22.0 kg
55-Gallon Fiberboard Disk	48.0 kg
55-Gallon Drum Round Bottom 10-mil Liner	9.0 kg
(White) 55-Gallon Drum 90-mil Rigid Liner No Lid, used at LANL	4.3 kg
55-Gallon Drum 110-mil Rigid Liner	7.6 kg
(Black) 55-Gallon Drum 125-mil Rigid Liner No Lid, used at LANL	7.6 kg
55-Gallon Drum Poly Liner (122 x 122 x 213 cm)	12.0 kg
55-Gallon Cardboard Liner (graphite mold waste)	9.0 kg
55-Gallon Fiberboard Drum Liner (122 x 122 x 213 cm)	9.0 kg
55-Gallon Lead Liner, 180 cm long, 0.16 cm thick	23.0 kg
55-Gallon Lead Liner, 180 cm long, 0.32 cm thick	46.0 kg
Fiber Pack	13.0 kg
Fiber Pack Lead-Lined	66.0 kg
HEPA Filter (8 x 8 3-1/16)	1.0 kg
HEPA Filter (8 x 8 x 5-7/8)	1.9 kg
HEPA Filter (12 x 12 x 5-7/8)	2.5 kg
Lead Brick (5.1 x 10 x 20 cm)	12.0 kg
Oil-Dry	0.4 kg/liter
Vermiculite	0.1 kg/liter
Poly Bottles (1 gallon)	2.2 kg
Poly Bottles (1 liter)	0.5 kg
Setup Portland Cement	1.1 kg/liter
Uncured Portland Cement	2.9 kg/liter
Leaded Glovebox Glove	0.8 kg
Leaded Rubber Glove	2.5 kg
Leaded Rubber Glove	12.0 kg
Leaded Rubber Apron	2.4 kg
Leaded Rubber Apron	11.5 kg
Coveralls	0.9 kg
25’ Plastic Suit Hose	2.3 kg
50’ Plastic Suit Hose	5.0 kg
Plastic Suit Top and Pants	2.3 kg
55-Gallon Drum (painted – tan or white)	27.7 kg
55-Gallon Drum (painted – mustard yellow)	24.0 kg
55-Gallon Drum (painted – green)	30.0 kg
55-Gallon Drum (painted – grey)	26.3 kg
55-Gallon Drum (galvanized)	29.0 kg
85-Gallon Drum (painted)	37.2 kg

Table 4. Waste Item Weights and Weighing Codes (Continued) Page 3 of 3

ITEM	WEIGHT
Item Description (1 lb = 0.454 kgs) (All containers are 55-gal drums, unless otherwise noted	
110-Gallon Drum (painted)	45.0 kg
Lead-Lined Drum (1/16" thick, 28" high by 72" long)	22.7 kg
Lead-Lined Drum (1/8" thick, 28" high by 72" long) (.4 lb/in.^{3})	45.4 kg
Galvanized DOT 17C (Dull Finish) [Drum Bottom Labels 00040-00705]	31.7 kg
Galvanized (Shiny Drum and Lid Finish) [Drum Bottom Labels 01391 - 01568]	24.2 kg
Hanford Galvanized (Speckled Dull Finish - UNA1A2) [Drum Bottom Labels 00754 - 00933]	30.0 kg
Myers Galvanized (Shiny Finish - Labeled G5501) [Drum Bottom Labels 01200 - 01384]	22.7 kg
Myers Galvanized (Shiny Drum/Shiny Speckled Lid - Labeled G5501) [Drum Bottom Labels 00950 - 01150]	24.0 kg
Myers Yellow Painted	21.5 kg
Rocky Flats White Painted	27.2 kg
Black 90-mil Slip Fit Lid	7.4 kg
Black 110-mil Inner Lid	7.7 kg
Black 110-mil Beveled Top	7.4 kg
White 90-mil Slip Fit Lid	7.5 kg
125-mil Rigid Liner Lid	1.3 kg
B251 Bag - Tare Weight	0.1 kg
55-Gallon Fiberboard Liner (90 Mil)	3.7 kg
5-Gallon drum (LANL)	2.3 kg
7-Gallon drum (LANL)	2.8 kg
10-Gallon drum (LANL)	7.5 kg
30-Gallon drum (LANL)	16.4 kg

Weighing Notes and Codes	
[a] Record weights in kg out to one-tenth of a kg.	
[b] Method of Weighing Codes:	
E	Estimated by Operator.
W	Weight measured by the Operator.

Attachment 1 – CCP Waste Visual Examination General Information Form

Batch Data Report No.:_____

☐ VE for Previously Packaged Waste ☐ VE for Newly Generated Waste	
☐ Method 1 ☐ Method 2	
Site ID:	
Examination Date:	
Procedure No.:	Revision No.:
Camera/Audio/Video Media Recording Check: ☐ N/A	☐ SAT
VE Scale Information: ☐ N/A	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Test Weight Information Test Weight Total: kg. Tray Weight: kg.	Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date: Serial/ID Number: Calibration Due Date:
Container Scale Information:	Serial/ID Number: Calibration Due Date: Operational Check: ☐ SAT ☐ UNSAT
Comments:	

Visual Examination Operator 1:		
Print Name	Signature	Date
Visual Examination Operator 2:		
Print Name	Signature	Date

Attachment 2 – CCP Waste Visual Examination Data Form Page 1 of 5

Batch Data Report No.:_____

Section 1: Output Waste Container Data		
Input Waste Container ID, as applicable:		
Output Waste Container ID:	Waste Stream ID:	
Container Type:	TRUCON Code:	Waste Matrix Code:
Audio/Video Media Recording Number: ☐ N/A		
Waste Container Weights: Tare Wt: kg.	Gross Wt: kg.	
Rigid Liner Present? ☐ NO ☐ YES Type of Liner: ☐ Lead ☐ Plastic ☐ Fiberboard ☐ Other: Thickness: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐125-mil	Rigid Liner Lid Present? ☐ NO ☐ YES Rigid Liner Lid is Vented (>0.3 in.) or Filtered? ☐ NO ☐ YES ☐ N/A ☐ Vented: Hole Size: ☐ N/A ☐ Filtered: Model No.: ☐ N/A Serial No.: ☐ N/A	
Bag Liner Present? ☐ NO ☐ YES	Volume Utilization Percentage: %	
Does the physical form of the waste match the Waste Stream Description (i.e., Homogeneous Solids, Soil/Gravel, or Debris Waste [including uncategorized metals])? ☐ NO ☐ YES		
Does the physical form of the waste match the Waste Matrix Code? ☐ NO ☐ YES		
Closure Method: Number of Layers of Confinement:		
<u>Filter Torque Wrench</u> Serial/ID No.: Calibration Due Date: Filter: Model No.: Serial No.: Torque Value:	<u>Lid Ring/Bolt Torque Wrench</u> Serial/ID No.: Calibration Due Date: Lid Ring/Bolt Torque Value:	
Is total dose rate greater than 200mrem/hr? ☐ NO ☐ YES		
NCR(s) associated with the output container? ☐ NO ☐ YES NCR No.:_____ NCR No.:_____		
Comments:		

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 2 of 5

Batch Data Report No.:_____ **Date:**_____

Section 2: Waste Package Data				
Package and Package TID Number (as applicable)	Waste Description	WMP [Table 3]	Weight (kg) [Table 4,[a]]	Weighing Code(s) [Table 4[b]]

_____ _____ _____
VEO 1: Print Name Signature Date

_____ _____ _____
VEO 2: Print Name Signature Date

Signatures annotate the absence of prohibited items.

Output Waste Container ID:_____

TID Removed:_____ **TID Applied:**_____

_____ _____ _____
VEO 1: Print Name Signature Date

_____ _____ _____
VEO 2: Print Name Signature Date

Signatures of VEO's verifying the loading of the Output Waste Container.

Controlled
Copy

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 3 of 5

Batch Data Report No.:_____

Output Waste Container ID:_____

Section 3: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	
Plastics (PP):	
Others:	
Total Packaging Weight:	
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal/Alloys (IM):	
Aluminum-based Metals/Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI):	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (PW):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 4 of 5

Batch Data Report No.:_____ Output Waste Container ID:_____

Section 4: Prohibited Item(s) Summary (Questions answered "YES" will be explained in the Comments block)		
	Yes	No
Is there any observable liquid in internal containers, that is more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☐
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☐
Is there detectable observable liquid in outermost containers with an EPA Hazardous Waste Number of U134?	☐	☐
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☐
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☐
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does **NOT** match TRUCON Code[s])?	☐	☐
Is there an indication of wastes containing explosives or compressed gases?	☐	☐
Is there PCB liquids present?	☐	☐
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)?	☐	☐
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☐
TRUPACT II Criteria		
Are there heat-sealed bags (unvented) **GREATER** than 4 liters and LESS than 390 square inches in the waste?	☐	☐
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☐
Are there sealed containers **GREATER** than 4 liters?	☐	☐
Are there indications of inadequate protection (blocked or braced) for heavy and/or sharp objects?	☐	☐

Attachment 2 – CCP Waste Visual Examination Data Form (continued) Page 5 of 5

Batch Data Report No.:_____ Output Waste Container ID:_____

Section 4: Prohibited Item(s) Summary (Continued)

(Questions answered "YES" will be explained in the Comments block)

Comments:

Section 5: Approvals

Visual Examination Operator 1:

Print Name	Signature	Date

Visual Examination Operator 2:

Print Name	Signature	Date

Controlled
Copy

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist

Batch Data Report No.:_____ Page 1 of 2

Description			
1. Data generation and reduction were conducted in a technically correct manner in accordance with the methods used?	☐ NO	☐ YES	☐ N/A
2. Was the correct revision of operating procedure used?	☐ NO	☐ YES	☐ N/A
3. Are the waste material parameters (WMPs) entered correctly?	☐ NO	☐ YES	☐ N/A
4. Verify the hand calculations on the VE Data Form for the following:			
a. WMP weight totals	☐ NO	☐ YES	☐ N/A
b. Weight totals	☐ NO	☐ YES	☐ N/A
c. Summed volume of observable liquid, as necessary	☐ NO	☐ YES	☐ N/A
d. The total of the WMP weights is within 5% of the net weight of waste of the Output Waste Container obtained from subtracting the tare weight from the gross weight.	☐ NO	☐ YES	☐ N/A
5. Is the data reported in the correct units and correct number of significant figures?	☐ NO	☐ YES	☐ N/A
6. Has the data been reviewed for transcription errors?	☐ NO	☐ YES	☐ N/A
7. Does the Testing Batch Report include VE for up to 20 containers?	☐ NO	☐ YES	☐ N/A
8. BDR contents are complete and match the CCP Waste VE Batch Data Report Table of Contents?	☐ NO	☐ YES	☐ N/A
9. Is all the data signed and dated in reproducible ink and by the individual(s) generating it?	☐ NO	☐ YES	☐ N/A
10. Is all data recorded clearly, legibly, and accurately?	☐ NO	☐ YES	☐ N/A
11. All changes to original data lined out, initialed and dated by the individual making the changes?	☐ NO	☐ YES	☐ N/A
12. Were data changes made by the individual who originally collected the data or an equally qualified individual?	☐ NO	☐ YES	☐ N/A
13. Did the physical form of the waste match the Waste Matrix Code and Waste Stream Description?	☐ NO	☐ YES	☐ N/A

Attachment 3 – CCP Waste VE Independent Technical Reviewer Checklist (continued)

Batch Data Report No.: _____ Page 2 of 2

Description			
14. Was the waste in the Output Waste Container(s) examined for prohibited items?	☐ NO	☐ YES	☐ N/A
15. Is there an adequate written description of the contents of each item?	☐ NO	☐ YES	☐ N/A
16. Were the scale(s) in calibration prior to the VE and documented correctly?	☐ NO	☐ YES	☐ N/A
17. Were the scale checks SAT prior to the VE and documented correctly?	☐ NO	☐ YES	☐ N/A
18. Was the audio/video media recording properly prepared and labeled for each waste container?	☐ NO	☐ YES	☐ N/A
19. Was the audio/video media recording check performed satisfactorily prior to the VE?	☐ NO	☐ YES	☐ N/A
20. Precision: Was precision maintained by reconciling any discrepancies between the operator and the independent technical reviewer with regard to identification of waste matrix code, liquids in excess of TSDF-WAC limits, and compressed gases?	☐ NO	☐ YES	☐ N/A
21. Accuracy: Was accuracy maintained by requiring operators to pass a comprehensive examination and demonstrate satisfactory performance in the presence of the VE expert during their initial qualification and subsequent requalification (operators on LOQI)?	☐ NO	☐ YES	☐ N/A
22. Completeness: Is there a completed VE data form for each waste container in the BDR?	☐ NO	☐ YES	☐ N/A
23. Were NCRs initiated as required?	☐ NO	☐ YES	☐ N/A
Comments:			
I have reviewed 100 percent of the container-specific and batch data in this report and find it acceptable. Independent Technical Reviewer: _____ _____ _____ Printed Name Signature Date			

Controlled
Copy

Attachment 4 – CCP Waste VE Batch Data Report Table of Contents

Batch Data Report No.: _____ Examination Date: _____

Table of Contents		
Item	Description	Page No.
1	CCP Waste VE Batch Data Report Cover Sheet	
2	CCP Waste VE Batch Data Report Table of Contents	
3	CCP Waste Visual Examination General Information Form	
4	CCP Waste Visual Examination Data Forms	
5	CCP Waste VE Independent Technical Reviewer Checklist	
6	Copy of NCRs (N/A, If Not Applicable)	
7	Field Records (N/A, If Not Applicable)	

Controlled
Copy

Attachment 5 – CCP Waste VE Batch Data Report Cover Sheet

Batch Data Report No.: _____ Examination Date: _____

	Waste Container ID Number:
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

Independent Technical Reviewer:

_____	_____	_____
Print Name	Signature	Date

Controlled
Copy

Attachment 6 – CCP Newly Generated Waste Container Data

Batch Data Report No.: _____ Examination Date: _____

Container ID	Waste Stream ID	Generation Date	Closure Date	Vent Date	Container Type

VPM/Designee:

_____ _____ _____
Print Name Signature Date

Controlled
Copy

CCP-TP-120

Revision 16

CCP
Container Management

EFFECTIVE DATE: 06/18/2013

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	11/25/2003	Initial Issue.
1	03/26/2004	Incorporated CBFO Comment Resolutions: Revised step 4.1.5, inserted step 4.1.6 for VPM review and approval of Attachment 3, and inserted a VPM signature line on Attachment 3. Inserted step 3.7, VE Operator responsibilities into Section 3.0. Updated Sections 3.0, 4.0 and Attachments 1 and 2 for the container processes.
2	09/16/2005	Revised to address identification and control of filters installed in waste drums, formalize the inspections of drums as part of pre-screening activities, and to ensure proper checks are performed at the various processing areas.
3	03/31/2006	Revised to clarify filter inspections and add Visual Examination (VE) Random Selection responsibilities.
4	08/10/2006	Changes as a result of CAR-LANL-0006-06.
5	09/20/2006	Revised in response to CAR No.: 06-037.
6	02/09/2007	Revised to change method of container filter selection.
7	03/06/2007	Revised Section 4.4, and added new Section 4.5 for the Flammable Gas Analysis (FGA) process.
8	05/04/2007	Revised to separate Headspace Gas (HSG) from Flammable Gas Analysis (FGA) processing and tracking on the traveler.
9	07/16/2007	Revised to allow Visual Examination (VE) of Newly Generated Waste Containers not on the Acceptable Knowledge (AK) Tracking Spreadsheet.
10	10/11/2007	Revised to clarify that VE of Newly Generated Waste Containers at LANL is not an approved, certified process and the appropriate controls for such containers.
11	01/08/2008	Revised to clarify container inspection steps.
12	06/23/2008	Revised to clarify additional requirements for the use of Vendor Project Manager (VPM) Administrative Hold Indicators. Provided clarification in Section 4.1 of Operational Scale Checks, and made editorial changes.

RECORD OF REVISION (CONTINUED)

Revision Number	Date Approved	Description of Revision
13	09/21/2009	Revised to remove Vendor Project Manager (VPM) Administrative Hold controls on Visual Examination (VE) of newly generated waste containers as it is now a certified process at Los Alamos National Laboratory (LANL).
14	02/10/2010	Revised in response to Corrective Action Report (CAR)-Los Alamos National Laboratory (LANL)-0006-09 and to clarify when a waste container must be put through container management.
15	02/11/2013	Revised to require that the Vendor Project Manager (VPM) notify the Site Project Manager (SPM) when VPM Administrative Hold Indicators are being hung on containers in response to CAR-SRS-0002-12.
16	06/18/2013	Revised to incorporate the Class 2 permit modification approved by New Mexico Environment Department (NMED) on March 13, 2013.

TABLE OF CONTENTS

1.0 PURPOSE 5
1.1 Scope 5

2.0 REQUIREMENTS 5
2.1 References 5
2.2 Training Requirements 5
2.3 Equipment List 5
2.4 Precautions and Limitations 6
2.5 Prerequisite Actions 6

3.0 RESPONSIBILITIES 7
3.1 VPM/Waste Handler/Designee 7
3.2 Site Project Manager (SPM) 7
3.3 Nondestructive Examination (NDE) Operator 7
3.4 Nondestructive Assay (NDA) Operator 7
3.5 Flammable Gas Analysis (FGA) Operator 8
3.6 Visual Examination (VE) Operator 8
3.7 Facility Records Custodian 8

4.0 PROCEDURE 9
4.1 Container Inspection, Weighing, and Scale Operational Check 9
4.2 NDE Process 14
4.3 NDA Process 15
4.4 Flammable Gas Analysis (FGA) Process 17
4.5 VE Process 17

5.0 RECORDS 20

LIST OF ATTACHMENTS

Attachment 1 – CCP Container Traveler (Label) (EXAMPLE) 21
Attachment 2 – Container Inspection Report 22
Attachment 3 – CCP Scale Operational Check and Container Weight Information 23
Attachment 4 – Structural Integrity and Distortion Inspections Criteria 24

1.0 PURPOSE

This procedure describes and implements the Central Characterization Program (CCP) management control and tracking of transuranic (TRU) waste containers during the characterization process.

1.1 Scope

This procedure applies to personnel who support CCP TRU waste characterization activities at the Los Alamos National Laboratory (LANL). The Host site may use their procedures for container movement and handling. Container tracking and management through CCP activities will be conducted using this procedure.

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*

Referenced Documents

- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, *CCP Records Management*
- CCP-TP-082, *CCP Waste Container Filter Vent Operation*

2.2 Training Requirements

2.2.1 None.

2.3 Equipment List

2.3.1 None.

2.4 Precautions and Limitations

2.4.1 If steps in the procedure CAN **NOT** be completed, then work must be STOPPED, equipment placed in a safe configuration, and the Vendor Project Manager (VPM)/Designee notified.

2.4.2 Workers who will be working in a radiation area must have read and signed that they understand the applicable Radiation Work Permit.

2.5 Prerequisite Actions

2.5.1 None.

3.0 RESPONSIBILITIES

NOTE

The CCP Container Traveler (Label) (see Attachment 1, CCP Container Traveler [Label], for an example) is a label which will be affixed to the container. The CCP Container Traveler (Label) will contain a minimum of the following information when completed: Container Identification (ID), Waste Stream ID, Gross Weight, Nondestructive Examination (NDE), Nondestructive Assay (NDA), and Flammable Gas Analysis (FGA) Completion Date.

3.1 VPM/Waste Handler/Designee

3.1.1 Ensure containers meet the safety requirements throughout the characterization process.

3.1.2 Schedules and Coordinates movement of containers to/from the characterization units and container staging/storage areas.

3.1.3 Assists with the segregation of deficient containers.

3.1.4 Ensures CCP HOLD TAGs are attached to identify waste containers.

3.2 Site Project Manager (SPM)

3.2.1 Ensures containers with VPM administrative hold tags are controlled electronically.

3.3 Nondestructive Examination (NDE) Operator

3.3.1 Records and updates the applicable NDE information on the CCP Container Traveler (Label).

3.3.2 Provides the container processing information (Container ID Number, Batch Data Report [BDR] Number, Nonconformance Report [NCR] Number if applicable, and reason for NCR) to the VPM/Designee.

3.4 Nondestructive Assay (NDA) Operator

3.4.1 Records and updates the applicable NDA information on the CCP Container Traveler (Label).

3.5 Flammable Gas Analysis (FGA) Operator

3.5.1 Records and updates the applicable FGA information on the CCP Container Traveler (Label).

3.6 Visual Examination (VE) Operator

3.6.1 Affixes, records and updates CCP Container Traveler (Label).

3.7 Facility Records Custodian

3.7.1 Receives, processes, and transmits all records generated by this procedure in accordance with CCP-QP-008, *CCP Records Management*.

4.0 PROCEDURE

NOTE

Within the constraints of this procedure and in order to meet operational needs, the VPM/Designee may redirect drums as required to allow for process efficiencies or corrective action for nonconforming conditions. The CCP Container Traveler (Label) serves as the container status indicator throughout characterization activities.

NOTE

VPM Administrative Hold Indicators are affixed to containers for various administrative reasons throughout this procedure. When a VPM Administrative Hold Indicator is applied to a container(s), the SPM must be notified and will determine if an NCR needs to be generated.

NOTE

If an NCR (CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control,* Attachment 1, CCP Nonconformance Report [NCR]) is initiated at anytime in the Process (from the initial introduction of the container, into the Process, to shipment of the container to the Waste Isolation Pilot Plant [WIPP]), the affected container(s) shall have a CCP HOLD TAG applied and be physically segregated if practical. Normally, the container may continue through the characterization process. If this is **NOT** the case, limitations or actions required in the approved NCR disposition shall be included on the HOLD TAG. In NO case, shall the container proceed to shipment until the NCR disposition is complete.

NOTE

NO container may be processed without a completed container integrity inspection.

NOTE

Sections 4.1 through 4.5 may be performed independently.

4.1 Container Inspection, Weighing, and Scale Operational Check

NOTE

The inspection criteria in Attachment 2, Container Inspection Report are used to determine if the container can be safely handled. Containers that DO **NOT** meet container integrity requirements and are **NOT** safe to handle shall be returned to the Host site.

NOTE
Step 4.1.1 through step 4.1.6 SHALL be performed for each container.

NOTE
Off-Site Source Recovery Project (OSRP) containers are packaged off-site and shipped to LANL. When the containers are received, they will be weighed and inspected prior to being added to the AK Tracking Spreadsheet.

NOTE
Newly generated waste containers may go through VE prior to being added to the AK Tracking Spreadsheet. Container integrity inspections, weighing, and CCP Container Traveler (Label) application will be performed at that time. Container information collected during the VE will be forwarded to the VPM/Designee for addition to the AK Tracking Spreadsheet. Containers should not go through further certified processes until the container has been added to the AK Tracking Spreadsheet.

VPM/Waste Handlers/Designee

4.1.1 Verify containers have a Container ID Number and Waste Stream ID, **AND** are on the AK Tracking Spreadsheet, which is available at https://sftp.wipp.energy.gov.

[A] **IF** containers are **NOT** on the AK Tracking Spreadsheet **AND** are OSRP containers,
THEN attach a VPM Administrative Hold Indicator to the CCP Container Traveler (Label) when it is applied.

[B] **IF** containers are newly generated, **AND** VE has been performed,
THEN Section 4.1 may be performed prior to the container being added to the AK Tracking Spreadsheet.

NOTE
Steps 4.1.2[B] and 4.1.2[D] may be performed simultaneously.

Steps 4.1.3 and 4.1.4 may be performed at any time between Steps 4.1.1 and 4.1.7

4.1.2 Perform the following and document results on Attachment 2.

[A] Verify Container ID Number.

[B] Perform Structural Integrity and Distortion Inspection per Attachment 4, Structural Integrity and Distortion Inspections Criteria.

[B.1] **IF** container meets inspection criteria,
THEN mark SAT.

[B.2] **IF** container does not meet inspection criteria,
THEN mark UNSAT, **AND** DO **NOT** accept the container.

[C] Verify the container is safe to handle.

[C.1] **IF** the container is safe to handle,
THEN mark YES.

[C.2] **IF** the container is unsafe to handle,
THEN mark NO, DO **NOT** accept the container,
AND return the container to the Host site.

[D] Inspect each container for a completed radiological label/tag, **AND** ensure the completed radiological label/tag is legible and records a radiation dose equivalent rate of less than 200 mrem/hr at surface.

[D.1] **IF** incomplete **OR** NO radiological label/tag is attached to the container,
THEN STOP WORK on container, **AND** request a Radiological Control Technician to perform survey.

[D.2] **IF** completed radiological label/tag reports greater than or equal to 200 mrem/hr at surface,
THEN mark UNSAT, STOP WORK on the container,
AND notify VPM/Designee.

[D.3] **IF** completed radiological label/tag reports less than 200 mrem/hr at surface,
THEN mark SAT.

4.1.3 Initiate the CCP Container Traveler (Label) for each waste container, record the Container ID and Waste Stream ID **OR** OSRP (in place of Waste Stream ID), **AND** initial and date.

4.1.4 Attach the CCP Container Traveler (Label) to the top of the waste container.

4.1.5 Perform container filter inspection, as follows:

[A] Verify manufacture ID, **AND** record on Attachment 2.

[B] Verify filter model number as follows, **AND** record on Attachment 2.

[B.1] Verify the model number is clearly marked on the filter and the model number is on the Carlsbad Field Office (CBFO)-approved filter list at www.wipp.energy.gov/ntpxport

[B.2] **IF** the model number is **NOT** clearly marked on the filter,
THEN verify the filter is a Nucfil Model 013, 072, or 073, as provided in training materials.

[B.3] **IF** the model number is **NOT** on the CBFO-approved list,
THEN schedule the waste container for a filter changeout in accordance with CCP-TP-082, *CCP Waste Container Filter Vent Operation.*

(a) **AFTER** filter changeout,
THEN REPEAT step 4.1.5.

[C] Verify manufacture date **OR** serial number of filter, **AND** record on Attachment 2.

NOTE

If necessary, assistance SHALL be requested from qualified personnel to ensure that the filter vent is seated properly.

[D] Ensure filter has proper gasket seating and/or tightness.

[D.1] **IF** the filter is **NOT** found to be adequate,
THEN schedule the container for a filter changeout in accordance with CCP-TP-082.

(a) **AFTER** filter changeout,
THEN REPEAT step 4.1.5.

4.1.6 **IF** the container is safe to handle **AND** meets the filter inspection criteria,
THEN accept the container for characterization activities.

4.1.7 Perform scale operational check **AND** container weighing operations.

[A] On each day the scale is used, perform the following:

[A.1] **IF** the scale is an electronic scale,
THEN either verify the scale is turned ON, **OR** turn the power ON to the scale.

[A.2] Record the Scale ID Number, Location, and Scale Calibration Due Date on Attachment 3, CCP Scale Operational Check and Container Weight Information.

[A.3] Verify the scale calibration date is valid.

(a) **IF** the scale calibration date is **NOT** valid,
THEN record NO on Attachment 3, **AND** return scale to Host site for recalibration.

(b) **IF** the scale calibration date is valid,
THEN record YES on Attachment 3.

[A.4] Check that the scale reads zero when **NOT** loaded.

(a) **IF** the scale DOES **NOT** read zero,
THEN re-zero the scale in accordance with the manufacturer's instructions.

[A.5] Perform an operational check to verify the scale response is satisfactory as follows:

(a) Place a known calibrated check weight on the scale, **AND** verify the scale reads within 1.0 percent of the check weight used.

(a.1) **IF** the scale reads within the operational range,
THEN record SAT on Attachment 3.

(a.2) **IF** the scale reads outside of the operational range,
THEN STOP WORK, record UNSAT on Attachment 3, **AND** return scale to Host site for recalibration.

(b) Return the check weight to its storage location.

[A.6] Initial and date Attachment 3.

[B] Weigh the containers as follows:

NOTE
Steps 4.1.7[B.1] and [B.2] can be performed in either sequence.

NOTE
Steps 4.1.7[B.1] through 4.1.7[B.5] shall be performed for each container.

[B.1] Ensure the CCP Container Traveler (Label) is affixed to the container.

[B.2] Load the container onto the scale, **AND** allow the scale reading to stabilize.

[B.3] Record the container's ID number and gross weight (pounds [lbs] and kilograms [kg]) on Attachment 3 and the CCP Container Traveler (Label), as necessary.

[B.4] Initial and date the CCP Container Traveler (Label), and Attachment 3 for obtaining the certification weight.

[B.5] Remove the container from the scale.

NOTE
The preparer and approver of Attachment 2 and Attachment 3 must be different individuals.

4.1.8 Print name, sign, and date Attachment 2 and Attachment 3, **AND** submit to the VPM/Designee for review and approval.

VPM/Designee

4.1.9 Review, print name, sign, and date Attachment 2 and Attachment 3, **AND** submit to the Facility Records Custodian.

4.2 NDE Process

NDE Operator

4.2.1 Verify that the containers delivered to the NDE process are on the AK Tracking Spreadsheet.

4.2.2 **IF** the containers are **NOT** the correct containers to be processed (e.g., **NOT** listed on the AK Tracking Spreadsheet),
THEN return the containers to the Host site in lieu of processing.

4.2.3 Verify the CCP Container Traveler (Label) is affixed to the container.

[A] **IF** NO CCP Container Traveler (Label) is affixed to the container,
THEN STOP WORK on container, **AND** notify the VPM/Designee.

[B] **IF** the CCP Container Traveler (Label) is affixed to the container,
THEN perform NDE in accordance with approved procedures.

4.2.4 Indicate system certification status by circling YES or NO on the CCP Container Traveler (Label), **AND** initial and date.

[A] **IF** system is **NOT** certified,
THEN perform the following:

[A.1] Attach a VPM Administrative Hold Indicator to the container.

[A.2] Notify the SPM and provide the container ID and reason for applying the tag.

SPM

[A.3] SPM shall place the container on hold within the IDC by generating a VPM HOLD Exclusion or adding the affected container to an exclusion that already exists.

4.2.5 Document the NDE completion on the CCP Container Traveler (Label) by circling YES, **AND** initial and date.

4.2.6 Provide the container processing information (Container ID Number, BDR Number, NCR Number if applicable, reason for NCR) to the VPM/Designee.

4.3 NDA Process

NDA Operator

4.3.1 Verify that the containers delivered to the NDA process are on the AK Tracking Spreadsheet.

4.3.2 **IF** the containers are **NOT** the correct containers to be processed (e.g., **NOT** listed on the AK Tracking Spreadsheet),
THEN return the container to the Host site in lieu of processing.

4.3.3 Verify the CCP Container Traveler (Label) is affixed to the waste container.

[A] **IF** NO CCP Container Traveler (Label) is affixed to the container,
THEN STOP WORK on container, **AND** notify the VPM/Designee.

[B] **IF** the CCP Container Traveler (Label) is affixed to the container,
THEN perform NDA in accordance with approved procedures.

4.3.4 Document the preliminary Pu-239 Fissile Gram Equivalent (FGE) value (plus 2-sigma) on the CCP Container Traveler (Label), **AND** initial and date.

[A] **IF** the preliminary Pu-239 FGE value (plus 2-sigma) is **NOT** immediately available,
THEN record Not Available (N/A) on the CCP Container Traveler (Label).

4.3.5 Indicate system certification status by circling YES or NO on the CCP Container Traveler (Label), **AND** initial and date.

[A] **IF** system is **NOT** certified,
THEN perform the following:

[A.1] Attach a VPM Administrative Hold Indicator to the container.

[A.2] Notify the SPM and provide the container ID and reason for applying the tag.

SPM

[A.3] SPM Shall place the container on hold within the IDC by generating a VPM HOLD Exclusion or adding the affected container to an exclusion that already exists.

4.3.6 Document the NDA completion on the CCP Container Traveler (Label) by circling YES, **AND** initial and date.

4.3.7 Provide the container processing information (e.g., Container ID Number, BDR Number, NCR Number, reason for NCR) to the VPM/Designee.

4.4 Flammable Gas Analysis (FGA) Process

FGA Operator

4.4.1 Verify the containers identified for FGA sampling are on the AK Tracking Spreadsheet.

4.4.2 Move the waste containers identified for FGA sampling to an approved sampling area.

4.4.3 Verify the CCP Container Traveler (Label) is affixed to the container.

[A] **IF** NO CCP Container Traveler (Label) is affixed to the container,
THEN STOP WORK on container, **AND** notify the VPM/Designee.

[B] **IF** the CCP Container Traveler (Label) is affixed to the container,
THEN perform FGA sampling in accordance with approved procedures.

4.4.4 Document the FGA completion on the CCP Container Traveler (Label) by circling YES, **AND** initial and date.

4.5 VE Process

VE Operator

4.5.1 **IF** container is newly generated **AND** VE has been performed, **THEN** GO TO step 4.5.3.

4.5.2 Verify the container has a CCP HOLD TAG attached that requires VE or contains an un-penetrable item identified during pre-screening process.

[A] **IF** the container DOES **NOT** meet one of the conditions required above, **THEN** STOP WORK on container, **AND** notify VPM/Designee.

[B] **IF** the container was selected for VE, **THEN** perform VE in accordance with approved procedures.

NOTE

When a legacy waste container completes the VE process at LANL the resulting output waste container(s) are assigned a new container ID number(s). Section 4.5.3 can be performed on the output waste container(s) using the new container ID number(s) and the waste stream ID from the original container. Verification that the waste container is on the AK Tracking List is not required for completing this section. Prior to the waste container completing any subsequent characterization, verification that the waste container ID is on the AK Tracking List is necessary.

4.5.3 **WHEN** VE Operations have been completed, **THEN** ensure a new CCP Container Traveler (Label) is attached to the container, **AND** record the following:

[A] Container ID.

[B] Waste Stream ID.

[B.1] Initial and date confirming Container ID and Waste Stream ID.

[C] Gross Weight (lbs and kg) and initials and date.

4.5.4 Indicate system certification status by circling YES or NO on the CCP Container Traveler (Label), **AND** initial and date.

[A] **IF** system is **NOT** certified, **THEN** perform the following:

[A.1] Attach a VPM Administrative Hold Indicator to the container.

[A.2] Notify the SPM and provide the container ID and reason for applying the tag.

SPM

[A.3] SPM shall place the container on hold within the IDC by generating a VPM HOLD Exclusion or adding the affected container to an exclusion that already exists.

4.5.5 Document the VE completion on the CCP Container Traveler (Label) by circling YES, **AND** initial and date.

4.5.6 Provide the container processing information (e.g., Container ID Number, Waste Stream ID, BDR Number, NCR Number if applicable, reason for NCR) to the VPM/Designee.

Facility Records Custodian

4.5.7 Receive, process, and transmit all records generated by this procedure in accordance with CCP-QP-008.

5.0 RECORDS

5.1 Records generated during the performance of this procedure are maintained as quality assurance (QA) records in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Lifetime

[A] Attachment 2, Container Inspection Report

[B] Attachment 3, CCP Scale Operational Check and Container Weight Information

Attachment 1 – CCP Container Traveler (Label) (EXAMPLE)

Container ID:_____ _____ / _____
Date Initials

Waste Stream ID:_____

Gross Weight: _____ lbs. / _____ kg. _____ / _____
Date Initials

NDE

System Certified (circle one)? YES NO
(If NO, place under VPM Administrative Hold) _____ / _____
Date Initials

NDE Complete (circle one)? YES NO _____ / _____
Date Initials

NDA

System Certified (circle one)? YES NO
(If NO, place under VPM Administrative Hold) _____ / _____
Date Initials

NDA Complete (circle one)? YES NO _____ / _____
Date Initials

Pu 239 FGE: _____ _____ / _____
Value (Plus 2-sigma) Date Initials

FGA

FGA Complete (circle one)? YES NO _____ / _____
Date Initials

VE

Process Certified (circle one)? YES NO
(If NO, place under VPM Administrative Hold) _____ / _____
Date Initials

VE Complete (circle one)? YES NO _____ / _____
Date Initials

Controlled
Copy

Attachment 2 – Container Inspection Report

Safe to Handle YES/NO		Container ID Number	Structural Integrity and Distortion Inspection SAT UNSAT		RAD Tag <200 mrem/hr at surface SAT UNSAT		Filter Information (Manufacture ID, Filter Model #, Manufacture Date OR Serial #)	
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		
YES	NO		SAT	UNSAT	SAT	UNSAT		

Comments:

Completed by: _____ _____ _____ VPM/Designee Approval: _____ _____ _____

Print Name Signature Date Print Name Signature Date

NOTE: If NO, circled in first column (Safe to Handle), DO NOT accept container.

Controlled
Copy

Attachment 3 – CCP Scale Operational Check and Container Weight Information

PART I
Scale Operational Check Information

Scale ID #	Location	Scale Calibration Due Date	Scale Calibration Date Valid (YES / NO)	Scale Cal Check (SAT / UNSAT)	Initials	Date

PART II
Container Weight Information

Container ID #	Gross Weight (Lbs)	(Kgs)	Initials	Date

Completed By: _____ _____ _____
Print Name **Signature** **Date**

VPM/Designee: _____ _____ _____
Print Name **Signature** **Date**

Controlled
Copy

Attachment 4 – Structural Integrity and Distortion Inspections Criteria

CONTAINER EXAMINATION		DISCUSSION OF CRITERIA
1.	Is the payload container obviously degraded?	Obviously degraded means clearly visible and potentially significant defects in the payload container or payload container surface.
2.	Is there evidence that the payload container is, or has been, pressurized?	Pressurization can be indicated by a fairly uniform expansion of the sidewalls, bottom, or top. Past pressurization can be indicated by a notable outward deflection of the bottom or top. Verify that the drum is not warped.
3.	Is there any potentially significant rust or corrosion such that wall thinning, pin holes, or breaches are likely or the load-bearing capacity is suspect?	Rust shall be assessed in terms of its type, extent, and location. Pitting, pocking, flaking, or dark coloration characterizes potentially significant rust or corrosion. This includes the extent of the payload container surface area covered, thickness, and, if it occurs in large flakes or built-up (caked) areas. Rusted payload containers may **NOT** be accepted if: • Rust is present in caked layers or deposits. • Rust is present in the form of deep metal flaking, or built-up areas of corrosion products. In addition, the location of rust should be noted; for example on a drum: top lid; filter region; locking chine; top one-third, above the second rolling hoop; middle one-third, between the first and second rolling hoops; bottom one-third, below the second rolling hoop; and on the bottom. Payload containers may still be considered acceptable if the signs of rust show up as: • Some discoloration on the payload container • If rubbed would produce fine grit or dust or minor flaking (such that wall thinning does not occur)
4.	Are any of the following apparent? • wall thinning • pin holes • breaches	Wall thinning, pin holes, and breaches can be a result of rust/corrosion (see discussion for #3).

Controlled
Copy

Attachment 4 – Structural Integrity and Distortion Inspections Criteria (Continued)

CONTAINER EXAMINATION		DISCUSSION OF CRITERIA
5.	Are there any split seams, tears, obvious holes, punctures (of any size), creases, broken welds, or cracks?	Payload containers with obvious leaks, holes or openings, cracks, deep crevices, creases, tears, broken welds, sharp edges or pits, are either breached or on the verge of being breached. Verify that there is no warpage that could cause the container to be unstable or prevent it from fitting properly in the TRUPACT-II.
6.	Is the load-bearing capacity suspect?	The load-bearing capacity could be reduced for excessive rust (see discussion for #3), wall thinning (see discussion for #4), breaches, cracks, creases, broken welds, etc. (see discussion for #5).
7.	Is the payload container properly closed?	Inspect the fastener and fastener ring (chine), if applicable, for damage or excessive corrosion. Check the alignment of the fastener to ensure that it is in firm contact around the entire lid and the payload container will not open during transportation.
8.	Are there any dents, scrapes, or scratches that make the payload container's structural integrity questionable or prevent the top and bottom surfaces from being parallel?	Deep gouges, scratches, or abrasions over wide areas are not acceptable. If top and bottom surfaces are not parallel, this would indicate that the container is warped. Dents should be less than ¼ inch deep by 3 inches long and between ½ inch to 6 inches wide. All other dents must be examined to determine impact of structural integrity.
9.	Is there discoloration which would indicate leakage or other evidence of leakage of material from the payload container?	Examine the payload container regions near vents, top lid fittings, bottom fittings, welds, seams and intersections of one or more metal sheets or plates. Payload containers must be rejected if evidence of leakage is present.
10.	Is the payload container bulged?	For the purposes of this examination, bulging is indicated by: • A fairly uniform expansion of the sidewalls, bottom, or top (e.g., in the case of a drum, either the top or bottom surface protrudes beyond the planar surface of the top or bottom ring); • A protrusion of the side wall (e.g., in the case of a drum, beyond a line connecting the peaks of the surrounding rolling hoops or a line between a surrounding rolling hoop and the bottom or top ring); or • Expansion of the sidewall (e.g., in the case of a drum, such that it deforms any portion of a rolling hoop).

Controlled
Copy

CCP-TP-122

Revision 5

CCP
RTR #2
Operating Procedure

EFFECTIVE DATE: 08/12/2014

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	03/16/2004	Initial Issue
1	10/13/2005	Procedure revised to reflect changes made to the real-time radiography (RTR) system, revised records section and made other clarifications.
2	12/18/2006	Revised to implement the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/Remote-Handled (RH) Permit Modification Request (PMR).
3	01/30/2008	Revised to incorporate additional hazard control methods.
4	08/27/2013	Revised to incorporate freeze file.
5	08/12/2014	Procedure revised to incorporate the following: • Procedure revision for P 121 • Department title for RP-PROG • Corrected editorial inconsistencies • Deleted sections from responsibilities for personnel with no steps in the procedure • Made changes to the Procedure Section to make the procedure more user friendly and less cumbersome to use

Controlled
Copy

TABLE OF CONTENTS

1.0 PURPOSE 4
1.1 Scope 4

2.0 REQUIREMENTS 5
2.1 References 5
2.2 Training Requirements 5
2.3 Equipment List 5
2.4 Software 5
2.5 Precautions and Limitations 6
2.6 Prerequisite Actions 8

3.0 RESPONSIBILITIES 9
3.1 RTR Operator 9

4.0 PROCEDURE 10
4.1 RTR System Start-up 10
4.2 RTR System Operations 14
4.3 Image Intensifier (II)/Drum Scanning 15
4.4 Drum Unloading 16
4.5 Modifying Turntable Configuration 16
4.6 RTR System Shut-down 17

5.0 RECORDS 19

Controlled
Copy

1.0 PURPOSE

The purpose of this procedure is to provide instructions for safe start-up, operation, and shut-down of the mobile real-time radiography (RTR) system, Los Alamos National Laboratory (LANL) RTR #2.

1.1 Scope

This procedure applies to LANL RTR #2 activities performed by qualified RTR Operators. Maintenance activities are outside the scope of this procedure.

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection procedure*
- LANL EP-DIV-AP-09, *EWMO Lockout/Tagout Administrative Controls*

Referenced Documents

- P 101-3, *Lockout/Tagout for Hazardous Energy Control*
- P 121-4, *Radiation Protection*
- CCP-PO-005, *CCP Conduct of Operations*
- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-008, *CCP Records Management*

2.2 Training Requirements

2.2.1 Personnel performing this procedure will be trained and qualified in accordance with CCP-QP-002, *CCP Training and Qualification Plan,* prior to performing this procedure.

2.3 Equipment List

- Allen Wrench
- RTR System
- Personal Protective Equipment (PPE)
- Nondestructive Examination (NDE) Operational Logbook

2.4 Software

2.4.1 None.

Controlled
Copy

2.5 Precautions and Limitations

2.5.1 If during the course of performing this procedure a change occurs that causes deviation from the normal process, **AND** this condition can **NOT** be corrected as directed in this procedure, RTR Operators shall IMMEDIATELY STOP WORK and notify the Vendor Project Manager (VPM) and the RTR Lead Operator (LO) or designee.

2.5.2 If containers are not able to be unloaded from the system, RTR Operators will record the container numbers and their status in the NDE Operational Logbook and notify the TA-54 Operations Center, VPM and LO.

2.5.3 Verify container numbers and their status outside of the x-ray vault.

2.5.4 PPE for normal operations are safety shoes and safety glasses. Leather gloves will be worn when handling drums or performing activities where pinch point hazards exist.

2.5.5 Personnel will remain clear of the external shield door, transfer cart, and moving equipment when the system is energized.

2.5.6 The RTR system generates x-rays (up to 450 kilovolts [kV]). Personnel will avoid radiation exposure by observing all warning devices and personnel barriers. An interlock system will de-energize x-ray generation when one of the x-ray vault doors is opened. A radiation survey is required before entering the x-ray vault.

2.5.7 RTR Operators will ensure the x-ray vault is clear of personnel and the shield doors are closed prior to start-up of the x-ray system. To facilitate this, a Closed-Circuit Television (CCTV) system has been installed.

2.5.8 By design, there is NO exposed lead. However, precautions should be taken **NOT** to damage the steel x-ray vault lining as this may cause exposure to lead. If exposed lead is discovered, report this condition to the VPM so it can be isolated.

2.5.9 RTR Operators will ensure electrical panels and junction boxes are closed, equipment and moving parts are clear of foreign objects, and personnel are clear of the equipment prior to start-up of the RTR system.

Controlled
Copy

2.5.10 Personnel who will be working in a radiation area must have read and signed that they understand the controlling work package Radiation Work Permit (RWP) and Integrated Work Document (IWD).

2.5.11 A radiation survey must be performed prior to entry into the x-ray vault by qualified personnel following the conclusion of an exposure to verify the x-ray tube has been de-energized.

2.5.12 When entry into the x-ray vault is required during operations, the system will be de-energized by removing the Control Panel Power key and the x-ray key **OR** a lockout/tagout (LO/TO) shall be applied to the Programmable Logic Controller (PLC) Power Supply before entry into the x-ray vault.

2.5.13 If entry into the x-ray vault is being performed using Key Control, the Control Panel Power and x-ray keys will be maintained by the qualified RTR person entering the x-ray vault.

2.5.14 When entering the x-ray vault using Key Control, actions are limited to checking oil levels, installing the lines pair gauge and measuring stick, performing visual inspections of equipment, or centering drums on the turntable.

2.5.15 Entry of multiple personnel into the x-ray vault requires a (LO/TO) applied by personnel qualified in accordance with P 101-3, *Lockout/Tagout for Hazardous Energy Control.*

2.5.16 If entry is required for actions other than checking oil levels, installing the lines pair gauge and measuring stick, performing visual inspections of equipment, or centering drums on the turntable, a LO/TO SHALL be applied by personnel qualified in accordance with P 101-3 to the PLC Power Supply prior to entry into the x-ray vault.

2.5.17 DO **NOT** sit, stand, climb, or walk on the transfer cart or equipment in the x-ray vault due to potential pinching/falling hazards.

2.5.18 The personnel access door to the x-ray vault SHALL remain shut except when the x-ray vault is occupied.

2.5.19 RTR Operator shall ensure all equipment guards are installed prior to system operation.

Controlled
Copy

2.6 Prerequisite Actions

2.6.1 Conduct a safety walk-down of the equipment, **AND** record results in the NDE Operational Logbook at the beginning of each shift.

2.6.2 VPM or designee, verify the RTR Lead Operator and RTR Operator(s) qualifications are current.

2.6.3 Verify the x-ray RP-PROG compliance label, located on the x-ray Control Panel, is current.

[A] **IF** the radiation leak check has expired,
THEN DO **NOT** proceed with RTR operations until Radiation Protection Services personnel perform and document a radiation leak check and certify the RTR system is operating within allowable limits.

Controlled
Copy

3.0 RESPONSIBILITIES

3.1 RTR Operator

3.1.1 Operates the RTR System.

3.1.2 Maintains the NDE Operational Logbook.

Controlled
Copy

4.0 PROCEDURE

NOTE

Cart movement speed, x-ray tube/Image Intensifier (II) vertical speed, and turntable rotational speeds are controlled by potentiometers located on the control panel. These adjustments are made at the operator's discretion.

NOTE

Vault monitoring device verifications may be made during the course of the day by RTR qualified personnel once an initial rad survey has been conducted by Host site personnel.

4.1 RTR System Start-up

4.1.1 Verify there are NO personnel in the x-ray vault.

4.1.2 Obtain the Control Panel Power key and the x-ray key from the lock box adjacent to the RTR Operator's control panel.

4.1.3 Contact RCT to perform initial rad survey OR verify monitoring device to verify x-ray tube has been de-energized.

[A] Once initial rad survey is satisfactory,
THEN qualified RTR personnel performs a safety walk down inside x-ray vault, and performs oil level check.

[B] Record abnormal findings from surveys in logbook.

[C] **IF** initial rad survey is unsatisfactory,
THEN notify VPM and LO.

4.1.4 Insert the Control Panel Power key into the Control Panel Power key switch, on the left side of the center Control Panel desk, **AND** turn the switch to the ON position to provide power to the RTR system.

[A] Verify the light adjacent to the Control Panel Power key switch has illuminated.

4.1.5 Ensure audio/video recording, display, and processing equipment as indicated are energized.

4.1.6 Ensure surveillance cameras are powered ON, **AND** video monitor displays an image from all four cameras.

Controlled
Copy

NOTE

The x-ray key switch on the MP1 controller has three positions:

1. (Symbol O) Power switched OFF to controller;
2. (Symbol ~) Main is ON;
3. (Symbol Lightning Bolt) High Tension (HT) on Enable.

4.1.7 Insert the x-ray key into the x-ray key switch on the MP1 controller, **AND** turn the x-ray key to position 2.

4.1.8 Verify the operability of door interlocks by performing the following:

[A] Verify the safety light is illuminated on the MP1 controller.

[B] OPEN the personnel access door to the x-ray vault.

[C] Verify the safety light is extinguished.

WARNING

Personnel shall use caution when opening or closing of the personnel door to x-ray vault, due to potential pinch points.

[D] CLOSE the personnel access door.

[E] Verify the safety light is illuminated.

WARNING

Prior to initiating the AUTO IN or AUTO OUT sequence, visually verify the x-ray vault is clear of personnel and outside rails are clear of personnel/obstructions. This may be performed utilizing the surveillance system cameras.

[F] Press the AUTO OUT button on the control panel.

[G] **WHEN** the rear x-ray vault door opens,
THEN verify the safety light is extinguished.

[H] Verify the cart moves freely.

[I] Press the AUTO IN button.

Controlled
Copy

[J] **WHEN** the rear x-ray vault door closes,
THEN verify the safety light is illuminated.

[K] Depress the E-STOP button on the control panel.

[L] Verify the control panel de-energizes, **AND** the safety light is extinguished.

[M] Reset the E-STOP button.

[N] Re-energize the control panel.

[O] Verify the safety light is illuminated.

[P] Record the results of door interlock checks in the NDE Operational Logbook.

4.1.9 **IF** any abnormal condition is noted,
THEN STOP WORK, **AND** notify RTR LO and the VPM.

4.1.10 Turn the x-ray key to position 3.

NOTE

The warm-up cycle takes approximately 15 minutes to complete. An audible alarm will sound for 20 seconds before x-rays are generated. The 20 second pre-warning time begins immediately upon pressing the green x-ray ON button.

4.1.11 Push the x-ray ON button to start the x-ray warm-up cycle.

[A] Verify the x-ray warm-up light is illuminated.

Controlled
Copy

WARNING

If any of the x-ray warning lights fail to come ON during warm-up, the RTR system SHALL be shut-down by depressing the Red x-ray OFF button, turning the x-ray key to Position 1 the (Symbol O) OFF position, **AND** removing the x-ray key. The RTR LO and the VPM will be notified, **AND** RTR operations will **NOT** be performed until the failed RTR system(s) has been repaired or replaced.

NOTE

There are four x-ray warning lights in the following locations:

- Yellow x-ray ON light on the MP1 controller.
- Flashing beacon light inside the x-ray vault.
- Flashing beacon light outside, above the rear x-ray vault doors.
- Flashing light/sign above the personnel access door in the equipment bay.

4.1.12 Verify all x-ray warning lights are ON.

NOTE

Warm up is complete when all x-ray warning lights turn OFF and the warm-up light on the center control panel is OFF.

4.1.13 Record status of 20-second audible and visual signals and x-ray ON warning signals in the NDE Operations Logbook.

4.1.14 Verify the kV and the milliamp (mA) displays start indicating voltage and current as the warm-up cycle progresses.

4.1.15 At the completion of the warm-up cycle, turn the x-ray key to position 2, **AND** record the completion of the warm-up cycle in the NDE Operational Logbook.

4.1.16 Using the Image Intensifier (II) and x-ray joystick, ensure the vertical movement of the II and x-ray tube is operating properly.

4.1.17 Hold the Shutter x-ray and II switches in the OPEN position for approximately 5 seconds.

4.1.18 Notify Host site Operations Management of readiness to commence radiography operations and record time and status in the NDE Operational Logbook.

Controlled
Copy

4.2 RTR System Operations

NOTE

A forklift equipped with a drum grabber will load/unload the drums from the turntables. Once the drums are secure on the turntables, the transfer cart is moved back into the x-ray vault by using the AUTO IN button. When drums have reached the appropriate scanning position, the exterior x-ray vault door will automatically close.

4.2.1 Drum Loading

WARNING

Verify the transfer cart path is clear of foreign objects or obstructions prior to initiating the AUTO OUT function.

4.2.2 Turn the x-ray switch to position 2.

4.2.3 Verify path is clear.

4.2.4 Push the AUTO OUT button to start the AUTO OUT sequence for the drum/turntable cart. The cart will automatically advance to the loading station.

4.2.5 Verify that the x-ray key is in position 2 and turn the Control Panel Power key to OFF **AND** remove both keys.

4.2.6 Ensure the Control Panel Power key and x-ray key are controlled by the qualified RTR person entering the x-ray vault.

WARNING

A radiation survey or verification of the radiation monitoring device is required prior to entry into the x-ray vault door to verify x-ray tube has been de-energized.

4.2.7 Request the forklift operator load container(s) onto the turntable cart AND ensure container(s) are centered on turntable cart.

4.2.8 Install Lines Pair Gauge, as necessary.

Controlled
Copy

WARNING

Verify the forklift/spotter are clear of rail area before moving transfer cart. Ensure transfer cart is clear of foreign objects, and personnel are clear of the equipment prior to initiating the AUTO IN function.

NOTE

To assist the RTR Operator in determining height and volume estimations, measuring devices with graduated scales may be placed on the container prior to scanning the container and removed upon completion of scanning.

4.2.9 Verify path is clear.

4.3 Image Intensifier (II)/Drum Scanning

[A] Insert the Control Panel key and the x-ray key, turn the Control Panel key to the ON position.

[B] Push the auto IN button.

[C] Verify the light is illuminated on MP1 Controller.

[D] Turn the x-ray key to position 3.

[E] Push the x-ray ON button to start the x-ray system.

[F] Adjust the high voltage (kV) and milliamps (mA) knobs until the image on the video monitor has the desired display.

[G] Turn the Drum Select switch to position 1, 2, or 3 for the drum to be examined.

[H] Turn the Drum Rotate switch to the desired rotation direction (clockwise [CW] or counter-clockwise [CCW]) position.

[I] Using the Rotational Speed dial located on the center desk section of the Control Panel, adjust the drum rotation to the desired speed.

[J] Using the Image system control joystick, move the imaging system in the desired direction.

[K] Using the Imaging system control joystick and Drum Rotate switch, position the imaging system and drum in the desired position to make a detailed inspection of items in the drum.

Controlled
Copy

[L] **WHEN** the desired x-ray examination is completed,
THEN terminate x-rays by pushing the x-ray OFF button on the controller.

[M] Turn the x-ray key to position 2.

4.4 Drum Unloading

[A] Verify that the x-ray key is in position 2.

WARNING

Verify the forklift/spotter is clear of rail area before moving transfer cart. Ensure transfer cart is clear of foreign objects, and personnel are clear of the equipment prior to movement of the transfer cart.

[B] Verify path is clear.

[C] Press the AUTO OUT button.

[D] Turn the Control Panel Power key to OFF and remove the key.

[E] Request the Forklift Operator unload the containers.

[F] **IF** additional drum(s) are to be examined,
THEN repeat Sections 4.2.1 through 4.2.4;
ELSE turn the Control Panel Power key to ON and press the AUTO IN button.

4.5 Modifying Turntable Configuration

4.5.1 **IF** it is necessary to modify the turntable configuration to accommodate different container sizes,
THEN perform the following

[A] Turn OFF the x-ray and Control Panel Power keys, and remove the keys, **AND** place into lock box.

[B] Ensure a LO/TO to the PLC Power Supply has been applied by personnel qualified in accordance with P 101-3 prior to entry.

[C] OPEN the personnel access door.

Controlled
Copy

[D] Complete a radiation survey OR verify radiation monitoring device to verify x-ray tube has been de-energized.

[E] Enter the x-ray vault.

WARNING

Personnel SHALL **NOT** sit, stand, climb or walk on the transfer cart or its rails due to potential pinching/falling hazard.

[F] Remove/Replace the 55-gallon drums stop bolts as required using Allen Wrench.

[G] Exit the x-ray vault.

[H] Remove the LO/TO in accordance with P 101-3.

[I] Verify NO personnel are in the x-ray vault.

WARNING

Personnel SHALL keep hands clear of personnel door when closing, due to potential pinch points.

[J] CLOSE the personnel access door.

[K] Re-energize the control panel.

NOTE

It is recommended to leave the x-ray system in position 2, for 5-20 minutes prior to shutdown of the RTR system to allow the cooling system to remove excess heat from the x-ray tube.

4.6 RTR System Shut-down

[A] Turn the x-ray key to position 1, **AND** remove the x-ray key from the key switch.

[B] CLOSE the x-ray shutters completely by holding the control switches for approximately 5 seconds.

[C] Shut-down all imaging and recording equipment by pressing the appropriate switches.

Controlled
Copy

[D] Turn the Control Panel Power key switch to the OFF position, **AND** remove the Control Panel Power key from the key switch.

[E] Return the Control Panel Power key and x-ray key to the lock box adjacent to the RTR Operator's control panel.

4.6.2 **IF** containers are to be left on the transfer cart overnight, **THEN** notify the VPM, LO, and the Operations Center, **AND** record the container numbers and their status in the NDE Operational Logbook.

Controlled
Copy

5.0 RECORDS

5.1 The NDE Operational Logbooks generated during the performance of this procedure are identified as quality assurance (QA) records in CCP-PO-005 and maintained as QA records in accordance with CCP-QP-008, *CCP Records Management*.

Controlled
Copy

CCP-TP-198

Revision 8

CCP HE-RTR Operating Procedure

EFFECTIVE DATE: 08/07/2014

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	02/11/2011	Initial Issue
1	03/01/2011	Revised to incorporate recommendations documented in MA-CCP-0003-11.
2	03/14/2011	Revised to incorporate changes identified during the CH2M Hill Plateau Remediation Company (CHPRC) Level 3 Readiness Assessment.
3	07/11/2011	TP-198 is being revised to clarify how to verify the LINAC is de-energized and to include a requirement to check the coolant level on a daily basis.
4	01/05/2012	CCP-TP-198, *CCP HE-RTR Operating Procedure*, is being revised to incorporate changes identified during Los Alamos National Laboratory (LANL) start up activities.
5	01/30/2012	Revised section 4.1.3.
6	08/06/2012	Revised to incorporate VJT's recommendation for modifying the operating procedure to ensure the system is in standby mode (not completely powered down) and the Temperature Control Unit (TCU) is kept running at all times.
7	05/09/2013	Revised to incorporate Nuclear Waste Partnership (NWP) transition changes and other various changes.
8	08/07/2014	Revised to incorporate CCP-SO-LANL-56, High Energy real-time radiography (HE-RTR) Turntable Pallet Assembly Operation, and to make the procedure more user friendly. Deleted Paragraph 3.2 from the Responsibilities Section, the VPM has no steps in the procedure.

Controlled
Copy

TABLE OF CONTENTS

1.0 PURPOSE 4
1.1 Scope 4

2.0 REQUIREMENTS 5
2.1 References 5
2.2 Training Requirements 5
2.3 Equipment List 5
2.4 Precautions and Limitations 5
2.5 Prerequisite Actions 6

3.0 RESPONSIBILITIES 7
3.1 RTR Operator 7

4.0 PROCEDURE 8
4.1 HE-RTR Equipment Startup 8
4.2 LINAC Warm Up 10
4.3 Detector Calibration 11
4.4 System Operation 11
4.5 HE-RTR Shut-Down 15

5.0 RECORDS 16

LIST OF ATTACHMENTS

Attachment 1 – NDE Daily Pre-Operational Checklist 17

LIST OF FIGURES

Figure 1. System Control Console 9
Figure 2. MPEG Encoder 13

Controlled
Copy

1.0 PURPOSE

The purpose of this procedure is to provide instructions for start-up, operation, and shut-down of the High Energy Real-Time Radiography (HE-RTR) system.

1.1 Scope

The scope of this procedure is limited to start-up, operation, and shut-down of HE-RTR. Maintenance activities are outside the scope of this procedure.

Controlled
Copy

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- CCP-QP-002, *CCP Training and Qualification Plan*

Referenced Documents

- CCP-PO-005, *CCP Conduct of Operations*
- CCP-QP-008, *CCP Records Management*

2.2 Training Requirements

2.2.1 Personnel performing this procedure shall be identified as a qualified operator on the list of qualified individuals (LOQI).

2.2.2 Qualified personnel will understand their responsibilities prior to performing work.

2.3 Equipment List

2.3.1 HE-RTR System, consisting of the following major components:

- LINATRON X-ray source
- X-ray Detector
- Manipulator (Cart, X-ray source, Detector)

2.4 Precautions and Limitations

2.4.1 Employees may use copies of this procedure printed from the controlled document file; however, employees are responsible for ensuring that the correct revision of this procedure is used.

2.4.2 The personal protective equipment (PPE) for normal operations outside the Control Room is leather gloves, safety toe shoes, and safety glasses when handling containers. Additional PPE may be specified by Host site management or in a site-specific Work Permit. Personnel will don the required or specified PPE before starting real-time radiography (RTR) operations.

Controlled
Copy

2.4.3 The HE-RTR system generates high-energy x-rays (up to six million electron volts). Personnel will avoid radiation exposure by observing all warning devices and personnel barriers. A safety interlock circuit will inhibit x-ray generation when the x-ray enclosure door is opened.

2.4.4 The HE-RTR system is equipped with an area radiation monitor (ARM) that will sound an audible alarm and shut down power to the linatron if the door interlocks are opened AND the radiation exposure rate exceeds 100 millirem per hour (mrem/hr) (i.e., indicative of x-ray generation).

2.4.5 The x-ray enclosure door shall NOT be opened when the x-ray system is in operation. Doing so will potentially expose affected personnel to dangerous levels of radiation and will automatically trigger an Emergency-Stop event which can be damaging to the equipment.

2.4.6 The HE-RTR shall NOT be left unattended while imaging or motion control systems are energized.

2.5 Prerequisite Actions

2.5.1 Workers performing work which requires entering the HE-RTR vault, must be briefed on the governing radiological work permit (RWP).

Controlled
Copy

3.0 RESPONSIBILITIES

3.1 RTR Operator

- Operates the RTR system.
- Maintains the nondestructive examination (NDE) operational logbook (OLB) in accordance with CCP-PO-005, *Conduct of Operations*.

Controlled
Copy

4.0 PROCEDURE

4.1 HE-RTR Equipment Startup

4.1.1 Obtain the system POWER key and LINAC ENABLE key.

4.1.2 Start the system using the POWER key and verify the white indicator is illuminated (Figure 1, System Control Console).

4.1.3 Start the imaging computer.

4.1.4 Start the control/archive computer.

4.1.5 Obtain an approved blank copy of Attachment 1, NDE Daily Pre-operational Checklist.

4.1.6 Verify Host site Radiation Survey, the six-month interlock check and six-month source check documents are current.

NOTE

The specific method used to verify that the LINAC is de-energized will be agreed upon between CCP and the Host site Radiation Generating Device Program Authority. Methods for performing this verification may include using the calibrated and tested area radiation monitor installed in the unit or having an individual (Radiological Control Technician [RCT], Operator, etc.) qualified on the use of and using an operable, calibrated radiation detection instrument to verify the LINAC is de-energized.

4.1.7 Verify the LINAC is de-energized (not producing x-rays).

4.1.8 Open the Vault Door.

4.1.9 Inspect the equipment, warning devices, and interlocks using Attachment 1 as required.

4.1.10 **IF** any item on the Attachment 1 is not satisfactory,
THEN:

[A] DO **NOT** proceed with RTR operations.

[B] Ensure the system is in a SAFE configuration and notify VPM.

4.1.11 Ensure no one is inside x-ray enclosure by direct observation and being the last person to leave the x-ray enclosure.

4.1.12 Close the Vault Door by pressing the “DOOR CLOSE” button at the shielded door.

4.1.13 Place the completed Attachment 1 in a holding file.

Figure 1. System Control Console (Example)

NOTE

Temperature Control Unit (TCU) and ventilation fan checks may be completed during performance of preoperational checks.

NOTE

If standby power to the LINAC has been interrupted, it may be restarted using the reset button on the modulator cabinet.

4.1.14 Ensure the following components are powered “ON” and functioning normally:

- LINAC Temperature Control Unit (TCU)
- Vault ventilation fan
- LINAC control console is in STANDBY mode

4.1.15 Switch LINAC to “POWER ON” and record the time in the NDE OLB.

4.1.16 Start Vi3 software on the imaging computer.

Controlled
Copy

NOTE

All axes are homed when the position display is colored blue.

4.1.17 Ensure all axes are homed.

4.2 LINAC Warm Up

WARNING

During the daily checkout, if the LINATRON-M does not function as expected, or if unusual sounds or odors are present, the main circuit breaker (CB1) on the modulator front panel must be turned to the OFF position.

NOTE

The LINATRON-M progresses through several operational states during power up. Each of these states is named in the Status screen in the Main control screen. These states are:

- Standby
- Power On
- Prewarn
- Ready
- X-rays on

The Power On state was attained in step 4.1.15. Warm-up sequence is automatic and should take seven minutes if no error messages need to be cleared.

4.2.1 Observe the LINAC screen for system status messages.

4.2.2 **IF** the Interlocks or Faults screen buttons are flashing red, **THEN** touch the flashing button for a detailed report.

4.2.3 Clear any faults or interlocks that are preventing the warm-up completion. If any fault/interlocks cannot be cleared via the main control screen, stop and contact the Lead Operator.

NOTE

Once all faults and/or interlocks are cleared, the warm-up sequence will resume automatically.

4.2.4 Record the time Warm-up is complete in the NDE OLB.

4.2.5 If applicable, notify Host site operations management of readiness to commence radiography operations.

Controlled
Copy

NOTE

At the completion of Warm-up, the only interlock preventing Pre-warn operation is the Enable/Disable key switch on the LINAC control console. When this key is turned to ENABLE, the 20 second pre-warning period begins.

4.3 Detector Calibration

4.3.1 **IF** calibration of the flat panel image detector is necessary, **THEN** ensure that the x-ray Vault is NOT occupied **AND** that the access doors are closed.

4.3.2 Click on the “calibrate” button in Vi3 to calibrate the detector.

NOTE

An audible warning will sound and the beacon will flash amber for 20 seconds. The warning lights will remain illuminated while generating x-rays.

4.3.3 Follow the prompts in Vi3 to complete calibration of the detector.

4.3.4 **WHEN** the message “Detector calibration is complete!” appears on the screen,
THEN click “Close” button.

4.3.5 Press “BEAM OFF” button at the LINAC control.

4.3.6 Turn the ENABLE key to DISABLE**.**

4.3.7 Remove and secure the ENABLE key.

4.4 System Operation

4.4.1 Ensure the LOCK/UNLOCK switch (Item number 12 in Figure 1) is in the LOCK position.

4.4.2 Ensure the cart is in the load position.

4.4.3 Ensure the area is clear, **AND**, if necessary, press the “DOOR OPEN” console button (Item number 2 in Figure 1).

4.4.4 Ensure the ENABLE key is controlled in the field area and in full view during all unloading and loading events.

4.4.5 Verify the LINAC is de-energized (not producing x-rays).

Controlled
Copy

4.4.6 Ensure the cart turntable is prepared for the type of container to be inspected (i.e., standard waste box [SWB], 55-gallon drum, etc.).

[A] If using the Turntable Pallet Assembly perform the following:

- Ensure the Turntable Pallet Assembly key switch is turned to the "OFF" position. This will disable rotation of the main turntables in the manual mode.

CAUTION

If the main HE-RTR Turntable is rotated off of the home position, use of the Inspection and Load/Unload buttons to load and unload the cart may cause the turntable to rotate and cause damage to the unit. Cart unloading must be done using the manual mode when the Turntable Pallet Assembly is installed.

- Install a cover over the Inspection and Load/Unload buttons to prevent inadvertent operations.

- Use manual controls to manipulate the cart.

4.4.7 Ensure the container to be examined is loaded onto the cart turntable.

4.4.8 **WHEN** the area is clear,
THEN press the "DOOR CLOSE" button at the shielded door.

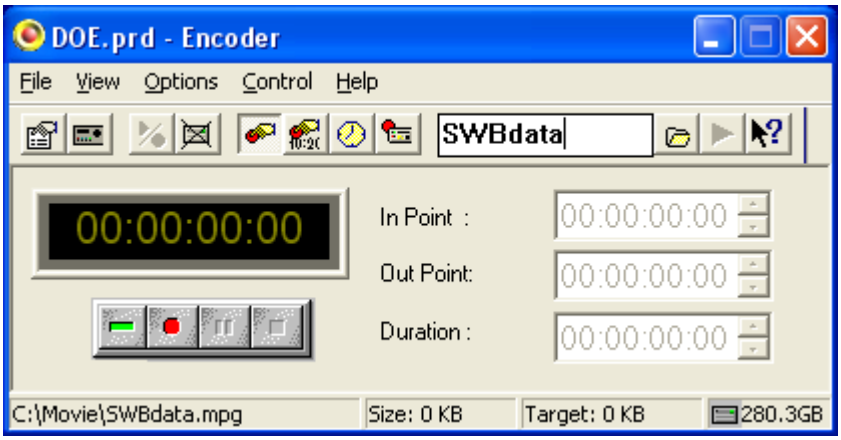
4.4.9 Press the "INSPECTION" console button (Item number 6 in Figure 1).

[B] Ensure the cart is in front of the detector using the joystick (Item number 4 in Figure 1) **OR** entering position coordinates into the motion control software (if necessary).

4.4.10 **IF** using MPEG composer, start MPEG ENCODER control/archive on the computer (if necessary),
THEN enter Container Identification data in the form of an alphanumeric filename for the movie file at the location where "SWBdata" is written in Figure 2, MPEG Encoder, below.

Controlled
Copy

Figure 2. MPEG Encoder



4.4.11 At the LINAC control, insert the ENABLE key and turn it to "ENABLE."

NOTE

An audible warning will sound and the beacon will flash amber for 20 seconds. The warning lights will remain illuminated while generating x-rays.

4.4.12 After the prewarning time, turn on the LINAC by pressing "BEAM ON."

4.4.13 Ensure Vi3 is in live display mode by pressing F3 on the keyboard, or by clicking Grab in Vi3.

NOTE

Enable operator adjustment of Vi3 parameters to optimize image for best viewing.

4.4.14 **IF** recording video,
THEN click on the F2 key on the keyboard to display the image in full screen mode.

4.4.15 **IF** recording video,
THEN click the GREEN (rectangle) button in MPEG Composer to initialize the recording.

Controlled
Copy

4.4.16 **IF** recording video,
THEN click the RED (circle) record button in MPEG Composer to start recording.

4.4.17 Manipulate the display image using the joysticks (Item number 4 in Figure 1 and Item number 7 in Figure 1) to examine 100% of the contents of the container.

NOTE

Additional controls may assist in achieving the required examination: "SOURCE/DETECTOR" (Item number 10 in Figure 1) and "LOCK/UNLOCK" (Item number 12 in Figure 1) may be used to attain oblique viewing angles.

4.4.18 **WHEN** recording is complete,
THEN stop recording by clicking on the square stop button on the MPEG Composer software.

4.4.19 Stop x-ray by pressing the 'BEAM OFF' button on the LINAC control console and turning the ENABLE key to "DISABLE."

4.4.20 Remove and secure the ENABLE key.

4.4.21 Press the "LOAD/UNLOAD" button (Item number 5 on Figure 1), as applicable.

[A] Ensure the cart is at the load/unload position using the joystick (Item number 4 in Figure 1) **OR** entering position coordinates into the motion control software if necessary.

4.4.22 Ensure the area is clear, **AND** press the "DOOR OPEN" console button (Item number 2 in Figure 1).

4.4.23 Ensure the ENABLE key is controlled in the field area and in full view during all unloading and loading events.

4.4.24 Verify the LINAC is de-energized (Not producing x-rays).

4.4.25 Ensure the container is unloaded from the cart turntable.

4.4.26 **IF** another container is to be examined,
THEN go to 4.4.6 and repeat remaining steps in Section 4.4.
ELSE proceed to Section 4.5.

Controlled
Copy

4.5 HE-RTR Shut-Down

4.5.1 Ensure NO personnel are present inside the Vault **AND** close the shielded door by pressing the Exterior “DOOR CLOSE” button.

4.5.2 Ensure required copies of the video data files have been completed.

4.5.3 Lower detector and source to non-lifted position, by Ensuring the LOCK/UNLOCK switch (Item number 12 in Figure 1) is in the UNLOCK position, and clicking the homing button in the motion controller widow on the control/archive computer.

4.5.4 Shut down computers.

WARNING

Even after you have pressed “Power is ON” and the LINAC system appears to have powered down, some parts of the system are still powered and can cause serious injury or death if touched. All LINAC machine covers are to remain in place to prevent contact with live circuits.

4.5.5 At the LINAC control, touch “Power is ON” button on the Main control screen to return the LINATRON to the standby state.

4.5.6 Turn the system power key switch to “OFF.”

4.5.7 Remove and secure both keys.

4.5.8 Ensure the ventilation fan is turned off.

4.5.9 Complete entries to the NDE OLB, including Shut-Down time.

4.5.10 Secure the HE-RTR system.

Controlled
Copy

5.0 RECORDS

5.1 The records generated during the performance of this procedure are identified as quality assurance (QA) records and are maintained as QA records in accordance with CCP-QP-008, *CCP Records Management*. The records are the following:

5.2.1 QA/Nonpermanent

[A] NDE OLBs

[B] NDE Daily Pre-Operational Checklist

Controlled
Copy

Attachment 1 – NDE Daily Pre-Operational Checklist

HE-RTR Number: _____ Location: _____ Date: ___/___/___

Maintain the LINAC ENABLE key in possession at all times. System POWER key must be ON to open doors and verify E-stops and warning lamps.

Check the following items for satisfactory status:

IF found to be satisfactory,
THEN initial the box.

IF the item is NOT satisfactory,
THEN mark X in the box and explain in the comments section.

- ☐ Host Site Radiation Survey is current. Survey Date: _____
- ☐ Six-month Interlock Check is current. Check Date: _____
- ☐ Six-month Area Radiation Monitor (ARM) source check is current. Check Date: _____
- ☐ Signs and postings outside exposure room: Very High Rad sign located under the red beacon light above the roll-up door.
- ☐ General Housekeeping: No trash, no unsecured equipment or tools, no excessive dirt nor debris.
- ☐ Signs and postings inside exposure room
  - E-Stop sign located near the E-Stop on the left wall inside the Vault.
  - Pull cord signs are located near the middle of each of the pull cords.
- ☐ Transport cart and tracks: No visible damage, no fluid leaks, no foreign material.
- ☐ Detector panel and lift: No visible damage, no fluid leaks, no foreign material.
- ☐ LINAC and lift: No visible damage, no fluid leaks, no foreign material.
- ☐ Exhaust vent airway: No visible damage, no foreign material.

Controlled
Copy

Attachment 1 – NDE Daily Pre-Operational Checklist (Continued)

HE-RTR Number: _____Location: _____ Date: ___/___/___

NOTE
Warning lamps are tested using a switch (Item 11 in Figure 1) at the operator console. Item 11 in Figure 1 is titled X-Ray Lamp Test.

☐ Warning Lamps: Red lamp inside exposure room, red beacon over shield door.

NOTE
Pre-warning alarm is tested using a switch inside the exposure room.

☐ Pre-warning alarms: Audible alarm inside exposure room.

☐ Exposure room is clear of all personnel.

☐ Verify Vault Door Interlock. Visually inspect for signs of damage or wear; verify engagement on door closing.

☐ Temperature Control Unit (TCU): No visible damage, no fluid leaks, no foreign material.

☐ Verify that the LINAC coolant is at the required level.

Controlled
Copy

Attachment 1 – NDE Daily Pre-Operational Checklist (Continued)

HE-RTR Number: _____Location: _____ Date: ___/___/___

Comments

IF any deficiencies are noted,
THEN describe in this space.

IF the deficiency has the potential to cause injury or damage,
THEN place the system in a **SAFE** condition **AND** immediately notify the VPM.

Completed By:

Print Name	*Signature*	*Date*

List of Processes and Equipment Evaluated

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
11RR2	Real-Time Radiography (RTR) Procedures – CCP-TP-053 and CCP-TP-028 Description – Real-Time Radiography (RTR) Mobile Characterization System [built by VJ Technologies] 55-gallon drums	Soils/Gravel (S4000) Debris (S5000)	YES	YES
11HERTR3	High Energy Real-Time Radiography (HERTR) Procedures CCP-TP-053 and CCP-TP-198 Description – High Energy Real-Time Radiography (RTR) [built by VJ Technologies] 55-gallon drums and SWBs	Soils/Gravel (S4000) Debris (S5000)	YES	YES
11VE1	CH Visual Examination Procedure – CCP-TP-113 Description – CH Characterization performed utilizing Visual Examination (VE) and Acceptable Knowledge (AK)	Soils/Gravel (S4000) Debris (S5000)	YES	YES
11VE2	Off-Site Source Recovery Program Procedure(s) – CCP-TP-069 and CCP-TP-101 Description – Characterization performed utilizing Visual Examination (VE) and Acceptable Knowledge (AK)	Debris (S5000)	YES	YES
N/A	Acceptable Knowledge Procedure – CCP-TP-005 Description – Acceptable Knowledge (AK)	Soils/Gravel (S4000) Debris (S5000)	YES	YES
N/A	Data Verification and Validation Procedure(s) – CCP-TP-001, CCP-TP-002, CCP-TP-003, CCP-TP-103, CCP-TP-162	Soils/Gravel (S4000) Debris (S5000)	YES	YES

List of Processes and Equipment Evaluated

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
N/A	WIPP Waste Information System/Waste Data System (WWIS/WDS) Procedure – CCP-TP-030 Description – CH TRU Waste Certification and WWIS/WDS Data Entry	Soils/Gravel (S4000) Debris (S5000)	YES	YES
N/A	Quality Assurance Program	Soils/Gravel (S4000) Debris (S5000)	N/A	YES

Procedure Revision Matrix

No	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
1.	CCP-PO-001	CCP Transuranic Waste Characterization Quality Assurance Project Plan	21	21	
2.	CCP-PO-002	CCP Transuranic Waste Certification Plan	27	27	
3.	CCP-PO-012	CCP/LANL Interface Document	13	15	Rev 14 – Incorporate CCP-TP-068, *CCP Standardized Container Management* for container management and incorporate additional responsibility titles for operations at Technical Area (TA)-55. Rev 15 – Revised to provide the allowance to use either CCP-TP-120, *CCP Container Management* or CCP-TP-068, *CCP Standardized Container Management,* for container management
4.	CCP-QP-002	CCP Training and Qualification Plan	35	38	Rev 36 – Revised to incorporate changes in response to U.S. Environmental Protection Agency (EPA) Issue Tracking Form ORNL-CCP-CC-RTR-2014-02CR: adding a requirement for a written record for the Training Container, to be filled out by the operator for the review by the Cognizant Engineer (CE), and adding a place on the Training Container evaluation sheet for operator acknowledgement of counseling for any missed items. Also incorporated Standing Order CCP-SO-110. Rev 37 – In response to Carlsbad Field Office of the Department of Energy (CBFO) corrective active report (CAR) 14-030, revised the NOTE in Section 3.4 to clarify that the preferred method for determining an Subject Matter Expert (SME)/On-the-Job Training (OJT) candidate's education and experience is by reviewing the individual's resume, but whatever method is used must be explicitly stated in the documentation provided to Training by the site project manager (SPM). Also added a new Attachment 7 as a template for appointment letters to be

Procedure Revision Matrix

No	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
					issued by the SPM, which may be customized as necessary. Rev 38 – Update the title of the organization from National TRU Program Certification (NTPC) to Central Characterization Program (CCP), clarify when Attachment 7, SPM Appointed Letter, is to be used, allow the acceptable knowledge expert (AKE) to give the waste stream summary training in addition to the Site Project Manager (SPM), add written notifications to the Records Section, delete the Operator/Independent Technical Reviewer (ITR) box in Attachment 7. Reorganized Section 4.3.2 to improve the flow of the sequence in steps.
5.	CCP-QP-005	CCP TRU Nonconforming Item Reporting and Control	23	24	Rev 24 – Revised determination of recurring condition; deleted all references to CCP-QP-029 and internal Corrective Action Reports (CARs) which was obsoleted and replaced with WP 15-GM1002; replaced reference Carlsbad Field Office (CBFO) Quality Assurance Program Description (QAPD) with Nuclear Waste Partnership (NWP) QAPD; rearranged 4.1.6, 4.2.10 and 4.2.11 for better chronological order; revised definitions "Repair" and "Rework"; corrected various editorial mistakes.
6.	CCP-QP-008	CCP Records Management	21	22	Rev 22 – Revised to include steps for the Record Index Module, addresses editorial guidelines for records, and to update records section.

Procedure Revision Matrix

No	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
7.	CCP-QP-021	CCP Surveillance Program	8	10	Rev 9 – General revision: changed notes to action steps, rearranged action steps in chronological order, added definitions, deleted Surveillance Log Attachment Example, added action step for Surveillance Log detail, added Surveillance Checklist Example Attachment, updated titles, improved Surveillance Report format, improved Surveillance Plan format, deleted CCP-QP- 029, *CCP Corrective Action Management,* and CARs, replaced CARs with WIPP Forms, renumbered sections and paragraphs more logically, replaced CCP-QP-002, *CCP Training and Qualification Plan,* with CCP-QP-040, *Support Training,* clarified when notification is required, deleted Surveillance Checklist from Records, made editorial corrections. Rev 10 - Revised to address Carlsbad Field Office (CBFO) Corrective Action Reports (CARs) 14-034 and 14-035. Also added WP 13-QA.04, *Quality Assurance Department Administrative Program*, as an acceptable procedure for qualification of surveillance personnel.
8.	CCP-QP-028	CCP Records Filing, Inventorying, Scheduling, and Dispositioning	15	15	
9.	CCP-TP-001	CCP Project Level Data Validation and Verification	21	21	
10.	CCP-TP-002	CCP Reconciliation of DQOs and Reporting Characterization Data	25	26	Rev 26 – Revised to implement the Permit Modification Request Class 2 approved by New Mexico Environment Department (NMED) dated March 13, 2013.
11.	CCP-TP-005	CCP Acceptable Knowledge Documentation	24	26	Rev 25 – Revised to incorporate Nuclear Waste Partnership (NWP) transition changes and to implement the Permit Modification Request Class 2 approved by New Mexico Environment Department (NMED) dated March 13, 2013. Rev 26 – To clarify the evaluation of nondestructive assay

Procedure Revision Matrix

No	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
					(NDA) results by the site project manager (SPM) and acceptable knowledge expert (AKE). Also, to incorporate changes as a result of CAR-LANL-0003-13.
12.	CCP-TP-028	CCP Radiographic Test Drum and Training Container Construction	8	9	Rev 9 – Revised to add steps to check boxes to indicate whether a training container inventory is for a standard waste box or a drum.
13.	CCP-TP-030	CCP CH TRU Waste Certification and WWIS/WDS Data Entry	32	33	Rev 33 – Revised to implement Shielded Container Assembly information and various editorial changes. Also revised to change the (WDS) Master Template to WDS Spreadsheet. Revised Attachment 2, WCO Waste Certification Requirements to include more acceptable container types, as well as more detail within the entire attachment. Also revised to implement a corrective action from WF13-245.
14.	CCP-TP-053	CCP Standard Real-Time Radiography (RTR) Inspection Procedure	13	14	Rev 14 – Revised to address Carlsbad Field Office (CBFO) CAR 13-034, CBFO CAR 13-051, and Central Characterization Program (CCP) CAR-SRS-0001-13.
15.	CCP-TP-069	CCP Sealed Source Visual Examination and Packaging	6	6	
16.	CCP-TP-113	CCP Standard Contact-Handled Waste Visual Examination	17	18	Rev 18 – Revised to address Carlsbad Field Office (CBFO) Corrective Action Report (CAR) 13-051.
17.	CCP-TP-120	CCP Container Management	15	16	Rev 16 – Revised to incorporate the Class 2 permit modification approved by New Mexico Environment Department (NMED) on March 13, 2013.
18.	CCP-TP-122	CCP RTR #2 Operating Procedure	4	5	Rev 5 – Procedure revised to incorporate the following: Procedure revision for P 121, Department title for RP-PROG, Corrected editorial inconsistencies, Deleted sections from responsibilities for personnel with no steps in the procedure, Made changes to the Procedure Section to make the procedure more user friendly and less cumbersome to use.
19.	CCP-TP-198	CCP HE-RTR Operating Procedure	7	8	Rev 8 – Revised to incorporate CCP-SO-LANL-56, High Energy real-time radiography (HE-RTR) Turntable Pallet Assembly Operation, and to make the procedure more

Procedure Revision Matrix

No	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
					user friendly. Deleted Paragraph 3.2 from the Responsibilities Section, the VPM has no steps in the procedure.
20.	WP 13-QA.03	Quality Assurance Independent Assessment Program	22	23	Rev 23 – Changed "04-IM1000" to "15-GM1002" throughout. Updated references table. Revised Introduction section 1.0 concerning Record Inventory and Disposition Schedules. Deleted in section 2.0, third bullet, approval of the assessment schedules. Revised bullet in subsection 4.1 to be consistent with the scope and frequency of audits performed in accordance with the contractor assurance system. Modified in subsection 4.1the last bullet. Deleted in subsection 4.2, bullets three, five and seven. Modified subsection 4.3 for clarity. Added in section 6.0, "internal" in bullet four for clarity. Added in section 8.0 "will be tracked in commitment tracking system (CTS)." Removed Attachment 3, Example of QA Fiscal Year External and Internal Audit Schedules. Added in attachment 5, bullet "Initiate WIPP Form for CDA." Removed in attachment 7, "CTS Coordinator."